Attachment D

COUNTER COPY

AGENDA ITEM 12B

RFP NO. B2008-09

RFP AND PROPOSAL TO FURNISH TELEPHONE AND VOICEMAIL SYSTEM REPLACEMENT

JUNE 2, 2009

COUNTER COPY

CONTRACT SERVICES AGREEMENT

This CONTRACT SERVICES AGREEMENT ("Agreement") is made and entered into as of _____ (the "Effective Date"), by and between the CITY OF TORRANCE, a municipal corporation ("CITY"), and Nexus IS Inc., a Delaware Corporation ("CONTRACTOR").

RECITALS:

A. CITY wishes to retain the services of an experienced and qualified CONTRACTOR to purchase, install and maintain a new telephone and voicemail system.

B. CONTRACTOR represents that it is qualified to perform those services.

C. In order to obtain the desired good and services, the CITY circulated a Request for Proposal (RFP) to furnish a Telephone and Voicemail System Replacement, CITY RFP No. B2008-9.

D. CONTRACTOR has submitted a PROPOSAL in response to the RFP. Based upon its review of all PROPOSALS submitted, the CITY is willing to award the contract to CONTRACTOR.

AGREEMENT:

1. SERVICES TO BE PERFORMED BY CONTRACTOR

CONTRACTOR will provide the services set forth in the PROPOSAL. Copies of the RFP and PROPOSAL are on file in the Office of the City Clerk and are incorporated into this agreement as if fully set forth herein. In the event of any conflict between the terms of the PROPOSAL and this Agreement, the terms of this Agreement shall prevail.

2. TERM

Unless earlier terminated in accordance with Paragraph 4 below, this Agreement will continue in full force and effect for one year from the Effective Date plus the three year maintenance period set forth in EXHIBIT A.

3. COMPENSATION

A. CONTRACTOR's Fee.

For services rendered pursuant to this Agreement, CONTRACTOR will be paid in accordance with the Compensation Schedule set forth in EXHIBIT A, however, that in no event will the total amount of money paid the CONTRACTOR, for services initially contemplated by this Agreement,

exceed the sum of $1,388.805.00 ("Agreement Sum"), unless otherwise first approved in writing by CITY.

B. Schedule of Payment.

Provided that the CONTRACTOR is not in default under the terms of this Agreement, CONTRACTOR will be paid in accordance with the PROPOSAL.

4. TERMINATION OF AGREEMENT

A. Termination by CITY for Convenience.

1. CITY may, at any time, terminate the Agreement for CITY's convenience and without cause.

2. Upon receipt of written notice from CITY of such termination for CITY's convenience, CONTRACTOR will:

   a. cease operations as directed by CITY in the notice;
   b. take actions necessary, or that CITY may direct, for the protection and preservation of the work; and
   c. except for work directed to be performed prior to the effective date of termination stated in the notice, terminate all existing subcontracts and purchase orders and enter into no further subcontracts and purchase orders.

3. In case of such termination for CITY's convenience, CONTRACTOR will be entitled to receive payment for work executed; and costs incurred by reason of such termination, along with reasonable overhead and profit on the work not executed.

B. Termination for Cause.

1. If either party fails to perform any term, covenant or condition in this Agreement and that failure continues for 15 calendar days after the nondefaulting party gives the defaulting party written notice of the failure to perform, this Agreement may be terminated for cause; provided, however, that if during the notice period the defaulting party has promptly commenced and continues diligent efforts to remedy the default, the defaulting party will have such additional time as is reasonably necessary to remedy the default.

2. In the event this Agreement is terminated for cause by the default of the CONTRACTOR, the CITY may, at the expense of the CONTRACTOR and its surety, complete this Agreement or cause it to be completed. Any check or bond delivered to the CITY in connection with this Agreement, and the money payable thereon, will be forfeited to and remain the property of the CITY. All moneys

due the CONTRACTOR under the terms of this Agreement will be retained by the CITY, but the retention will not release the CONTRACTOR and its surety from liability for the default. Under these circumstances, however, the CONTRACTOR and its surety will be credited with the amount of money retained, toward any amount by which the cost of completion exceeds the Agreement Sum and any amount authorized for extra services.

3. Termination for cause will not affect or terminate any of the rights of the CITY as against the CONTRACTOR or its surety then existing, or which may thereafter accrue because of the default; this provision is in addition to all other rights and remedies available to the CITY under law.

C. Termination for Breach of Law.

In the event the CONTRACTOR or any of its officers, directors, shareholders, employees, agents, subsidiaries or affiliates is convicted (i) of a criminal offense as an incident to obtaining or attempting to obtain a public or private contract or subcontract, or in the performance of a contract or subcontract; (ii) under state or federal statutes of embezzlement, theft, forgery, bribery, falsification or destruction of records, receiving stolen property, or any other offense indicating a lack of business integrity or business honesty which currently, seriously, and directly affects responsibility as a public consultant or contractor; (iii) under state or federal antitrust statutes arising out of the submission of bids or proposals; or (iv) of violation of Paragraph 19 of this Agreement; or for any other cause the CITY determines to be so serious and compelling as to affect CONTRACTOR's responsibility as a public consultant or contractor, including but not limited to, debarment by another governmental agency, then the CITY reserves the unilateral right to terminate this Agreement or to impose such other sanctions (which may include financial sanctions, temporary suspensions or any other condition deemed appropriate short of termination) as it deems proper. The CITY will not take action until CONTRACTOR has been given notice and an opportunity to present evidence in mitigation.

5. <u>FORCE MAJEURE</u>

If any party fails to perform its obligations because of strikes, lockouts, labor disputes, embargoes, acts of God, inability to obtain labor or materials or reasonable substitutes for labor or materials, governmental restrictions, governmental regulations, governmental control, judicial orders, enemy or hostile governmental action, civil commotion, fire or other casualty, or other causes beyond the reasonable control of the party obligated to perform, then that party's performance shall be excused for a period equal to the period of such cause for failure to perform.

6. **RETENTION OF FUNDS**
CONTRACTOR authorizes CITY to withhold 20% of payment until final acceptance in accordance with EXHIBIT A.

7. **CITY REPRESENTATIVE**
Ernest Gallo, Communciations Manager is designated as the "City Representative," authorized to act in its behalf with respect to the work and services specified in this Agreement and to make all decisions in connection with this Agreement. Whenever approval, directions, or other actions are required by CITY under this Agreement, those actions will be taken by the City Representative, unless otherwise stated. The City Manager has the right to designate another City Representative at any time, by providing notice to CONTRACTOR.

8. **CONTRACTOR REPRESENTATIVE(S)**
The following principal(s) of CONTRACTOR are designated as being the principal(s) and representative(s) of CONTRACTOR authorized to act in its behalf with respect to the work specified in this Agreement and make all decisions in connection with this Agreement:

Shannon Mora, Contract Administrator

9. **INDEPENDENT CONTRACTOR**
The CONTRACTOR is, and at all times will remain as to CITY, a wholly independent contractor. Neither CITY nor any of its agents will have control over the conduct of the CONTRACTOR or any of the CONTRACTOR's employees, except as otherwise set forth in this Agreement. The CONTRACTOR may not, at any time or in any manner, represent that it or any of its agents or employees are in any manner agents or employees of CITY.

10. **BUSINESS LICENSE**
The CONTRACTOR must obtain a City business license prior to the start of work under this Agreement, unless CONTRACTOR is qualified for an exemption.

11. **OTHER LICENSES AND PERMITS**
CONTRACTOR warrants that it has all professional, contracting and other permits and licenses required to undertake the work contemplated by this Agreement. CONTRACTOR warrants that it has the legal authority to grant CITY the perpetual use of all software furnished with the purchase of the equipment or provided to CITY by CONTRACTOR during the maintenance period.

12. **FAMILIARITY WITH WORK**
By executing this Agreement, CONTRACTOR warrants that CONTRACTOR (a) has thoroughly investigated and considered the scope of services to be performed, (b) has carefully considered how the services should be performed, and (c) fully understands the facilities, difficulties and restrictions attending

performance of the services under this Agreement. If the services involve work upon any site, CONTRACTOR warrants that CONTRACTOR has or will investigate the site and is or will be fully acquainted with the conditions there existing, prior to commencement of services set forth in this Agreement. Should CONTRACTOR discover any latent or unknown conditions that will materially affect the performance of the services set forth in this Agreement, CONTRACTOR must immediately inform CITY of that fact and may not proceed except at CONTRACTOR's risk until written instructions are received from CITY.

13. CARE OF WORK

CONTRACTOR must adopt reasonable methods during the term of the Agreement to furnish continuous protection to the work, and the equipment, materials, papers, documents, plans, studies and other components to prevent losses or damages, and will be responsible for all damages, to persons or property, until acceptance of the work by CITY, except those losses or damages as may be caused by CITY's own negligence.

14. CONTRACTOR'S ACCOUNTING RECORDS; OTHER PROJECT RECORDS

Records of the CONTRACTOR's time pertaining to the project, and records of accounts between CITY and the CONTRACTOR, will be kept on a generally recognized accounting basis. CONTRACTOR will also maintain all other records, including without limitation specifications, drawings, progress reports and the like, relating to the project. All records will be available to CITY during normal working hours. CONTRACTOR will maintain these records for three years after final payment.

15. INDEMNIFICATION

CONTRACTOR will indemnify, defend, and hold harmless CITY, the Redevelopment Agency of the City of Torrance, the City Council, each member thereof, present and future, members of boards and commissions, its officers, agents, employees and volunteers from and against any and all liability, expenses, including defense costs and legal fees, and claims for damages whatsoever, including, but not limited to, those arising from breach of contract, bodily injury, death, personal injury, property damage, loss of use, or property loss however the same may be caused and regardless of the responsibility for negligence. The obligation to indemnify, defend and hold harmless includes, but is not limited to, any liability or expense, including defense costs and legal fees, arising from the negligent acts or omissions, or willful misconduct of CONTRACTOR, its officers, employees, agents, subcontractors or vendors. It is further agreed, CONTRACTOR's obligations to indemnify, defend and hold harmless will apply even in the event of concurrent negligence on the part of CITY, the City Council, each member thereof, present and future, or its officers, agents and employees, except for liability resulting solely from the negligence or willful misconduct of CITY, its officers, employees or agents. Payment by CITY is not a condition precedent to enforcement of this indemnity. In the event of any dispute between CONTRACTOR and CITY, as to whether liability arises from the sole negligence of the CITY or its officers, employees, agents, subcontractors or vendors, CONTRACTOR will be obligated to pay for CITY's defense until such

time as a final judgment has been entered adjudicating the CITY as solely negligent. CONTRACTOR will not be entitled in the event of such a determination to any reimbursement of defense costs including but not limited to attorney's fees, expert fees and costs of litigation.

16. NON-LIABILITY OF CITY OFFICERS AND EMPLOYEES

No officer or employee of CITY will be personally liable to CONTRACTOR, in the event of any default or breach by the CITY or for any amount that may become due to CONTRACTOR.

17. INSURANCE

A. CONTRACTOR and its subcontractors must maintain at its sole expense the following insurance, which will be full coverage not subject to self insurance provisions:

1. Automobile Liability, including owned, non-owned and hired vehicles, with at least the following limits of liability:

   a. Primary Bodily Injury with limits of at least $500,000 per person, $500,000 per occurrence; and

   b. Primary Property Damage of at least $250,000 per occurrence; or

   c. Combined single limits of $1,000,000 per occurrence.

2. General Liability including coverage for premises, products and completed operations, independent contractors/vendors, personal injury and contractual obligations with combined single limits of coverage of at least $1,000,000 per occurrence.

3. Workers' Compensation with limits as required by the State of California and Employer's Liability with limits of at least $1,000,000.

B. The insurance provided by CONTRACTOR will be primary and non-contributory.

C. CITY ("City of Torrance"), the Redevelopment Agency of the City of Torrance, the City Council and each member thereof, members of boards and commissions, every officer, agent, official, employee and volunteer must be named as additional insured under the automobile and general liability policies.

D. CONTRACTOR must provide certificates of insurance and/or endorsements indicating appropriate coverage, to the City Clerk of the City of Torrance before the commencement of work.

E. Each insurance policy required by this Paragraph must contain a provision that no termination, cancellation or change of coverage can be made without thirty days notice to CITY.

18. SUFFICIENCY OF INSURERS

Insurance required by this Agreement will be satisfactory only if issued by companies admitted to do business in California, rated "B+" or better in the most recent edition of Best's Key Rating Guide, and only if they are of a financial category Class VII or better, unless these requirements are waived by the Risk Manager of CITY ("Risk Manager") due to unique circumstances. In the event the Risk Manager determines that the work or services to be performed under this Agreement creates an increased or decreased risk of loss to CITY, the CONTRACTOR agrees that the minimum limits of any insurance policies or performance bonds required by this Agreement may be changed accordingly upon receipt of written notice from the Risk Manager; provided that CONTRACTOR will have the right to appeal a determination of increased coverage by the Risk Manager to the City Council of CITY within 10 days of receipt of notice from the Risk Manager.

19. CONFLICT OF INTEREST

A. No officer or employee of the CITY may have any financial interest, direct or indirect, in this Agreement, nor may any officer or employee participate in any decision relating to the Agreement that effects the officer or employee's financial interest or the financial interest of any corporation, partnership or association in which the officer or employee is, directly or indirectly interested, in violation of any law, rule or regulation.

B. No person may offer, give, or agree to give any officer or employee or former officer or employee, nor may any officer or employee solicit, demand, accept, or agree to accept from another person, a gratuity or an offer of employment in connection with any decision, approval, disapproval, recommendation, preparation or any part of a program requirement or a purchase request, influencing the content of any specification or procurement standard, rendering of advice, investigation, auditing, or in any other advisory capacity in any way pertaining to any program requirement, contract or subcontract, or to any solicitation or proposal.

20. NOTICE

A. All notices, requests, demands, or other communications under this Agreement will be in writing. Notice will be sufficiently given for all purposes as follows:

1. Personal delivery. When personally delivered to the recipient: notice is effective on delivery.

2. First Class mail. When mailed first class to the last address of the recipient known to the party giving notice: notice is effective three

mail delivery days after deposit in an United States Postal Service office or mailbox.

3. Certified mail. When mailed certified mail, return receipt requested: notice is effective on receipt, if delivery is confirmed by a return receipt.

4. Overnight delivery. When delivered by an overnight delivery service, charges prepaid or charged to the sender's account: notice is effective on delivery, if delivery is confirmed by the delivery service.

5. Facsimile transmission. When sent by fax to the last fax number of the recipient known to the party giving notice: notice is effective on receipt. Any notice given by fax will be deemed received on the next business day if it is received after 5:00 p.m. (recipient's time) or on a non-business day.

6. Addresses for purpose of giving notice are as follows:

CONTRACTOR	Shannon Mora Contract Administrator 27202 W. Turnberry Lane, Ste 100 Valencia, CA Fax: (661) 200-6902
CITY:	City Clerk City of Torrance 3031 Torrance Boulevard Torrance, CA 90509-2970 Fax: (310) 618-2931

B. Any correctly addressed notice that is refused, unclaimed, or undeliverable because of an act or omission of the party to be notified, will be deemed effective as of the first date the notice was refused, unclaimed or deemed undeliverable by the postal authorities, messenger or overnight delivery service.

C. Either party may change its address or fax number by giving the other party notice of the change in any manner permitted by this Agreement.

21. <u>PROHIBITION AGAINST ASSIGNMENT AND SUBCONTRACTING</u>

This Agreement and all exhibits are binding on the heirs, successors, and assigns of the parties. The Agreement may not be assigned or subcontracted by either CITY or CONTRACTOR without the prior written consent of the other.

22. INTEGRATION; AMENDMENT

This Agreement represents the entire understanding of CITY and CONTRACTOR as to those matters contained in it. No prior oral or written understanding will be of any force or effect with respect to the terms of this Agreement. The Agreement may not be modified or altered except in writing signed by both parties.

23. INTERPRETATION

The terms of this Agreement should be construed in accordance with the meaning of the language used and should not be construed for or against either party by reason of the authorship of this Agreement or any other rule of construction that might otherwise apply.

24. SEVERABILITY

If any part of this Agreement is found to be in conflict with applicable laws, that part will be inoperative, null and void insofar as it is in conflict with any applicable laws, but the remainder of the Agreement will remain in full force and effect.

25. TIME OF ESSENCE

Time is of the essence in the performance of this Agreement.

26. GOVERNING LAW; JURISDICTION

This Agreement will be administered and interpreted under the laws of the State of California. Jurisdiction of any litigation arising from the Agreement will be in Los Angeles County, California.

27. COMPLIANCE WITH STATUTES AND REGULATIONS

CONTRACTOR will be knowledgeable of and will comply with all applicable federal, state, county and city statutes, rules, regulations, ordinances and orders.

28. WAIVER OF BREACH

No delay or omission in the exercise of any right or remedy by a nondefaulting party on any default will impair the right or remedy or be construed as a waiver. A party's consent or approval of any act by the other party requiring the party's consent or approval will not be deemed to waive or render unnecessary the other party's consent to or approval of any subsequent act. Any waiver by either party of any default must be in writing and will not be a waiver of any other default concerning the same or any other provision of this Agreement.

29. ATTORNEY'S FEES

Except as provided for in Paragraph 15, in any dispute, litigation, arbitration, or other proceeding by which one party either seeks to enforce its rights under this Agreement (whether in contract, tort or both) or seeks a declaration of any rights or obligations under this Agreement, the prevailing party will be awarded reasonable attorney's fees, together with any costs and expenses, to resolve the dispute and to enforce any judgment.

30. EXHIBITS

All exhibits identified in this Agreement are incorporated into the Agreement by this reference.

31. CONTRACTOR'S AUTHORITY TO EXECUTE

The persons executing this Agreement on behalf of the CONTRACTOR warrant that (i) the CONTRACTOR is duly organized and existing; (ii) they are duly authorized to execute this Agreement on behalf of the CONTRACTOR; (iii) by so executing this Agreement, the CONTRACTOR is formally bound to the provisions of this Agreement; and (iv) the entering into this Agreement does not violate any provision of any other Agreement to which the CONTRACTOR is bound.

CITY OF TORRANCE
a Municipal Corporation

_____
Frank Scotto, Mayor

ATTEST:

_____
Sue Herbers
City Clerk

APPROVED AS TO FORM:
JOHN L. FELLOWS III
City Attorney

By:_____

Nexus IS, Inc.
a Delaware Corporation

By:_____
Signer
Title

Attachment: Exhibit A Compensation Schedule

EXHIBIT A

COMPENSATION SCHEDULE

Agreement Sum:

The agreement sum of $1,388,805 is comprised of three components:

1. Installation Payments shall be prorated based on the amount of $1,189,184.
2. Maintenance Payments shall be based on a 3-year total amount of $133,487.
3. Contingency Payments shall not exceed $66,134 and are only payable subject to a properly executed change order(s). Contingency Payments are subject to the same milestone and percentage payment terms as Installation Payments.

Installation Payments:

Milestone	Percentage	Description
Offsite Delivery	50%	Payment is due subject to the City verifying that all project hardware and software has been delivered to Nexus IS. The City's verification would also include the confirmation that all 5 core telephone switches are assembled and powered on.
Cutover/Commercial Use	30% per site	Payment is due for 30% of all material and labor related to each of 24 installations as they are completed. The total billings in this milestone category shall not to exceed 30% of total project value.
Final Acceptance	20%	Payment is due subject to the City declaring that all "punch-list" items have been satisfactorily resolved. Title to each item of equipment shall pass to the City upon final payment.

Maintenance Payments:

1. The $34,189.24 payment for the first year of annual support will be due after the cutover of the first core or satellite system.
2. The $42,300.79 payment for the second year renewal will be due on a date to be determined later based on the consolidation of the various warranty periods and staggered maintenance start dates.
3. The $56,996.34 third year renewal payment will be due 1 year after the renewal date set on in the second year.

Original RFP

Attachments

3 Addendum #1

4 Addendum #2

5 Addendum #3

6 Addendum #4

7 Addendum #5

8 Addendum #6

9 Addendum #7

10 Addendum #8

CITY OF TORRANCE
3031 Torrance Blvd.
Torrance, CA 90503

RFP NO. B2008-09

RFP to Furnish Telephone and Voicemail System Replacement

RFP SUBMITTAL INFORMATION

PLACE:	CITY OF TORRANCE Office of the City Clerk 3031 Torrance Blvd. Torrance, CA 90503
DEADLINE:	2:00 PM
DATE:	Thursday, May 15, 2008

The ***ORIGINAL, PLUS TWO (2) COPIES*** of the RFP must be submitted in a sealed envelope and marked with the RFP number and title

RFPS MAY BE MAILED OR HAND DELIVERED. NO FAXED PROPOSALS WILL BE ACCEPTED. LATE RFPS WILL NOT BE ACCEPTED. RFPs will be opened and publicly read aloud at 2:15 P.M. on the same date in the Council Chambers, Torrance City Hall.

All responses must include the following components:

- Vendor's Response (Section III of this document)
  You must submit your response on the forms provided. If additional space is required, please attach additional pages.
- Performance Bond
- Payment Bond
- Non-Disclosure Agreement (Attachment 1)

Upon award of contract, proof of insurance and applicable bonds, as indicated in the terms and conditions of this proposal document, will be submitted to the Purchasing Division.

Any questions regarding this proposal should be directed to:

Ernest Gallo Communications Manager (310) 618-2885 egallo@torrnet.com	Sally Howard Buyer, Purchasing Division (310) 618-5820 showard@torrnet.com

Notice of Mandatory Pre-Proposal Meeting:

The City will conduct a **mandatory** briefing session for prospective bidders

PLACE:	**West Annex Commission Meeting Room** **3031 Torrance Blvd.** **Torrance, CA 90503**
DATE AND TIME:	**March 25, 2008 @ 10:00 A.M.**

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CITY OF TORRANCE
3031 Torrance Blvd.
Torrance, CA 90503

RFP NO. B2008-09

RFP to Furnish Telephone and Voicemail System Replacement

SECTION I RFP INSTRUCTIONS AND INFORMATION

Notice is hereby given that sealed RFPs will be received in the office of the City Clerk, City Hall, 3031 Torrance Boulevard, Torrance, CA, until 2:00 p.m. on Thursday, **, 2008, and will be opened and publicly read aloud at 2:15 p.m. on the same date in the Council Chambers, Torrance City Hall. You are invited to be present at the opening of proposals. An original and two copies of the proposal price proposal pages must be submitted in a sealed envelope and clearly marked: "RFP TO FURNISH TELEPHONE AND VOICEMAIL SYSTEM REPLACEMENT RFP2008--**".

Definitions:

The following meanings are attached to the following defined words when used in these specifications and the purchase agreement. The word "City" means the City of Torrance, California. The word "Bidder" or "Vendor" or "Contractor" means the person, firm, or corporation submitting a proposal on these specifications or any part thereof.

The following meanings are attached to the following defined words when used in these specifications and purchase agreement. The word "purchase agreement", "contract", "purchase order", "blanket purchase order" means the contractual agreement between the vendor and the City of Torrance for the purchase of goods and/or services.

RFP Form:

The proposal must be made on the form provided for that purpose, enclosed in a sealed envelope, and marked "RFP to Furnish Telephone and Voicemail System Replacement, B2008-09" and addressed to the City Clerk, City of Torrance, 3031 Torrance CA. 90503. If the RFP is made by an individual, it must be signed by that individual, and an address, telephone (and fax number if available) must be given. If made by a business entity, it must be signed by the person(s) authorized to execute agreements and bind the entity to purchase orders. A full business address, telephone (and fax number if available) must be given. No telegraphic, fax or telephonic proposal will be considered.

Blank spaces in the RFP form must be filled in; using ink, indelible pencil, or typewriter, and the text of the proposal form must not be changed. No additions to the form may be made. Any unauthorized conditions, limitations, or provisos attached to a proposal will render it informal and may cause its rejection. Alterations by erasure or interlineations must be explained or noted in the proposal form over the signature of the Bidder.

Reservation:

The City reserves the right to revise or amend these specifications prior to the date set for opening RFPs. Revisions and amendments, if any, will be announced by an addendum to this RFP. If the revisions require additional time to enable bidders to respond, the City may postpone the opening date accordingly. In such case, the addendum will include an announcement of the new opening date.

All addenda must be attached to the proposal. Failure to attach any addendum may render the RFP non-responsive and cause it to be rejected.

The City Council reserves the right to reject any and all RFPs received, to take all RFPs under advisement for a period not to exceed ninety (90) days after the date of the opening, to waive any informality on any RFP, and to be the sole judge of the relative merits of the material and or service mentioned in the respective RFPs received. The City reserves the right to reject any RFP not accompanied with all data or information required.

This RFP does not commit the City to award a purchase order or to pay any cost incurred in the preparation of an RFP. All responses to this RFP become the property of the City of Torrance.

Affidavit:

An affidavit form is enclosed. It must be completed signifying that the proposal is genuine and not collusive or made in the interest of or on behalf of any person not named in the proposal, that the Bidder has not directly or indirectly induced or solicited any other Bidder to put in a sham proposal or any other person, firm, or corporation to refrain from proposing, and that the Bidder has not in any manner sought by collusion to secure for itself an advantage over any other Bidder. Any proposal submitted without an affidavit or in violation of this requirement will be rejected.

Standards for Evaluation of RFPs:

The City staff will use the following categories explained below in determining which RFP best meets the needs of the City. All RFPs will be rated based on their completeness and understanding of the City's needs, conformance to the requirements of the specifications and prior experience with comparable RFPs. The City, will be the sole determiner of suitability to the City's needs.

Proposals will first be screened to insure compliance with mandatory functional or technical requirements. These requirements will be clearly marked in Section II and III. Proposals failing the screening will be disqualified and not scored. Proposals failing to provide a mandatory response shall be treated as non-responsive and also disqualified.

Second, proposals successfully passing the screening process will be scored in three weighted categories: System, Manufacturer, and Integrator/Distributor. Each category shall be comprised of individually scored subcategories.

The three categories are partially explained as follows:

- System – Functional and architectural advantages of the proposal; Ease at which the proposed system can be upgraded to suit future needs; Survivability and redundancy options included/available.
- Manufacturer – Reputation as innovator and reliable vendor within market; Experience and commitment to support the equipment and applications proposed
- Integrator/Distributor – Characteristics of the implementation plan; Intuitive staff and technical training approach; Provisions for short- and long-term equipment and application support.

The explanations above are not exhaustive and do not represent the sub-categories or weighted scoring factors. All detailed criteria are explained in Section II.

Third, the proposal's score will be divided by the proposal's total costs to yield a Best Value Ratio. For the purposes of calculating this ratio, the project's total cost shall equal the sum of all initial costs (i.e. hardware, software, labor) plus three (3) years of recurring costs (i.e. licensing, maintenance). The proposal's Best Value Ratio will be used to compare versus other proposals.

The subcategories, weighting factors, raw scores and ratios will not be disclosed prior to the award; nor will the results evaluation used to make the final award be made public.

Brand Names:

'Vherever brand, manufacturer, product names or numbers are indicated in these specifications, they are ıcluded for the purpose of establishing a general type and quality of the product required, unless the description specifically says NO SUBSTITUTE. Manufacturer, manufacturer's model number and description must be provided. Samples of alternative items being proposed may be required.

The City of Torrance will be the sole judge of the relative merits of comparative products proposed.

Delivery:

Inside Delivery Required. It is the responsibility of the Bidder to provide all equipment and labor necessary to unload the shipment as directed by the City of Torrance. The City may refuse shipment if delivery does not comply with this requirement. All deliveries of such items to be furnished must be made to job sites or City warehouses within the boundaries of the City of Torrance.

Prices proposed are to be FOB Destination, delivered to the City of Torrance.

All RFP awards shall take into consideration local Torrance vendor sales tax rebate of 1%.

Firm Price:

Prices for the equipment specified are to remain firm for the term of the purchase order. The City reserves the right to reject any or all proposals with pricing of less than one year.

Pricing will be F.O.B. DESTINATION. Freight charges are not to be added on any shipments made against any ensuing purchase orders.

Equipment Guarantee:

All equipment furnished will be guaranteed by the vendor for a minimum period of one year against defects in design, material and workmanship. The warranty period will begin with acceptance of the equipment. Warranty repairs to correct discrepancies identified during this period will include labor and materials at no cost to the City. Any faulty equipment that, in the judgment of the City, is not reasonably repairable will be replaced by the vendor as a warranty action. Warranty is explained further in Section II.

Acceptance Period:

The term *"Acceptance"* shall be defined as the City's acknowledgement to Proposer that contracted work has been successfully completed and the system has substantially performed to the specifications and requirements of the Agreement, without the occurrence of a material System component failure for a period of thirty (30) consecutive calendar days following System Cutover. The term *"Cutover"* shall be defined as the date on which the System is placed into actual user service and substantially performing according to all material specifications as verified by agreed upon testing procedures. Acceptance and cutover is explained further in Section II.

Errors and Omissions:

The Bidder will not be allowed to take advantage of any errors and/or omissions in these specifications or in the Bidder's specifications submitted with its proposal. Full instruction will always be given when errors or omissions are discovered.

ıidders Examination of Requirements:

The bidder is required to examine carefully the site, the instructions, information and specifications of this document, investigate the conditions to be encountered, the character, quality and quantities of work to be

performed as required by this document. Submission of a proposal will be considered prima facie evidence that the bidder has made such examination.

The Purchase Agreement:

The bidder to whom the award is made will be required to enter into a written purchase agreement with the City of Torrance. By reference, a copy of the notice inviting Proposals, these specifications and the terms and conditions, will be part of the purchase agreement. All materials or services supplied by the Vendor will conform to the applicable requirements of the City Charter, City Ordinances, and State or Federal Law covering Labor and Wages, as well as conforming to the specifications contained herein. In case of default by the Vendor, the City reserves the right to procure the articles or services from other sources and to hold the Vendor responsible for any excess cost incurred by the City hereby.

Best and Final:

Due to the complexity of the telephone system being proposed, the great number of potential suppliers in the marketplace and great number of products available, the need for continuity with existing systems, ease of maintenance and service, and the standardization of spare parts, it will be impossible to determine the winning bidder based solely on the submission of the proposal required herein. Therefore, the City will accept all proposals, evaluate them for completeness, content, brands being proposed, design standards, design characteristics, and conformance to City requirements and price structure. The City will then choose no more than five (5) proposals which most nearly address the needs of the City, and conduct further interviews, technical analyses and cost analyses with these selected proposers. These discussions and interviews may result in changes in design, component lists, and prices. The City will determine the final, winning bidder based on these discussions, any additional material submitted in connection with the discussions, and the final price for labor and materials which will be developed during the interviews.

Payments:

Complete payment on the contract price will be made in approximately thirty (30) days from date of acceptance, unless otherwise provided for in bidder's proposal or in these specifications. Payments will be made upon verification and acceptance by the City of contract services performed and upon the City's receipt of a correct invoice.

Mandatory Pre-Proposal Meeting:

Vendors intending to propose on this requirement must ensure that a representative from their company is in attendance at the mandatory pre-proposal meeting. Vendors submitting proposals without attending this conference will be disqualified. No exceptions will be allowed.

Patent Rights:

The Vendor agrees to save, keep, bear harmless, defend and fully indemnify the City and any of its officers or agency from all damages, costs, or expenses in law or equity that may at any time arise or to be set up for any infringement of the patent rights of any person or persons in consequence of the use by the City, or by any of its officers or agent, or articles supplied under this contract any of which the Vendor is not the patentee or assignee, or which the Vendor is not lawfully entitled to sell.

Contract Extension to Other Cities/Agencies:

Other Cities/Agencies may be interested in purchasing against an awarded contract, subject to the same price, terms and conditions offered to the City of Torrance. The City of Torrance does not warrant any additional use of the contract by such agencies. Other agencies utilizing the contract will place orders with, and make payments directly to, the successful bidder.

Notice:

Whenever it will be necessary for either party to serve notice on the other respecting the Agreement, such notice will be served by personal delivery or by certified mail to the following addresses, unless and until different addresses may be furnished in writing by either party or the other, and such notice will be deemed to have been served within seventy-two (72) hours after the same has been deposited in a United States Post Office by certified mail or has been delivered personally, and will be valid and sufficient service of notice for all purposes:

CITY: City Clerk
City of Torrance
3031 Torrance Boulevard
Torrance, CA 90503

VENDOR: Will be determined upon award of contract.

Liquidated Damages:

The Contractor agrees that failure to complete the system cutover per the agreed upon time allowed will result in damages being sustained by the City. Contractor and City agree that failure to properly execute the system cutover will result in inconvenience to the citizens of Torrance and City employees using the telephone or voicemail systems. Such failure to execute will also result in the necessity of City staff to halt, modify or delay the delivery of normal municipal services costing the City overtime or time lost. The parties also agree that failure to properly execute the system cutover will prevent the City from the use of the telephone or voicemail systems.

Therefore the parties agree such damages among others are and will continue to be impracticable and extremely difficult to determine, but that $2,000.00 a day is the minimum value of such costs to the City and is a reasonable amount that the Contractor agrees to reimburse the City for each day of delay in properly executing the system cutover within the time specified, plus any authorized time extensions.

Execution of the contract under these specifications shall constitute agreement by the Contractor and the City that $2,000.00 per day is the minimum value of the costs and actual damage caused by failure of the Contractor to complete the described work within the allotted time, that such sum is liquidated damages and shall not be construed as a penalty and that such sum may be deducted from payments due the Contractor if such delay occurs. Said amount may be reduced by the City if work is sufficiently completed within the allotted time so that the damages are minimized.

The Contractor will not be assessed liquidated damages for any delay in completion of the work, when such delay was caused by the failure of the City or the owner of a utility to provide for removal or relocation of the existing utility facilities.

Non-Disclosure Agreement (NDA)

Because the nature of IP telephony systems requires a detailed understanding of the telephone and network architecture for implementation purposes, vendors are required to complete an NDA (Attachment 2) as a condition of award.

Schedule of Events
Events and dates in **BOLD** are fixed. All other entries are tentative and intended to suggest overall project expectations. The final and binding project schedule will be set during Best and Final (BAFO) process.

EVENT	DATES
Distribute RFP	**March 10 2008**
Conduct Mandatory Site Walk	**March 25, 2008**
Interim Questions Cutoff Date	**By 5:00 PM PST; April 9, 2008**
Response to Interim Questions	**By April 24, 2008**
Proposal Closing Date	**By 2:00 PM PST; May 15, 2008**
Select BAFO Finalists	**May 29, 2008**
Start BAFO Meetings	**June 23, 2008**
End BAFO Meetings	**August 1, 2008**
BAFO Proposal Closing Date	**By 2:00 PM PST; August 14, 2008**
Contract Awarded	September 3, 2007 At 7:00 PM PST
Start Implementation Meetings	
Begin Hardware Delivery and Installation	
Begin Acceptance Testing and Punch List	
Conclude Acceptance and Punch List	
First Day in Service	December 3, 2008

Event Objectives:

- *Mandatory Site Walk*
  Opportunity for bidders to see select facilities, ask questions directly to City staff, and receive clarification of information contained in RFP. Complex questions or subject matter not addressed in the RFP may be answered after the meeting via correspondence. Binding responses to bidder questions shall be provided to all those having attended the site walk via a formal RFP addendum or correspondence.

- *Interim Questions*
  Opportunity for bidders to submit additional questions via letter, fax or email addressed to the City's designated representative. Questions submitted via phone call, voice message, or in person will not be accepted. Binding responses to bidder questions shall be provided to all those having attended the site walk via a formal RFP addendum or correspondence.

- *BAFO Negotiations*
  Opportunity for City and/or bidder to refine, expand, or consolidate RFP specifications.

- *First Day in Service*
  Marks the target date determining whether Liquidated Damages take effect.

Terms and Conditions:

The following terms and conditions will be attached to and made part of the Purchase Agreement.

PURCHASE AGREEMENT TERMS AND CONDITIONS

DEFINITIONS: The following meanings are attached to the following defined words when used in these terms and conditions and the purchase agreement. The word "City" means the City of Torrance, California. The word "Vendor" or "Contractor" means the person, firm, or corporation providing goods or services to the City.

The word "purchase agreement" means the contract, purchase agreement, blanket purchase agreement or vendor contract issued to the vendor by the City.

GOODS: The term "Goods" means the products, goods or other commodities purchased pursuant to the Purchase Agreement.

DESCRIPTION OF GOODS: The Vendor must produce and deliver the Goods in accordance with the specifications, and the shipping and quantity schedule set forth on the first page of the Purchase Agreement.

SUBSTITUTION: No substitution of Goods ordered will be made unless authorized by the Purchasing Division.

DELIVERY DATE: The Goods must be shipped and must arrive at the destination specified by the CITY in strict compliance with the shipping and quantity schedule set forth on the first page of this Purchase Agreement. Any failure by the Vendor to meet the Required Delivery Date (set forth on the first page of this Purchase Agreement) will constitute a material default. The Vendor must notify the CITY immediately if the Vendor reasonably believes that the Vendor will not be able to meet said Required Delivery Date for any reason whatsoever. In addition, The Vendor must promptly provide the CITY with a schedule that the Vendor reasonable believes it will be able to meet.

CANCELLATION: The CITY reserves the right to cancel any portion of this order with respect to Goods not delivered on or before the Required Delivery Date.

DELIVERY RISK OF LOSS: All orders will be F.O.B. destination if not otherwise specified. Risk of loss or damage to the Goods will remain with the Vendor until the Goods have been delivered to and accepted by the CITY. All Goods will be received by the CITY subject to its right of inspection, rejection, and revocation of acceptance under the Uniform Commercial Code. The CITY will be allowed a reasonable period of time to inspect the Goods and to notify the Vendor of any nonconformance with the terms and conditions of this purchase agreement. The CITY may reject any Goods that do not conform to the terms and conditions of this purchase agreement; any Goods rejected may be returned to the Vendor at the Vendor's risk and expense. Further, where the CITY rightfully revokes acceptance, the CITY may, to the extent of any deficiency in its effective insurance coverage, treat the risk of loss as having rested on the Vendor from the date of the Vendor's acceptance of this purchase agreement.

PACKING SLIPS: Packing Slips specifying quantity, description and purchase agreement number must be included with each delivery.

INVOICES FOR GOODS: Two copies of the invoice must be mailed to the City of Torrance Finance Department not later than the day after shipment is made. Individual invoices must be issued for each shipment against each purchase agreement. Invoices must contain the purchase agreement number, description of Goods and scope of work, unit price, quantities billed and extended totals. Payment will be made by the CITY in accordance with the terms specified on the first page of this Purchase Agreement.

INVOICES FOR SERVICES: Two copies of invoices must be mailed to the City of Torrance Finance Department not later than the day after work is completed. Invoices must contain the purchase agreement

number, scope of service, itemized prices and extended totals. Payment will be made by the CITY in accordance with the terms specified on the first page of this Purchase Agreement.

PACKING AND SHIPPING OF GOODS: Deliveries must be made as specified without charge for boxing, crating, or storage unless otherwise specified, and Goods must be suitably packed to secure lowest transportation costs, and in accordance with the requirements of common carriers, and in a manner to assure against damage from weather or transportation. The CITY's order numbers and symbols must be plainly marked on all invoices, packages, and shipping orders. Packing lists must accompany each box or package shipment. The CITY's count or weight must be final and conclusive on shipments not accompanied by packing lists. Shipments for two or more destinations when so directed by the CITY must be shipped in separate boxes or containers for each destination, at no charge.

ACCEPTANCE OF PURCHASE AGREEMENT: This purchase agreement constitutes the CITY's offer to the Vendor and becomes a binding contract upon acceptance by the Vendor by commencement of performance. Any terms or conditions (including price and dates of performance) proposed by the Vendor in accepting the CITY's offer, which are inconsistent with or in addition to the terms and conditions set forth in this purchase agreement, will be void and of no effect unless and to the extent expressly accepted by the CITY in writing.

TAXES: The Vendor must separately state on all invoices any taxes imposed by federal or state government applicable to furnishing of the Goods: provided, however where a tax exemption is available, the tax must be subtracted from the total price and identified. Municipalities are exempt from federal excise and transportation taxes. Total prices quoted are to exclude federal taxes. Exemption certificates will be furnished upon request. Unless otherwise indicated, prices quoted will be considered to exclude state and city sales or use tax, which is payable to the CITY.

PRICES: The Vendor represents that prices quoted to or paid by the CITY will not exceed current prices charged to any other City or the Vendor for items that are the same or substantially similar to the Goods, taking into account the quality under consideration, and the Vendor will forthwith refund any amounts paid by the CITY in excess of the price.

CASH DISCOUNTS: The date used as the basis for cash discounts calculation is the date the Goods are received and work is completed, or the date an acceptable invoice is received, whichever is later.

WARRANTY FOR GOODS: The Vendor warrants that all Goods will conform to applicable specifications, drawings, descriptions, and samples, and will be merchantable, of good workmanship and material, and free from defect. Unless manufactured pursuant to detailed design furnished by the CITY, the Vendor assumes design responsibility and warrants the Goods to be free from design defect and suitable for the purposes intended by the CITY. The Vendor's warranties, together with its service guarantees, must run to the CITY and its City's or users of the Goods and must not be deemed exclusive. The CITY's inspection, approval, acceptance, use of, or payment for all or any part of the Goods must in no way effect its warranty rights whether or not a breach of warranty had become evident at the time.

WARRANTY FOR SERVICE :
The Vendor warrants that:

1. The Vendor's performance of the services called for by this Purchase Agreement does not and must not violate or conflict with (1) any applicable law, rule, or regulation applicable to the Vendor, or (2) any contracts between the Vendor and any third parties: and

2. the services performed must be performed with professional diligence and skill: and

3. that in the event of a nonconformity or breach of any warranty, the Vendor must provide the services to the CITY necessary to correct or remedy any noncompliance or breach.

CHANGES: The CITY has the right by written notice to change the extent of the Goods ordered or the work covered by the purchase agreement, the drawings, specifications, or other shipment or packaging or to

suspend work. Upon receipt of any notice, the Vendor will proceed promptly to make the changes in accordance with the terms of the notice. If any change causes an increase or decrease in the cost or performance or in the time required for performance, an equitable adjustment must be negotiated promptly and the contract modified in writing accordingly. The Vendor must deliver to the CITY as promptly as possible, and in any event within 30 days after receipt of change notice, a statement showing the effect of any change in the delivery dates and prices; the statement must be supplemented within 30 days by detailed specification of the amount of the price adjustment and supporting cost figures. The Vendor's failure to submit the statements within the time limits stated, will constitute its consent to perform the change without increase in price, without claim for material rendered obsolete and without change in delivery schedule.

TERMINATION OF AGREEMENT:

Termination by CITY for Convenience.

1) The CITY may, at any time, terminate the Purchase Agreement for the CITY's convenience and without cause.

2) Upon receipt of written notice from the CITY of such termination for the CITY's convenience, The Vendor will:

a) cease operations as directed by the CITY in the notice;
b) take actions necessary, or that the CITY may direct, for the protection and preservation of the work; and
c) except for work directed to be performed prior to the effective date of termination stated in the notice, terminate all existing subcontracts and purchase orders and enter into no further subcontracts and purchase orders.

3) In case of such termination for the CITY's convenience, the Vendor will be entitled to receive payment for work executed; and costs incurred by reason of such termination, along with reasonable overhead and profit on the work not executed.

Termination for Cause:

1. If either party fails to perform any term, covenant or condition in this Purchase Agreement and that failure continues for 15 calendar days after the nondefaulting party gives the defaulting party written notice of the failure to perform, this Purchase Agreement may be terminated for cause; provided, however, that if during the notice period the defaulting party has promptly commenced and continues diligent efforts to remedy the default, the defaulting party will have such additional time as is reasonably necessary to remedy the default.

2. In the event this Agreement is terminated for cause by the default of the Vendor, the CITY may, at the expense of the Vendor and its surety, complete this Purchase Agreement or cause it to be completed. Any check or bond delivered to the CITY in connection with this Purchase Agreement, and the money payable thereon, will be forfeited to and remain the property of the CITY. All moneys due the Vendor under the terms of this Purchase Agreement will be retained by the CITY, but the retention will not release the Vendor and its surety from liability for the default. Under these circumstances, however, the Vendor and its surety will be credited with the amount of money retained, toward any amount by which the cost of completion exceeds the Agreement Sum and any amount authorized for extra services.

3. Termination for cause will not affect or terminate any of the rights of the CITY as against the Vendor or its surety then existing, or which may thereafter accrue because of the default; this provision is in addition to all other rights and remedies available to the CITY under law.

Termination for Breach of Law:

In the event the Vendor or any of its officers, directors, shareholders, employees, agents, subsidiaries or affiliates is convicted (i) of a criminal offense as an incident to obtaining or attempting to obtain a public or private contract or subcontract, or in the performance of a contract or subcontract; (ii) under state or federal statutes of embezzlement, theft, forgery, bribery, falsification or destruction of records, receiving stolen property, or any other offense indicating a lack of business integrity or business honesty which currently, seriously, and directly affects responsibility as a public consultant or contractor; (iii) under state or federal antitrust statutes arising out of the submission of bids or proposals; or (iv) of violation of Paragraph 19 of this Agreement; or for any other cause the CITY determines to be so serious and compelling as to affect Vendor's responsibility as a public consultant or contractor, including but not limited to, debarment by another governmental agency, then the CITY reserves the unilateral right to terminate this Purchase Agreement or to impose such other sanctions (which may include financial sanctions, temporary suspensions or any other condition deemed appropriate short of termination) as it deems proper. The CITY will not take action until the Vendor has been given notice and an opportunity to present evidence in mitigation.

FORCE MAJEURE: If any party fails to perform its obligations because of strikes, lockouts, labor disputes, embargoes, acts of God, inability to obtain labor or materials or reasonable substitutes for labor or materials, governmental restrictions, governmental regulations, governmental controls, judicial orders, enemy or hostile governmental action, civil commotion, fire or other casualty, or other causes beyond the reasonable control of the party obligated to perform, then that party's performance will be excused for a period equal to the period of the cause for failure to perform.

RETENTION OF FUNDS: The Vendor authorizes the CITY to deduct from any amount payable to the Vendor (whether or not arising out of this Purchase Agreement) any amounts the payment of which may be in dispute or that are necessary to compensate the CITY for any losses, costs, liabilities, or damages suffered by the CITY, and all amounts for which the CITY may be liable to third parties, by reason of the Vendor's negligent acts or omissions or willful misconduct in performing or failing to perform the Vendor's obligations under this Purchase Agreement. In the event that any claim is made by a third party, the amount or validity of which is disputed by the Vendor, or any indebtedness exists that appears to be the basis for a claim of lien, the CITY may withhold from any payment due, without liability for interest because of the withholding, an amount sufficient to cover the claim. The failure of the CITY to exercise the right to deduct or to withhold will not, however, affect the obligations of the Vendor to insure, indemnify, and protect the CITY as elsewhere provided in this Purchase Agreement.

INDEPENDENT CONTRACTOR: The Vendor is, and at all times will remain as to the CITY, a wholly independent contractor. Neither the CITY nor any of its agents will have control over the conduct of the Vendor or any of the Vendor's employees, except as otherwise set forth in this Purchase Agreement. The Vendor may not, at any time or in any manner, represent that it or any of its agents or employees are in any manner agents or employees of the CITY.

BUSINESS LICENSE: The Vendor must obtain a CITY business license prior to the start of work under this Purchase Agreement, unless the Vendor is qualified for an exemption.

OTHER LICENSES AND PERMITS: The Vendor warrants that it has all professional, contracting and other permits and licenses required to undertake the work contemplated by this Purchase Agreement.

FAMILIARITY WITH WORK: By executing this Purchase Agreement, the Vendor warrants that the Vendor (a) has thoroughly investigated and considered the scope of services to be performed, (b) has carefully considered how the services should be performed, (c) fully understands the facilities, difficulties and restrictions attending performance of the services under this Purchase Agreement and (d) has the necessary skills and expertise and adequate staffing to perform such services. If the services involve work upon any site, the Vendor warrants that the Vendor has or will investigate the site and is or will be fully acquainted with the conditions there existing, prior to commencement of services set forth in this Purchase Agreement. Should the Vendor discover any latent or unknown conditions that will materially affect the performance of the

services set forth in this Purchase Agreement, the Vendor must immediately inform the CITY of that fact and may not proceed except at the Vendor's risk until written instructions are received from the CITY.

ARE OF WORK: The Vendor must adopt reasonable methods and take reasonable steps during the life of the Purchase Agreement protect the work, and the equipment, materials, papers, documents, plans, studies and other components to prevent losses or damages. The Vendor will be responsible for all damages, to persons or property, until acceptance of the work by the CITY, except those losses or damages as may be caused by the CITY's own negligence.

VENDOR'S ACCOUNTING RECORDS; OTHER PROJECT RECORDS: The Vendor must keep and maintain accurate books and records at its principal place of business concerning the performance of services pursuant to this Purchase Agreement, including but not limited to records of accounts between the CITY and the Vendor, specifications and drawings relating to the services, and progress and inspection reports concerning the work performed. The CITY and/or its duly authorized representative (including independent certified public accountants), will have the right, during regular business hours to inspect the Vendor's books and records and to make copies of that information at the CITY's expense. The Vendor will maintain these records for three years after final payment.

INDEMNIFICATION:

The Vendor will indemnify, defend, and hold harmless CITY, the City Council, each member thereof, present and future, its officers, agents and employees from and against any and all liability, expenses, including defense costs and legal fees, and claims for damages whatsoever, including, but not limited to, those arising from breach of contract, bodily injury, death, personal injury, property damage, loss of use, or property loss however the same may be caused and regardless of the responsibility for negligence. The obligation to indemnify, defend and hold harmless includes, but is not limited to, any liability or expense, including defense costs and legal fees, arising from the negligent acts or omissions, or willful misconduct of the Vendor, its officers, employees, agents, subcontractors or vendors. It is further agreed, the Vendor's obligations to indemnify, defend and hold harmless will apply even in the event of concurrent negligence on the part of CITY, the City Council, each member thereof, present and future, or its officers, agents and employees, except for liability resulting solely from the negligence or willful misconduct of CITY, its officers, employees or agents. Payment by the CITY is not a condition precedent to enforcement of this indemnity. In the event of any dispute between the Vendor and the CITY, as to whether liability arises from the sole negligence of the CITY or its officers, employees, agents, subcontractors or vendors, the Vendor will be obligated to pay for the CITY's defense until such time as a final judgment has been entered adjudicating the CITY as solely negligent. The Vendor will not be entitled in the event of such a determination to any reimbursement of defense costs including but not limited to attorney's fees, expert fees and costs of litigation.

NON-LIABILITY OF CITY OFFICERS AND EMPLOYEES: No officer or employee of the CITY will be personally liable to the Vendor, in the event of any default or breach by the CITY or for any amount that may become due to the Vendor.

INSURANCE:

The Vendor must maintain at its sole expense the following insurance, which will be full coverage not subject to self insurance provisions:

1) Automobile Liability, including owned, non-owned and hired vehicles, with at least the following limits of liability:
   a) Primary Bodily Injury with limits of at least $250,000 per person, $500,000 per occurrence; and
   b) Primary Property Damage of at least $100,000 per occurrence; or
   c) Combined single limits of $500,000 per occurrence.

   General Liability including coverage for premises, products and completed operations, independent contractors, personal injury and contractual obligations with combined single limits of coverage of at least $500,000 per occurrence.

3) Workers' Compensation with limits as required by the Labor Code of the State of California and Employers Liability with limits of at least $500,000 per occurrence.

4) The insurance provided by the Vendor will be primary and non-contributory

5) The CITY, the City Council and each member thereof, members of boards and commissions, every officer, agent, official, employee and volunteer must be named as additional insured under the automobile and general liability policies.

6) The Vendor must provide certificates of insurance and/or endorsements indicating appropriate coverage to the City Clerk of the City of Torrance before the commencement of work.

7) Each insurance policy required by this Paragraph must contain a provision that no termination, cancellation or change of coverage can be made without thirty days notice to the CITY.

SUFFICIENCY OF INSURERS AND SURETIES: Insurance or bonds required by this Purchase Agreement will be satisfactory only if issued by companies admitted to do business in California, rated "B" or better in the most recent edition of Best's Key Rating Guide, and only if they are of a financial category Class VII or better, unless these requirements are waived by the Risk Manager of the CITY ("Risk Manager") due to unique circumstances. In the event the Risk Manager determines that the work or services to be performed under this Purchase Agreement creates an increased or decreased risk of loss to the CITY, the Vendor agrees that the minimum limits of the insurance policies and the performance bond required by this Purchase Agreement may be changed accordingly upon receipt of written notice from the Risk Manager; provided that the Vendor will have the right to appeal a determination of increased coverage by the Risk Manager to the City Council of the CITY within 10 days of receipt of notice from the Risk Manager.

CONFLICT OF INTEREST:

1) No officer or employee of the CITY may have any financial interest, direct or indirect, in this Purchase Agreement, nor may any officer or employee participate in any decision relating to the Purchase Agreement that effects the officer or employee's financial interest or the financial interest of any corporation, partnership or association in which the officer or employee is, directly or indirectly interested, in violation of any law, rule or regulation.

2) No person may offer, give, or agree to give any officer or employee or former officer or employee, nor may any officer or employee solicit, demand, accept, or agree to accept from another person, a gratuity or an offer of employment in connection with any decision, approval, disapproval, recommendation, preparation or any part of a program requirement or a purchase request, influencing the content of any specification or procurement standard, rendering of advice, investigation, auditing, or in any other advisory capacity in any way pertaining to any program requirement, contract or subcontract, or to any solicitation or proposal.

NOTICE:

1) All notices, requests, demands, or other communications under this Purchase Agreement will be in writing. Notice will be sufficiently given for all purposes as follows:

   a) Personal delivery. When personally delivered to the recipient: notice is effective on delivery.

   b) First Class mail. When mailed first class to the last address of the recipient known to the party giving notice: notice is effective three mail delivery days after deposit in an United States Postal Service office or mailbox.

   c) Certified mail. When mailed certified mail, return receipt requested: notice is effective on receipt, if delivery is confirmed by a return receipt.

d) Overnight delivery. When delivered by an overnight delivery service, charges prepaid or charged to the sender's account: notice is effective on delivery, if delivery is confirmed by the delivery service.

e) Facsimile transmission. When sent by fax to the last fax number of the recipient known to the party giving notice: notice is effective on receipt. Any notice given by fax will be deemed received on the next business day if it is received after 5:00 p.m. (recipient's time) or on a non-business day.

2) Any correctly addressed notice that is refused, unclaimed, or undeliverable because of an act or omission of the party to be notified, will be deemed effective as of the first date the notice was refused, unclaimed or deemed undeliverable by the postal authorities, messenger or overnight delivery service.

3) Either party may change its address or fax number by giving the other party notice of the change.

PROHIBITION AGAINST ASSIGNMENT AND SUBCONTRACTING: This Purchase Agreement and all exhibits are binding on the heirs, successors, and assigns of the parties. The Purchase Agreement may not be assigned or subcontracted by either the CITY or the Vendor without the prior written consent of the other.

INTEGRATION AMENDMENT: This Purchase Agreement represents the entire understanding of the CITY and Vendor as to those matters contained in it. No prior oral or written understanding will be of any force or effect with respect to the terms of this Purchase Agreement. The Purchase Agreement may not be modified or altered except in writing signed by both parties.

INTERPRETATION: The terms of this Purchase Agreement should be construed in accordance with the meaning of the language used and should not be construed for or against either party by reason of the authorship of this Purchase Agreement or any other rule of construction that might otherwise apply.

SEVERABILITY: If any part of this Purchase Agreement is found to be in conflict with applicable laws, that part will be inoperative, null and void insofar as it is in conflict with any applicable laws, but the remainder of the Purchase Agreement will remain in full force and effect.

TIME OF ESSENCE: Time is of the essence in the performance of this Purchase Agreement.

GOVERNING LAW; JURISDICTION: This Purchase Agreement will be administered and interpreted under the laws of the State of California. The parties consent to the jurisdiction of the state and federal courts located in Los Angeles County, California for the resolution of all disputes arising under this Purchase Agreement, and the parties agree that jurisdiction and venue for proceedings will lie exclusively with these courts. Service of process in any proceeding (including service of process for the institution of a proceeding) may be made by certified mail, return receipt requested, directed to the respective party.

COMPLIANCE WITH STATUTES AND REGULATIONS: The Vendor will be knowledgeable of and will comply with all applicable federal, state, county and city statutes, rules, regulations, ordinances and orders.

WAIVER OF BREACH: No delay or omission in the exercise of any right or remedy by a nondefaulting party on any default will impair the right or remedy or be construed as a waiver. A party's consent or approval of any act by the other party requiring the party's consent or approval will not be deemed to waive or render unnecessary the other party's consent to or approval of any subsequent act. Any waiver by either party of any default must be in writing and will not be a waiver of any other default concerning the same or any other provision of this Purchase Agreement.

ATTORNEY'S FEES: In any dispute, litigation, arbitration, or other proceeding by which one party either seeks to enforce its rights under this Purchase Agreement (whether in contract, tort or both) or seeks a declaration of any rights or obligations under this Purchase Agreement, the prevailing party will be awarded reasonable attorney's fees, together with any costs and expenses, to resolve the dispute and to enforce any judgment.

CITY OF TORRANCE
3031 Torrance Blvd.
Torrance, CA 90503

RFP NO. B2008-09

RFP to Furnish Telephone and Voicemail System Replacement

SECTION II SPECIFICATIONS

1.0 INTRODUCTION

The City of Torrance is located in Los Angeles County, California and was incorporated in May of 1921. It is situated approximately 20 miles southwest of downtown Los Angeles and encompasses 21.2 square miles of land with .8 miles of ocean beach frontage.

The City operates under the Mayor-Council-City Manager form of government. It operates its own Police and Fire Departments, a municipal airport, six full service library branches, a full service transit system, thirty five developed parks and various satellite facilities with and without telecom services. Overall, the City has 1870 full and part-time employees.

The City also has within its boundaries its own unified school district which is operated independently by the Torrance Unified School District, two major hospitals, and a combination of low, medium and high density residential housing, light to medium commercial businesses and light to heavy industrial manufacturing.

The daytime population of Torrance is estimated to exceed 500,000 people with the nighttime population being 146,204.

More information can be obtained about the City of Torrance by visiting the City's website at www.torrnet.com.

1.1 PURPOSE AND SCOPE

The purpose of this Request for Proposal (RFP) is to solicit proposals from qualified vendors for the turnkey installation of a new replacement telephone system. The selected vendor will be responsible for the design, installation, testing, warranting and meeting acceptance criteria as outlined in this document. The desired date of installation and cutover is in the Summer of 2008.

The RFP shall require bidders to submit a Minimum and, Extended proposal. The Minimum proposal includes the five "core" systems; whereas, the Extended proposal includes the "core" and "satellite" systems. The RFP is written with the Extended proposal in mind. Bidders are responsible for discerning and applying what is or is not relevant to a successful Minimum proposal.

The project includes the following systems and requirements:

a. Replace the City's five (5) NEC NEAX 2400 TDM PBX telephone systems with new state of the art TDM/IP hybrid technology systems at the City's core locations.
b. Replace approximately 1400 NEC digital display telephones with new digital display telephones at the City's core locations.
c. Replace nineteen (19) miscellaneous-brand electronic key telephone systems at the City's satellite locations with appropriately sized state of the art digital and/or IP capable systems and integrate with core systems.
d. Replace approximately 160 miscellaneous-brand electronic key telephones with new display telephone sets at the City's satellite locations.

e. Replace the City's 40-port centralized Baypoint (Centigram) Voice messaging system with a new centralized system that will support the City's five core locations and nineteen satellite locations.
f. Replace the City's current call accounting system with a new replacement system.
g. Provide a new Automatic Call Distribution (ACD) system or systems which are capable of providing seamless ACD services to any or all of the core and satellite locations.
h. Provide a new Auto-Attendant system or systems to support the City's current auto-attendant applications. The current applications are being handled by the centralized Voicemail system.
i. Integrate/interface the new telephone system with the City's existing Telident PS/ALI E911 system and with the Local Exchange Carrier 911 trunking.
j. Reconnect approximately 250 miscellaneous analog telephones and devices. These include modems, fax machines, alarm panels, elevators, door phones, analog extension lines on E911 systems, etc.
k. Re-design and implement a new trunking plan for the core and satellite locations that will eliminate or minimize the use of analog trunks and utilize the digital service offerings from the Local Exchange Carrier such as ISDN PRI, IP, etc.
l. Provide on-site administrative training to technical staff for managing the various systems purchased.
m. Provide and arrange manufacturer certifiable technical training for City staff for the various systems purchased.
n. Provide end-user training to approximately 1800 City employees.
o. Warrant the system for a minimum of one (1) year after acceptance with options to obtain future annual maintenance agreements.

NOTE: If the City is required to provide additional hardware or software not included in the proposed price please list those items in Section III.

2.0 BACKGROUND

The following information is included to give bidders a better understanding of how the City's current telephone system is designed and operates.

2.1 GENERAL

The City's current TDM PBX telephone network consists of five (5) individual core NEC NEAX 2400 PBX switches installed between 1991 and 1995 as well as nineteen (19) individual electronic key telephone systems of varying manufacturers and ages located at satellite locations throughout the City.

Two of the five core PBX switches are located on the City Hall campus and three are located off-campus. All five core PBX switches are integrated together utilizing NEC's proprietary CCIS digital networking protocol using a combination of City-owned and local exchange carrier (LEC) T-1 lines. This integration feature allows 4-digit station-to-station dialing between the locations to be made without involving the PSTN.

This design also allows the City to have only one centralized Voicemail system (with Auto-Attendant), one centralized call accounting system and one centralized PS/ALI system for E911 capabilities.

The remaining nineteen satellite locations with electronic key telephone systems are stand-alone systems and have either 1 MB lines (POTS) or OPX lines or a combination of both serving them. These satellite locations currently have little or no integration with the City's core PBX systems, voicemail system or call accounting system. Five of them have individual internal Voicemail systems which mainly perform Auto-Attendant functions (Library branches).

<u>Please refer to Attachment A for City of Torrance Network Diagram</u>

I.1 City Hall 3031 W Torrance Boulevard, Torrance CA 90503

The City Hall PBX location is considered the main hub of the City's telephone system. It is the location of the centralized Voicemail system (with Auto-Attendant), centralized call accounting system and centralized PS/ALI E911 system. This location is also where the telecommunications administrative and

technical operations are based. This locations' PBX switch provides telephone service to buildings located on the southern portion of the City Hall campus. These buildings include the City Hall East Annex, City Hall tower, City Hall West Annex, City Hall North Wing, Human Resources building and the Katy Geisert main library building. This location, as with all the others, has its own incoming PSTN DID analog trunks and outgoing PSTN DDD analog trunks allowing it to operate on its own, should it lose connectivity with the rest of the telephone network.

This PBX switch also provides dial tone for Off Premise Extension (OPX) services to several of the City's satellite locations using standard PBX analog lines and LEC OPX services. The City's Business Attendant consoles (2) are also located here and answer the non-emergency/general business published lines for the Police department (310-328-3456), the general business published lines for City Hall (310-328-5310) and PBX Dial-0 Operator calls for all locations.

Equipment at this location currently includes:

- NEC NEAX 2400 HDS IMG w/5200 Release IV software with level 3 redundancy
- Ratelco 48 VDC Rectifier system (redundant)
- Generic brand 48 VDC battery back up system (4 hours estimated time)
- Kentrox CSU/DSU card cage and cards for T-1 CCIS connectivity between PBX switches
- Centralized Baypoint (Centigram) 120S Voicemail system equipped with 40 ports and 80 hours of voice storage
- Symphony Services (formerly Telco research) Tru-System call accounting system with version 5.8 software and IDC recording and call buffer box
- Teltronics Telident PS/ALI E911 system for extension identification (CAMA configuration)

2.1.2 Police Department 3300 Civic Center Drive, Torrance, CA 90503

The police department is located centrally on the City Hall campus and is located approximately one block north of the City Hall location. This location's PBX switch provides telephone service to buildings located on the west side and northerly portions of the campus. These buildings include the police department, Torrance Art Museum (TAM), Cultural Arts Center complex (CAC), Cable TV, Ken Miller Recreation Center and the Victor E. Benstead Plunge facility on Torrance Blvd. This PBX switch also has its own incoming PSTN DID analog trunks and outgoing PSTN DDD analog trunks which allow it to operate on its own should it lose connectivity with the rest of the telephone network. This PBX switch also provides analog dial tone for OPX services to several of the City's satellite locations using standard LEC OPX services.

The City's Public Safety Answer Point (PSAP) for both the Police and Fire department operations are also located at this site. The Plant Equipment MAARS Vesta systems that support the PSAP's 911 operation are owned by the City but are not part of this project. Replacing existing various analog PBX lines and PBX ring down lines which appear on these systems are part of this project.

Equipment at this location includes:

- NEC NEAX 2400 HDS IMG w/5200 Release IV software & level 3 redundancy
- Ratelco 48 VDC Rectifier system (redundant)
- Generic brand 48 VDC battery back up system (4 hours estimated time)
- Kentrox CSU/DSU card cage and cards for T-1 connectivity between switches

2.1.3 City Yard Service Facility 20500 Madrona Avenue, Torrance, CA 90503

The City Yard Service Facility, commonly referred to as the "City Yard" is located approximately ½ mile north of the City Hall campus on Madrona Avenue. Although this location is not actually on the same campus as the police department and City Hall, it is connected to the campus using an underground city-owned outside plant (OSP) copper cable for telecommunications and 62.5/125 Multi-mode fiber optical cabling for the City's data network. This PBX switch services the City Yard property which includes the north and south buildings and several small miscellaneous buildings also located on the property. This location also has its own PSTN DID incoming analog trunks and PSTN DDD outgoing analog trunks allowing it to operate on its own should it lose connectivity with the rest of the telephone

network. It should be noted that the PSTN services supporting this location originate at the police department and are transported to this location on the above mentioned copper OSP cable. There is no LEC presence at this location.

Equipment at this location includes:
- NEC NEAX 2400 HDS SIM w/5200 Release IV software
- Ratelco 48 VDC Rectifier system (redundant)
- Generic brand 48 VDC battery back up system (4 hours estimated time)
- Kentrox wall-mount CSU/DSU standalone units for T-1 connectivity between switches

2.1.4 Fire Department Headquarters 1701 Crenshaw Boulevard, Torrance, CA 90501

The fire department headquarters is located off-campus approximately one mile southeast of the City Hall campus. This PBX switch is connected to the City's telephone network using two separate T-1 lines. One is provided by the LEC and connects to the police department PBX switch, the other T-1 line is provided using a city-owned line of sight 5.8 GHz wireless system which connects to the City Hall PBX switch. This location also has its own PSTN DID incoming analog trunks and PSTN DDD outgoing analog trunks, allowing it to operate on its own should it lose connectivity with the rest of the telephone network. This PBX switch also provides dial tone for OPX services to the five fire sub-station locations located strategically around the City using standard PBX analog lines and LEC OPX services.

Equipment at this location includes:
- NEC NEAX 2400 HDS SIM w/5200 Release IV software
- Ratelco 48 VDC Rectifier system (redundant)
- Generic brand 48 VDC battery back up system (4 hours estimated time)
- Kentrox wall-mount CSU/DSU standalone units for T-1 connectivity between switches

2.1.5 General Aviation Center (Airport) 3301 Airport Drive, Torrance, CA 90505

The General Aviation Center is located approximately two miles south of the City Hall campus on the Torrance municipal airport property. This location is connected to the City's telephone network using one LEC T-1 line that connects back to the City Hall PBX switch. This location also has its own PSTN DID incoming analog trunks and PSTN DDD outgoing analog trunks which allow it to operate on its own should it lose connectivity with the rest of the telephone network. Equipment at this location includes:
- NEC NEAX 2400 HDS SIM w/5200 Release IV software
- Ratelco 48 VDC Rectifier base unit system
- FERRUPS 4.3 KVA UPS (4 hours estimated time)
- Kentrox wall-mount CSU/DSU standalone units for T-1 connectivity between switches

2.1.6 Satellite Locations

The City operates and maintains many satellite facilities around the City for various functions. Nineteen of these facilities have electronic key telephone systems of varying sizes, manufacturer and age. These telephone systems use a combination of loop-start 1MB POTS services from the LEC, OPX lines from one of the City's core PBX's or a combination of both. Several of these locations also utilize Auto-Attendant features from either the City's centralized Voicemail system or from individual internal Voicemail systems installed at each location. Locations listed are in either the Verizon or ATT franchise territories.

Satellite Locations			
Fire Station #2	25135 Robinson Way	NEC Electra Elite 48	6 phones
Fire Station #3	3535 W. 182nd Street	NEC Electra Elite 48	6 phones
Fire Station #4	5205 Calle Mayor	NEC Electra Elite 48	6 phones
Fire Station #5	3940 Del Amo Blvd	NEC Electra Elite 48	6 phones
Fire Station #6	21401 Del Amo Circle	NEC Electra Elite 48	15 phones
Southeast Branch Library*	23115 S. Arlington Ave	NEC Electra Elite 48	6 phones
Henderson Branch Library*	4805 Emerald Street	NEC Electra Elite 48	6 phones
Walteria Branch Library*	3815 W. 242nd Street	NEC Electra Elite 48	6 phones

Satellite Locations			
El Retiro Branch Library*	126 Vista del Parque	NEC Electra Elite 48	6 phones
North Torr Branch Library*	3604 Artesia Blvd	NEC Electra Elite 48	6 phones
Sports Center (Wilson Park)	2400 Jefferson Street	Toshiba DK 40	5 phones
Skate Park (Wilson Park)*	2200 Jefferson Street	NEC Electra Elite 192	5 phones
Animal Control Office	2200 Jefferson Street	Toshiba CTS 120	8 phones
Madrona Marsh Preserve*	3201 Plaza Del Amo	NEC Electra Elite 48	15 phones
PD Comm Ctr (Downtown)	1215 El Prado	Toshiba DK16	6 phones
PD Comm Ctr (Del Amo)	294 Del Amo Fashion Sq	Toshiba Strata	22 phones
PD Comm Ctr (North)	3612 Artesia	Toshiba DK 40	8 phones
Bartlett Center	1318 Cravens Ave	NEC Electra Elite 48	14 phones
Teen Center	2320 W. Carson Street	Panasonic DBS	8 phones

Note: Locations with a "*" have individual internal voicemail systems.

2.2 FEATURES

2.2.1 Auto-Attendant Applications (Telephone Trees)

The City uses the centralized Baypoint Voicemail system to perform Auto-Attendant functions for many departments located at the various five core locations and at several satellite locations that use OPX lines. These applications vary in their complexity from very simple to very complex. Many departments have at least one auto-attendant application while some departments have several. Typically, a department's main published DID telephone number will be directed to their application where they are initially answered. A menu with options will then play and callers will make a selection. These selections include giving out repetitive information such as hours, addresses and locations as well as more time-sensitive information such as show schedules and current programs. Other selections include transferring callers to mailboxes where information may be left or to specific extension numbers where callers will be answered.

2.2.2 Automatic Call Distribution System

The City currently does not have an Automatic Call Distribution system.

2.2.3 E911 (PS/ALI)

The City's PS/ALI E911 system (Private switch ALI) is a Teltronics Telident E911 system and is approximately two years old. It is located centrally in the City Hall PBX switchroom. It consists of one dedicated PC with the Telident software application installed on it. Basically, this system is used to manage the extension location information for all City extensions and then manually uploads this information to the ATT E911 database system when changes are made.

The other aspect of this service involves the use of dedicated CAMA trunks on the City's PBX network and the routing of 911 calls to these trunks. When 911 calls are dialed from an extension, they are routed over these trunks and the location information provided by this system's uploads accompany the 911 call to the PSAP and display that information (ANI & ALI) to the PSAP.

2.2.4 Integrated Voice Response System (IVR)

The City currently has several IVR systems/applications which are not part of the current telephone system. They are independent systems which use analog station lines from the City's telephone system. The goal is to describe what we currently have for IVR equipment and services so vendors can propose a replacement system for them.

The City is currently using four IVR servers: PermitIVR, RecTel, RightFAX, and LIBVA. The City is considering adding a fifth IVR server for a Kronos application. The Permit IVR is manufactured by Selectron and used by Community Development (6 phone ports; Compaq ML330 Dual Xeon 2.4GHz, 768MB memory; Intel Dialogic card D120JCT-LS). The RecTel is manufactured by Active Inc. and is used by Parks and Recreation (8 phone ports; Dell PE2850, Dual Xeon 2.8GHz, 2GB memory; Intel Dialogic card). The RightFAX is manufactured by Captaris and is used City-wide (2 phone ports; Dell

PE2550, Dual P III 1.0GHz, 1GB memory; Brooktrout FAX card). The LIBSVA is manufactured by Sirsi and is used by the Library (3 phone ports; Dell PE2950, Dual Xeon 5130 (dual core) 2.0GHz, 1GB memory; Intel Dialogic card).

2.2.5 Miscellaneous PBX System Features

The City utilizes many of the standard PBX features that are available on the current NEC 2400 systems. These features are made available to extensions through route and service feature class programming (Class of Service), access codes and using hard or soft feature keys on the telephone instruments.

2.2.6 Off-Premise Extensions (OPX)

The City uses Off-Premises Extensions (OPX) at several of the City's satellite locations. These include the fire department substations, several police department community centers, the animal control facility, several Community Services facilities and other miscellaneous facilities. The City's current PBX switches provide 48 vdc analog PBX dial tone to the LEC's Dmark at each switch location where OPX's are present. At the far-end (off-prem end) these OPX lines are then wired into the City-owned key telephone systems of various ages and brands.

2.2.7 Operator Consoles (Attendants)

The City currently has a total of three (3) standard business application PBX operator consoles in its telephone network. They are located and function as follows:

Location	Qty	Type	Function
City Hall	2	NEC 2400 Business	Police and City Hall incoming published lines, Operator (Dial-0) calls for all PBX switches
Police Department	1	NEC 2400 Business	Spare, normally dormant, used as backup if City Hall consoles cannot be used

The City Hall attendant consoles operate in two modes: Day Mode (normal business hours) and Night Mode (after hours, weekends, holidays and off-Fridays). When operating in Day Mode, incoming calls are handled in a typical fashion where calls are answered by an Attendant and then transferred to a department extension or individual extension. When operating in Night Mode, Incoming business calls to City Hall are transferred to Voicemail indicating that the City is closed; incoming business calls for the Police department are transferred to Police department PBX analog extension lines that appear on the Police department's 911 PSAP telephone consoles. This is accomplished using the City Hall PBX's night termination feature.

2.2.8 Special Analog Lines

The City utilizes analog lines in many applications where only analog dial tone will suffice. These applications include but are not limited to modem lines, fax lines, lines appearing on the Police and Fire 911 systems, OPX's, ringdown lines, Voicemail ports, elevator phones, fire and burglary panels, paging adapters, gate controllers, etc. In many of these situations, the only type of analog line that works properly is a line that closely simulates a regular POTS line in respect to voltage (48 vdc), line current (25 to 45 mA), answer supervision, disconnect supervision and standard DTMF signaling.

2.2.9 Special Internal Ringdowns

The City has implemented internal automatic ringdown lines which originate in the NEC 2400 switches to some areas for security or other purposes. Examples of these lines would be elevator phones, Treasurer's silent alarm, door phones, EOC hot lines, etc. These ringdown lines originate and terminate either in the same PBX switch or originate in one PBX switch and terminate in another. Some are bothway ringdown and others are one-way.

2.10 Speech Attendant

The City currently does not have a Speech Attendant system.

2.2.11 Telephone Instruments - Analog

The City uses many different types and styles of analog phones. These include the "standard" 2500 and 2554 analog desk and wall phones, Polycom-type conference phones in conference rooms, panel-style push-button phones in elevators and outside some doorways.

2.2.12 Telephone Instruments – Digital

The City uses various NEC digital telephone sets at its core locations. These include 6 and 16 button Series II sets and Series II Add-On modules as well as 16 and 32-button Series E telephones sets and in some cases Series E 60-button BLF/DSS units.

At satellite locations, the City uses various digital telephone sets of varying ages. These include Toshiba DKT sets, Panasonic DBS sets and NEC Series II Elite sets. Button quantity on these phones varies in quantity between 6 and 32 buttons depending on the manufacturer.

2.2.13 Voicemail Systems

The City currently uses one centralized 120S Centigram Voicemail system located at the City Hall location. The system is configured for 40 universal ports and 80 hours of voice storage. The system is physically divided into several individual line groups to distribute/limit certain traffic for different functions. This single system handles all the Voicemail and auto-attendant functions for the City's core PBX switches as well some of the Voicemail and auto-attendant applications at several of the satellite locations, usually via OPX lines.

The system is connected to the City Hall PBX system via the Message Center Interface (MCI) link. With this MCI connection, core PBX and satellite OPX extensions calling into the Voicemail system receive full integration where the system knows who is calling and then plays the appropriate greeting. Also with this MCI connection, the Voicemail system knows which greeting to play when a caller is Call-Forwarded to the Voicemail system from a busy extension or when no one answers and also what auto-attendant application to play back to callers in the cases of auto-attendant calls.

At seven (7) of the satellite locations, the City also utilizes individual voicemail systems for that specific location, usually to handle auto-attendant functions. These satellite locations include the branch libraries, Skate Park and Nature Center.

2.2.14 VoIP Applications

Currently there are no VoIP applications in use.

2.2.15 Public Announcement Systems

The City uses several different methods of accessing external paging system from its telephones within its facilities. See the chart below for a general description of the methods used at the various facilities to interface the telephone systems to the public address systems. The public address systems are supported by the Communications Division's Wireless Program. Not all locations have public address systems.

Current Public Address Connection Methods by Location

Location	Trunk Port/ Access Code	Analog Line Adapter	PA Output Port	Remarks
City Hall		X		
Police Department	X			
City Yard	X	X		Multiple zones
Fire HQ	X			
Airport				
Satellite Locations	X		X	Varies by system

2.3 CABLING

2.3.1 Data Communication Cabling

The City facilities, including the satellite locations which are part of this project are cabled with several different brands and many different generations of Category 5 cable. This includes the original Category 5, Category 5e and the latest Cat 5E. The City's policy has always been to purchase the higher quality cable available at the time of installation from reputable manufacturers such as AMP, ATT, Lucent, Krone and ADC and attempt to standardize on the brand, type, and model of cable, jacks, patchpanels, etc. at the facility level. Much of the Category 5 infrastructure that is now in place is based on the AMP ACO hardware platform solution that has been around for many years using ATT (Lucent/Systemax) cabling. Several years ago, the City stopped using the ATT cable and standardized with AMP cable on the ACO platform. Very recently, the City decided to stop using the AMP ACO solution all together and move over to the Krone permanent link solution which is now ADC/Kentrox. AMP ACO hardware and cable is still used in some cases for consistency in some areas, but for the last several remodels that have taken place, the Krone/ADC (ADC) cable and hardware has been used.

Over-all, the cabling consists of Category 5 (10%), Category 5e (20%), Category 5E (70%). Up until recently, the City used the Microtest Pentiscanner to certify and troubleshoot this data cabling. Recently, we have upgraded our tester to the Fluke DTX 1800.

2.3.2 Inter-Building Cabling (Outside Plant/OSP)

The various buildings which are located at the City's main campus and at the City Yard are connected with underground copper cabling for telephone services and, in most cases, are also connected with 62.5/125 multimode fiber optic cabling for the City's data network. The copper cabling is typically 24 or 26 AWG and is a combination of various types of filled and un-filled OSP-type cable. This cabling ranges in age from several years to over 30 years old. Pair counts range from 50 pair to 600 pair for the main backbone. To date, the City has had little trouble with cable pairs or splices between buildings. Use of pairs on these cables vary but in most cases, is low to moderate. In several cases, the OSP cable feeding several buildings is full, or near full, with analog and digital extensions and other various copper services (HVAC control, video, City T-1, Radio channels, etc.). The fiber optical cabling for the most part is approaching 13 years old and has also had very little trouble over the years. The fiber optical cabling strand use is high and near full capacity between most locations.

In many cases but not all, inter-building copper cabling is not terminated on protection devices. OSP cables are terminated on various types of 66-type blocks which include 66B-type, 66 mini-type and 66 mini-type with protection. To date the City has maintained this cabling with the assistance of several local vendors.

2.3.3 Intra-Building Feed Cabling (Riser/Horizontal)

The high pair-count cabling installed in the city buildings varies in age, type and pair counts. In all cases, the cabling is standard telephony UTP type cable and ranges in pair counts from 25 pair to 200 pair and has served the City well for more than 15 years. Capacities on these cables vary but most are at 50% or less capacity with a few exceptions. The construction of these cables varies but most is PVC jacketed non-shielded cables with the remainder being plenum rated or riser-rated for installation where these type of cables are required. Cables are terminated either on 66M-type or 66B-type punch blocks.

2.3.4 Main Distribution Frame (MDF) Wiring Frames

The City's core PBX systems and the satellite key systems are cabled out using standard 25-pair telephony-grade, non-shielded amphenoled cables and are terminated on standard 66M150 mini blocks mounted on 89B brackets. Connections are then made to the house cables and/or running cables to connect the phones and trunks. These connections on the MDF's are bridge-clipped to allow quick and easy isolation and troubleshooting.

^ 3.5 Telephone Station Cabling (Inside Wiring)

The individual telephone locations (workstations) city-wide are connected using many different types, brands and generations of cable and connectors. For the most part, the station cables at the jacks are either 2-pair, 3-pair or 4-pair cable UTP, 24 AWG in either PVC or Plenum-rated construction. In some cases 25-pair cables using 153-AM amphenol adapters or 12-port harmonica adapters are used to

connect telephone instruments or other devices requiring RJ-11 connections. Manufacturers of cabling and cabling components used include AMP, ATT (Lucent), General, Krone, ADC/Kentrox, Leviton, etc. In all cases, station cabling is terminated on 66-type mini blocks at the IDFs and MDFs and are usually bridge clipped at several points (MDF & IDF) for trouble isolation purposes but not always.

The RJ11 jacks used at the workstations also vary in age, type, brand, color and configuration. Jacks consist of single and multi-port configuration, surface and flush mount. Flush outlets where jacks are present may be backed up with an electrical box or just use an eliminator ring (no box). All jacks for telephones are RJ-11, as opposed to RJ-45. Many areas have Panduit or Leviton raceway or equivalent installed to extend the phone location to a location other than where the outlet is located.

2.4 SUPPPORT AND ADMINISTRATION

2.4.1 Staffing

The Telecommunications program consists of one full-time Supervisor and two full-time Technicians. The Supervisor holds certifications in several different PBX systems including Mitel SX 100/200 series systems, NEAX 22sa, NEAX 2400 systems, several Voicemail systems including Centigram 5.0 series platform. The Technicians hold certifications with various telecommunication systems including Comdial, Toshiba, Panasonic and NEC Electra series systems and several voicemail systems. The entire Telecommunications staff is also trained and certified on basic installation and maintenance of fiber optic cabling systems. Additional support and direction is provided by the Communications Manager.

2.4.2 Telco Services (General)

Geographically, the City of Torrance is served by both ATT (formerly SBC) and Verizon California (formally GTE). However, the City's main campus with the five PBX core systems all reside in the ATT franchise territory. The City is considered a Priority Account with ATT due to the volume of business we conduct and the fact that we are a government and public safety entity.

Currently, the City utilizes older technology PSTN trunking at the PBX's which include analog ground-start outdialing DTMF trunks, ground start in-only incoming trunks, analog DID incoming trunks, analog 1 MB and 1 ML POTS lines and analog CAMA trunks for E911.

The digital services that the City uses for it's PBX and data services include point to point 1.54 Mbps Hi-Cap T-1 line for the PBX's connectivity in D4 AMI/SF configuration, 1.54 Mbps Hi-Cap T-1 service for Frame Relay data services and various POTS/DSL lines for DSL service. The City also uses a 10 Mbps ATM circuit for Internet connectivity.

2.4.3 Call Accounting System

The City's centralized call accounting system/recording PC is located at City Hall in the main PBX switchroom. It consists of a dedicated City-owned/provided PC-based tower server with the Tru System application running on it, various software, several modems and a call buffer box. The system connects to the City Hall PBX SMDR output port in parallel with a call buffer box. This system is accessible to Telecommunications Division staff through the City's LAN and requires a workstation client on each PC that must access the system. Call records are stored on a different server located in the main computer room at City Hall.

The current system performs the following basic functions:

a. Logs, prices and reports on all incoming and outgoing PSTN calls to and from City extensions on the five core PBX systems.
b. Performs toll fraud functions and provides reports and other information to Telecommunications staff members upon demand.
c. Performs traffic monitoring functions and allows Telecommunications staff to report on traffic activities on the five core PBX systems upon demand.
d. Performs Work Order and Trouble Ticket functions for managing repair and change order activities.

2.4.4 Numbering and DID Plan

The City utilizes a four-digit extension numbering plan which coincides with the ATT LEC analog DID trunks that connect between the PBX switches and the PSTN. Each PBX switch has its own unique group or groups of four-digit station numbers assigned to it.

These DID station numbers utilize several different pre-fixes (office codes) and in many cases, several different prefixes will appear in the same PBX switch. All DID numbers are currently 310 area code. In July of 2006, the City received a new Overlay area code of 424; as a result, the City's five PBX systems now have two (2) home area codes (310 & 424). However, the City's telephone system does not have any telephone numbers with the 424 area code.

The quantities of DID numbers are as follows:

Location	**Quantity**	**Current Prefixes** (office codes)
City Hall	1000	618, 781
Police Department	800	224, 618, 781
City Yard	300	618, 781
Fire Department	100	781
Airport	100	784
Total	**2300**	**224, 618, 781, 784,**

2.4.5 Traffic Statistics

The City's five core PBX systems process approximately 9500 incoming/outgoing calls per regular business day. 4500 calls on each off-Friday when the City is closed, 1000 calls on each Saturday and approximately 600 calls every Sunday. The City does not log station-to-station calls but it is estimated that station-to-station calls number between 7500 and 12,500 calls per day. See Attachment E for a summary of incoming/outgoing traffic on the core PBX systems and the satellite systems.

2.4.6 Moves, Adds, Changes (MAC's)

The City coordinates and performs most of its routine telephone MAC's using internal staff and internal procedures. On occasion, the City will utilize outside sources to perform MAC's in cases where staffing is limited, on larger jobs where multiple technicians are required and in cases where the work is too difficult or time consuming to perform internally.

2.4.7 Dialing Restriction Classes

The City uses several different dialing restriction classes to control outside dialing privileges for extensions. Dialing restrictions range from no restriction (world-wide and operator dialing) to completely restricted (extension to extension dialing only). See Attachment C for details.

2.4.8 Non-DID lines

In some cases, the City has implemented and utilizes non-DID extension numbers in its PBX systems. Typically, this was done to conserve DID numbers and in some cases for security purposes, especially when incoming call capability was not necessary. There are approximately 35 non-DID extensions existing in the City's five core PBX systems.

2.5 DATA COMMUNICATION NETWORK

2.5.1 Basic Design

The City uses a privately owned and operated Ethernet data network. The network is principally switched, utilizing mostly virtual local area network (LAN) and some physical segmentation. LAN and wide area network (WAN) connections vary between private and leased systems.

2.5.2 Transport Methods (see Network Diagram – Attachment A)

a. There are seven (7) dedicated T-1 data network point-to-point circuits used as WAN connections for the branch libraries, airport and City of Inglewood. Each are leased from AT&T and all but one is configured as Frame Relay.
b. The City Hall campus, except for the Police Department, and the City Yard is interconnected with 1 Gbps Multi-Mode fiber optic cabling. The Police Department is interconnected with 100 Mbps fiber optic cabling. The fiber cabling is owned and operated by the City and the count varies between 12 and 72 strands.
c. The City leases a 10 Mbps Asynchronous Transfer Mode circuit and purchases ISP services for Internet access.
d. The City also leases a 1.544 Mbps T-1 circuit for redundant ISP services
e. The City's network is accessible via the Internet using a Virtual Private Network (VPN) gateway requiring strong authentication.
f. There are six (6) point-to-point wireless LANSs used to connect the Fire Headquarters (100 mbps) and five (5) fire stations (45 mbps) to City Hall, City Yard, or Fire Headquarters

2.5.3 Equipment Types

The core of the City's network is designed around two Cisco 6509 switches connected by redundant 1 Gbps fiber optic cables. The City Hall switch is equipped with two (2) Supervisor II modules, five (5) 1 Gbps fiber Ethernet modules, and one (1) 100 Mbps fiber Ethernet module. The West Annex switch is equipped with two (2) Supervisor II modules, five (5) 1 Gbps Ethernet modules, and one (1) 100 Mbps fiber Ethernet module.

The access and distribution layers of the City's network primarily uses Cisco 2950 or 3550 switches and a variety of Cisco 3600, 2800 and 2600 routers. The routers are used for Internet access, Frame Relay and remote site connectivity. See table below.

All of the Cisco devices are running IOS versions 12.1. All of the 2950G closet switches have IOS EI software images.

All but one networked City facility is supported by Communications & Information Technology. The Police Department's network is administratively supported by an independent team that reports to Police management

Location	Configuration
City Hall	All Cisco 2950-48 switches
West Annex	Combination of Cisco 2950G-48 and Cisco 2950G-24 switches
East Annex	Combination of Cisco 3550-48 switches and 3Com hubs
Main Library	Cisco 2950G-48 switches in the access layer of the network
City Yard	A central Cisco 4503 with various Cisco 2950G-24 and 2950G-48 switches
Police Department	A central Cisco 4003 with various Cisco 2950C-24 switches
Fire Headquarters	Cisco 3550-24 and 2950G-48 switches
Fire Station (all)	Cisco 2950C-24 switches
Branch Library (all)	Cisco 2811 rooters and 2950C-24 switches

2.5.4 Security

The City uses a Cisco-based Virtual Private Network (VPN) solution that provides secure, authenticated connections for remote users that allows for safe and secure movement of data. Strong authentication is provided using RSA Security products.

The City uses fully redundant Cisco ASA 5520 firewalls to protect its private networks from malicious Internet traffic. The firewalls also have built-in Intrusion Prevention System to help detect and mitigate attacks to the City network.

2.5.5 Staffing

There are two full-time Information Technology Analyst assigned to maintain the City's network. Additional support and direction is provided by the Communications Manager.

2.5.6 Management

The City uses Network Instruments' Observer Suite v.10 and Link Analyst applications to monitor network performance. Additionally, two (2) network probes are deployed, as needed, to perform diagnostics or performance data collection.

3.0 SYSTEM REQUIREMENTS

3.1 GENERAL

3.1.1 Definitions

3.1.1.1 Hardware

a. "Equipped" is defined to mean all system hardware that will be installed, configured and operational at cutover.
b. "Wired" is defined to mean all system hardware that can be accommodated by the proposed solution with only the addition of desktop devices/licenses and line/trunk cards for future use after cutover and acceptance.
c. "Capacity" is defined to mean the total system capacity to support the maximum number of active ports, device cards (station or trunk), and shelves, without replacement of the CPU or any other major control components. Please indicate the maximum number of each system element specified in the "Capacity" column. If additional equipment is required to achieve capacities, please state.
d. "Capable" is defined as all hardware proposed can be added-to, easily modified, or is already equipped to allow for future growth/changes.
e. "Compliant" is defined as all hardware proposed shall meet all criteria set forth in any referenced standard or fully interfaces with a cited, separate system.
f. "Primary Line", Personal line or My-Line is the extension line that is assigned to a telephone where all core phone functions are attributed to. These include Voicemail integration, Call Accounting recording, dialing restrictions, name assignment, etc.
g. "Rollover Line(s)" are secondary lines that are assigned to phone extensions to increase the quantity of calls an extension can receive simultaneously.
h. "Virtual Line" is a line that exists in software only and does not require a physical hardware port on a system or IC card.
i. "Reliability" is defined as a measure of system "up-time" or the ability to fully or partially operate when portions of the system or entire component have failed. The scope of the term shall include the use of words like "availability" and "survivability".

3.1.1.2 Software

a. "Equipped" is defined to mean all required software licenses for users, applications and administrators are delivered, installed and operational at cutover.
b. "Wired" is defined to mean all software licenses for users, applications and administrators that are shipped and installed or available on-site to be installed.
c. "Capacity" is defined to mean the maximum number of software licenses for users, applications and administrators that can be installed. Please indicate the maximum number of each system element specified in the "Capacity" column.
d. "Capable" is defined as all software proposed can be upgraded, reconfigured or already contains the code necessary to allow for future growth or changes.
e. "Compliant" is defined as all software proposed shall meet all criteria set forth in any referenced standard or fully interfaces with a cited computer operating system or networking protocol.

3.1.1.3 Network Infrastructure

The proposal should utilize the existing fiber optic and copper infrastructure to the greatest extent possible. The proposer shall be responsible to verify that the City's infrastructure will support the proposed system and explain the benefits of doing so.

3.1.1.4 Flexibility and Scalability

The proposed system must accommodate change over the useful life of the system. Flexibility and scalability of the proposed system will be crucial in the City's evaluation and decision process. Proposer must describe proposed system's approach to adding new functionality and applications in the future, as well as its scalability.

3.1.1.5 Industry Standards

The bidder is solely responsible to identify all codes and/or agencies having jurisdiction over any proposed implementation regardless of subcontractor involvement. At a minimum the proposal shall conform with the following guidelines:

a. Telecommunications Industry Association (TIA)
b. American National Standards Institute (ANSI)
c. National and Local Electric Codes including NFPA 70
d. Bellcore Practices (now Telcordia Technologies)
e. BICSI Telecommunications Distribution Standards (BICSI)

3.1.1.6 Materials

All equipment and materials provided for this project must be new, never been used and in good undamaged condition. Proper electrostatic CMOS handling techniques must be followed at all times when handling sensitive equipment such as PC boards, memory chips, etc.

3.1.1.7 Redundancy – Path

The proposed system must be designed for path redundancy between the core switches and other components. This redundancy must allow for a core switch to have an alternate path should there be trouble with the primary path.

3.1.1.8 Redundancy – Equipment

The proposed systems must be configured where the major components of the systems (aka common control section) are either duplicated or somehow backed up so that if a component failure occurs, the system will continue to run and process calls. This configuration can either be a load sharing type configuration, a hot – standby configuration, or a combination of both. It is not required that the systems be redundant at the station or PSTN trunk card level.

3.1.1.9 Reliability/Survivability

The proposed system must be designed to be highly "reliable" (see Definitions, paragraph 3.1). Reliability shall be principally determined by the proposed system's ability to perform in a less-than-100% capacity despite a partial system failure, component failure or circuit outage. See other examples below.

For the purposes of the RFP evaluation, the reliability goal shall be a minimum of four-nines (99.99% uptime). Five-nines (99.999%) are desirable. Reliability will be appropriately handicapped depending on whether a network upgrade is included or not.

The final reliability goal will be agreed upon during the BAFO phase of the proposal review (see Section I, page 5). Prior to the BAFO phase, proposals will be evaluated based on their comprehensive and cost effective approach to the reliability objectives described.

The reliability requirement shall only apply to equipment at the "core" locations and not the "satellite" locations. Bidders may optionally provide information on making all locations highly reliable.

Examples of Reliability Criteria and Methods:

a. Automatically failover to local call processing functionality without interruption to service
b. Continue call processing at the remote site providing appropriate levels of system features and functionality
c. Fail-back (automatically or manually) to the main call processor when the WAN connection is re-established
d. Provide load sharing capabilities versus primary/backup processing architecture
e. Configure system topology to include geographic/spatial diversity
f. Enable prioritization tools to cater towards busy hour call completions
g. Permit automatic network failover
h. Provide single system client "image" usable across all sites
i. Design consistent system feature sets at all sites

3.1.1.10 Servers, Workstations, and Related Computer Hardware Purchases

Bidders are required to propose all implementation and integration services necessary to deploy the proposed system. However, the City reserves the option of procuring servers, workstations, and related computer hardware independently of this RFP

a. Specifications must be provided for all proposed servers, workstations, and related computer hardware.
b. Vendor must indicate compatibility or assumptions of using or integrating with existing City servers, workstations, and related computer hardware.
c. The City standards include: Windows Network, Windows Active Directory, Microsoft SQL database, Exchange Email Server, Outlook Email client, Internet Explorer Browser, Windows DNS, McAfee and Symantec Antivirus
d. The City currently utilizes Microsoft Exchange 2007.

1.1.11 Software Purchases

Bidders are to propose all required implementation and integration services necessary to deploy the proposed system. However, the City reserves the option to procure generally available computer software independently of this RFP.

a. Specifications must be provided for all proposed software.
b. Bidder must indicate compatibility or assumptions of using or integrating with existing City software.
c. If third-party or open source software is provided vendor must prove legal license rights for resale and/or use rights within the proposed system.

3.1.1.12 Design Choice

Proposers **must** provide a detailed visual block diagram that fully illustrates the proposed design. The block diagram must include at a minimum the exact locations of the proposed components that will support the City's five core locations and the 19 satellite locations. Voice and data components of the proposed solution must be identified as such. The design must also include use of connectivity links, bandwidth, carrier, etc. for path rerun daily.

3.2 TELEPHONE SYSTEM

3.2.1 General

3.2.1.1 System Features (System)

The proposed system must have all of the system features that large PBX systems typically have. These features include system administration, security, call routing, restriction, analog services, digital services etc.

3.2.1.2 System Manuals, Documentation and ETI's/ETB's

All proposers must include a current General Description for each system they are proposing at the time of submitting their proposal. The General Descriptions should include the basic information about

the systems and their features and functions. General descriptions must be included for the core telephone switches, satellite systems, Voicemail system, Auto-Attendant system, ACD system and Call Accounting system. If general descriptions are also available for the battery systems, administration system(s), telephone instruments and other system peripherals, they must be included too.

3.2.1.2.1 The selected bidder must include one full set of the various printed documentation manuals with each core system, satellite system and all other systems including peripherals systems. Documentation shall include all of the standard manuals that most equipment manufacturers make available including Installation, Maintenance, Programming, Parts, etc. If the documentation is also available in electronic form (CD, DVD) the City shall ALSO receive a copy of this documentation per system in addition to the hardcopy manuals.

3.2.1.2.2 All other miscellaneous documentation applicable to the systems purchased whether printed or electronic shall be provided to the city within ninety days of cutover. This includes documentation for PCB cards, cables, cabinets, power supplies, modems, printers, software, phone sets, PC's, etc.

3.2.1.2.3 The City shall also receive any and all past, current and future Engineering Bulletins for the systems and applications purchased. Future ETI's/ETB's shall continue to be provided to the City for a minimum of one year after cutover of the first system at no additional cost.

3.2.1.3 System Sizing

Proposal must include a system design that permits immediate and long-term capacity growth. (see also Adoption Plan, paragraph 3.9.1). As described below, capacity growth must be installed and operational upon implementation or "equipped" (see Definitions, paragraph 3.1). Any remaining growth capabilities must be "wired" (see Definitions) upon implementation. The final quantities and capacities will be agreed upon during the BAFO phase of the proposal review (see Section I, page 5). Prior to the BAFO phase, proposals will be evaluated on their comprehensive and cost effective approach to the growth objectives described below.

3.2.1.3.1 System Capacity - Proposals must describe the system's proposed capacity and growth potential. Proposals must clearly explain what types of hardware, software and programming are required to grow the system.

3.2.1.3.2 Status Quo - The proposal must include, at a minimum, quantities and capacities equal to those existing in the current system. See Background, paragraph 2.1.

3.2.1.3.3 Sizing & Capacity for Immediate Growth - The proposal must include quantities and capacities necessary to accommodate an additional ten percent (10%) increase in handsets, trunks, ports, etc.

3.2.1.3.4 Sizing & Capacity for Long-Term Growth - The proposal must include the "wired" quantities and capacities necessary to accommodate an additional fifty percent (50%) increase in handsets, trunks, ports, etc.

3.2.1.4 Turn Key Solution

Proposers are responsible for providing a *"turn-key"* system installation of any system (including all required hardware such as servers, administration terminals, etc.) purchased by the City of Torrance as a result of this RFP. The bidder responsibilities shall include, but not necessarily be limited to, designing, engineering, ordering, delivering, developing software databases, installing, testing, cutting over, documenting and warranting the hardware and software of all systems acquired.

3.2.1.5 Proposed Hardware Information

The proposal must explain:

a. How long has the system you are proposing been in production?
b. How many and for how long has your company installed the proposed system?
c. Explain your relationship with the manufacturer of the proposed system?

d. What are the current hardware and software versions and past history of the proposed system?
e. What are the different hardware platforms available for the proposed system?
f. What specific features are available on the proposed system equipped the way you have proposed it?

3.2.2 Features

3.2.2.1 Access Codes

The proposed system must be capable of flexible access codes for system features and other dialing functions. It is desired to maintain the same Access Codes that the City currently uses if possible for the commonly used features and functions. See Attachment B for current access code plan.

3.2.2.2 Account Codes

The proposed system must have the ability to optionally apply account codes to outgoing and incoming PSTN telephone calls including transferred calls. These codes would then appear on Call Accounting reports for extensions. Please explain in detail if your proposed system has this ability, how it works and what benefits and limitations the City would experience if implemented in our environment. The estimated minimum quantity of account codes for all locations combined would be 2500 or a minimum of 500 per core location.

3.2.2.3 Area Code/11-Digit Dialing

The proposed system must be able to operate properly with two "home" area codes, 310 and 424. Current trunking uses trunks with the 310 area code but future trunking may use the 424 area code. Any and all system features such as Toll Restriction, Least Cost Routing, E911, Tenant service, Station and System speed dial, etc. must operate fully and transparently with either or both area codes.

Additionally, the proposed system must support the recently mandated 11-digit dialing on all PSTN calls within the same area code. Mandated dialing requirements must operate fully and transparently with same services mentioned in previous paragraph.

3.2.2.4 Authorization Codes

The proposed system must have the ability to optionally force selected user extensions to dial authorization codes in order for them to complete an outgoing PSTN telephone call. Proposals must explain in detail, how it works and what benefits and limitations the City would experience if the City implemented in our environment. The estimated minimum quantity of codes for all locations combined would be 3000. If the proposed system allows these codes to bypass toll restriction on phones other than the actual user's phone, please indicate.

3.2.2.5 Call-Forwarding Functions

The proposed system must include at a minimum three types of call forwarding: All Calls, Busy Calls, and No Answer. If available, the proposal should list and explain other call forwarding types.

- Call-Forward All Calls - When activated, calls are forwarded immediately to another extension
- Call-Forwarding Busy Calls - When activated, calls are forwarded to another extension when the called extension is busy
- Call-Forward No Answer - When activated, calls are forwarded after several rings to another extension

3.2.2.5.1 The following general call forwarding requirements must be met:

a. The setting and canceling of Call Forwarding must be accessible to extension users using access codes and in the case of multi-line phones, either from a programmable or fixed feature button or an access code.
b. Administrative staff using system administrative tools must also have the ability to check, set, cancel or modify Call Forwarding programming for extensions
c. All Call Forwarding must be available on primary and secondary (virtual) extensions

d. Systems must have the ability to leap frog Call Forwarding a minimum of three times (i.e. Station A to Station B, Station B to Station C, Station C to Station D, STOP)
e. In the case of Voicemail Greetings, forwarded callers should always receive the voicemail greeting of the originally called extension. The proposal must indicate whether the system proposed has the ability to optionally play the greeting of the final destination extension as opposed to the originally dialed extension.
f. The system must have the ability to optionally allow/disallow extensions from call forwarding their extensions to outside telephone numbers (PSTN calls).

3.2.2.6 Caller ID/Name Display (inbound/outbound)

The proposed system must display on the telephone instrument's display, the calling party information (ANI) of the calling party whether the call is an incoming PSTN call, transferred incoming PSTN call or a station to station call within the City 's telephone system. In regard to variations of name display, the proposed system must also show enhanced calling party information if available in the case of a PSTN call or name display of the calling party if it is a station to station call.

3.2.2.7 Classes of Service

The proposed system must allow or restrict system features on a group or "Class of Service" basis. Classes of Service must be consistent between core PBX switches and as close as possible at the Satellite locations.

3.2.2.8 Class of Service – Traveling/Portable

The proposed system must allow telephone users, while roaming, to make calls and access features and privileges from any phone on a system by changing a phones' Class of Service to their own Class of Service temporarily.

3.2.2.9 Flexible Class of Service

The proposed system must have the ability to allow or restrict typical station features such as, Call-Forward External, Camp-On Tone for fax lines, Barge In/Executive Override, etc.

3.2.2.10 Conference (audio) 3-party

The proposed system must provide extensions with 3-Party voice conferencing. The conferences must allow any combination of telephone users from any core or satellite location and any combination of call types. The minimum required conference combinations are:

- Three inside calls (extensions on any core switch or satellite system)
- One inside and two outside calls (extensions on any core switch or satellite system, trunks on any core switch or satellite system)
- Two inside and one outside (extensions on any core switch, trunks on any core switch or satellite system)

3.2.2.10.1 All 3-Party conference calls must have at least one inside party involved in the conference at all times. There must not be a situation where an inside caller can leave or disconnect from a 3-Party conference and leave two outside parties still connected (tandem trunk call). In this situation, once the inside party hangs up or leaves the conference, the two outside callers must be disconnected and the trunks released.

3.2.2.10.2 Audio volume on a 3-Party conference call must not degrade in conversation volume between inside callers (extensions) by more then 10% or more than 25% between outside callers. If the proposed system has provisions for amplifying conversation volume between parties, the proposal must include the feature and clearly explain how it works.

3.2.2.10.3 Each core system must have the ability to perform a minimum of six (6) simultaneous and independent 3-Party conference calls at any given time. Satellite systems must have the ability to perform a minimum of one (1) 3-Party conference call.

3.2.2.11 Conference (audio) 8-party or more

Each individual core location must have the ability to host a minimum of one 8-party audio conference call for the users at the location. This 8-party conference feature must be available to any combination of callers and users, whether they dial directly in or are transferred in. The 8-Party conference feature must also have the following features:

3.2.2.11.1 The conference must be high quality (toll quality) and the volume degradation may not exceed 5% between any of the callers.

3.2.2.11.2

- Must be accessible to all City extension users by any means including dialing into directly using 4-digit extensions, transferring an originated or received inside or outside caller into it, or by an outside caller dialing directly into it (DID).
- Must be accessible to outside callers dialing directly in without any intervention from an extension user or the Attendant.
- Be available to all City extensions and satellite locations.

3.2.2.11.3 The ability to lock and unlock the conference call to restrict (or re-allow) access to a conference call once it is already in progress.

3.2.2.11.4

- The ability to instantly disconnect all callers by pressing one or more keys.
- The ability to properly disconnect all connections and immediately release all trunks and extension connections when all callers have hung up or have been deliberately disconnected.

3.2.2.11.5 The proposal must indicate whether the system provides access codes to prevent unauthorized use.

3.2.2.12 Dialing Restrictions

The proposal must include a minimum of seven Call Restriction levels to be assignable to extensions. Call restrictions levels, if present in every switch, must be consistent and identical in assignment and application between switches.

3.2.2.12.1 The City's required call restriction levels are:

Level	Type	Description
1	Unlimited dialing	All area codes and country codes in the world, LEC Operator (0) and long distance operator 00.
2	North American Dialing	USA, Canada, Some Mexico (area codes only, no country codes)
3	California Dialing only	All area codes in California
4	Southern California Dialing Only	All area codes in lower half of California
5	LA/Orange County Area Dialing Only	All area codes in LA and Orange Counties
6	Local Area Code Dialing Only	All area codes within 15 miles of the City
7	Station to Station dialing Only	No out dialing capabilities

3.2.2.12.2 All dialing restriction classes must allow the following dialing sequences:

- 911, 9911
- Toll-free calls (800, 877, 888, etc.)
- Credit card calls (0 plus 11 digits).

3.2.2.12.3 All dialing restriction classes must restrict the following dialing sequences:

- 976-XXXX
- any area code+976

- area code 900
- Caribbean area codes

3.2.2.13 DID Dialing

The proposed system must provide DID calling using the City's current PSTN DID numbering plan and DID services and possibly new services for the satellite locations. Although the current services utilize analog trunks at the core locations, the new proposed system must be implemented using a digital transport for DID service such as PRI or equivalent.

3.2.2.13.1 The reliability and survivability of the proposed system must not be adversely effected if DID services are proposed to be centralized. Rearrangement of the DID numbering and trunking plan must take into account the reliability and survivability requirements elsewhere in this document.

3.2.2.13.2 The proposed system must allow for additional new DID numbers and trunks at the satellite locations to support DID services. Should new DID numbers be required; they must fit into the City's numbering plan. The new system must ultimately permit the conversion of all non-DID extension numbers into DID number for consistency.

3.2.2.13.3 The current and desired arrangement of the DID numbering plan is:

Location	DID Number Qty	Prefixes Used
City Hall	1000	618, 781
Police Department	800	224, 618, 781
City Yard	300	618, 781
Fire Headquarters	100	781
Airport	100	784
Satellite Locations	0	NA

3.2.2.14 Four-Digit Dialing

The proposed system must allow for four digit station to station dialing between the five core sites (and satellite sites if applicable) without the need to dial additional digits, access codes or press additional keys or buttons before or after dialing station numbers. The proposed system must work with the City's current four digit DID station numbers. If the system is capable of assigning fewer than four digits as extension numbers, while still maintaining the City's basic four-digit dialing scheme, please indicate so.

3.2.2.15 Distinctive Ringing

The proposed system must have the ability to ring distinctively on the telephone instruments when a station-to-station call is received versus an outside call. An outside call is considered one that is dialed directly (DID), is transferred from another station (outside call only) or when transferred from the Attendant Consoles (PBX operator).

3.2.2.16 Flexible Ringing

Phone instruments including Direct Station Select (DSS) and Add-On modules must have the ability to have flexible ringing on the lines that appear on them. In other words, users must have the ability to choose which lines audibly ring on their phones and which ones do not. Desired ringing types are immediate, delayed and no ring. Briefly explain the audible ringing options available on your phones.

3.2.2.17 Feature Transparency

The proposed system must operate in a manner that is transparent to users when dialing between core and satellite locations. All features, displays, announcements, etc. must be operational between locations. It is understood that some features may not be operational between switches such as Group Call PU, circular hunting, etc. Any features or capabilities that will not work transparently or have limitations when working between locations should be indicated in writing in the response section.

3.2.2.18 Flexible Line Appearances

The proposed system must have the ability to at least assign any station numbers which appear on a switch to appear on any phone instrument which also appears in the same switch. Proposers should describe and verify what their systems will and will not allow.

3.2.2.19 Intercoms/Door Phones

The proposed system must include intercom and door phone capabilities. The proposal must describe any Intercom and Door phone applications and features. A system providing substitute analog ringdown capabilities may meet this requirement.

3.2.2.20 Internal Paging (paging over phones)

The proposed system must have the ability to make internal pages to some or all of the digital and/or IP telephone sets installed throughout the City facilities through their built-in speakers. The proposal must explain how the feature works, the maximum quantities of phones in a group, total groups in a system, how they are accessed (access codes, feature buttons, etc.), and what, if any, provisions are available for allowing only authorized users to make pages. The following requirements also apply:

a. Allow several or more phones in an area to be in the same paging group or zone within the same core switch.
b. Allow several or more phones in several different areas to be in the same paging group or zone within the same core switch.
c. Allow several or more phones in several areas to be in the same paging group or zone when they are in different core switches.
d. Allow all phones in all core switches to be in the same paging group or zone.
e. Allow all phones in all core switches and all satellite systems to be in the same group or zone (all-call).

3.2.21 Least Cost Routing/Automatic Route Selection

The proposed systems (core and satellite) must have the capability of implementing Least Cost Routing without any additional hardware or software. Proposals must describe the systems' functionality in detail.

3.2.2.22 Line Load Control

The proposed system must be capable of globally or by grouping, disabling predetermined telephone sets in the event of a disaster. The proposal must describe how and in what way system access can be limited (i.e. 4-digit dialing, extend calls, vmm).

3.2.2.23 Music/Message on Hold

The proposed systems (telephone, ACD, IVR, etc.) where applicable, must have the ability to play music on hold or play a pre-recorded message to callers on hold, while being transferred and when parked. The proposed systems should offer enhanced music or recording on hold functions such as multiple paths, selectable playback to different callers (incoming trunks, extensions on hold, etc.) background music on telephone sets, etc.

3.2.2.23.1 The minimum requirements for this feature are:

- Each switch must have the ability to either connect one playback device for music or message on hold (i.e. CD player) or store a "wav" or "mp3" file.
- Each switch must include a standard type connection such as a 66 punch down, line-level RCA, mini stereo phone jack, or USB connector.

3.2.2.24 Non-Blocking Switching

The proposed telephone system must be non-blocking. The proposal must describe the non-blocking capabilities of the system proposed and explain in detail what the basis is for defining the solution as either non-blocking or virtually non-blocking.

3.2.2.25 Primary/Rollover Line Arrangements

The proposed system must allow users to receive/originate multiple telephone calls simultaneously on separate lines. The system must permit users to receive/originate a call on one line, put on hold and receive/originate a second call. Typical Camp-On function or brokers call does not meet this requirement.

3.2.2.26 Private Switch Automatic Location Identification (PS/ALI)

The proposed system must be compatible with the City's current Teltronics Teledent PS/ALI system and with the local exchange carrier's E911 system. When system caller dials 911 in the case of an emergency, the proposed system must send all the appropriate and required information to the LEC's E911 Central office (tandem office). The information received at the local PSAP must be complete and usable. The proposed system must be compatible with new digital 911 trunk services and not the current analog CAMA services.

3.2.2.27 Public Announcement Systems Interface

The proposed system must be capable of connecting to the various existing public announcement systems. The proposer will be responsible for supplying all labor and materials to re-connect the paging systems to the new phone system.

3.2.2.28 Remote Workers

The proposed system must allow for as many as 200 remote workers to access the system using VoIP technology typically via DSL or similar service. Remote workers will have extensions (DIDs) on the telephone system.

3.2.2.29 Remote Access/System Users

The proposed system must have the capability to service remote locations with the same features and functionality as the main office, should the need arise. Each location must have access to all the features and functionality (System directories, class of service for telephony capabilities, trunk group access) available at the main site even in the event of a service interruption.

3.2.2.30 Telephone Sets

3.2.2.30.1 Telephone Instruments

The proposed system must support a variety of telephone instruments. At a minimum, the proposed system must support the following type of telephone instruments with the features mentioned:

a. All phones must have a display with a minimum of two lines of alpha/numeric characters and no less than twenty-four characters total.
b. Multi-line digital and IP instruments in the 4 to 8 line button capacity (used for most regular users).
c. Multi-line digital and IP instruments in the 8 to 20 line button capacity (used for most clerical users).
d. Multi-line digital and IP instruments in the 20 to 60 line button capacity (used for some clerical users where many line appearances are necessary). A separate Add-On module or other ancillary instrument is acceptable for users who have high capacity line requirements.
e. Multi-line ACD instruments in some or all of the above configurations (if an above phone instrument can be used at an ACD Agent position, please indicate so).

3.2.2.30.2 Telephone Instrument Features

The following features must be included on the telephone instruments provided:

a. Have an LCD or equivalent display with a minimum of two lines of characters and have the ability to adjust display contrast
b. Have the built-in ability to increase the volume of a call and the volume of the ringer
c. Have the ability to allow connecting the phone to an analog logging recorder where no other action is required by the user other than lifting the handset and using the phone normally. If an additional device or add-on module is required, the proposal must include cost and a description of how the device is installed and works
d. Have a message waiting indicator; either a light, character display or both

e. Allow the use of standard non-proprietary wired and wireless headsets from popular manufacturers (i.e. Plantronics, GN Netcom) without having to add an additional piece of equipment or ancillary device
f. Have the ability to be either desk configuration or wall mounted without adding or purchasing additional hardware
g. Have a built-in, full duplex speaker phone built into them with a Mute button
h. Have programmable line keys for lines or features

3.2.2.30.3 Multi-line Cordless Phone (includes single line items)

- Multi-line cordless phones must have a display with a minimum of two lines of display with 16 characters
- Multi-line phones must allow the use of a standard wired headset without adding additional equipment or ancillary device

3.2.2.30.4 Telephone Ancillary Devices - The proposal must list and describe all the standard ancillary devices that are available to attach to the proposed telephone instruments for various functions. This list must include all proprietary manufacturer devices as well as after-market devices.

3.2.2.31 Tenant Service

The proposed system must include Tenant service capabilities. Proposals must indicate what additional hardware, software and other items necessary to implement Tenant service.

3.2.2.32 Toll Restriction

The proposal must provide a system equipped to provide Toll Restriction and it must explain its capabilities. The bidder will be required to work closely with the City to develop a comprehensive Toll Restriction program based on area codes (3-digit) for all five (5) core and satellite sites, if applicable. The proposed system must be able to restrict certain telephone numbers within an area code (3-digit).

3.2.2.33 Virtual Extensions/Rollover Extensions

The proposed system must permit the creation and utilization of virtual extension numbers that can be used by users in addition to their assigned DID telephone numbers/extensions. These virtual numbers do not have to be directly accessible from the PSTN as with DID telephone numbers but must be accessible for internal station to station calling and call origination to the PSTN. The proposal must indicate how the system handles the creation and use of virtual lines and any limitations on the virtual lines (no CDR, no Voicemail integration, etc.).

3.2.2.34 Wireless Service Requirements

The proposal must explain whether wireless telephone and other mobility capabilities are available in the system. Cordless telephones mentioned elsewhere in this document do not fulfill this section's requirement.

3.2.3 Infrastructure

3.2.3.1 Battery Back Up (UPS)

The proposed system must be backed up by battery/UPS power and function normally during a commercial power outage for a minimum of four (4) hours regardless of whether the site has generator backup. The proposal must include all equipment necessary to fully and completely operate all core and satellite equipment, programming terminals, modems, gateways, switches, alarm panels and peripheral system components.

3.2.3.1.1 The proposed battery UPS system(s) must be modular in design and allow for easy replacement and maintenance of batteries. The proposed system must also be capable of functioning indoors in a closed environment and not require any external venting. The systems must also have the ability to increase back-up time another 50% (e.g. 1-hour) by adding additional batteries.

3.2.3.2 Cabling Infrastructure

The proposed system shall operate on the City's current voice, data and fiber cabling without any cabling modifications being required or made. If the proposed system requires modification of the City's cabling infrastructure the proposal must outline modifications required and the cost.

3.2.3.3 Cordless Telephones

The proposed system must have cordless telephone capabilities that would be available at any and all locations which are part of this RFP. The proposal must describe in detail what cordless telephones and services are available on the proposed system. The proposal must explain:

a. What is the maximum distance your cordless phone(s) will operate from their base station in an optimum environment?

b. What is the average distance your cordless phone(s) will operate in a typical office and industrial environment?

c. Describe the technologies and standards used for your cordless telephones (analog, digital, spread spectrum, battery type, etc.)

d. Describe the features that are available on your cordless telephones. (display, security, frequency optimization, feature buttons, etc.)

3.2.4 Support and Administration

3.2.4.1 Alarms (Maintenance)

The proposed system must be capable of notifying staff in the event of a system problem or certain events. The proposed system must have visual indicators on the system cabinet or nearby indicating the system is having trouble. If the system is capable of advanced notification features of alarm conditions such as email, pager contact, pre-recorded out dialed messages, etc. these capabilities must be included and configured during installation. The proposal must describe what alarm reporting capabilities the proposed system(s) provides.

3.2.4.2 Floorplans & Documentation

The bidder shall be responsible for verifying, with the City's assistance, the accuracy of any floorplans, cable sheets, MDF and IDF locations, handset locations, etc. within the scope of the project. Diagrams and lists provided must not be assumed to be 100% accurate.

3.2.4.3 Hot Swapping IC Cards

The proposed system must have the capability to hot-swap non-common control circuit boards without disrupting the rest of the system/switch or without requiring a partial or complete system reset. The system must allow the removal and replacement or rolling of analog and digital station cards and analog and digital trunk cards while the system is running.

3.2.4.4 Remote Access/Administration

All the proposed systems for both core and satellite locations must have the ability to be remotely accessed and the operating parameters of that system either viewed and/or changed. This can be accomplished using standard dial-in modems or an IP connection. Software used for this function must be compatible with computers requirements described in this document.

3.2.4.5 Revision Levels

All system hardware, software, firmware, etc. provided must be of the latest Production revision levels available. No test software or beta software shall be used. The City must be made aware of any version of software or firmware that is provided that is at its first revision level or that has problems or complaints against it.

3.2.4.5.1 All proposed systems will be shipped and installed with the most current release of software. Should a new release be available within six (6) months of acceptance, the Proposer agrees to upgrade all proposed system(s) at no cost to the City.

3.2.4.5.2 All systems provided must be as closely identical in every aspect with the exception of the obvious engineering differences (port counts, cabinets, site database, etc.) All revisions of hardware and software that must interface or control other applications such as ACD, VM ports, IVR ports, etc. must also be consistent as to part and model number and be bug-free.

3.2.4.6 System Programming/Local

Each proposed system should have a local means of programming all system features and parameters as well as printing them out in hard copy or saving them in digital form (MS Word, Excel, Access, etc.). The bidder must include any and all necessary hardware and software in their response to allow this capability at core sites. Programming through phones solely is not acceptable, except at the satellite sites.

3.2.4.7 System Programming/Remote

Each system must have the capability to be programmed remotely as well as locally. Any system must be able to access any other system and make system changes. The bidder must include any and all necessary hardware in their response to allow this capability.

3.2.4.8 Traffic & System Statistics

The proposed system must allow the compilation and review of system activity. This activity should include, but not necessarily be limited to, incoming PSTN calls, outgoing PSTN calls, station to station calls, conference port calls, Attendant activity, etc. The proposal must describe what features the system has to capture, review and process this information and what limitations or conditions are related to this feature.

3.3 VOICEMAIL SYSTEM

3.3.1 General

The proposed system must include a centralized voicemail system either as an internal component or as a separate individual system. This centralized voicemail system must provide full 100% integrated voicemail services to the City's current five core sites as well as the satellite sites whether they are replaced as part of this RFP or at another time in the future. The voicemail system should be physically located in the City Hall West Annex basement switchroom.

3.3.2 Mandatory Requirements

a. Includes a 2500 mailbox capacity, but potentially upgradeable to 5000 mailbox capacity by adding hardware, software or licenses.
b. Includes an 80 hour storage capacity, but potentially upgradeable to 120 hour capacity by adding hardware, software or licenses.
c. Redundant or mirrored hard-drive configuration to protect system, configuration and message files.
d. Includes rules-base stored message purge capability (i.e. played messages after 7 days, un-played after 30 days).
e. Compatible and integrates with other systems/features purchased (i.e. ACD, CDR).
f. Includes rules-based passcode criteria (i.e. 6-digit minimum expires after 90 days).
g. Permits users rules-based multiple greetings (i.e. busy greeting, no-answer greeting, holiday greeting).
h. Allows the transfer of calls directly into a mailbox without the caller not hearing the entire greeting.
i. Permits users to assign a mailbox attendant to their box (i.e. "dial '0' to speak to an operator").
j. Includes directory capabilities (e.g. Dial by Name, Name Directory).
k. Permits users to create and manage personal distribution groups.
l. Allows callers and users to make prompt selections prior to hearing the entire prompt or menu options (e.g. Dial Ahead).
m. Permits administrator to create and manage system and all personal distribution groups.
n. Remotely accessible by direct dial or Internet for administration and service.

o. Permits entire and individual backup of system, configuration, message, and reports data to removable media or network attached storage.
p. Includes customizable billing and reporting capabilities (i.e. date/time, functional group, service type).

3.3.2.1 Optional Requirements

a. Menu's that utilize the letter designators on the phone's touchtone keypad (i.e. "D" for delete, "G" for give, "K" for keep, "M" for make message, etc.).
b. Have similar (or identical) voice menus, prompts, key codes, etc. as the City's current 5.01 120-S Centigram system.
c. Have time sensitive greetings and functions that can optionally change automatically dependant on the time of day, day of week.
d. Allows the pre-defining of City holidays and off-days so system and user greetings reflect the actual schedule. Configurable at the mailbox level is preferable as opposed to system wide.
e. Capable of sending a notification of system failures via email, text message, recorded voice message, or all of the above to multiple addresses.

3.3.3 Fax Services

The proposed voicemail solution must have the ability for any or all regular voicemail users to receive faxes into their own mailboxes and later re-direct them to a fax machine.

3.3.4 Mailbox Features and Functionality

The proposed system must include the following mailbox features and functionality. If the proposed system offers a feature or functionality similar to, but not exactly as indicated, an explanation must be provided.

3.3.4.1 Message Creation Features

- Delete and re-record
- Directory Dialing (Dial-by-Name)
- Mark message "private" to prevent recipient from forwarding message
- Mark message "urgent" for priority handling
- Pause during message recording
- Review message before sending
- Review and append an entire or a portion of a message
- Send messages to multiple mailboxes
- Send messages to system distribution lists
- Send messages to personal distribution lists
- Send message to all system mailboxes
- Require delivery receipt
- Scheduled message delivery

3.3.4.2 Message Retrieval Features

- Delete message after review
- Repeat message
- Pause message during playback
- Forward message with annotation
- Message header indicating sender, date, and tie received (automatic)
- Save message after review
- Select next message
- Skip to beginning or end of message
- Undelete

3.3.5 Message Notification and Distribution

The proposed voicemail system must provide a means of notification to telephone users that they have a message waiting for them in their mailbox. This may be accomplished through the use of a Message Waiting light on the telephone instrument, a text indication on the telephone's display or both.

The proposed system must also provide means of externally notifying voicemail users of a message waiting. These methods include notification to a pager, cellular phone, home number or an email message to an account on the City's Exchange server or a device accessible via the Internet (i.e. blackberry).

The proposal must indicate which types of message waiting notification the system offers and any selectable priority or order of notification.

3.3.6 Messaging Security

The proposed system must have the ability to capture and record the telephone number of an incoming call in the message header. The system must lock a voice mailbox after a preset number of invalid access attempts. The locked mailbox must still accept messages, but entry into the mailbox to retrieve messages is denied until the system administrator resets it. Access to service utilities and to the system administration database must be controlled by separate system-level passwords. The system must provide the ability to monitor and audit password usage and unauthorized access attempts.

3.3.7 Unified Messaging

The following Unified Messaging features and functionality are mandatory:

a. Must be configured initially for ten (10) users
b. Must have the ability to grow to fifty (50) users and 10 concurrent users without adding additional hardware or software.
c. Must be able to eventually support an overall total of 1000 users and approximately twenty five (25) concurrent users.
d. Features and functionality must initially be available to any telephone/voicemail users on any of the five core switches and to users at the satellite locations if applicable and desired.
e. Features and functionality on the voicemail system should be in addition to standard voicemail capabilities as outlined in this section.
f. Must be compatible with the City's email servers, clients and PC's as they are set up now. The addition of sound cards, speakers, microphones and other peripherals such as these will be the responsibility of the City and not the proposer.

3.3.8 Voice-Response Form Mailboxes

The proposed system must be capable of providing voicemail mailboxes where a series of questions may be asked to a caller or user and answered in succession. When these messages are left in these mailboxes and are subsequently listened to by City staff, only the answers should be played back in succession and in the same order they were responded to.

3.3.9 Integration

If a separate telephone and voicemail system is proposed, the integration methods between the proposed systems including the satellite locations if applicable must be explained in detail. Proposers must indicate what connection method(s) are proposed and what standards are available and will be used between the multiple systems.

3.3.10 Documentation

Bidders must include the manufacturers General Description of the voicemail system they are proposing. If this document is non-existent, is not available or does not contain all the features and specifications of the proposed system, then the Proposer must provide the City with another form of documentation that provides this information. The General Description must be applicable to the system proposed in regard to make, model, hardware, software and all other features and functions.

3.4 AUTOMATIC CALL DISTRIBUTION SYSTEM

3.4.1 General

The proposed telephone system must include an Automatic Call Distribution (ACD) solution. It is preferred that the system be one single centralized system located in the City Hall West Annex telephone switchroom along with the City Hall PBX system, Voicemail system, Auto-Attendant system and Call Accounting system.

3.4.2 Mandatory Features

The proposal must describe the ACD's following characteristics:

a. Standard features and functionality (i.e. security, routing, backups, Microsoft compatibility)

b. Optional or enhanced features and functionality (i.e. capacity, customization)
c. Performance capabilities and limitations of ACD in a centralized configuration
d. Variety of agent, supervisor and administrator controls and preferences (i.e. log in, queues, passwords, and announcements)
e. Reporting capabilities available to agents, supervisors and administrators

3.4.3 Mandatory Requirements

The following requirements and functionality are mandatory:

a. Operate and integrate with the other systems proposed in this RFP. (i.e. core, satellite, Voicemail, ACD)
b. Allow centralized administration and management of the system regardless of where the actual call centers are located.
c. Ability to quickly and easily set up call groups and assign/remove agents to and from calls groups.
d. Ability to recognize ANI and DNIS information from the LEC or from long distance company providing that the information is sent.
e. Ability to create reports containing real-time statistics of all typical ACD information (i.e. call quantity, abandoned calls, call duration, talk time, hold time, log-in/log-out times, etc.).
f. Ability to use any form of technology for voice and data functionality between the locations such as IP, T-1, proprietary interfacing, etc. or any combination.
g. Ability for ACD staff (agents) to determine the numbers of calls waiting in a queue.
h. Ability for multiple music or information announcements per queue/group.
i. Ability for multiple wait time information announcements to callers in queue.
j. Ability for callers to optionally overflow to other groups, extensions or voicemail after certain administrator-definable criteria is met.
k. Support a minimum of five (5) call centers initially and up to fifteen (15) call centers in the future without having to add hardware or software.

3.4.4 ACD Reporting

The proposed system must include or allow the creation of reports detailing agent activity, system activity, system status and condition, etc. Proposal must include a sample of the ACD report package, as well as any optional reports. Optional reports must be clearly identified and associated costs stated (including post-warranty maintenance). The reports provided must be available to the ACD Supervisors, Managers, and the System Administrator

3.4.5 ACD Telephone Sets

The proposal must describe in detail the different telephone sets, both TDM and IP that are available for Call Center agents on the proposed system(s) along with the ACD features inherent with the telephone set. The proposal must also describe in detail available softphones.

3.5 CALL ACCOUNTING SYSTEM

3.5.1 General

The proposed system must be a centralized call accounting system that will receive and process call accounting data (SMDR) from all equipment proposed in this RFP.

3.5.2 Mandatory Requirements

The proposal must describe the CAS's following characteristics as they apply in either a TDM or IP telephony environment or a service bureau type solution:

a. Standard features and functionality (i.e. security backups, Microsoft compatibility).
b. Optional or enhanced features and functionality (i.e. capacity, customization).
c. Integration, compatibility, and matched capacity with other systems proposed in this RFP.
d. Capacity to capture incoming, outgoing and station-to-station call activity.
e. Capacity to include costs related to trunked, POTS, and dedicated services.
f. Configuration and performance in a LAN/WAN environment (i.e. browser, DHCP)
g. Management controls over call record processing and pricing.
h. Capabilities of reporting past usage, current cost, and forecasting future use/costs.

i. Call history query, trending and drill-down capabilities.
j. Confidential reporting options (i.e. redacting sensitive information).
k. Tools to identify toll fraud and monitor select extension activity.
l. Rules-based online and archived retention capabilities.
m. Database management tools (i.e. import/export, organizational hierarchy, disk optimization, records re-indexing, task scheduling).
n. Report generator tools (i.e. automated, group distribution, tiered access).
o. Work Order and Trouble Ticket management.
p. System redundancy (i.e. mirrored disks, buffer box).

3.5.3 Mandatory Features

- Call accounting functions
- Directory functions
- Toll fraud monitoring and notification
- Traffic statistics reporting and analysis
- Equipment inventory management
- Telco services inventory and management
- Work orders
- Trouble tickets
- Report and system scheduling

3.6 INTERACTIVE VOICE RESPONSE SYSTEM

3.6.1 General

The bidder should include in the proposal the optional requirement to provide a centralized Interactive Voice Response (IVR) system. If proposed, the proposal should clearly describe the system's features and functions. The proposed system must be sized and configured to replace the existing, stand-alone IVR systems and still poses the capacity to triple in capacity, users, throughput, etc.

3.6.2 Mandatory Requirements:

a. Integration with the other systems purchased on this RFP
b. Access and update host records, either real-time or via batch loads
c. Built in speech recognition
d. "Soft" or "courtesy" shutdown feature allowing for current transactions to be completed
e. Record and re-record scripts on site
f. Program messages to change by time-of-day
g. Program messages to change by day-of-week
h. Program messages to change for holidays and specific dates
i. Enter prompts at any time during message playback
j. Type ahead dialing available
k. Repeat spoken information to caller for verification
l. Real time and historical reporting tools
m. Export report data to applications (i.e., Excel, Word, Crystal Reports, etc.)
n. GUI and web-enabled system administration

3.7 AUTO ATTENDANT

3.7.1 Auto-Attendant (Telephone Trees)

The proposed system must include an Auto-Attendant system either stand-alone or integrated into one of the other proposed systems.

3.7.2 Mandatory Requirements

a. Fully integrate with the telephone, Voicemail and ACD systems proposed.
b. Administration functions must be compatible with the City's network and Microsoft Office applications.
c. Designed and configured to allow for modular growth that will not disrupt the functioning of current applications.
d. Allow call routing to and from any of the City's core or satellite locations.
e. Support triple the existing individual applications (trees) existing today.

f. Provide flexible day of week operation and customizable holiday schedules on an application basis and/or a system wide basis.
g. Support a combination of small, medium and large applications.
h. Ability to easily design, set up, modify and remove applications.
i. Be configured for English and posses the ability to easily add other languages in the future.

3.7.3 Optional Requirements

a. Should be a single system installed at City Hall location.
b. Should utilize Windows or a Windows-like interface for designing, setting up, modifying, viewing, testing and removing applications.
c. Should have provisions for easily recording menus and system prompts in multiple ways. (i.e. dialing, local microphone, pre-recorded .wav or MP3 files, or text-to-speech).
d. Ability to print out application diagrams and other information related to applications in hard copy (application structure, extensions involved, key commands and their function/destinations, time of day/day of week operation, etc.
e. Ability to report on application usage history such as calls answered, calls transferred, menus played to, selections made, abandoned calls, etc.
f. Ability to easily re-direct calls to other applications without having to permanently re-design or modify application.

3.8 SPEECH ATTENDANT

3.8.1 General

The bidder should include in the proposal the optional requirement to provide a centralized Speech Attendant system that would act as an answering point for on- and off-campus locations. If proposed, the proposal should clearly describe the system and indicate whether or not the proposed system supports auto-attendant, IVR or voicemail functions proposed in this RFP. If speech recognition capabilities are included as part of another system proposed (i.e. voicemail, IVR, ACD), the bidder must explain their rational for proposing a separate, partially duplicate capability.

3.8.2 Speech Recognition General

a. System must be configured for all versions of the English language.
b. Callers must always have the ability to speak or push a button to make a selection.
c. Callers must always be allowed multiple attempts to speak their choices.
d. Callers must be transferred to a live person, if available, or a recorded message in the event their spoken selection is not recognized or cannot be processed.
e. System must allow for the addition of other languages.

3.9 INTERNET PROTOCOL TELEPHONY

Five core telephone switches and nineteen satellite locations comprise the City's current telephone system. The City's current data network infrastructure has not been assessed to support full IP Telephony.

We believe IP Telephony will be the future of voice and data communications industry. Our current needs are not such that the implementation of full IP Telephony throughout the City is a mandatory requirement on day one (Telephone Needs Assessment Report by PlanNet, Inc.).

The proposed system must support a phased migration to full IP telephony. Proposals must include either a hybrid (combination of TDM and IP) or a pure IP telephony core architecture. Additionally, proposals must describe how a proposed hybrid system will incrementally migrate to a full IP telephony system.

The Minimum proposal, if hybrid is proposed, must include 45 IP telephony handsets operational upon completion of implementation. In addition, the minimum hybrid proposal must also include the installation of two (2) remote satellite locations operational upon completion of implementation.

The Extended proposal, if hybrid is proposed, must include 45 IP telephony handsets operational upon completion of implementation. In addition, the Extended hybrid must also include the installation of nineteen (19) remote satellite locations operational upon completion of implementation.

Any Minimum or Extended full IP telephony proposal must be fully operational upon completion of implementation.

3.9.1 Adoption Plan

The rate at which the City will adopt IP telephony is unknown. The Adoption Plan (Table below) is provided as a likely scenario – not a "cast in concrete" scenario. It is included in the RFP so that bidders can design and propose a solution that best matches the expected use. The description of each phase (approximately one year each) are provided as a general guideline and also to define the order and reasoning IP Telephony features will likely be adopted.

		Post Cutover	Lease Bypass	Functionality	Consolidation	Convergence
TDM	Desktop	1450 handsets	1450 handsets	1000 handsets	None	None
	Satellite	17 locations	None	None	None	None
	Core					
VoIP	Desktop	45 handsets 5 softphones	45 handsets 5 soft-phones	450 handsets 50 softphones	1450 handsets 50 softphones	1300 handsets 200 soft-phones
	Satellite	2 locations Partial voicemail, call detail, etc. integration	19 locations Full vm, cdr, etc. integration	No change	No change	No change
	Core	connectivity between core devices; enhanced trunking to PSTN; VM operating; deploy one ACD		Deploy 10-15 ACD and 2-3 IVR solutions		

a. Post Cutover Phase – After the cutover and acceptance testing a small amount of IP telephony handsets and two remote sites will be in production. These handsets and sites will allow staff the time to learn and adjust to using and supporting VoIP equipment.

b. Lease Bypass Phase – All remaining remote locations will be converted to full IP telephony. In doing so leased point-to-point services will be consolidated or replaced by City-owned wireless infrastructure.

c. Functionality Phase – Select system features (i.e. ACD, IVR) will be widely deployed such that larger numbers of handsets or entire facilities/departments will be converted to IP telephony. Operational requirements will ultimately determine which features and to what extent they will be deployed.

d. Consolidation Phase – The balance of the TDM handsets and other non-VoIP systems will be fully converted to IP telephony. The operational costs to maintain a mixed TDM & VoIP handset system will reach a tipping point.

e. Convergence Phase – Some or most of the PC and telephony convergence will occur (i.e. unified messaging, soft phones) during this phase.

3.9.2 Mandatory Requirements

a. The proposal must explain how the proposed system matches the stated functional and quality of voice communication requirements
b. The proposal must provide adequate staff training, and tools to administer, monitor, and maintain a high level of security and system performance in an IP environment, and adequate training to troubleshoot and differentiate voice versus application problems
c. The proposal must detail any cable or network upgrades needed and associated costs necessary to fully support the current data and new IP telephony traffic
d. The proposed solution must be fully E9-1-1 compliant
e. The system's maximum number of simultaneous voice conversations required shall be the same whether there is a mix of TDM and IP handsets or 100% IP handsets
f. The proposal must explain how IP handsets are installed and identified on the system
g. The proposal must explain how IP handsets are restricted and controlled
h. The proposal must provide for easy addressing of IP handsets without having to change the network address scheme
i. Must utilize virtual LAN techniques to logically segment voice from data traffic
j. The proposed system must include the option to add PC-based software phones or attendant consoles using IP telephony technology
k. The proposal must explain how the proposed system will address new security concerns due to IP threats, attacks against SIP and RTP using IDS/IPS
l. The proposal must explain whether the system will scale and prioritize IP telephony traffic over WiFi links
m. The proposal must explain whether the system's IP telephony traffic can be authenticated or encrypted to protect from interception
n. The proposal must explain how it provides for trunking communications to and from carriers or IP networks and reduces the need for telephone trunks, PRIs, etc.
o. The proposal must clearly communicate what IP telephony features or hardware are included in the proposal versus capable of being added to the system proposed
p. The proposal must clearly list any additional IP telephony servers or appliances necessary
q. The proposal must explain how the entire system detects and protects against viruses, denial of service attacks, etc.
r. The proposal must explain how IP handsets share Ethernet port connection with other devices and how other data devices are affected in the shared connection.

3.9.3 Desktop Handsets

a. All IP handsets must include all the user features that are available as described in the basic telephone handset section
b. The proposal must include IP handsets manufactured by the principle telephone switch manufacturer.
c. The proposal must also list any and all types of 3rd party handsets supported
d. The proposal must specify power requirements whether Power-over-Ethernet (POE) (e.g. 802.3af) or local power (i.e. wall transformer) is required or optional
e. The proposed IP handset must share its Ethernet port connection with other data devices (i.e. PC)

3.9.4 Quality of Service

The proposed system must be able to prioritize voice and data traffic using Quality of Service (QoS) to ensure the consistent delivery of voice communications. The proposed solution must address End-to-End QoS capabilities. The proposed system's QoS must be compatible with the Cisco standard. The proposal must fully explain how voice quality will be monitored and managed in a fully converged voice and data network. The proposal must fully explain how IP address headers may be modified to assist in distinguishing voice from data traffic.

3.9.5 Protocols

The proposed system must be, at a minimum, SIP compliant, CTI interoperable and H.323 compliant. The proposal must clearly communicate how licenses are purchased (i.e. universal or separate). The proposal must explain how it leverages call routing capabilities inherent to SIP, including Presence

functionality. All IP handsets proposed must support the 802.3af and 802.3q/p standards and either DiffServ- or TOS-based QoS.

3.6 Applications

The proposed system must be compatible with and expand into Microsoft Office Suite functions such as Office and Outlook. The proposal must explain what, if any, simplified video conferencing capabilities and simplified collaboration features are included versus available. The proposal must also explain what real-time communication tools (i.e. LiveMeeting) and Windows Mobile OS device access capabilities it includes or is capable of. The proposal must communicate what additional applications the proposed system can interface into (e.g. MicroSoft Office Communicator).

3.9.7 Network Assessment

The proposal shall include a pre-deployment network assessment of the City's data network infrastructure. The assessment shall determine whether and to what degree the City's network is prepared to adopt IP telephony equipment or traffic.

The assessment shall first address any network changes necessary to deploy IP technologies only in the areas listed in the Post Cutover column of the Adoption Plan. The assessment shall subsequently address changes necessary to deploy the remaining incremental sections of the Adoption Plan. Changes proposed shall be prioritized and synchronized to minimize capital expenses.

3.10 WIRELESS TELECOMMUNICATIONS

3.10.1 General

The bidder should include in the proposal the optional requirement to provide an interface to commercial wireless handsets (i.e. Verizon Wireless, AT&T, Sprint). If proposed, the proposal should include a description of how the feature works, which commercial services/products it is compatible with, capacity to transport voice and/or data, and all related costs.

3.10.2 Quantities and Distances

Location	Approximate Users	Estimated Distance in feet from Workstation
City Hall	20 to 50	1000
Police Department	20 to 50	1000
City Yard	10 to 20	1000
Fire Headquarters	5 to 10	500
Airport	5 to 10	2000

3.10.3 Mandatory Requirements

- A high level of security and encryption to prevent unauthorized users from gaining access to the system or from monitoring or intercepting telephone conversations.
- Maintain a high level of voice quality as a user roams between and within facilities including basements.
- Must not interfere with the City's other current wireless systems. These include the public safety radio system, Local Area Network and Wide Area Network systems and any of the surrounding community communications both public and private.

4.0 IMPLEMENTATION

4.1 PROJECT MANAGEMENT

4.1.1 General

The bidders must include a complete and detailed description of activities required to install the proposed system. The bidder's proposal must include all technical and professional staffing necessary to complete the installation within the parameters described in this section.

4.1.2 Installation Plan: Flash or Phased

Bidders may submit proposals based on one of two basic installation plans: Flash or Phased cutover. The Flash approach requires that the entire telephone system stops processing telephone calls at a predetermined moment in time and the new telephone system immediately begins processing calls. The Phased approach requires that the telephone system is cutover in separate, individual phases or pieces either over a period of several days, weeks or months.

4.1.3 Transparency

All proposals, regardless of which installation approach is used, should be designed to be transparent to the system users, should not interrupt the ability to make or receive internal or external telephone calls, services, require no interim changes in dialing procedures, and avoid any perceived degradation in the quality of service.

4.1.4 Work Responsibility Matrix

The proposal must include a work responsibility matrix identifying the tasks either the bidder or the City is expected to perform.. The bidder must provide names and background for all bidder staff who will work on the project. In addition, the proposal must include a project timeline outlining all critical tasks and paths. The bidder shall be required to periodically submit an updated timeline as the project progresses.

4.2 INSTALLATION REQUIREMENTS

4.2.1 General

This RFP is divided into a Mandatory and Extended scope. The Mandatory scope includes the replacement of the five "core" telephone systems. The Extended scope includes the five "core" and 19 "satellite" telephone systems. The City will ultimately select either the Mandatory or Extended option.

Mandatory	Extended
• Five core telephone systems • Single centralized Voicemail system • Single centralized Auto-Attendant system (if not part of the Voicemail system) • Single centralized ACD system • Single centralized Call Accounting system	• 19 satellite locations

The bidder's proposed turn-key installation plan(s) must address any and each option submitted. The bidder is solely responsible for all survey, engineering, and design activities necessary to insure a successful installation, regardless of project scope or install approach.

4.2.2 Mandatory Requirements

a. The cutover must take place during the City's least busiest operating periods. Evenings after 9:00 PM, weekends, holidays, and the City's Off-Fridays (9/80 work schedule) are preferred. A copy of the City's official calendar will be provided at the mandatory Pre-Proposal Meeting.

b. The cutover must take into account that the City's Police and Fire departments operate 24 hours per day, 7 days per week, 365 days per year. The city's Transit department operates 20 hours per day, 7 days per week, 365 days per year. The City's airport also operates on a longer daily schedule. Areas where telecommunications can only be disrupted for a few minutes are:

Location	Critical Users
City Hall	To be determined

Location	Critical Users
Police Department	Selected phones and lines located in dispatch, jail, Watch Commanders office, lobby, Records Division, etc., fire alarm panels
Fire Department	Selected phones and lines located in the Captain's bedroom, Captain's office, OPX's to Fire Stations, etc., telephone systems at the five (5) fire substations
City Yard	Transit Dispatch office, fire alarm panels
Airport	Night Duty phone
All	Elevator phones, fire alarm panels, gate controllers, door phones

c. The cutover must include a backup or backout plan should the cutover process fail. The plan must clearly indicate what conditions would require reverting to the backup or backout plan.

d. The cutover will require that the bidder closely coordinate activities with AT&T and/or Verizon, the City's local telephone service providers. It is the bidder's sole responsibility to insure that AT&T and/or Verizon is ready for the cutover.

4.2.3 Preferred Schedule and Priority

Refer to Attachment D for an example scenario reflective of the City's preferred schedule of events, outage limitations, and system restoral priorities. The provided scenario is only an example.

4.3 FACILITY REQUIREMENTS

4.3.1 General

The proposal must furnish all space, power and environmental requirements for the proposed system. Such information shall include, but is not limited to, physical dimensions of equipment, power requirements (i.e. conditioning or grounding), heat dissipation and safe room temperature range, and floor loading requirements.

4.4 TRAINING

4.4.1 General

Proposers must provide a detailed training program for basic and advanced users, call center agents, receptionist operators, and technical staff. All the training must be included in the proposal and performed within 90 days of the acceptance of the equipment. Subsequent or follow-up training must be available on an as-needed basis and is not included in the cost of the system. Each training component shall include a plan, materials, and either a live classroom, 1-on-1 or web-based training environment. At a minimum, the City requires the following:

4.4.1.1 User Training

a. Basic telephone and voicemail training for approximately 1500 users
b. Advanced telephone training for approximately 50 clerical and other support personnel
c. Attendant console training for 10 operators and backup personnel
d. Training for Call Center agents and Supervisors/Managers
e. Advanced training for call Center Supervisors/Managers

4.4.1.2 Basic Technical Training

The proposal must include sufficient training so that staff understands basic system operations/theory, troubleshooting to major subsystems, basic modifications (i.e. MAC's), restoral and restart procedures, etc. covering the following systems:

- Telephone systems
- Power systems
- Voicemail system
- Auto-Attendant system
- Automatic Call Distribution system
- Call Accounting system
- Integrated Voice Response system
- Speech Attendant

4.4.1.3 Manufacturer Technical Training

The proposal must include technical training so that City staff can be certified by the system(s) manufacturer, if such training exists. The proposer must fully explain what, if any, there is to warranty coverage by having certified City technicians working on the system.

4.4.1.4 Training Materials

The proposal must provide and describe how training "tools" such as printed guides, DVDs, web-based tutorials, and web-based user guides will be used for pre- and post-cutover training.

4.4.1.5 Classroom Training

The Proposer shall provide onsite training at three City facilities: City Hall, City Yard and Police Department. Onsite training shall be delivered in a classroom-type setting that includes lecture, instructor-led demonstrations and trainee hands-on demonstrations using live equipment. The Proposer shall determine the curriculum, duration, number and size of classes to be held at each location so that as many employees as is practical learn the proper use of the proposed system's features, handsets and messaging. The Proposer shall be responsible for providing all hardware, software, miscellaneous materials, labor, and cable infrastructure necessary to setup the training classes.

4.4.1.6 Helpdesk

The proposal shall include a "helpdesk" function to answer questions and provide training via telephone. The helpdesk shall be available during office hours immediately after cutover through 10 working days after Acceptance. The helpdesk function is also defined further in the Warranty section, paragraph 4.7.6.

4.4.1.7 Technical Staff Training

The proposal must include training for technical staff on any interface or integration with existing computers, systems, or applications.

4.5 ACCEPTANCE AND COMMISSIONING

4.5.1 Tracking

The proposal must include a mechanism to list and track post-cutover action items (e.g. punch-list). The bidder must track and drive the resolution of all actions items regardless of whether they are minor or major, address performance, completeness, etc.

4.5.2 Acceptance Plan

The proposal must include a detailed acceptance test plan that includes all standards and criteria for measuring system performance and conformance with design specifications. The proposal must describe how acceptance tests will be performed. Any test plan proposed should not disrupt service of quality of service.

4.6 WARRANTY

The bidder must include a warranty covering all work, hardware, software and related peripheral equipment provided per the proposal. The warranty shall guarantee to repair and replace defective materials or workmanship during the warranty period including labor and materials. The proposal must clearly explain the source/provider of the warranty for the entire system or its sub-systems.

4.6.1 Standard Warranty

The warranty shall extend no less than one (1) year from the date of system acceptance. Work completed by subcontractors to install sub-systems shall not be recognized or accepted. Where the equipment manufacturer's warranty coverage is a longer time period than that required by these specifications, the manufacturer's warranty shall govern.

4.6.2 Extended Warranty

Optionally, the bidder may propose additional warranty periods. The proposal must clearly explain what terms and costs apply towards any extended warranty offer.

4.6.3 Emergency Requests

Any failure that effects the critical operation of the installed system shall be handled as an emergency request. The bidder (or agent) is required to respond within four (4) hours to an emergency request. The bidder must provide a twenty-four hour telephone contact number. Service response shall be defined as the period between placing the request and the arrival of a qualified technician on-site. The bidder must repair and replace and defective materials or workmanship within an eight (8) hour period from the time of the initial arrival of service personnel.

4.6.4 Non-Emergency Requests

The bidder (or agent) is required to correct non-emergency requests to repair and replace defective materials or workmanship within four (4) calendar days of receiving notice of the defect.

4.6.5 Spare Parts

The bidder must maintain a sufficient parts inventory during the warranty period to meet the guaranteed system repair times.

4.7 MAINTENANCE

The bidder must include maintenance coverage for all portions of the proposed system's hardware and software components not otherwise covered by the warranty. Maintenance coverage shall begin on the date of system acceptance for a period of one (1) year. The proposal must also include subsequent annual renewals or multi-year terms for a second and third year. The proposal must clearly explain the source/provider of the coverage for the system or its sub-systems.

4.7.1 Emergency Requests

Any failure that effects the critical operation of the installed system shall be handled as an emergency request. The bidder (or agent) is required to respond within four (4) hours to an emergency request. The bidder must provide a twenty-four hour telephone contact number. Service response shall be defined as the period between placing the request and the arrival of a qualified technician on-site. The bidder must repair and replace any defective materials or workmanship within an eight (8) hour period from the time of the initial arrival of service personnel.

4.7.2 Non-Emergency Requests

The bidder (or agent) is required to respond to non-emergency requests within 24 hours during 8 a.m. – 5 p.m., Monday through Friday either remotely (i.e. dial in capabilities) or onsite. The bidder must repair the problem within 72 hours of the original response.

4.7.3 "Crash" Kit

Proposal must include an onsite "crash" kit (1 kit for entire system; mobile response kit acceptable), warranty pass-through or upgrade options, liquidated damages and chargeback procedures. Proposal must also explain swap/exchange procedure and escalation procedure (for both Emergency and Non-emergency Requests).

4.7.4 Onsite Technician – (City's Option)

The proposal must include costs and terms to provide for a fully qualified, onsite technician in one (1) month increments beginning on the date of system cutover.

4.7.5 Computer Maintenance and Support

a. Bidder must specify terms for maintenance on servers, workstations, and related computer hardware provided by the bidder. If maintenance is provided by a third party, bidder must indicate maintenance procedures and responsibilities of the bidder, the third-party, and the City. The City prefers on-site maintenance with a four (4) hour response time. Various options may be submitted. Indicate if hardware maintenance includes software and data restoration after repair of hardware.
b. If the City provides its own servers, workstations, and related computer hardware, bidder must indicate what support services it will provide in supporting the proposed system including the computer hardware.

c. Bidder must specify maintenance cost and terms for all proposed software. Indicate if updates, bug fixes, and on-site installation are provided within the standard maintenance agreement or if available as a separate service.
d. Bidder must specify maintenance cost and terms for all third-party or open source software and indicate who is responsible for its support.

4.7.6 First Week in Service

The proposal must provide for on-site technical and training staff for the first week following the cutover to provide the following support services:

- Helpdesk – The proposer must provide a dial-in Helpdesk where users can call and receive help on using the new system(s). If they cannot be helped over the phone, the Helpdesk personnel must refer the problem as a Warranty or Maintenance request.

- Technical Support – The proposal must provide at least one, on-site technician for the entire work-week following system cutover to provide for repairs and change order services. The assigned technician must be qualified to support the system installed

- Training Support – The proposal must provide at least one, on-site trainer for the entire work-week following system cutover. The assigned trainer or trainers must be qualified to train user on the systems installed.

4.8 SOFTWARE UPDATES

The proposal must:

a. Describe in detail the software licensing model (i.e. seat, concurrent) for each of the proposed system (e.g., voicemail, ACD, IVR).
b. Explain the terms of the license agreement (i.e. annual, multi-year, perpetual) and include a copy of the standard software license agreement.
c. Explain the costs to add individual or blocks of handsets, trunks, ports, etc. (i.e. blocks of 5, 10, and 25 users)
d. Explain whether licenses can convert from TDM to VoIP and whether licenses can transfer between sites.
e. Describe whether patches or new features are provided at no cost to licensed users and whether any software updates might be mandatory under the terms of the warranty (i.e. performance, security)
f. Explain how major or minor software updates are announced, delivered, and whether installation is included within warranty or maintenance coverage.

CITY OF TORRANCE
3031 Torrance Blvd.
Torrance, CA 90503

RFP NO. B2008-09

RFP to Furnish Telephone and Voicemail System Replacement

SECTION III PROPOSAL

FAILURE TO COMPLETE ALL ITEMS IN THIS SECTION MAY INVALIDATE PROPOSAL.

In accordance with your "Invitation to Propose", the following proposal is submitted to the City of Torrance.

1.0 GENERAL

Proposal Submitted By:

_____
Name of Company

_____
Address

_____
City/State/Zip Code

_____
Printed Name/Title

_____
Telephone Number/Fax Number

Form of Business Organization:

Please indicate the following (check one);

Corporation _____ Partnership _____ Sole Proprietorship _____

Other: _____

Business History:

How long have you been in business under your current name and form of business organization?

_____ Years

If less than three (3) years and your company was in business under a different name, what was that name?

_____

_____

Contact for Additional Information:

Please provide the name of the individual at your company to contact for any additional information

_____
Name

_____
Title

_____
Telephone Number/Fax Number

Addenda Received:

Please indicate addenda information you have received regarding this proposal:

Addendum No. ____ Date Received: _____
Addendum No. ____ Date Received: _____
Addendum No. ____ Date Received: _____
Addendum No. ____ Date Received: _____

_____ No Addenda received regarding this proposal.

Payment Terms: The City of Torrance Payment terms are Net 30.

Do you offer any discounted invoice terms? _____

Renewal Option:

Please state if your company would agree to a fourth and subsequent year(s) renewal of the maintenance requirements, as described herein.

Yes _____ We would agree to a fourth and additional year(s) with prices, terms, and conditions unchanged.

Yes _____ We would agree to a fourth and additional year(s) subject to renegotiation/bid.

No _____ We would not be interested in renewing the maintenance coverage.

References:

Please supply the names of companies/agencies for whom you recently supplied comparable goods as requested in this proposal.

Name of Company/Agency	Address	Person to contact/Telephone No.
Name of Company/Agency	Address	Person to contact/Telephone No.
Name of Company/Agency	Address	Person to contact/Telephone No.

Contract Extension to Other Cities/Agencies:

Please state, if requested by the City, if your company would agree to extend the same price, terms and conditions to other Cities/Agencies.

Yes _____ We would agree to extend the same price, terms and conditions.

No _____ We would not agree to extend the same price, terms and conditions.

Maintenance/Warranty Service Information:

A. Location:

How many miles is your company's service department located from the requested delivery address? _____ miles

B. Maintenance Sub Contractors:

Do you plan to sub-contract the maintenance portion of this proposal to a company other than your own company's service department? Yes_____ No_____

If yes, what is that company's name and address?

_____

_____

_____

How many miles is this sub-contractor located from the City of Torrance delivery address?

_____

Contractor's Information:

Contractor's License Number: _____ Expiration date: _____

Sub Contractor's Information:

If subcontractor(s) is to be used in the performance of this project, please provide the following information:

1. Company Name:

   _____

   Address:

   _____

Contractor's License Number: _____ Expiration date: _____

2. Company Name:

   _____

   Address:

   _____

Contractor's License Number: _____ Expiration date: _____

3. Company Name:

   _____

   Address:

   _____

Contractor's License Number: _____ Expiration date: _____

2.0 RESPONSE

Bidders must provide a response to all questions. Questions listed below are not inclusive of all requirements in the RFP.

2. It is the bidder's responsibility to respond to all requirements, whether on this provided reply form or on a separate sheet of 8.5 x 11 paper
3. Bidders should provide additional information on separate sheets of paper for conditional responses or when space provided is not sufficient.
4. A "yes" response means that the proposal meets or exceeds all specifications in the requirements section. A "no" response means that the proposal does not meet the requirement.
5. If additional materials or sheets are included in the proposal response, the document and page reference must be inserted in the "refer to" column.

SECTION # FEATURE NAME DESCRIPTION	RESPONSE	REFER TO
3.1.1.3 **Fiber Optical Infrastructure** • Does proposal use the City's existing fiber optic or copper infrastructure?	Yes No	
3.1.1.4 **Flexibility and Scalability** • Does proposed system permit adding new functionality and applications in the future?	Yes No	
3.1.1.7 **Redundancy - Path** Does proposal provide path redundancy between core switches and alternate path for core switch if trouble with the primary path?	Yes No	
3.1.1.8 **Redundancy – Equipment** • Is proposed system configured so that major components of the systems are backed up so that the system will continue to process calls?	Yes No	
3.1.1.9 **Reliability/Survivability** • Does the proposed system achieve the target reliability goal of four-nines (99.99%)?	Yes No	
3.1.1.10 **Servers, Workstations, and Related Computer Hardware Purchases** • Does proposal include all implementation and integration services, specifications for all proposed servers, computer hardware, and integration with existing City network?	Yes No	
3.1.1.11 **Software Purchases** • Does proposal explain all implementation and integration services, and assumptions of using or integrating with existing City software?	Yes No	
3.2.1.3 **System Sizing** • Does the proposed system design achieve the described immediate and long-term capacity growth/goals?	Yes No	
3.2.1.5 **›posed Hardware Information** - How long has the proposed system been in production? • For how long and how many have your company installed the proposed system?	_____years _____years _____ qty	

SECTION # FEATURE NAME DESCRIPTION	RESPONSE	REFER TO
• What is your relationship with the manufacturer of the proposed system? • What are the current hardware and software versions and past history of the proposed system? • What are the different hardware platforms available for the proposed system? • What specific features are available on the proposed system equipped the way you have proposed it?	_____ _____ _____ _____ _____ _____ _____	
3.2.2.1 **Access Codes** • Is proposal system capable of flexible access codes for system features and other dialing functions?	Yes No	
3.2.2.2 **Account Codes** • Is proposed system able to optionally apply account codes to outgoing and incoming PSTN telephone calls for the quantities desired?	Yes No	
3.2.2.3 **Area Code/11-Digit Dialing** • Is proposed system able to operate properly with two "home" area codes, operate fully and transparently with either or both area codes, and support the recently mandated 11-digit dialing on all PSTN calls within the same area code?	Yes No	
3.2.2.4 **Authorization Codes** • Is proposed system able to optionally force selected extension users to dial authorization codes in order for them to complete an outgoing PSTN telephone call?	Yes No	
3.2.2.5 **Call-Forwarding Functions** • Does the proposed system include all three types of call forwarding as described?	Yes No	
3.2.2.6 **Caller ID/Name Display** • Does the proposed system display calling party information (ANI) of the calling party whether the call is incoming or transferred incoming PSTN call or a station-to-station call within the City's phone system?	Yes No	
3.2.2.7 **Classes of Service** • Does the proposed system allow or restrict system features on a group or "Class of Service" basis as described?	Yes No	
3.2.2.8 **Class of Service – Traveling/Portable** • Does proposed system allow roaming telephone users to make calls and access features and privileges from any phone on a system by temporarily changing a phones' Class of Service?	Yes No	
3.2.2.9 **Flexible Class of Service** • Is the proposed system able to allow or restrict typical station features?	Yes No	
3.2.2.10 **Conference (audio) 3-party**		

SECTION #	FEATURE NAME	DESCRIPTION	RESPONSE	REFER TO
		Does proposed system provide extensions with 3-party voice conferencing?	Yes No	
3.2.2.11	**Conference (audio) 8 party or more**	• Does proposed system provide the minimum of one 8-party conference call bridge with any combination of callers as described?	Yes No	
3.2.2.12	**Dialing Restrictions**	• Does the proposed system accommodate a minimum of seven call restriction levels for extensions and are they consistent between every system/location? • Can the dialing restriction levels specified in this section be accomplished in the proposed system? • Can the dialing capabilities in this section be accomplished in the proposed system?	Yes No Yes No Yes No	
3.2.2.13	**DID Dialing**	• Does the proposed system allow the use of the City's current DID telephone numbers as specified in section 3.2.2.13.3? • Can the proposed system utilize the City's current DID trunking in digital form as opposed to the current analog trunks? • Does the configuration of the DID trunks and numbering plan take into account reliability and survivability as specified in this section? • Does the proposed system have the capability for adding additional DID trunks and numbering for the satellite locations?	Yes No Yes No Yes No Yes No	
..2.14	**Four-digit Dialing**	• Does the proposed system allow four-digit dialing between the five core sites without dialing additional digits?	Yes No	
3.2.2.15	**Distinctive Ringing**	• Does the proposed system have distinctive ringing so users can differentiate incoming inside and outside calls?	Yes No	
3.2.2.16	**Flexible Ringing**	• Does the proposed system permit flexible ringing on the telephone sets? • Does your proposal include a brief explanation of the different types of telephone set ringing options?	Yes No Yes No	
3.2.2.17	**Feature Transparency**	• Does the proposed system operate in a manner that is transparent to users when dialing between sites?	Yes No	
3.2.2.18	**Flexible Line Appearance**	• Does proposed system have the ability to assign any station numbers which appear on a switch to appear on any phone instrument which also appears in the same switch?	Yes No	
3.2.2.19	**Intercoms/Door Phones**	Does proposed system include intercom and door phone capabilities?	Yes No	
3.2.2.20	**Internal Paging**			

SECTION # FEATURE NAME DESCRIPTION	RESPONSE	REFER TO
• Does proposed system include the ability to make internal pages as described?	Yes No	
3.2.2.21 **Least Cost Routing/Automatic Route Selection** • Does the proposed system have the capability of implementing Least Coast Routing as described?	Yes No	
3.2.2.22 **Line Load Control** • Is proposed system capable of disabling telephone sets in the event of a disaster?	Yes No	
3.2.2.23 **Music/Message on Hold** • Does the proposed system have the ability to play music or messages on hold as described?	Yes No	
3.2.2.24 **Non-Blocking Switching** • Is the proposed system non-blocking?	Yes No	
3.2.2.25 **Primary/Rollover Line Arrangements** • Does proposed system allow multiple calls simultaneously on separate lines as described?	Yes No	
3.2.2.26 **Private Switch Automatic Location Identification** • Is proposed system compatible with the City's current PS/ALI system as described?	Yes No	
3.2.2.27 **Public Announcement Systems Interface** • Is the proposed system capable of connecting to the existing public announcement systems?	Yes No	
3.2.2.28 **Remote Workers** • Does proposed system allow for remote workers access to system?	Yes No	
3.2.2.29 **Remote Access/System Users** • Does proposed system have the capability to service remote locations as described?	Yes No	
3.2.2.30 **Telephone Sets** • Does proposed system support a variety of telephone instruments as described? • Do the proposed telephone instruments include features as described?	Yes No Yes No	
3.2.2.31 **Tenant Service** • Does proposal include Tenant Service capabilities?	Yes No	
3.2.4.32 **Toll Restriction** • Is proposed system capable of restricting telephone numbers within an area code?	Yes No	
3.2.2.33 **Virtual Extensions/Rollover Extensions** • Does proposed system permit the creation of virtual extension numbers to be used as described?	Yes No	

SECTION #	FEATURE NAME	DESCRIPTION	RESPONSE	REFER TO
.2.34	.reless Service Requirements	• Are wireless telephones and other mobility capabilities available in proposed system?	Yes No	
3.2.3.1	Battery Back Up	• Is proposed system capable of being backed up by battery for a minimum of four hours during a commercial power outage as described?	Yes No	
3.2.3.2	Cabling Infrastructure	• Will proposed system operate on the City's current cabling infrastructure without any modifications?	Yes No	
3.2.3.3	Cordless Telephones	• Does proposed system have cordless telephone capabilities as described? • Does proposal explain cordless telephone features and capabilities?	Yes No Yes No	
3.2.4.1	Alarms (Maintenance)	• Is proposed system capable of notifying staff of a system problem with visual indicators as described? • Does proposal describe alarm reporting capabilities?	Yes No Yes No	
3.2.4.3	Hot Swapping IC Cards	Does proposed system have the capability to hot swap circuit boards as described?	Yes No	
3.2.4.4	Remote Access/Administration	• Do all proposed systems allow remote access for viewing or changing?	Yes No	
3.2.4.5	Revision Levels	• Is all system hardware, software, firmware, etc. to be provided in the proposed system of the latest production revision levels?	Yes No	
3.2.4.6	System Programming/Local	• Does proposed system include a local means for programming features as described?	Yes No	
3.2.4.7	System Programming/Remote	• Does proposed system include a remote means for programming features as described?	Yes No	
3.2.4.8	Traffic & System Statistics	• Does proposal include a description on how the system captures activity as described?	Yes No	
3.3.1	General – Voicemail System	• Is proposed voicemail system an internal component or a separate individual system? • Does proposed system provide for full 100% integrated services? • Does the proposed system fully integrate with the five core sites/systems?	Internal Separate Yes No Yes No	

SECTION # FEATURE NAME DESCRIPTION	RESPONSE	REFER TO
• Does the proposed system integrate fully with the satellite sites?	Yes No	
3.3.2 **Mandatory Requirements** • Does proposed system meet all mandatory requirements as described?	Yes No	
3.3.2.1 **Optional Requirements** • Does proposed system meet all optional requirements as described?	Yes No	
3.3.3 **Fax Services** • Does the proposed system meet the fax requirements as described?	Yes No	
3.3.4 **Mailbox Features and Functionality** • Does proposed system include all message creation and retrieval features as described?	Yes No	
3.3.5 **Message Notification and Distribution** • Does proposed system include a means of notification for telephone users of a voicemail and for external notification of a voicemail? • Does your proposal include a description of the different types of message waiting notification the proposed system has?	Yes No Yes No	
3.3.6 **Messaging Security** • Does proposed system include the ability to capture and record the telephone number of an incoming call and audit password usage?	Yes No	
3.3.7 **Unified Messaging** • Does the proposed system have the Unified Messaging features and functionality as described?	Yes No	
3.3.8 **Voice-Response Form** • Does the proposed system have the question and answer capabilities as described?	Yes No	
3.3.9 **Integration** • If separate telephone and voicemail systems are proposed, does proposal include integration methods and standards used?	Yes No	
3.3.10 **Documentation** • Does your proposal include a manufacturers General Description of the proposed voicemail system or some other brief and concise documentation outlining the proposed system, its basic features and specifications of the system?	Yes No	
3.4.1 **Automatic Call Distribution System** • Does your proposal include an Automatic Call Distribution system? • Is proposed system a single centralized system?	Yes No Yes No	
3.4.2 **General Requirements – Automatic Call Distribution System** • Does proposal describe the ACD's characteristics as requested?	Yes No	
3.4.3 **Specific Requirements** • Does proposed system include the requirements and functionality as described?	Yes No	

SECTION #	FEATURE NAME	DESCRIPTION	RESPONSE	REFER TO
.4 ..D Reporting • Does your proposal include creating reports as described in this section? • Does your proposal include some sample reports that can be received from the proposed system?			Yes No Yes No	
3.4.5 ACD Telephone Sets • Does your proposal include a detailed description of the ACD-capable telephone sets and softphones that are available for the proposed system?			Yes No	
3.5.1 Call Accounting System • Does your proposal include a centralized Call Accounting system as required in this section?			Yes No	
3.5.2 Mandatory Requirements – Call Accounting System • Does proposal describe characteristics of call accounting system as described?			Yes No	
3.5.3 Mandatory Features Does proposed system include mandatory features as described?			Yes No	
3.6.1 General – Interactive Voice Response System (optional requirement) • Does your proposal include an IVR system and if so, does it meet the requirements of this section?			Yes No	
.2 Mandatory Requirements • If you have proposed an IVR system, does it meet the requirements of this section?			Yes No	
3.7.1 Auto-Attendant (Telephone Trees) • Does your proposal include an Auto-Attendant system with Auto-Attendant capabilities?			Yes No	
3.7.2 Mandatory Requirements • Does proposed system include mandatory features as described?			Yes No	
3.7.3 Optional Requirements • Does proposed system include optional requirements available as described?			Yes No	
3.8.1 General – Speech Attendant (optional requirement) • Does your proposal include a centralized Speech Attendant system? • If so, does your proposal include a detailed description of how the Speech Attendant system will inter-act with the other systems proposed in the RFP? • Does the proposed Speech Attendant system have the features and functionality listed in this section?			Yes No Yes No Yes No	
.2 Speech Recognition General • Does proposed system include items as described?			Yes No	

SECTION # FEATURE NAME DESCRIPTION	RESPONSE	REFER TO
3.9 **Internet Protocol Telephony** • Does proposed system support a phased migration to full IP telephony? • Which architecture is proposed, hybrid or full IP?	Yes No Hybrid IP	
3.9.2 **Mandatory Requirements** • Does proposed system include mandatory features as described?	Yes No	
3.9.3 **Desktop Handsets** • Does proposal include requirements as described for IP handsets?	Yes No	
3.9.4 **Quality of Service** • Is the quality of service specifications included in the proposed system?	Yes No	
3.9.5 **Protocols** • Does proposed system meet minimum compliancy? • Does proposal explain the purchasing of licenses and call routing capabilities inherent to SIP?	Yes No Yes No	
3.9.6 **Applications** • Is proposed system compatible with Microsoft Office Suite functions? • Does proposal explain capabilities, features, tools and additional applications?	Yes No Yes No	
3.9.7 **Network Assessment** • Does proposal include a pre-deployment network assessment?	Yes No	
3.10.1 **Wireless Telecommunications – General** (optional requirement) • Does proposal include interface to commercial wireless handsets?	Yes No	
3.10.3 **Mandatory Requirements** • Does proposal meet mandatory requirements of this section?	Yes No	
4.1.1 **General – Project Management** • Does the proposal include the description of activities and staffing requirements as described?	Yes No	
4.1.2 **Installation Plan: Flash or Phased** • Which installation plan was proposed, Flash or Phased cutover?	Flash Phased	
4.1.3 **Transparency** • Does the proposal achieve the desired transparency to the system users as described?	Yes No	
4.1.4 **Work Responsibility Matrix** • Does the proposal include the matrix, name and background and project timeline as described?	Yes No	
4.2.1 **General – Installation Requirements** • Does the proposal's turn-key installation plan(s) address both Minimum and Extended options	Yes No	

SECTION #	FEATURE NAME	DESCRIPTION	RESPONSE	REFER TO
2	...ndatory Requirements	• Does proposal include cutover plan as required?	Yes No	
4.3.1	General – Facility Requirements	• Does the proposal explain all space, power and environmental requirements, including physical dimensions of equipment, power requirements, etc.?	Yes No	
4.4.1	General - Training	• Does proposal provide a detailed training program?	Yes No	
4.4.1.1	User Training	• Does proposal include training for each of the unique user groups described?	Yes No	
4.4.1.2	Basic Technical Training	• Does proposal include the topics and depth of training as described?	Yes No	
4.4.1.3	Manufacturer Technical Training	• Does proposal include training so the City staff can be certified by the system(s) manufacturer? • Does proposal explain warranty coverage by having certified City technicians working on the system?	Yes No Yes No	
4.1.4	...ining Materials	• Does proposal include at the three locations and covering all training objectives as described?	Yes No	
4.4.1.5	Onsite Training	• Does proposal describe onsite classroom type training?	Yes No	
4.4.1.6	Helpdesk	• Does proposal include a "helpdesk" function?	Yes No	
4.5.2	Acceptance Plan	• Does the proposal include a detailed acceptance test plan as described?	Yes No	
4.6.1	Standard Warranty	• Does the proposal include a warranty that extends no less than one year from date of system acceptance?	Yes No	
4.6.2	Extended Warranty	• Does the proposal include any extended warranty offer?	Yes No	
4.6.3 & 4.6.4	Emergency/Non-Emergency Requests	• Does the proposal include a warranty that provides the described availability and response?	Yes No	
4.7	Maintenance	Does the proposal include maintenance coverage for one year and annual renewals or multi year terms?	Yes No	
4.7.1 & 4.7.2	Emergency/Non-Emergency Requests			

SECTION #	FEATURE NAME	DESCRIPTION	RESPONSE	REFER TO
• Does the proposal include maintenance coverage that provides the described availability and response?			Yes No	
4.7.3 **"Crash" Kit** • Does the proposal include an onsite "crash" kit, warranty pass-through or upgrade options, liquidated damages, chargeback procedures and explain swap/exchange/escalation procedures?			Yes No	
4.7.4 **Onsite Technician** • Does the proposal include costs and terms to provide for a fully qualified, onsite technician in one month increments?			Yes No	
4.7.5 **Computer Maintenance and Support** • Does the proposal specify terms for maintenance on computer equipment and maintenance procedures and responsibilities?			Yes No	
4.7.6 **First Week in Service** • Does the proposal include a dial-in Helpdesk, on-site technician and on-site trainer staff as described?			Yes No	
4.8 Software Updates • Does the proposal explain the licensing model, costs, and terms of use as described?			Yes No	

3.0 SYSTEM PRICING

ɔposals must include prices for all Minimum and Extended configuration items required. Items 10.0 and 21.0 ɹy be detailed and explained further on a separate attached sheet of 8.5 x 11 paper.

	Line Item	Minimum	Extended
1.0	Central Call Switches/Processors	$	$
2.0	Telephone Sets	$	$
3.0	Infrastructure	$	$
4.0	Voice Messaging	$	$
5.0	Automated Call Distribution	$	$
6.0	Call Accounting	$	$
7.0	Auto Attendant	$	$
8.0	Training	$	$
9.0	Project Management	$	$
10.0	Other: _____	$	$
	Telephone - Pre-tax Total	$	$
	Sales Tax	$	$
	Total Telephone Capital Cost	**$**	**$**
11.0	Maintenance Costs (Year 1)	$	$
?.0	Maintenance Costs (Year 2)	$	$
ı3.0	Maintenance Costs (Year 3)	$	$
	Total Operating Costs	$	$
14.0	Data Network System	$	$
	Data - Pre-tax Total	$	$
	Sales Tax	$	$
	Total Data Network Capital Cost	**$**	**$**
15.0	Maintenance Costs (Year 1)	$	$
16.0	Maintenance Costs (Year 2)	$	$
17.0	Maintenance Costs (Year 3)	$	$
	Total Operating Costs	$	$
18.0	Integrated Voice Response	$	$
19.0	Speech Attendant Option	$	$
20.0	Wireless Phone Option	$	$
21.0	Other: _____	$	$
	Add-ons - Pre-tax Total	$	$
	Discount	$	$
	Trade-in Credit	$	$

	Line Item	Minimum	Extended
	Sales Tax	$	$
	Total Add-ons Capital Cost	**$**	**$**
22.0	Maintenance Costs (Year 1)	$	$
23.0	Maintenance Costs (Year 2)	$	$
24.0	Maintenance Costs (Year 3)	$	$
	Total Operating Costs	$	$
	Total Capital costs without add-ons	**$**	**$**
	Total Capital costs with add-ons	**$**	**$**
	Total Capital and Operating costs without add-ons	**$**	**$**
	Total Capital and Operating costs with add-ons	**$**	**$**

ATTACHMENT

ΓATE OF CALIFORNIA

BIDDER'S AFFIDAVIT

COUNTY OF LOS ANGELES

_____ being first duly sworn, deposes and says:

1. That he/she is the _____ of _____
(Title of Office) (Name of Company)

hereinafter called "Bidder", who has submitted to the City of Torrance a bid for

_____;
(Title of BID)

2. That the bid is genuine; that the same is not sham; that all statements of fact in the bid are true;

3. That the bid was not made in the interest or behalf of any person, partnership, company, association, organization or corporation not named or disclosed;

4. That the Bidder did not, directly or indirectly, induce solicit or agree with anyone else to submit a false or sham bid, to refrain from proposing, or to withdraw his bid, to raise or fix the bid price of the Bidder or of anyone else, or to raise or fix any overhead, profit or cost element of the Bidder's price or the price of anyone else; and did not attempt to induce action prejudicial to the interest of the City of Torrance, or of any other Bidder, or anyone else interested in the proposed purchase order;

5. That the Bidder has not in any other manner sought by collusion to secure for itself an advantage over any other Bidder or to induce action prejudicial to the interests of the City of Torrance, or of any other Bidder or of anyone else interested in the proposed purchase order;

6. That the Bidder has not accepted any bid from any subpurchase order or materialman through any bid depository, the bylaws, rules or regulations of which prohibit or prevent the Bidder from considering any bid from any subpurchase order or materialman, which is not processed through that bid depository, or which prevent any subpurchase order or materialman from proposing to any purchase order or who does not use the facilities of or accept bids from or through such bid depository;

7. That the Bidder did not, directly or indirectly, submit the Bidder's bid price or any breakdown thereof, or the contents thereof, or divulge information or data relative thereto, to any corporation, partnership, company, association, organization, bid depository, or to any member or agent thereof, or to any individual or group of individuals, except to the City of Torrance, or to any person or persons who have a partnership or other financial interest with said Bidder in its business.

8. That the Bidder has not been debarred from participation in any state, federal or public works project.

Dated this ____ day of _____, 20_____.

_____
(Bidder Signature)

_____
(Title)

Attachment 1

PERFORMANCE BOND

KNOW ALL MEN BY THESE PRESENTS:

That we, _____as Principal(s) and _____a corporation, incorporated, organized, and existing under the laws of the State of _____, and authorized to execute bonds and undertakings and to do a general surety business in the State of California, as Surety, are jointly and severally held and firmly bound unto the City of Torrance, a municipal corporation, located in the County of Los Angeles, State of California, in the full and just sum of: _____ Dollars ($_____), lawful money of the United States of America, for the payment of which sum, well and truly to be made, we bind ourselves and our respective heirs, executors, administrators, representative, successors and assigns, jointly and severally, firmly by these presents.

THE CONDITION OF THIS OBLIGATION IS SUCH, that: **WHEREAS,** said Principal(s) have/has entered into, or are/is about to enter into, a certain written contract or agreement, dated as of the _____ day of _____, 20____, with the said City of Torrance for the ***RFP to Furnish Telephone and Voicemail System Replacement,*** B ***2008-09***, all as is more specifically set forth in said contract or agreement, a full, true and correct copy of which is hereunto attached, and hereby referred to and by this reference incorporated herein and made a part hereof;

NOW, THEREFORE, if the said Principal(s) shall faithfully and well and truly do, perform and complete, or cause to be done, performed and complete, each and all of the covenants, terms, conditions, requirements, obligations, acts and things, to be met, done or performed by said Principal(s), including any guarantee period as set forth in, or required by, said contract or agreement, all at and within the time or times, and in the manner as therein specified and contemplated, then this bond and obligation shall be null and void; otherwise it shall be and remain in full force, virtue and effect.

The said Surety, for value received, hereby stipulates and agrees that no amendment, change, extension of time, alteration or addition to said contract or agreement, or of any feature or item or items of performance required therein or thereunder, shall in any manner affect its obligations on or under this bond; and said Surety does hereby waive notice of any such amendment, change, extension of time, alteration, or addition to said contract or agreement, and of any feature or item or items of performance required therein or thereunder.

TRFORMANCE BOND (CONTINUED)

In the event any suit, action or proceedings is instituted to recover on this bond or obligation, said Surety will pay, and does hereby agree to pay, as attorney's fees for said City, such sum as the Court in any such suit, action or proceeding may adjudge reasonable.

EXECUTED, SEALED AND DATED this _____ day of _____, 20____.

CORPORATE SEAL

PRINCIPAL(S):

BY _____

BY _____

CORPORATE SEAL

SURETY:

BY _____

Attachment 2

LABOR AND MATERIAL BOND

KNOW ALL MEN BY THESE PRESENTS:

That we, _____
As Principal(s) and _____ a corporation, incorporated, organized, and existing under the laws of the State of _____, and authorized to execute bonds and undertakings and to do a general surety business in the State of California, as Surety, are jointly and severally held and firmly bound unto:

(a) The State of California for the use and benefit of the State Treasurer, as ex-officio Treasurer and custodian of the Unemployment Fund of said State; and

(b) The City of Torrance, California; and

(c) Any and all persons who do or perform or who did or performed work or labor upon or in connection with the work or improvement referred to in the contract or agreement hereinafter mentioned; and

(d) Any and all materialmen, persons, companies, firms, association, or corporations, supplying or furnishing any materials, provisions, provender, transportation, appliances or power, or other supplies used in, upon, for or about or in connection with the performance of the work or improvement contracted to be executed, done, made or performed under said contract or agreement; and

(e) Any and all persons, companies, firms, associations, or corporations furnishing, renting, or hiring teams, equipment, implements or machinery for, in connection with, or contributing to, said work to be done or improvement to be made under said contract or agreement; and

(f) Any and all persons, companies, firms, associations, or corporations who supply both work and materials;

and whose claim has not been paid by said Principal(s), in full and just sum of _____ Dollars ($_____), lawful money of the United States of America, for the payment of which will and truly to be made, said Principal(s) and said Surety do hereby bind themselves and their respective heirs, executors, administrators, representatives, successors and assigns, jointly and severally, firmly by these presents.

LABOR AND MATERIAL BOND (CONTINUED)

THE CONDITION OF THE FOREGOING OBLIGATION IS SUCH, THAT: WHEREAS, said Principal(s) have/has entered into or are/is about to enter into a certain written contract or agreement, dated as of the _____ day of _____20 ___, with the City of Torrance for the ***RFP to Furnish Telephone and Voicemail System Replacement,*** B ***2008-09***, all as is more specifically set forth in said contract or agreement, a full, true and correct copy of which is hereunto attached, and hereby referred to and by this reference incorporated herein and made a part hereof;

NOW, THEREFORE, if the said Principal(s) (or any of his/her, its, or their subcontractors) under said contract or agreement fails or fail to pay:

(1) For any materials, provisions, provender, transportation, appliances, or power, or other supplies; or

(2) For the hire of any teams, equipment, implements, or machinery; or

(3) For any work or labor; supplies, furnished, provided, used, done or performed in, upon, for or about or in connection with the said work or improvement; or

(4) For amounts due under the Unemployment Insurance Act of the State of California with respect to such work or improvement;

ɜ Surety on this bond will pay the same in an amount not exceeding the sum hereinabove specified ın this bond; and, also, in case suit is brought upon this bond, said Surety will (and does hereby agree to) pay a reasonable attorney's fee, to be fixed and taxed as costs, and included in the judgment therein rendered.

This bond shall (and it is hereby made to) insure to the benefit of any and all persons entitled to file claims under Section 1192.1 of the Code of Civil Procedure of the State of California, so as to give a right of action to them or their assigns in any suit brought upon this bond, all as contemplated under the provisions of Section 4205 of the Government Code, and of Chapter 1 of Title 4 of Part 3 of the Code of Civil Procedure, of the State of California.

This bond is executed and filed in connection with said contract or agreement hereunto attached to comply with each and all of the provisions of the laws of the State of California above mentioned or referred to, and of all amendments thereto, and the obligors so intend and do hereby bind themselves accordingly.

LABOR AND MATERIAL BOND (CONTINUED)

The said Surety, for value received, hereby stipulates and agrees that no amendment, change, extension of time, alteration, or addition to said contract or agreement, or of any feature or item or items of performance required therein or thereunder, shall in any manner affect its obligations on or under this bond; and said Surety does hereby waive notice of any such amendment, change, extension of time, alteration, or addition to said contract or agreement, and of any feature or item or items of performance required therein or thereunder.

EXECUTED, SEALED AND DATED this _____ day of _____, 20 ___

CORPORATE SEAL

PRINCIPAL:

BY _____

CORPORATE SEAL

SURETY:

BY _____

NON-DISCLOSURE AND CONFIDENTIALITY AGREEMENT

This Non-Disclosure and Confidentiality Agreement ("Agreement") is made and entered into as of ***[insert date]*** (the "Effective Date"), by and between the City of Torrance, a municipal corporation ("City"), and ***[insert bidders name]***, a California Corporation ("*Bidder*").

RECITALS:

A. The City wishes to obtain a proposal from the *Bidder* to provide a telephone and voicemail system replacement (RFP Bid No. 2008-09).

B. The nature of the proposal requested in the RFP will require the execution of a Non-Disclosure and Confidentiality Agreement.

AGREEMENT:

1. Confidentiality Agreement

In consideration of *Bidder* being made privy to confidential information belonging to the City, the party receiving such information agrees not to disclose this information to third parties or to use it for any purpose other than that for which it is received. *Bidder* shall treat any information received as confidential and proprietary to the City.

2. Confidential Information

a. Information to be treated as confidential includes all information relating to the concepts, planning, development, production, marketing, distribution, internal procedure, and all other aspects of the business of the City.

b. *Bidder* acknowledges and agrees that the information, materials and documents received from the City represents independent economic value and potential economic value from not being generally known to the public or to other persons who may derive economic value from its disclosure or use.

3. Proprietary Interest

Bidder shall use and maintain all information set forth above as trade secret and confidential proprietary information of the City and shall use and maintain such information in strictest confidence.

4. Non-Disclosure

Bidder shall not disclose any confidential information of the City to any third party or entity. *Bidder* shall not duplicate, reproduce or copy confidential information without the City's prior written consent. Upon termination of the business relationship anticipated by the parties hereto, *Bidder* shall promptly return to the City all copies, in any form whatsoever, of any confidential information or material.

5. Costs and Attorney Fees

If any legal action, suit or proceeding relating to this Agreement is brought or initiated, the prevailing party shall be entitled to recover its court costs and reasonable attorneys' fees from the other party.

6. Severability

If any provision of this Agreement or the application of any such provision shall be held by a court or tribunal of competent jurisdiction to be void or unenforceable for any reason, the remaining provisions of this Agreement shall remain in full force and effect.

7. Entire Agreement

This Agreement constitutes the entire agreement between the parties hereto in connection with the subject matter hereof and supersedes all prior and contemporaneous agreements, understandings, negotiations or discussions, whether oral or written, of the parties. There are no understandings between the parties hereto except as set forth herein.

8. Choice of Law

This Agreement and all matters set forth herein shall be construed and interpreted in accordance with the laws of the State of California.

9. Notification

Bidder shall promptly notify the City in writing of any unauthorized release, disclosure or use of any of the City's confidential information or material, setting forth therein with peculiarity the circumstances of such event.

10. Injunction

Bidder acknowledges and agrees that any breach of this Agreement would cause irreparable harm to the City due to the unique nature of the City's confidential information. That this injury to the City would be extremely hard to assess in monetary damages and that such damages would be an insufficient remedy and that therefore, in the event of any such breach, the City should be awarded immediate temporary and permanent injunctive relief.

11. Subscription

a. In the event this Agreement is presented with or prior to the confidential information set forth herein and *Bidder* is unable to, or does not, confirm subscription to the Agreement by the City, *Bidder* expressly agrees to be bound by all of the terms and conditions of this Agreement upon *Bidder*'s examination or review of the enclosed, attached or disclosed confidential information, even in the event that the City does not execute this Agreement.

b. *Bidder* further agrees that it shall not disclose or divulge any confidential information of the City to any individual employee, consultant or agent of *Bidder* not directly involved in preparing a response to the proposal until such each individual employee, consultant or agent had executed a separate copy of this Agreement and becomes individually and personally bound by all of the terms and conditions of this Agreement.

12. Representatives

For purposes of this Agreement, the following named individuals on behalf of both parties shall be authorized to distribute and receive all information referred to in this Agreement.

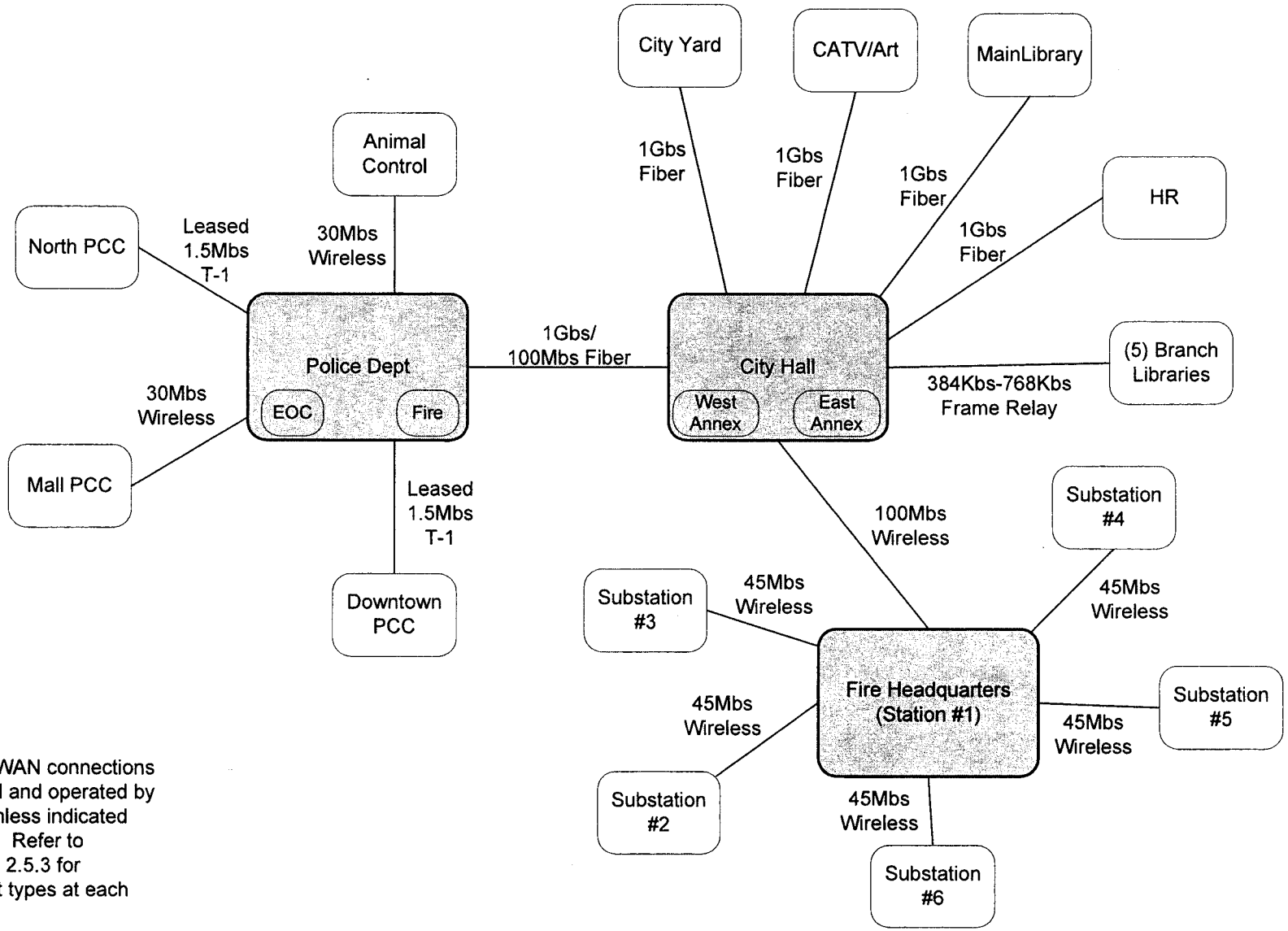
.y of Torrance:	***[insert bidders name]***
X	X
X	X

13. Authority to Execute

The persons executing this Agreement on behalf of *Bidder* warrant that (i) *Bidder* is duly organized and existing; (ii) they are duly authorized to execute this Agreement on behalf of *Bidder*; (iii) by so executing this Agreement, *Bidder* is formally bound top the provisions of this Agreement; and (iv) the entering of this Agreement does not violate any provisions of any other Agreement to which *Bidder* is bound.

City of Torrance, a Municipal Corporation	For ***[insert bidders name]***, a California Corporation
By:	By:
Name:	Name:
Title:	Title:
ıte:	Date:

CITY OF TORRANCE NETWORK DIAGRAM



Note: All WAN connections are owned and operated by the City unless indicated otherwise. Refer to paragraph 2.5.3 for equipment types at each location.

Attachment A
(Paragraph 2.1 and 2.5.2)

ATTACHMENT B
(Paragraph 3.2.21)

ACCESS CODE SHEET

NEAX 2400 Feature Access Code Listing

Call Forward All Calls (Set) ..... *0 + Destination
Call Forward All Calls (Cancel) ..... #0
Call Forward Busy (Set) ..... *1 + Destination
Call Forward Busy (Cancel) ..... #1
Call Forward No Answer (Set) ..... *2 + Destination
Call Forward No Answer (Cancel ..... #2

Callback/Trunk Queue (Set) ..... Flash + *4
Callback/Trunk Queue (Cancel) ..... #4

Call Pick-Up (Group) *5
Directed Call Pick-Up ..... *9 + Ext. #

Call Park Set ..... Flash + *6
Call Park Retrieve ..... #5
Call Park Remote Retrieve ..... #6 + Ext. #

Call Hold (Activate) ..... Flash + *8
Call Hold Retrieve ..... Replace Handset

System Speed Access ..... *7 + (000-999)

Last Number Dialed ..... **

TAS (Night Bell Access at PD) ..... #9

ZONE PAGING:
Fire Station #1 80
Fleet Services 83
Park Services 84
Police Department 88
Street Department 85
Transit Department (outside) 86
Transit Department (inside) 87
Central Services 1652

DIALING INSTRUCTIONS:

- Outside Dialing: Dial "9" Followed by the desired #.
- Internal Dialing: Dial 4-digit extension number.
- Operator/Receptionist (Located at City Hall); Dial "0".

All access codes listed above can be used by either single line telephones or multiline telephones without one of these particular features designated on a one-touch key. The call hold feature code is used strictly for single line instruments due to the fact they do not have "red" hold buttons. The callback feature code can only be activated from single line instruments. Should your multiline telephone not have a dedicated "callback" key, you may still utilize this feature by following the instructions outlined in the user guide. Any frequently used feature code can be programmed on a speed dial key for your convenience. The dialing instructions are the same for all types of instruments.

ATTACHEMENT C
(Paragraph 2.4.7)

DIALING RESTRICTION CLASS CHART

CHART A

RSC Number	Dialing Capabilities	Remarks
1	Completely unrestricted. This RSC can dial anywhere in the world and can also dial the local and long distance operators.	Use cautiously. Usually assigned to Dept heads, Managers and Admin Secretary's only
2	North America. This RSC can dial almost anywhere on the North American continent including some countries in Central and South America. This also includes Countries in the Caribbean.	Most common. Usually assigned to clerical, Supervisors, technical staff, etc.
3	California only. This RSC allows calls only to area codes in California.	Common. Used for shop phones, temporary staff, counter phones
4	Southern California. This RSC allows calls to area codes anywhere in the Southern California areas. Approximate range is the coastline to the west, California/Nevada – Arizona border to the east and the California/Mexican border to the south.	Very Common. Used for staff phones, clerical phones, shop phones and counter phones
5	Los Angels/Orange County. This RSC allows calls to area codes in the Los Angels and Orange County areas.	Very common. Used for counter phones, shop phones, break room phones
6	Local Area Dialing. This RSC limits calls to the local area codes without going into the Ventura, Orange or San Bernardino Counties. These include 213, 310, 323, 562.	Very common. Used for counter phones, shop phones, break room phones
7	Completely Restricted. This RSC limits calls to in-house calls only (extension to extension).	Common. Used for counter phones, modems (toll-free dialing), break room phones, vacant phones (no staff currently using)

CHART B

Misc. Dialing Capabilities	RSC
Outside Operator "0"(local)	RSC 1 only
Outside operator "00" (long distance)	RSC 1 only
Extension to extension dialing	All RSC's
911 dialing	All RSC's
Toll-free dialing (800, 877, 888, etc.)	All RSC's
Calling card calling	All RSC's

Police Department Only
All phones in the Police Department building have the dialing capability options mentioned above in Chart A. As an added option, they also have the ability to allow or not allow access to the buildings over-head PA system. In order to do this, an RSC request for a Police Department phone should also indicate if this paging ability is desired or not. CIT will then make the proper adjustments.

ATTACHMENT D
(Paragraph 4.2.3)

SAMPLE CUTOVER SCHEDULE

Cutover Schedule and Priorities
The timeframes mentioned assume a single "Flash Cutover". If a "Phased Cutover" is implemented, the time frames still apply.

Cutover process begins at 9:00 PM Thursday evening prior to a 3-day weekend

Within ten (10) minutes of Cutover (9:10 PM Thursday evening)
- Restore DID business extensions on Police and Fire E911 telephone systems
- Restore DID OPX extensions to Fire department substations

Within thirty (30) minutes of Cutover (9:30 PM Thursday evening)
- Restore ability for remaining DID extensions to receive DID PSTN telephone calls
- Restore ability for extensions to make (originate) PSTN telephone calls
- Restore extensions to the City's elevators, fire alarm panels, and parking lot gate controllers
- Have all identified priority telephone sets installed and functioning at the Police Department and the Fire Department.
- Have several phones installed and working in the Transit dispatch office at the City Yard

Within four (4) hours of cutover (1:00 AM Friday morning)
- Have the Voicemail system on-line and the Auto-Attendant function answering calls on the department's published lines
  Have the Voicemail system answering forwarded calls from extensions and taking messages into mailboxes
- Have the Voicemail system answering PSTN calls for users calling in
- Call Accounting system logging incoming and outgoing call information

Within twenty four (24) hours of Cutover (9:00 PM Friday evening)
- Have all telephone sets installed and tested at the Police Department
- Have all telephone sets installed and tested at the Fire Department
- Have City Hall third floor telephones installed and tested (City Manager, City Council, City Attorney)
- Have fifty percent (50%) of the remaining telephone sets installed and tested at the core sites

Within forty eight (48) hours of Cutover (9:00 PM Saturday evening)
- Have ninety percent (90%) of the remaining telephone sets installed and tested at the core sites

Within seventy two (72) hours of Cutover (9:00 PM Sunday evening)
- Have ninety nine percent (99%) of the telephone sets installed and tested
- Have the Voicemail system one hundred percent (100%) operational
- Have the Call Accounting system one hundred percent (100%) operational
- Have all Telco services one hundred percent (100%) operational

Telephone System Traffic

(Average/Typical)

System

Core Locations

	Monday		Tuesday		Wednesday		Thursday		Friday		Saturday		Sunday	
	Out	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out	In
City Hall	1,365	3,673	1,275	3,429	1,240	3,904	1,266	3,505	1,062	3,221	26	492	3	323
Police Department	1,233	1,540	1,422	1,622	1,074	1,526	1,229	1,629	928	1,573	385	615	140	264
City Yard	420	543	485	519	429	466	454	450	346	359	42	145	16	53
Fire Headquarters	59	171	76	187	62	155	101	176	94	144	23	68	23	31
Airport	45	66	69	67	68	79	53	89	37	45	8	24	14	19
Totals by Call Type	*3,122*	*5,993*	*3,327*	*5,824*	*2,873*	*6,130*	*3,103*	*5,849*	*2,467*	*5,342*	*484*	*1,344*	*196*	*690*
Core Total by Day	**9,115**		**9,151**		**9,003**		**8,952**		**7,809**		**1,828**		**886**	

Satellite Locations

	Monday		Tuesday		Wednesday		Thursday		Friday		Saturday		Sunday	
	Out	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out	In
Fire Station 2	30	25	30	25	30	25	30	25	30	25	30	25	30	25
Fire Station 3	30	25	30	25	30	25	30	25	30	25	30	25	30	25
Fire Station 4	30	25	30	25	30	25	30	25	30	25	30	25	30	25
Fire Station 5	30	25	30	25	30	25	30	25	30	25	30	25	30	25
Fire Station 6	30	25	30	25	30	25	30	25	30	25	30	25	30	25
El Retiro Library	25	30	25	30	25	30	25	30	25	30	25	30	5	10
Henderson Library	25	30	25	30	25	30	25	30	25	30	25	30	5	10
North Torrance Library	25	30	25	30	25	30	25	30	25	30	25	30	5	10
South-East Library	25	30	25	30	25	30	25	30	25	30	25	30	5	10
Walteria Library	25	30	25	30	25	30	25	30	25	30	25	30	5	10
Animal Control	15	41	15	41	15	41	15	41	15	41	15	41	3	10
Bartlett Center	25	50	25	50	25	50	25	50	25	50	25	50	10	50
Del Amo Mall Police Center	35	28	35	28	35	28	35	28	35	28	45	35	45	35
Downtown Police Center	25	18	25	18	25	18	25	18	25	18	10	10	10	10
North Torrance Police Center	12	120	12	120	12	120	12	120	12	120	15	25	15	25
Madrona Marsh	25	35	25	35	25	35	25	35	25	35	35	45	20	10
Skate Park*	20	30	20	30	20	30	20	30	20	30	20	30	20	30
Sport Center	45	30	45	30	45	30	45	30	45	30	45	30	45	30
Teen Center*	20	30	20	30	20	30	20	30	20	30	20	30	20	30
Totals by Call Type	*497*	*657*	*497*	*657*	*497*	*657*	*497*	*657*	*497*	*657*	*505*	*571*	*363*	*405*
Satellite Total by Day	**1,154**		**1,154**		**1,154**		**1,154**		**1,154**		**1,076**		**768**	

NOTES:

- All call counts are approximate
- Outgoing calls is a combination of outgoing PSTN calls and outgoing Station-to-station calls when stations are present (fire stations, etc.)
- Incoming calls is a combination of Incoming PSTN calls and Station-to-station calls when stations are present (fire stations, etc.)
- Call counts on business days may vary by 10% or more between days
- Call counts on closed days and weekends may vary by 50%
- Occasionally various programs may cause call counts (in and out) to increase by 200% or more for several days or weeks
- Mondays are typically the busiest days especially after 3-day weekends where the City has been closed on the previous Friday
- Busiest times for incoming call traffic is 10:30 am - 12:00 pm and 1:30 pm - 3:30 pm
- Outgoing call traffic is typically evenly spread out throughout the business day
- *Location is seasonal (traffic heavy in summer, low in fall/winter/spring) number indicated is monthly average based on a 12-month period.

ATTACHMENT E
(Paragraph 2.4.5)

City of Torrance Telephone System Trunking Inventory by Location
(4/

Location	DID (Analog trunk)	DDD In-Only trunk	DDD Out-Only trunk	DDD In/Out trunk	1MB/1ML	OPX	Ringdown (telco)	Totals	Remarks
City Hall	24	23 (note 1)	15	0	0	0	0	39	
Police Department	16	0 (note 2)	15	0	0	0	0	31	
City Yard	8	0	8	0	0	0	0	16	
Fire Headquarters	8	0	5	0	0	0	0	13	
Airport	8	0	4	0	0	0	0	12	
Fire Station #2	0	0	0	0	1	1	1	3	OPX originates from FD HQ , Ringdown to PD 911 system
Fire Station #3	0	0	0	0	1	1	1	3	OPX originates from FD HQ , Ringdown to PD 911 system
Fire Station #4	0	0	0	0	1	1	1	3	OPX originates from FD HQ , Ringdown to PD 911 system
Fire Station #5	0	0	0	0	1	1	1	3	OPX originates from FD HQ , Ringdown to PD 911 system
Fire Station #6	0	0	0	0	2	1	1	4	OPX's originates from FD HQ , Ringdown to PD 911
El Retiro Library	0	0	0	0	2	0	0	2	
Henderson Library	0	0	0	0	2	0	0	2	
North Torrance Library	0	0	0	0	2	0	0	2	
South-East Library	0	0	0	0	2	0	0	2	
Walteria Library	0	0	0	0	2	0	0	2	
Animal Control	0	0	0	0	0	5	0	5	OPX's originate from PD PBX system
Bartlett Center	0	0	0	0	5	1	0	6	OPX originates from City Hall PBX system
Del Amo Mall Police Center	0	0	0	0	4	0	0	4	
Downtown Police Center	0	0	0	0	2	4	0	6	OPX's originate from PD PBX system
North Torrance Police Center	0	0	0	0	2	2	0	4	
Madrona Marsh	8	0	0	0	6	0	0	14	
Skate Park	0	0	0	0	3	0	0	3	
Sports Center	0	0	0	0	4	1	0	5	OPX originates from City Hall PBX system
Teen Center	0	0	0	0	6	0	0	6	
Totals	**72**	**0**	**47**	**0**	**48**	**18**	**5**	**190**	

Inter-office Trunking (notes 3, 4, 5,)		
Between	**Current Quantity**	**Remarks**
City Hall - Police Department	48	48 direct, City Yard shares to City Hall
City Hall - Fire Department	48	24 direct, 24 through Police Department
City Hall - Airport	24	24 direct
City Hall - City Yard	48	0 direct, all operate through Police Department
Police Department - City Yard	48	Direct
Police Department - Fire Departme	48	24 direct, 24 through City Hall

Notes

1) 13 of these trunks are for Police department (310-328-3456) in rotary and 10 are for City Hall (310-328-5310) in rotary and are answered at Attendant console at City Hall
2) Incoming trunks for PD are wired to City Hall PBX and are answered at City Hall Attendant console and are transferred to Police Department. See note 1
3) Current inter-office trunks carry 4-digit station-to-station voice calls, call handling information and transferred PSTN calls between PBX's and peripheral systems (Voicemail, Call Accounting, E-911 PS/ALI, etc.)
4) Inter-office trunks are individual DS0 channels on T-1 circuits between locations. In most cases, 23 channels handle Voice, 1 channel handles call handling information. All operate both way
5) City Yard inter-office trunks connect to Police Department and shares inter-office trunks with Police Department to City Hall
6) Core locations with no direct inter-office trunks between them go through other locations with direct connections (i.e. City Yard to Fire Department, City Yard to Airport, etc.)

ATTACHMENT F
(Paragraph 2.4.2)

City of Torrance Telephone Instrument Inventory by Location
(4/2/08)

				NEC Series II Telephones			NEC Series E Telephones			NEC Elite Telephones		Misc Manufacturers Telephones			
Location	Manufacturer	Analog Stations (note 1)	Cordless Phones (note 2)	6-Button (note 3)	16-Button (note 4)	24-Button Add-On Module (note 5)	16-Button Series E (note 6)	32-Button Series E (note 7)	60-Button DSS/BLF (note 8)	16-Button Elite (note 9)	32-Button Elite (note 10)	10-Button Toshiba (note 11)	20-Button Toshiba (note 11)	12-Button Panasonic (note 11)	Totals
City Hall	NEC 2400 IMG	201	5	330	66	16	0	25	3						646
Police Department	NEC 2400 IMG	170	6	308	31	6	45	20	0						586
City Yard	NEC 2400 SIM	54	2	132	18	0	0	23	10						239
Fire Headquarters	NEC 2400 SIM	29	3	26	6	2	0	4	0						70
Airport	NEC 2400 SIM	14	0	15	9	0	0	0	0						38
Fire Station #2	NEC Elite 48										6				6
Fire Station #3	NEC Elite 48										6				6
Fire Station #4	NEC Elite 48										6				6
Fire Station #5	NEC Elite 48										6				6
Fire Station #6	NEC Elite 48										15				15
El Retiro Library	NEC Elite 48										6				6
Henderson Library	NEC Elite 48										6				6
North Torrance Library	NEC Elite 48										6				6
South-East Library	NEC Elite 48										6				6
Walteria Library	NEC Elite 48										6				6
Animal Control	Toshiba CTX											7	1		8
Bartlett Center	NEC Elite 48										14				14
Del Amo Mall Police Center	Toshiba DK											20	2		22
Downtown Police Center	Toshiba DK											6			6
North Torrance Police Center	Toshiba DK											5	3		8
Madrona Marsh	NEC Elite 48										15				15
Skate Park	NEC Elite 192										5				5
Sports Center	Toshiba DK											4	1		5
Teen Center	Panasonic DBS													8	8
Totals		468	16	811	130	24	45	72	13		103	42	7	8	1739

Notes

1) Quantity indicates analog ports on PBX systems respectively. Existing equipment using analog lines will not need to be changed (2500, 2554, fax, modem, gate controller, alarm panel, Etc.)
2) This item includes stand-alone cordless phones, cordless phones in series of a digital phone and wired phones with cordless handsets. All phones have 4-line button capacity except cordless handset phone
3) These phone instruments have 6 buttons capable of lines and/or features and 10 buttons dedicated to one-touch speed dial (regular staff)
4) These phone instruments have 16 buttons capable of lines and/or features and 20 buttons dedicated to one-touch speed dial Clerical Support
5) This device connects directly to a Series II telephone set and has 24 buttons that can be used for line appearances (BLF) but not DSS functions
6) These phone instruments have 16 buttons total, capable of lines/features/one-touch speed dial. There are no additional buttons dedicated for one-touch speed dial
7) These phone instruments have 32 buttons total, 16 capable of lines/features and/or one-touch speed dial and 16 dedicated to one-touch speed dial
8) This device works with a regular Series E telephone and acts as a DSS/BLF for an additional 60 line appearances. This device is only used by clerical staff that must support many users (extensions)
9) See note 6
10) See note 7
11) These telephone instruments have various button arrangements and capabilities. Toshiba phones have 10 and 20 buttons only respectively. The Panasonic phones have line buttons and separate one-touch buttons

General

All phones listed have either 2 or 3 line display windows including the cordless phones
Secretary and clerical staff tend to have phones with larger button quantities to accommodate additional lines and to act as BLF's for people they support
All phones listed also have typical fixed buttons such as Hold, Transfer, Speaker, Conference, Volume up/down, Etc.. which is not included in button quantity

ATTACHMENT G
(Paragraph 3.2.2.30)

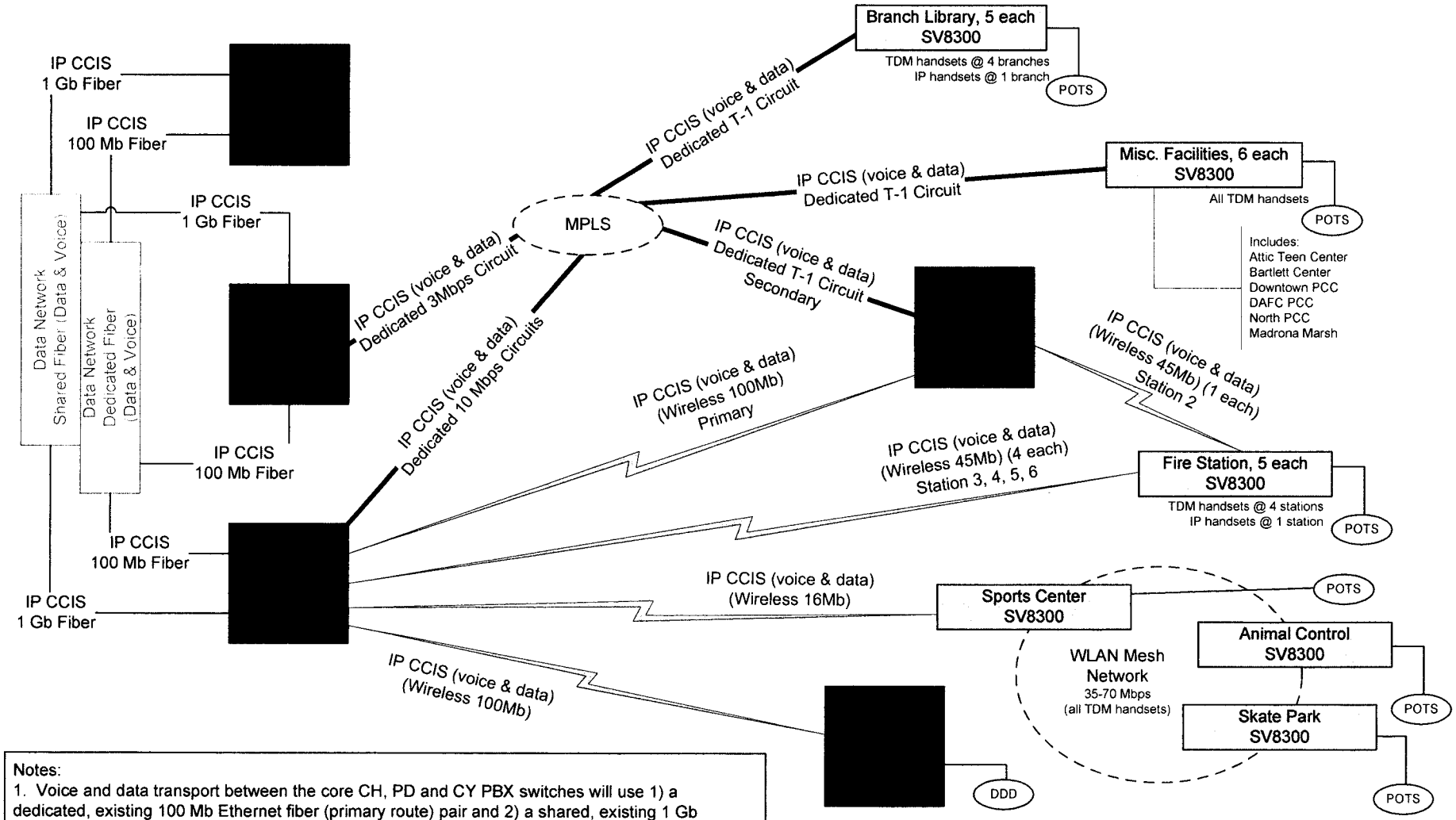
ATTACHMENT H
(Paragraph 3.2.2.13.3)

City of Torrance
Telephone Extensions by Location
(as of September 2007)

Extension	Prefix	Area Code	Location
2400 – 2499	618	310	City Hall
2500 – 2599	618	310	City Hall
2700 – 2799	618	310	City Hall
2800 – 2899	618	310	City Hall
2900 – 2999	618	310	City Hall
3900 – 3999	618	310	City Hall
5800 – 5899	618	310	City Hall
5900 – 5999	618	310	City Hall
7500 – 7599	781	310	City Hall
7600 – 7699	781	310	City Hall
2300 – 2399	618	310	Police Department
3800 – 3899	618	310	Police Department
5500 – 5599	618	310	Police Department
5600 – 5699	618	310	Police Department
5700 – 5799	618	310	Police Department
6300 – 6399	618	310	Police Department
6500 – 6599	224	310	Police Department
7100 – 7199	781	310	Police Department
3000 – 3099	618	310	City Yard
6200 – 6299	618	310	City Yard
6900 – 6999	781	310	City Yard
7000 – 7099	781	310	Fire Headquarters
7900 – 7999	784	310	General Aviation Center

Total of 2500 extensions

System Design Diagram

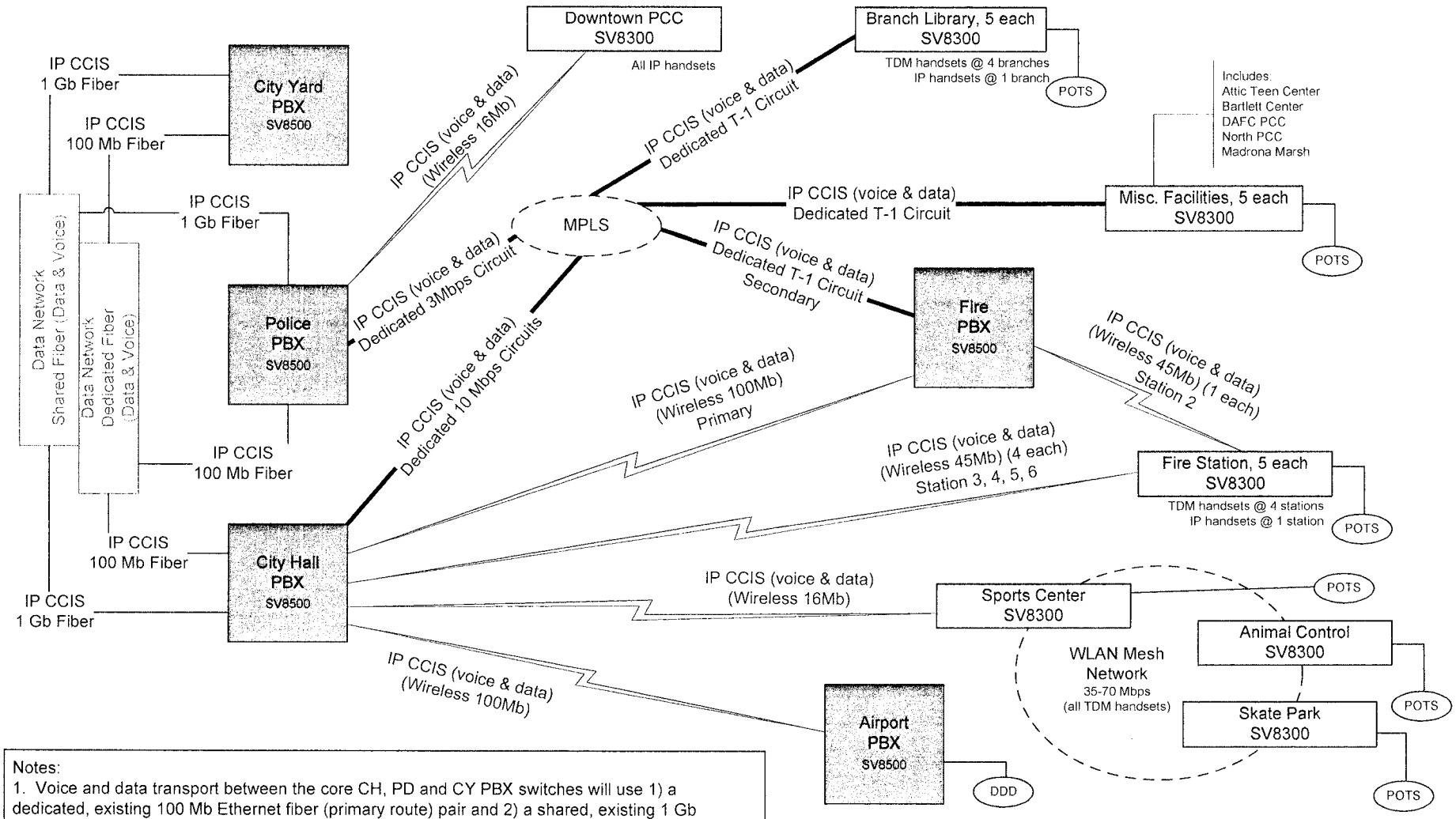


Notes:
1. Voice and data transport between the core CH, PD and CY PBX switches will use 1) a dedicated, existing 100 Mb Ethernet fiber (primary route) pair and 2) a shared, existing 1 Gb Ethernet fiber (secondary route) port.
2. After the fiber optic infrastructure is upgraded sometime in Summer 2009, the dedicated 100 Mb pair will be either 1) replaced by a 1 Gb path or 2) deleted without replacement in favor of passing all traffic via the shared data network. The fiber upgrade will include path redundancies built-into the data network.
3. The core CH, PD and CY PBX switches must be operational first and successfully operate for at least one week before satellite locations can be migrated.

Attachment I
(Paragraph 3.1.1.3)

System Design Diagram

(10/9/08)



Notes:

1. Voice and data transport between the core CH, PD and CY PBX switches will use 1) a dedicated, existing 100 Mb Ethernet fiber (primary route) pair and 2) a shared, existing 1 Gb Ethernet fiber (secondary route) port.
2. After the fiber optic infrastructure is upgraded sometime in Summer 2009, the dedicated 100 Mb pair will be either 1) replaced by a 1 Gb path or 2) deleted without replacement in favor of passing all traffic via the shared data network. The fiber upgrade will include path redundancies built-into the data network.
3. The core CH, PD and CY PBX switches must be operational first and successfully operate for at least one week before satellite locations can be migrated.

Attachment I
(Paragraph 3.1.1.3)

ADDENDUM #1

CITY OF TORRANCE
3031 Torrance Blvd.
Torrance, CA 90503

RFP B2008-09

Request for Proposal to Furnish Telephone and Voicemail System Replacement

THE FOLLOWING CHANGES AND/OR ADDITIONS ARE HEREBY INCORPORATED INTO AND MADE A MANDATORY PART OF THE SUBJECT REQUEST FOR PROPOSAL:

1. **MODIFICATION: All responses must include the following components:**
   Cover Page. Replace with the following:

   - Vendors Response (Section III of this document)
     You must submit your response on the forms provided. If additional space is required, please attach additional pages.
   - Performance Bond (Attachment 1)
   - Labor and Material Bond (Attachment 2)
   - Non-Disclosure Agreement (Attachment 3)

2. **MODIFICATION: ATTACHMENTS**
   Table of Contents. Replace with the following:

   ATTACHMENTS

1	Performance Bond
2	Labor and Material Bond
3	Non-Disclosure Agreement
A	Network Diagram (2.1 & 2.5.2)
B	Access Code Sheet (3.2.2.1)
C	Dialing Restriction Class Chart (2.4.7)
D	Cutover Schedule (4.2.3)
E	Summary of Incoming/Outgoing Traffic on Core PBX and Satellite Locations (2.4.5)
F	System Trunking Inventory by Location (2.4.2)
G	Telephone Instrument Inventory (3.2.2.30)

3. **CORRECTION: First paragraph**
   Page 1. Replace with the following:

   Notice is hereby given that sealed RFPs will be received in the office of the City Clerk, City Hall, 3031 Torrance Boulevard, Torrance, CA, until 2:00 p.m. on Thursday, **May 15**, 2008, and will be opened and publicly read aloud at 2:15 p.m. on the same date in the Council Chambers, Torrance City Hall. You are invited to be present at the opening of proposals. An original and two copies of the proposal price proposal pages must be submitted in a sealed envelope and clearly marked: "RFP TO FURNISH TELEPHONE AND VOICEMAIL SYSTEM REPLACEMENT RFP B2008-**09**".

4. **CORRECTION: RFP Form**
   Page 1. Replace with the following

The proposal must be made on the form provided for that purpose, enclosed in a sealed envelope, and marked "RFP to Furnish Telephone and Voicemail System Replacement, B2008-09" and addressed to the City Clerk, City of Torrance, 3031 **Torrance Blvd.,** Torrance CA. 90503. If the RFP is made by an individual, it must be signed by that individual, and an address, telephone (and fax number if available) must be given. If made by a business entity, it must be signed by the person(s) authorized to execute agreements and bind the entity to purchase orders. A full business address, telephone (and fax number if available) must be given. No telegraphic, fax or telephonic proposal will be considered.

5. **ADD: Execution of Contract**
Page 5. Add the following:

Execution of contract
After the contract is awarded, the Contractor must execute the following two (2) documents:
1. Performance Bond (100% of Bid) – Attachment 1
2. Labor and Material Bond (100% of Bid) – Attachment 2

6. **CHANGE: Non-Disclosure Agreement (NDA)**
Page 5. Replace with the following:

Because the nature of IP telephony systems required a detailed understanding of the telephone and network architecture for implementation proposes, vendors are required to complete an NDA (Attachment **3**) as a condition of award

7. **CHANGE: Schedule of Events Calendar**
Page 6. Replace with the following:

Contract Awarded	September **16**, 2008 At 7:00 PM PST

8. **ADD: Section 2.4.2 Telco Services (General)**
Page 22. Include the following new paragraph:

Refer to Attachment F (Trunking Inventory List) for current trunking quantities per location.

9. **ADD: Section 3.1.1.8 Redundancy – Equipment**
Page 25: Include the following new paragraphs:

The systems proposed for the five core sites should be capable of and be configured in dual configurations. Any equipment internal or external to the system which performs critical system operations should be duplicated in the event of a failure. Examples of what could be duplicated within or external to the systems are listed below:

Control System
Central Processing Unit
Memory section (ROM, RAM, system generic, customer memory)
System clock
I/O operation
Alarm section
Interfaces to external systems (SMDR output, Voicemail integration, etc.)

Speech Path System
Time Division Switch
Matrix section (connection points within and between system shelves)

Power System
AC/DC power system (IE rectifier external to system)
DC/DC power system(s) (I.e. shelf power supplies)
Power controllers

It is not necessary to duplicate non-critical sections of the systems such as:

- External battery system (UPS).
- Station cards (digital, analog, etc.)
- Trunk cards (common trunk, digital trunk, dial tone trunk, etc.)
- System administration section

10. **CHANGE: Sections 3.2.1.3.3 & 3.2.1.3.4 System Sizing**
Page 28. Replace with the following:

3.2.1.3.3 Sizing & Capacity for Immediate Growth - The proposal must include "equipped" quantities and capacities necessary to accommodate an additional ten percent (10%) increase in TDM handsets, trunks, ports, etc. Percentage calculated based on existing quantities per facility.

3.2.1.3.4 Sizing & Capacity for Long-Term Growth - The proposal must include the "wired" quantities and capacities necessary to accommodate an additional fifty percent (50%) increase in IP handsets, trunks, ports, etc. Percentage calculated based on existing quantities per facility

11. **ADD: Section 3.2.2.24 Non-Blocking Switching**
Page 33. Include the following new paragraphs:

The architecture of the proposed TDM telephone systems at the five core sites and the satellite locations must be such that they are non-blocking in an individual per-system station-to-station sense. It is not expected nor is it desired that they be non-blocking with regard to the PSTN trunking, inter-office trunking or in a "receiving dial tone" sense. Example, there must not be a speech path limitation or time division switching limitation when stations are calling other stations within the same system (location).

In regard to going off-hook and receiving dial tone, see chart below for the total amount of stations within a system that must be able to go off-hook, receive dial tone and place a call simultaneously without being blocked (no dial tone condition). It is assume that DID trunking will share the same circuits.

Location	Off-hook Dial tone (minimum)	
City Hall	24	
Police Department	24	
City Yard	24	
Fire Headquarters	12	
Airport	24	
Satellite facilities	4	(per location)

12. **CHANGE: Section 3.2.2.28 Remote workers**
Page 34. Replace with the following:

The proposed system must be capable of supporting 200, but delivered with ten (10) at cutover, remote worker accounts to access the system using VoIP via a DSL or similar service. A prototypical remote worker will be equipped with a laptop and Internet access. A remote worker shall have access to the same features and functionality provided by their desktop handset using the same extensions (i.e. DID).

3. **ADD: Section 3.2.2.30 Telephone Sets**
Page 34. Include the following new paragraph:

Refer to Attachment G (Telephone Inventory List) for current telephone quantities per location.

14. ADD: Section 3.2.2.31 Tenant Service
Page 35. Include the following new paragraph:

This feature provides for more than one organization (tenants) to share the same PBX. Through system programming, each organization may be restricted to its own Central Office trunks, Attendant console(s), and extensions. In addition, incoming calls can be directed to each specific organization (tenant).

At the time of installation and cutover, the systems should be configured for one single Tenant with the ability to add additional tenants in the future.

15. ADD: New Section 3.2.2.35 OPX Requirements
Page 35 Add the following new section

3.2.2.35 OPX Requirements
The City desires to maintain the current OPX off-premise extension circuits between the core PBX locations and the satellite locations as they are now. The satellite locations must maintain the same telephone numbers as they have now; the equipment proposed must provide analog dial tone service that is compatible with the current telephone company OPX circuits and the current satellite telephone systems if they are not changed out as part of this project

16. CHANGE: Section 3.9.1a Post Cutover Phase
Page 43. Replace with the following:

Post Cutover Phase – After the cutover and acceptance testing forty-five (45) IP telephony handsets (e.g. 35 handsets in CIT Department and 5 handsets at each remote site) and two remote sites (e.g. fire station and branch library) will be in production. These handsets and sites will allow staff the time to learn and adjust to using and supporting VoIP equipment.

THE FOLLOWING QUESTIONS WERE SUBMITTED TO COMMUNICATIONS AND INFORMATION TECHNOLOGY (CIT) DEPARTMENT REGARDING RFP B2008-09. Included are the answers to these questions by CIT. As part of the protocol for the RFP, a copy of the answers is being sent to all known Proposers:

1. *"Will the RFP package and addendums be provided in electronic format?"*

   CIT Response: The RFP package is only available in printed form from the City Clerk's Office. Addendums and other official correspondence will be delivered via USPS or fax. An email message with an addendum attached may be sent in addition to a USPS posting or fax distribution.

2. *"Will detailed lists of existing Cisco network equipment be provided?"*

   CIT Response: A network equipment list is provided is Section 2.5.3 (p. 24). A more detailed equipment list will be provided to those bidders invited to participate in the BAFO phase.

3. *"What quantities and type of handsets and trunks are required at each location?"*

   CIT Response: Refer to revised Section 3.2.2.30, Section 2.1, modified Section 2.4.2, and replaced Section 3.9.1.a. for quantities and types of handsets per location,

4. *"Where shall IP capabilities be installed at cutover?"*

CIT Response: Refer to revised Section 3.9.1 (p. 43).

5. *"What capabilities will the 200 remote workers require?*

CIT Response: Refer to revised Section 3.2.2.28 (p. 34).

6. *"Will information from this meeting be sent via e-mail?"*

CIT Response: Refer to reply #1 above.

7. *"Will "bay-face layouts" of the current system be provided?"*

CIT Response: The current system layouts will not be provided. Existing equipment will not be reused. See also reply to #8 below.

8. *"Must the proposal include all new equipment or can existing equipment be re-used?"*

CIT Response: Refer to Sections 1.1 (p. 14) and 3.1.1.6 (p. 26).

9. *"Will more IVR system requirements be provided?"*

CIT Response: All IVR requirements are provided in Section 3.6 (p. 41). More detailed configuration and interface requirements will be provided to those bidders invited to participate in the BAFO phase.

10. *"Would the City consider a proposal based on a hosted service solution?"*

CIT Response: A premise-based solution is required as outlined in Section 1.1 (p. 14)

11. *"What do you mean by Tenant service?"*

CIT Response: Refer to revised Section 3.2.2.31.

12. *"Is performance or payment bond required for this project?"*

CIT Response: Both a Performance bond and Payment Bond are required. Refer to RFP page 5.

13. "*Can we and are we willing to purchase telco services from companies other than ATT and Verizon?*

CIT Response: The City has contracted with ATT via the State of California's CalNet 2 program that required the City to purchase many of its telecommunications services solely from ATT and Verizon. Services listed on the CalNet 2 agreement cannot be purchased from other parties. Services that are not listed on the CalNet 2 agreement can be purchased from companies and service providers other than ATT and Verizon.

14. "*What are the City's needs in regards to growth?"*

CIT Response: Refer to revised Sections 3.2.1.3.3 and 3.2.1.3.4.

15. *"Does the existing network provide voice QOS and POE switches?*

CIT Response: The network equipment listed in Sections 2.5.3 (p. 24) is Quality–of-Service capable but not Power-over-Ethernet equipped.

16 *."Does the City have a "green" policy that applies to this RFP?"*

CIT Response: There is no specific requirement addressing sustainable green building and development practices included in the RFP.

17. *"How does the City define and what are the non-blocking requirements?"*

CIT Response: Refer to revised Section 3.2.2.34

18 *"What are your redundancy requirements for the five core sites?"*

CIT Response: See page 26, Section 3.1.1.8 for the desired equipment redundancy requirements. In addition, see revised Section 3.1.1.8 for information that may be used as examples of what is desired.

19. *"What are your redundancy requirements for the satellite facilities?"*

CIT Response: The satellite locations do not need to be proposed as dual system configurations. However, please indicate if so and what parts of the system can be duplicated.

20. *"How much network redundancy will be required?"*

CIT Response: Network redundancy, in addition to that already existing, is not required. If replacing existing equipment as required per Section 3.9.7 (p. 45) all redundancies must be retained.

21. *"Will the existing satellite facility OPX connections be kept or removed?"*

CIT Response: Refer to added Section 3.2.2.35

By Order of the CIT Director

RICHARD SHIGAKI
Communications and Information Technology Director

By: _____
ERNEST GALLO
Project Manager

April 3, 2008
Please return this addendum with your bid proposal.
I hereby acknowledge receipt of this addendum

_____
Name of Company

_____
Address

_____
City State Zip Code

ADDENDUM #2

CITY OF TORRANCE
3031 Torrance Blvd.
Torrance, CA 90503

RFP B2008-09

Request for Proposal to Furnish Telephone and Voicemail System Replacement

THE FOLLOWING CHANGES AND/OR ADDITIONS ARE HEREBY INCORPORATED INTO AND MADE A MANDATORY PART OF THE SUBJECT REQUEST FOR PROPOSAL:

1. **MODIFICATION: 3.8.2 Speech Recognition General**
   Page 42. Replace "a." with the following:

   a. System must be compatible with Basic English (i.e. simplified international version) at a minimum.

2. **MODIFICATION: 3.9 INTERNET PROTOCOL TELEPHONY**
   Page 42. Replace the forth and fifth paragraphs with the following:

   The Minimum proposal must include 45 IP telephony handsets and two (2) remote satellite locations operational upon completion of implementation. The Extended proposal must include 45 IP telephony handsets and nineteen (19) remote satellite locations operational upon completion of implementation.

HE FOLLOWING QUESTIONS WERE SUBMITTED TO COMMUNICATIONS AND INFORMATION TECHNOLOGY (CIT) DEPARTMENT REGARDING RFP B2008-09. Included are the answers to these questions by CIT. As part of the protocol for the RFP, a copy of the answers is being sent to all known Proposers:

1. *"Would the city actively entertain a solution that provided all IP station sets with analog station / fax / e911 integration?"* (3.9.1a, Addendum 1)

   CIT Response: Section 1.1 (p. 14) describes a hybrid system with a mix of TDM and IP handsets at the core and satellite locations. A proposal based on a pure IP handset system would not meet the RFP's purpose and scope.

2. *"In the chart (Attachment G) on the addendum showing the analog stations do all 468 analog devices run through the phone system? If not, how many are actually connected to the phone system?"*

   CIT Response: Yes. All the analog stations (extensions) indicated (468) emanate from the PBX systems listed. These analog stations provide dial tone for various analog requirements such as Off-premise extensions (OPX's), modems, fax machines, fire alarm panels, gate controllers, IVR system ports, door phones, etc.

3. *"What is the number of City staff to be trained? Will the City pay travel and expense if the manufacturer certifiable training is outside the Los Angeles Area?"* (pg. 15/48, 1.1.m/4.4.1.3)

   CIT Response: A total of three City employees will require manufacturer certification training. The proposal must include class registration, lab fees, etc for the technicians. The City will cover any other related expenses such as travel or lodging to attend training.

4. *"What cable records are available and in what format? When were they last validated? Are vendors required to tone, test and tag each location for cable integrity?"* (pg. 26, 3.1.1.3 and pg. 36, 3.2.4.2)

   CIT Response: There are minimal cable records available for this project. All UTP high-pair count vertical and horizontal feeder cables are tagged at each end of their terminations for easy identification. Vendors will be required to at least label/re-label cable pairs with extension numbers when they are used/reused for the new telephones.

5. *"Would the City entertain the requirement of 8 party, or greater, openly accessible conferencing for each location being addressed by one central system instead of at each individual location?"* (pg. 31, 3.2.2.11)

   CIT Response: Whether centralized or decentralized, the proposal's conferencing capabilities must deliver the same quantity of users, quality of audio, availability during partial system outages, etc as was originally described.

6. *"At cutover, how many users will require receiving fax via the VM Solution? Would 8 ports be sufficient to handle the traffic?"* (pg. 38, 3.3.3)

   CIT Response: Every mailbox required in the RFP will include the fax feature, including the potential capacity upgrades. The proposed system must include at least 8 ports dedicated for fax traffic and be upgradeable to 16 ports or more.

7. *"Of the (5) Call Centers required at cutover, how many agents/staff will be required for each Call Center? How many supervisors will be required for each Call Center with real-time view on their workstations? At which locations will they be located? Do you want all agents to be able to view all Group Call Activities/Service Levels real-time on their workstations?"* (pg 39,3.4.3.k)

   CIT Response: The five call centers will be installed at each of the core facilities. Each call center must include no less than 10 call agents per center, one supervisor per center, and be able to view all activities within their center.

8. *"Addressing the full list of Mandatory Requirements/Features may require ancillary Modules. Specific requirements may require additional software over the basic system. Please define the specific requirements and capability that the City is wanting for:"* (pg. 41, 3.5.2/3)
   a. Equipment inventory management
   b. Telco services inventory and management
   c. Report and system scheduling

   CIT Response: Proposals should include a management package necessary to perform the mandatory functions and mandatory features listed in Section 3.5. Bidders are strongly encouraged to provide supplemental information on additional modules, functions and their prices so the City can review and possibly add other features or functions.

9. *"In order to provide a quote for an IVR solution with our initial bid response, there are numerous questions for each existing IVR:"* (pg. 41, 3.6.2.)
   a. *What is the host?*
   b. *What is the record format?*
   c. *Is scripting required?*
   d. *What are the present applications being addressed by each system?*
   e. *Are databases currently being accessed, and if so, how?*

CIT Response: Proposals must explain how their optional IVR feature system interface and tools work. The RFP does not require that the bidder build any IVR application. The proposal should 1) explain what are the hardware and software interface costs necessary to allow applications to access the telephony services, 2) explain whether the proposed IVR module provide emulation of any MS Windows computer-based IVR cards (i.e. Intel Dialogic cards) and 3) provide a description of how their IVR interface works (i.e. scripting, programming language compatibility, drivers, etc) and how applications interface to the telephone equipment.

10. *"For sizing purposes, what is the present Busy Hour traffic related to your Automated Attendant?"* (pg. 42, 3.8.1)

CIT Response: The City's voicemail system provides Automated Attendant functions making it difficult to determine an exact Busy Hour profile, especially by application. The City has 22 Automated Attendant applications ranging in size from several simple menu choices to multiple menus with multiple choices to hear information and/or be transferred to an extension. The following information can be used as a traffic sizing guide.

Application	**Busiest Time(s)**	**Number of calls handled during this period**	**Remarks**
Main Library	Mon-Fri: 10:00 am-11:30 am	50	Varies by season. Number indicated is heaviest
Main Library	Mon-Fri: 3:00 pm-5:00 pm	40	Varies by season. Number indicated is heaviest
Business License	Mon-Fri: 10:00 am-11:30 am	15	Pattern is typical year-round
Civil Service	Varies	As few as 10 per day or as many as several hundred per day	Ranges widely depending on available positions
Accounts Payable	Mon-Fri: 10:00 am-11:30 am	25	Pattern is typical year-round
PD Records	Varies	Averages 5-10 calls per hours between the hours of 7:30 am-5:30 pm	Pattern is typical year-round
Torrance Art Museum	Varies	Average 5-15 calls per hour	Depends on current and upcoming attractions at the museum
Transit	Varies	Average 5-15 calls per hour	Pattern is typical year-round
Human Resources	Varies	Average 5-15 calls per hour	Pattern is typical year-round
Remaining 13 Applications	Varies	Average 50 calls per hour for all	Varies by TOD, DOW and whatever programs are going on at the time

11. *"Please define "All versions of the English Language"."* (pg. 42, 3.8.2)

CIT Response: See revised Section 3.8.2, per this Addendum.

2. *"How many devices/nodes will be required to be reviewed and analyzed for the Network Assessment?"* (pg. 45, 3.9.7)

CIT Response: The proposal must assume that a total of 20 network devices shall be assessed. The actual number will be set during the BAFO phase.

13. *"What is the coverage area of the present 802.11 network in all the core sites?"* (pg. 45, 3.10)

CIT Response: There are no existing 802.11 wireless LAN devices included in the scope of this project. See also questions 30 and 31.

14. *"Acceptance is defined as "... without the occurrence of a material System failure for a period of 30 consecutive calendar days...". Is it the City's intent for vendors to include labor required for Help Desk coverage for 10 days beyond this period, a/k/a did the City intend this to be a minimum of 40 days?"* (pg. 48, 4.4.1.6)

CIT Response: The total number of Helpdesk coverage days shall be determined by the final implementation plan. Coverage shall equal the number of days beginning from the first system cutover until the beginning of the 30-day final acceptance period, plus 10 days.

15. *"Please specify what components should be included in the "crash kit", and define "mobile response kit acceptable". "(pg.* 49 4.7.3)

CIT Response: A crash kit should include a variety and quantity of parts, modules, assemblies, or sub-assemblies necessary to restore some or all of the proposed system, (i.e. items most likely to fail; most beneficial for troubleshooting). The bidder is responsible for determining which of these items warrant being placed in the kit. A mobile response kit should be interpreted as a crash kit suitable to be kept or transported in a service vehicle.

16. *"Automatic Call Distribution (ACD) center.*
    - *How many total agents?*
    - *How many agents logged on simultaneously?*
    - *Do you require skills routing*
    - *Does it require CTI?"*

CIT Response: See also question 7. Proposals should assume that the maximum number of call agents provided may be logged in simultaneously, skills routing (i.e. language) will be required, and that basic computer-telephony interface capabilities must be provided.

17. "IVR
    - *Do you want to uses same applications or emulate their behavior?"*

CIT Response: See question 9.

18. *"You mentioned utilize existing Fiber*
    - *Is it all used to transport IP?"*

CIT Response: All fiber to be used within the scope of this project only transports Internet Protocol data packets. If the proposed system requires or can utilize fiber cable connectivity, it would be acceptable for proposals to use any available existing fiber.

19. *"Wireless - six (6) point-to-point wireless LANSs used to connect the Fire Headquarters (100 mbps) and five (5) fire stations (45 mbps)*
    - *Please provide manufacture and model #"*

    CIT Response:

Location	Manufacture	Model #	Remarks
Fire HQ	Tsunami 100 Mbps	27720-51A20	2 wayside T1's, only 1 in use
Fire Stations 2,5 & 6	Tsunami 45 Mbps	27710-51A10	1 wayside T1, not in use
Fire Stations 3 & 4	Orthogon Gemini	5730BH	No T1's available

20. *"Wireless - T-1 on city-owned line of sight 5.8 GHz wireless system*
    - *Please provide manufacture and model #"*

    CIT Response: See question 19.

21. *"Call accounting system*
    - *Do you like your current system or do you want to replace it?*
    - *Which features do you use?*
    - *Is your long distance flat rate?"*

    CIT Response: Refer to Sections 1.1.f (p.15) and 3.5 (p.40) regarding replacement and features. Long distance charges are set by the CalNet 2 price sheet.

22. *"E911*
    - *Do you like your current system or do you want to replace it?*
    - *Do you need additional features like recording and alerting?"*

    CIT Response: The PS-ALI system described in Section 2.2.3 (p.18) should interface with the proposed system or a suitable substitute must be included in the proposal.

23. *"Is the City willing to provide a detailed inventory listing (including port count, by location and by closet, for each City facility) of its existing Cisco LAN equipment (i.e. Routing and switching)?"*

    CIT Response: See Addendum #1, reply to Question 2.

24. *"Is the City will to sign Our Equipment and Services Agreement, and allow Our Response to be governed by It's Terms and Conditions?"*

    CIT Response: A proposal must additionally include all alternative agreement documents proposed by the bidder for the City to consider adopting it.

25. *"Does the Proposal evaluation process take into account the Vendor's implementation team being DVBE-classified? Minority-owned?"*

    CIT Response: The proposal evaluation process does not take into account Disabled Veteran Business Enterprise or minority-owned status.

26. *"Section 3.2.1.3.3 refers to "Immediate Growth" capacity. Are we to provide a count on handsets and all peripheral components (switches, software, etc.) needed to support 10% more than the counts indicated in Section 3.9?"*

    CIT Response: See Addendum #1, section 10.

27. *"Will specific handset types and counts be provided on a per-site basis?"*

CIT Response: See Addendum #1, Attachment G.

3. *"Section 3.2.3.1 refers to "Battery Back Up". Just to confirm, UPS' that provide 4 hours of up-time in the case of a power outage, are to be provided for "Core" components only?"*

CIT Response: The requirement applies to all core and satellite equipment locations.

29. *"Section 3.9.7 refers to a "Network Assessment." This service may uncover additional upgrades/modifications that may need to be made to the City's existing network(s) that were unknown before. In light of this, is the City willing to accept change orders, based on any discoveries that are made during the network assessment?"*

CIT Response: See question 12.

30. *"Section 3.10 refers to "Wireless Telecommunications." Does the City request true wireless IP-based handsets, or cordless sets? Is the City expecting a wireless LAN be erected to support these phones, as part of the design?"*

CIT Response: Section 3.10 refers solely to commercial service handsets interfacing into the proposed system. The proposal should include at least one optional AP interface to be installed at the City Hall core facility. See also question 13.

31. *"Cordless phones and wireless phones are mentioned in the RFP. Does the city intend to deploy a wireless network (802.11 technology) in addition to having additional handsets from a mobile phone provider such as ATT, or would the city be willing to consider Dual Mode capable phones?"*

CIT Response: See question 30. The City is interested in exploring dual-mode and 802.11 equipped commercially available phone access.

32. *"Are we to assume the appropriate City personnel will be available throughout the deployment, to assist with access and entry to a facility, to facilitate modifications to City electronics that are not part of Our solution, etc.?"*

CIT Response: City staff will be made available during all stages of the project. Expected system modifications not within the scope of the proposal must be clearly called out.

33. *"Section 4.4 refers to "Training." How many City personnel require "technical staff" administrative training?"*

CIT Response: The proposal must assume that a total of 5 technicians or supervisors shall be trained. The actual number will be set during the BAFO phase.

34. *"Section 3.2.2.16 refers to "Flexible Ringing." Is the City looking to set a different ring tone per Caller ID (i.e. Distinctive ring for each calling member the user has identified)?"*

CIT Response: Yes. At least 3 distinct ringtones should be offered.

35. *"Section 3.3.8 refers to "Voice-Response Form." Can you please give us additional details on the demand for speech recognition?"*

CIT Response: There are no demands in the RFP for speech recognition in regards to the voice-response form message requirement.

36. *"Section 3.7.3 refers to "Optional Requirements." Do you have a specific listing of optional requirements?"*

CIT Response: Proposals should include those options listed in Section 3.7.3.a-f as part of a basic, entry-level package. Bidders are strongly encouraged to provide supplemental information on add on features and their prices.

37. *"Can the city provide a more detailed network diagram than the one provided on the original RFP? The current diagram could lead to drastic assumptions that could greatly impact the price of the solution."*

CIT Response: The adoption plan described in section 3.9.1 (p.43) and revised per Addendum #1 specifies a limited initial IP deployment. Bidders should submit proposals founded on reasonable assumptions based on a limited IP deployment and the data network information provided. Bidders selected to participate in the BAFO will receive additional information and have the opportunity to refine their proposal.

38. *"Has the city of Torrance considered a business continuance plan (disaster recovery) that will allow for multiple sites of redundancy in their voice rollout? Can you please provide additional details on how this will be accomplished?"*

CIT Response: A decentralized system positioned at the five core locations sufficiently achieves the City's most basic desired degree of location-based redundancy. Systems proposed shall be screened based on overall survivability and redundancy characteristics included or made available.

39. *"Is the city interested in having a fully integrated messaging system where the voicemail message is delivered into their Outlook email (on-box) or does the city intend to have a separate inbox for voicemail that separate voicemail messages from email?"*

CIT Response: The voicemail system described in section 3.3.2 (p.37) was presumed to be a stand-alone or integrated component of the proposed system. Proposals may submit and make a business case for alternative system configurations such as integrating directly with the City's existing Microsoft Exchange Outlook server.

40. *"Since some of the bidders carry and support multiple manufacturers, can they provide multiple proposals base on different manufacturer?"*

CIT Response: A bidder can submit multiple proposals based on different manufacturer brands.

41. "Do we need to re-type the question in the response question or can we reference the section #, question 1a (for example) and then state our response?"

CIT Response: See Section III, § 2.0, Bullets 1-5 (p.55). All questions on the response form must have a Yes or No reply indicated on the original form. Long narrative replies, clarifying replies, and reference to additional materials included must be clearly referenced in the provided "Refer To" column (i.e. See Attach A, Tab 4, Reply 7, p.9).

By Order of the CIT Director

RICHARD SHIGAKI
Communications and Information Technology Director

By: _____
ERNEST GALLO
Project Manager

April 24, 2008
Please return this addendum with your bid proposal.
I hereby acknowledge receipt of this addendum

_____
Name of Company

_____
Address

_____
City State Zip Code

ADDENDUM #3

CITY OF TORRANCE
3031 Torrance Blvd.
Torrance, CA 90503

RFP B2008-09

Request for Proposal to Furnish Telephone and Voicemail System Replacement

THE FOLLOWING CHANGES AND/OR ADDITIONS ARE HEREBY INCORPORATED INTO AND MADE A MANDATORY PART OF THE SUBJECT REQUEST FOR PROPOSAL:

1. **MODIFICATION: Upon award of contract...**
   Cover Page. Replace with the following:

   Upon award of the contract, proof of insurance, Performance Bond and Labor and Material Bond, as indicated in the terms and conditions of this proposal document, will be submitted to the City Clerk's office.

2. **MODIFICATION: All responses must include the following components:**
   Addendum 1. Replace with the following:

   - Vendors Response (Section III of this document)
     You must submit your response on the forms provided. If additional space is required, please attach additional pages.
   - Bidder's Affidavit (Green form in the RFP package)
   - Non-disclosure Agreement (Attachment 3)

By Order of the CIT Director

RICHARD SHIGAKI
Communications and Information Technology Director

By: _____
ERNEST GALLO
Project Manager

May 2, 2008
Please return this addendum with your bid proposal.
I hereby acknowledge receipt of this addendum

_____
Name of Company

_____
Address

_____
City State Zip Code

ADDENDUM #4

CITY OF TORRANCE
3031 Torrance Blvd.
Torrance, CA 90503

RFP B2008-09

Request for Proposal to Furnish Telephone and Voicemail System Replacement

THE FOLLOWING CHANGES AND/OR ADDITIONS ARE HEREBY INCORPORATED INTO AND MADE A MANDATORY PART OF THE SUBJECT REQUEST FOR PROPOSAL:

1. **MODIFICATION: Schedule of Events**
   Page 6. Replace the applicable table entries with the following and add new entries:

End of BAFO Meetings	August 6, 2008
Distribute Final BAFO Instructions	August 21, 2008
Final Questions Cutoff Date	August 28, 2008
BAFO Proposal Closing Date	By 2:00 PM PST; September 4, 2008
Contract Awarded	October 7, 2008 At 7:00 PM PST

By Order of the CIT Director

RICHARD SHIGAKI
Communications and Information Technology Director

By: _____
ERNEST GALLO
Project Manager

July 28, 2008
Please return this addendum with your final bid proposal.
I hereby acknowledge receipt of this addendum

_____
Name of Company

_____
Address

_____
City State Zip Code

ADDENDUM #5

CITY OF TORRANCE
3031 Torrance Blvd.
Torrance, CA 90503

RFP B2008-09

Request for Proposal to Furnish Telephone and Voicemail System Replacement

THE FOLLOWING CHANGES AND/OR ADDITIONS ARE HEREBY INCORPORATED INTO AND MADE A MANDATORY PART OF THE SUBJECT REQUEST FOR PROPOSAL:

1. **MODIFICATION: Schedule of Events**
   Page 6. Replace the applicable table entries with the following and add new entries:

Distribute Final BAFO Instructions	September 25, 2008
Final Questions Cutoff Date	October 3, 2008
BAFO Proposal Closing Date	By 5:00 PM PST; October 16, 2008
Contract Awarded	At a date to be determined At 7:00 PM PST

2. **ADD: BAFO Submittal Information**
   Page 5. Add the following:

   BAFO proposal packages are to be delivered to City of Torrance, Communications & Information Technology Department, Attention: Ernest Gallo, 3031 Torrance Blvd., Torrance, CA 90503.

By Order of the CIT Director

RICHARD SHIGAKI
Communications and Information Technology Director

By: _____
ERNEST GALLO
Project Manager

August 19, 2008
Please return this addendum with your final bid proposal.
I hereby acknowledge receipt of this addendum

_____
Name of Company

_____
Address

_____
City State Zip Code

ADDENDUM #6

CITY OF TORRANCE
3031 Torrance Blvd.
Torrance, CA 90503

RFP B2008-09

Request for Proposal to Furnish Telephone and Voicemail System Replacement

THE FOLLOWING CHANGES AND/OR ADDITIONS ARE HEREBY INCORPORATED INTO AND MADE A MANDATORY PART OF THE SUBJECT REQUEST FOR PROPOSAL:

1. **MODIFICATION: Schedule of Events**
   Page 6. Replace the applicable table entry with the following:

   BAFO Proposal Closing Date By 5:00 PM PST; October 20, 2008

By Order of the CIT Director

RICHARD SHIGAKI
Communications and Information Technology Director

By: _____
ERNEST GALLO
Project Manager

September 11, 2008
Please return this addendum with your final bid proposal.
I hereby acknowledge receipt of this addendum

_____
Name of Company

_____
Address

_____
City State Zip Code

ADDENDUM #7

CITY OF TORRANCE
3031 Torrance Blvd.
Torrance, CA 90503

RFP B2008-09

Request for Proposal to Furnish Telephone and Voicemail System Replacement

THE FOLLOWING CHANGES AND/OR ADDITIONS ARE HEREBY INCORPORATED INTO AND MADE A MANDATORY PART OF THE SUBJECT REQUEST FOR PROPOSAL:

1. **ADD: ATTACHMENTS**
   Table of Contents. Add the following attachments:

   ATTACHMENTS
   H Extension Numbering Plan by Location
   I System Design Diagram

2. **MODIFY: Section 1.1 Purpose and Scope**
   Page 14. Replace second paragraph.

   The RFP shall require bidders to submit an Extended proposal only. The Extended proposal shall include both the core and satellite systems. All references to either the Minimum and/or Extended shall be assumed to all apply to the required final proposal.

3. **ADD: Section 3.1.1.5f Industry Standards**
   Page 25. Add the following:

   f. Americans with Disabilities Act

4. **MODIFY: Section 3.1.1.3 Network Infrastructure**
   Page 26. Add second paragraph

   The proposal shall additionally base its design on the City's system design diagram (Attachment I, System Design Diagram) discussed during BAFO meetings.

5. **APPEND: Section 3.1.1.6 Materials**
   Page 26. Add the following to the end of the paragraph.

   All replaced equipment and materials, including rectifier batteries, shall be hauled-away and disposed of properly. The City reserves the right to keep any selected old handsets, circuit cards, etc.

6. **CHANGE: Section 3.1.1.10 Servers, Workstations, and Related Computer Hardware Purchases**
   Page 27. Replace with the following:

   The proposal must include all voice, data and computer hardware and all implementation and integration services necessary to deploy the proposed solution. The vendor must indicate compatibility or assumptions of using or integrating the proposed hardware to existing City servers, workstations and

related computer hardware.

The City's standard applications include Windows Network, Windows Active Directory, Microsoft SQL database, Exchange Email Server, Outlook Email client, Internet Explorer Browser, Windows DNS, McAfee and Symantec Antivirus, and Microsoft Exchange 2007.

7. **CHANGE: Section 3.1.1.12 Design Choice**
Page 27. Replace the **first** sentence with the following:

The proposer must provide a detailed physical or logical system diagram that fully illustrates the proposed design.

8. **ADD: Section 3.1.1.12 Design Choice**
Page 27. Add the following new second paragraph:

The proposal must include a network diagram showing all related server quantities and locations. The diagram (or an attachment to the diagram) must include a short description of each server's function, a detailed hardware specifications list, a list of all software required on each server. The diagram must indicate anti-virus software compatibility and any restrictions per server. The diagram must indicate the proposed backup strategy for disk hardware failure and data recovery for each server. The diagram must list desktop PC client software and/or hardware that is required for proposed system features to operate.

9. **ADD: Section 3.2.2.13 DID Dialing**
Page 32. Add new attachment and make reference in first paragraph, last sentence.

See Attachment H, Extension Numbering Plan by Location.

.0. **ADD: Section 3.2.2.26 Private Switch Automatic Location Identification (PS/ALI)**
Page 34. Add the following new second paragraph:

The proposed system is not required to trigger or otherwise update the existing Telident ALI Manager. Handset changes and moves will be entered manually in the ALI manager. Each core switch must be able to provide E9-1-1 information out to the telephone company's E9-1-1 switch on outgoing 9-1-1 calls. A minimum of two 9-1-1 calls must be processed simultaneously at each core switch over special trunks (i.e. CAMA). Additionally, 9-1-1 calls must route-advance busy to other core switches if local trunks are in use.

11. **ADD: Section 3.2.2.30.1f Telephone Instruments**
Page 34. Add the following item:

f. Two hardware-based business attendant consoles at City Hall first floor reception area and one at Police dispatch center.

12. **ADD: Section 3.2.2.30.1g Telephone Instruments**
Page 34. Add the following item:

g. Two software-based attendant consoles licenses (i.e. Zeecom) for remote use or backups to hardware consoles.

13. **ADD: Section 3.2.2.30.5**
Page 35. Add the following item:

The proposal must include and install the following types and quantities of handsets, add-on modules, etc.:

a. 901 each, 12-button, 300-series TDM handsets
b. 178 each, 24-button, 300-series TDM handsets
c. 75 each, 12-button, 700-series IP handsets
d. 75 each, 24-button, 700-series IP handsets
e. 43 each, 60-button DSS console modules
f. 16 each, DTR-4R-2 Digital Cordless II Phone
g. 24 each, ADA adapters for 300-series handset (i.e. logging recorder input)

The proposal must include prices for the following types of handsets, in the event the City elects to substitute or add to the list above:

a. 2-button, 300-series TDM handset
b. 6-button, 300-series TDM handset
c. 8-button, desi-less, 300-series TDM handset
d. 2-button, 700-series IP handset
e. 6-button, 700-series IP handset
f. 8-button, DESI-less LCD touch-screen, 700-series IP handset
g. 8-line key module
h. DESI-less Console
i. DESI-less Line Key Module
j. Bluetooth Wireless Handset Module
k. ACD Layout Line Key Option
l. Retro Keypad Like Key Option

14. ADD: Section 3.2.2.35 Encryption and Security Requirements
Page 35. Add the following new section:

The proposal must not include any additional security or encryption, other than that which is inherent to the products or design offered.

15. REPLACE: Section 3.2.4.6 System Programming Local
Page 37. Replace with the following new Title and Section

System Programming Requirements

The proposal must include a MA 4000 server and necessary licenses. The MA 4000 must be configured to provide basic, centralized system management capabilities. Additional, modular add-ons should be included in the proposal as options.

In addition to the MA 4000, the proposal must include no less than five (5) "MAT" licenses for use by City staff. The proposal shall optionally include a desktop and printer for each core location suitable to operate the MAT software.

The satellite locations must be programmable via a local laptop or other programming device. It is not acceptable to solely program the switch using a local handset.

16. ADD: Section 33.2.2.37 PBX Analog Dial Tone Service
Page 35. Add the following new section

All core switches must be configured with analog service hardware to comply with existing configuration described in Section 2.2.8, Special Analog Lines.

17. CHANGE: Section 3.2.3.1 Battery Back Up (UPS)

Page 35. Replace with the following:

The proposed core devices must be backed up by a rack-mounted, dual-rectifier battery system with no less than four (4) hours and satellite devices must be backed up with APC UPS systems for no less than 30 minutes during commercial power outages whether or not the site has generator backup. In both configurations, the battery system or UPS must be sized to operate all voice switches, data switches, terminals, modems, alarm panels and peripheral system components at the location.

18. CHANGE: Section 3.3.1 General
Page 37. Replace with the following:

The proposed system must include a centralized AVST CallXpress voicemail system. This system must provide fully integrated voicemail services to all core and satellite facilities included in this proposal.

19. CHANGE: Section 3.3.2a Mandatory Requirements
Page 37. Replace with the following:

Includes a physical and licensed 2500 mailbox configuration, but potentially upgradeable to 5000 mailboxes by adding hardware, software or licenses. Must include 50 Unified Messaging client licenses.

20. CHANGE: Section 3.3.2c Mandatory Requirements
Page 37. Replace with the following:

Includes a single server configuration to protect system, configuration and message files. The server will be located at City Hall. The server shall be RAID 1 equipped. Optionally, a second warm-standby server shall be proposed to be installed at the City Hall.

21. ADD: Section 3.3.2q Mandatory Requirements
Page 38. Include the following new section:

q. Server(s) shall be outfitted with no less than 48-ports and pre-configured to be compatible with the future CallXpress v.8.0 speech server (i.e. hard-drive size, speech card, additional ports).

22. ADD: Section 3.3.2r Mandatory Requirements
Page 38. Include the following new section:

r. Permits the creation of global or individual message retention rules. At a minimum, the retention of un-heard recorded voice messages shall be 30 days and heard messages shall be seven (7) days.

23. ADD: Section 3.3.2s Mandatory Requirements
Page 38. Include the following new section:

s. Permits non-UM users to be setup in "client-based" server configuration, while UM users are set-up in "server-based" server configuration.

24. ADD: Section 3.2.2t Mandatory Requirements
Page 38. Include the following:

t. Includes ESP and ScheduleXpress functionality

5. ADD: Section 3.3.2u Voicemail System - Mandatory Requirements
Page 38. Include the following:

u. Include all server hardware and software necessary to deploy the required system.

26 **ADD: Section 3.2.3.4 Installation Requirements**
Page 36. Add the following new section

All proposed satellite equipment shall be assumed to be wall mounted in the same spot as the existing equipment.

The City will provide 23-inch wide, 7-foot tall cabinets for each of the five core switches. It shall be the bidder's responsibility to properly install the provided cabinet, to include bracing as required.

27. **ADD: Section 3.3.2v Voicemail System - Mandatory Requirements**
Page 38. Include the following:

v. Include all software subscription and onsite hardware maintenance for all provided equipment as described further in section 4.7.5.

28. **ADD: Section 3.3.2.1f Voicemail System – Optional Requirements**
Page 38. Include the following:

f. Proposal must list all modules or license add-on functionality and list their costs in a separate detailed price sheet.

29. **CHANGE: Section 3.3.3 Fax Services**
Page 38. Replace with the following:

The proposed voicemail solution must integrate to and operate with the existing RightFax v.9.0 server with the proposed AVST system. All existing RightFax functions and coversheet customizations must be retained.

30. **ADD: Section 3.4.6 ACD - Optional Requirement**
Page 40. Add the following new section:

3.4.6 Optional Requirement
Include no less than 20 each, UCB "Executive Desktop" licenses to be installed after core deployment. The proposal must clearly explain to what degree, if necessary, the proposed ACD solution must be changed or upgraded to permit the deployment of the Executive Desktop feature.

31. **CHANGE: Section 3.6.1 IVR - General**
Page 41. Replace with the following:

The proposed AVST CallXpress must be license and enabled to include the Automated Agent IVR module so that NotifyXpress canned IVR application can be used. No other IVR functionality is required. Any other IVR functionality included by default with the Automated Agent requirement shall be accepted.

32. **DELETE: Section 3.6.2a-n IVR Mandatory Requirements**
Page 41. Delete the following:

Bulleted items a through n are deleted.

3. **ADD: Section 3.6.2 IVR Mandatory Requirements**
Page 41. Add the following:

Only those features and functionality necessary to deploy NotifyXpress shall be mandatory. Any other IVR features or functionality included by default shall be accepted.

34. **DELETE: Section 3.8 Speech Attendant**
Page 42. Delete the following:

Speech Attendant requirement is deleted.

35. **ADD: Section 3.9.3f Desktop Handsets**
Page 44. Add the following:

f. A minimum of two satellite locations will be equipped with all IP handsets. Their location will be determined per the final system design. All 17 remaining satellite locations will be equipped with all TDM handsets.

36. **ADD: Section 3.9.3g Desktop Handsets**
Page 44. Add the following:

g. The proposal shall include no less than five (5) basic "softphone" licenses to be installed by bidder on computers to be determined after core system deployment.

37. **DELETE: Sections 3.10.1, 3.10.2 and 3.10.3 Wireless Telecommunications**
Page 45. Delete the following:

Section 3.10.1 - General,
Section 3.10.2 - Quantities and Distances
Section 3.10.3 - Mandatory Requirements.

38. **CHANGE: Section 4.4.1.7 Facility Requirements – Technical Staff Training**
Page 48. Replace with the following:

The proposal must include and itemize all training necessary to result in three factory certified City technicians with the skill set necessary to maintain the proposed telephone system.

39. **ADD: Section 4.7 MAINTENANCE**
Page 49. Add the following as the new second sentence:

Any maintenance agreement offered must include coverage for all handsets, phone switches and all related purchased equipment necessary to operate the proposed system.

40. **MODIFY: Section 4.7.4 Onsite Technician (City's Option)**
Page 49. Add the following sentences at end of paragraph.

The proposal must also include the costs and terms to provide for a fully qualified data network technician for one (1) month beginning from the day of system acceptance.

41. **REPLACE: Section 4.7.5b Computer Maintenance and Support**
Page 49.

All software necessary to operate any system servers, workstations, and related computer hardware must be provided by the bidder and an annual "software assurance" maintenance program must be included in the proposal. The proposal must detail what the program includes and what services are not covered.

42. **ADD: Section 4.7.7 Network Maintenance and Support**
Page 50. Add the following new section

The proposal must describe what network-related technical and engineering services the bidder can provide beyond that included in the proposed annual maintenance and support agreement. For example, the bidder should describe whether they offer Cisco certified network engineer support or troubleshoot LAN or WAN data network problems. The bidder should describe how services are priced and give examples (i.e. block of prepaid hours, time & materials, fixed contract).

43. **REPLACE: Section 3.2.2.11 Conference (audio) 8-part or more**
Page 31. Replace with the following.

All five (5) core switch locations must be equipped with an audio conference bridge feature capable of no less than 8 and up to 16 total participants. The conference bridge must be available to any combination of callers and users, whether they dial directly in or are transferred in. The conference bridge must also include the following features:

44. **ADD: Section 3.3.2q Mandatory Requirements**
Page 38. Add bulleted sentence.

q. Have similar (or identical) voice menus, prompts, key codes, etc (i.e. Centigram emulation) as the existing system described in Section 2.2.13.

45. **DELETE: Section 3.3.2.1b Optional Requirements**
Page 38. Delete bullet a. and b. sentences.

46. **REPLACE: Section 3.4.1 General**
Page 39. Replace with the following.

The proposed system must include an Automatic Call Distribution (ACD) solution. The system shall include one single ACD located in the City Hall facility along with the proposed core switch. The ACD shall be installed with one, 10-phone call center for the Public Works department at the City Yard.

47. **MODIFY: Section 3.2.4.2 Floorplans & Documentation**
Page 36. Replace first sentence only.

The bidder shall be solely responsible for verifying the accuracy of and creating any floorplans (using base diagrams provided), cable sheets, MDF and IDF locations, handset locations and inventories, etc. within the scope of the project.

By Order of the CIT Director

RICHARD SHIGAKI
Communications and Information Technology Director

By: _____
ERNEST GALLO
Project Manager

September 25, 2008
Please return this addendum with your final bid proposal.
I hereby acknowledge receipt of this addendum

_____
Name of Company

_____
Address

_____
City State Zip Code

ADDENDUM #8

CITY OF TORRANCE
3031 Torrance Blvd.
Torrance, CA 90503

RFP B2008-09

Request for Proposal to Furnish Telephone and Voicemail System Replacement

THE FOLLOWING CHANGES AND/OR ADDITIONS ARE HEREBY INCORPORATED INTO AND MADE A MANDATORY PART OF THE SUBJECT REQUEST FOR PROPOSAL:

1. **MODIFICATION: Schedule of Events**
   Page 6. Replace the applicable table entry with the following:

   BAFO Proposal Closing Date By 5:00 PM PST; October 31, 2008

2. **CORRECTION: Addendum #7**
   Item #14. To read as follows:

   Section 3.2.2.36 Encryption and Security Requirements

3. **CORRECTION: Addendum #7**
   Item #16. To read as follows:

   Section 3.2.2.37 PBX Analog Dial Tone Service

4. **CORRECTION: Addendum #7**
   Item #44. To read as follows:

   Section 3.3.2w Mandatory Requirements

   w. Have similar (or identical) voice menus, prompts, key codes, etc (i.e. Centigram emulation) as the existing system described in Section 2.2.13.

5. **CORRECTION: Attachment I – System Design Diagram**
   Attachment I. Corrected system design diagram

THE FOLLOWING QUESTIONS WERE SUBMITTED TO COMMUNICATIONS AND INFORMATION TECHNOLOGY (CIT) DEPARTMENT REGARDING RFP B2008-09. Included are the answers to these questions by CIT. As part of the protocol for the RFP, a copy of the answers is being sent to all known Proposers:

1. *"The due date is October 20, but how many copies did the city require?"*

   CIT Response: The proposal must include one original plus two (2) duplicate copies. The proposal may also include an electronic copy (i.e. PDF files on CD-ROM)

2. *"Addendum #7 includes attachments, additions and modifications, did you want us to just show that we're aware of them and to reply on the Addendum by signing off on them?"*

CIT Response: Yes. A signed addendum acknowledges receipt of the addendum and of all its contents.

3. *"#40 of Addendum #7 asks for an Onsite DATA Technician for 30 days. Can you clarify what level of expertise i.e., Network Engineer, Senior Network Engineer or System Integration Designer?"*

   CIT Response: The proposal must include a Senior Network Engineer with strong VoIP experience.

4. *"#30 of Addendum #7 asks for 29 UCB "Executive Desktop" licenses, and then #46 discusses centralized ACD for 10 users at the Public Works department at the City Yard. Can we assume that the ACD will be provided by UCB, and NOT the NEC ACD?"*

   CIT Response: Yes. ACD will be provided by UCB. The addendum calls for 20 each, UCB "Executive Desktop" licenses.

5. *"Is there a particular format you want for the pricing response?"*

   CIT Response: The proposals must use the original price sheet format provided. Please complete the provided sections as best as you can. Bidders are strongly encouraged to also include more detailed price sheets for evaluation.

6. *"Since the diagram shows an IP CCIS connection between all sites, will there be a need to equip the SV8300's for OPX lines back to the main site? Also, will there be a requirement to maintain T1 CCIS between any core sites?"*

   CIT Response: No. All previous references to OPX requirements have been deleted/removed. No. There is no requirement for T1 CCIS connectivity after system acceptance. However, depending on the agreed upon final deployment plan, T1 CCIS may be required only during cutover.

. *"At the BAFO meeting there were discussions about the City's interest in having the SV8500 at the core sites instead of the 2400IPX. The diagram shows 2400IPX. Please confirm that this is the platform desired in our final pricing response."*

   CIT Response: See corrected diagram attached to this addendum.

8. *"The Data Assessment previously included was based on 20 nodes (Addendum #2, Item 12). With the final IP design please confirm the Scope you want to have assessed? i.e. # of LAN Switches, WAN Routers"*

   CIT Response: The data assessment must evaluate connectivity to/from all 19 satellite locations and between all five (5) core locations. A total of 30 "nodes" should be assumed.

9. *"(Addendum 7 #6) – Will the City provide the necessary LAN switch ports for connecting the Voice Application Servers?"*

   CIT Response: Yes.

10. *"(Addendum 7 #6) – Do the necessary PoE switch ports to support IP Handsets exist today where the City wants them deployed or will this be the responsibility of the Vendor? If Vendor, please provide the device counts per site based on locations within 300 meter radius to an IDF."*

    CIT Response: No. The City will provide any necessary PoE data switches, power injectors or elect to use wall-outlet plug-in power supplies.

1. *"(Addendum 7 #6) – Will the City provide the Workstations for users associated with desktop applications, such as, ACD, Consoles, UM & Softphones which use Desktop PC Client Software?"*

CIT Response: Yes. Existing client PCs will be used. The proposal must indicate if and why a dedicated PC is required. If required, the new PC must be included in the proposal.

2. *"For Attendant Software-Based Consoles, will the City supply the Workstations? Will these be deployed Day 1?"*

   CIT Response: Yes. A PC will be provided for the one license requested. The attendant software must be installed and tested prior to final acceptance.

13. *"Are any of the phones listed in Addendum 7, Item 13 to be spares?"*

    CIT Response: No. The list did not include spares.

14. *"Attachment F & G are based on existing inventory. Will the Vendor be provided with similar Attachments so that we can determine how to equip each system for IP, Digital & Analog Station Ports/Licensing and Trunking (PRI, analog, OPX) requirements? And how many and which type of phone is to be installed at each site?"*

    CIT Response: No. Final handset installations will be determined subsequent to completing the detailed user inventory as described in Section 3.2.4.2. Generally, all 6-button handsets shall be replaced with new 12 button handsets. All 16- and 32-button handsets shall be replaced with new 24-button handsets. All 24- and 60-button DSS modules shall be replaced with new 60-button DSS modules.

15. *"There was no mention in Addendum 7 of the Call Accounting requirements as stated in Section 3.5. Please confirm what the City is requiring for this Application. Do you want the MA4000 Expense Management Module to handle this requirement?"*

    CIT Response: The CDR requirement in Section 3.5 still applies.

16. *"(Addendum 7 #39) Please confirm the term of Maintenance Coverage to be included for all systems and applications."*

    CIT Response: The maintenance coverage term in Section 4.7 still applies.

17. *"(Addendum 7 #17) – This item states a requirement to provide back up power to "operate all" components at a location. Does this apply to vendor supplied equipment only or will we be provided with a list, including specifications, for each add'l component we need to provide back up power?"*

    CIT Response: The proposal shall assume that at the: 1) core locations only those items purchased as part the proposal shall be powered and 2) satellite locations only those items purchased as part the proposal and a Cisco 2800 router and Cisco 3600 switch shall be powered.

18. *"(Addendum 7 #35) – Please confirm that you want to use a SV8300 vs a SR-300 (Survivable Remote Gateway) at the Satellite sites to be equipped only with IP handsets. If SV8300, we need to know the # of IP licenses to be equipped for each system."*

    CIT Response: Yes. Refer to diagram attached to this addendum. The following locations will be assigned IP handsets: Henderson Library (6 each), Fire Station 5 (6 each), Madrona Marsh (15 each), and Downtown Police Community Center (6 each).

19. *"(Addendum 7 #46) – Should the Centralized ACD System be equipped with more than the 10 licenses to be working Day 1? Do you want the Agents/Supervisors to have Agent Desktop licenses for real-time*

viewing of all their Call Center Activity? This feature also allows for Chat between agents and supervisors, along with log-in status."

CIT Response: No, only 10 licenses are required. Yes, supervisors must be able to view call center activity in real-time.

20. *"With the increased number of IP handsets, should each bidder include PoE switches to support the total number of IP handsets (to include the minimum 2 satellite locations) or can the bidders assume City of Torrance will have PoE switched ports in all locations receiving an IP handset?"*

    CIT Response: No. Refer to City's replies to #10 and #18.

21. *"What is the new Contract Award date?"*

    CIT Response: The Contract Award date is presumed to be the date staff's recommendation is approved by City Council. Based on the revised proposal due date, staff projects submitting their recommendation to Council for the December 9th meeting. Typically, a bidder's request to negotiate terms, submit documents, etc. delays the actual award date.

22. *"In regards to bidder responses to Addendum #7, what format would City of Torrance prefer (electronic, binder, etc.)? If physical copies are requested, how many copies? Should we include additional copies of our original response? Should all pricing be provided in the Extended Pricing section of the original Section 3.0 System Pricing?"*

    CIT Response: Please refer to City's reply to #1 and #5.

By Order of the CIT Director

RICHARD SHIGAKI
Communications and Information Technology Director

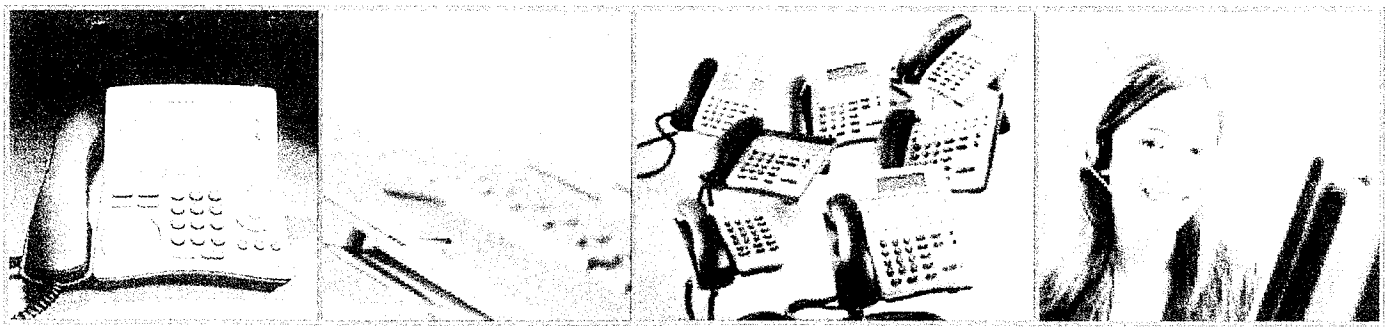
By: _____
ERNEST GALLO
Project Manager

October 9, 2008
Please return this addendum with your final bid proposal.
I hereby acknowledge receipt of this addendum

_____
Name of Company

_____
Address

_____
City State Zip Code



Connect Collaborate Create

RFP Proposal to Furnish Telephone and Voicemail System Replacement

RFP No.B2008-9

City of Torrance

(Copy)

PROPOSAL DUE DATE:
October 31, 2008

PREPARED BY:
Phil Mills
Advanced Solutions Executive
27202 West Turnberry Lane, Suite 100
Valencia, CA 91355
Los Angeles Regional Office
Direct Line: (661) 775-2843
Phil.Mills@nexusis.com

NEXUS
Connect Collaborate Create

October 31, 2008

City of Torrance
Office of the City Clerk
3031 Torrance Blvd.
Torrance, CA 90503

City of Torrance Project Team:

We've enjoyed working with you over the past few months - learning more about City of Torrance, discussing your existing communications infrastructure, and assisting you to determine a solution that will meet your needs and achieve your goals. We are pleased to submit our response to the revised RFP for a new NEC SV8000 Series Voice Network. To prepare for this proposal, we have conducted the following research:

- A series of BAFO Design meetings with your team
- Thorough review of the Request for Proposal – Furnish Telephone and Voicemail System Replacement
- Design review with Nexus IS engineers
- Review of similar applications and needs

Nexus IS has a proven ability to tailor solutions to meet specific objectives and requirements such as yours. We believe the proposed Solution described in the following pages provides City of Torrance with the greatest total value by supporting the following organizational goals, needs and challenges:

- Increasing productivity and efficiency in office operations and production areas
- Reduced maintenance and support costs of existing voice systems
- Improving the level of service provided to internal and external customers
- Enhancing organizational image and reputation by deploying a cost effective, standards based voice solution

Included in our response is a Solution Overview that provides a synopsis of this Solution. We appreciate the opportunity to present this solution to City of Torrance. I look forward to working with you to bring the Solution we are proposing to reality.

Cordially,

Phil Mills, CCNA
Account Manager, NEC
Nexus IS, Inc.
27202 West Turnberry Lane, Suite 100
Valencia, CA 91355
Single Number Reach:661-775-2843 **Fax**:661-775-2873
phil.mills@nexusis.com

Mandatory Forms

Addendums

Solution Overview

Solution Diagrams

System Pricing

Optional Pricing

7 Sample Project Plan

8 Network Assessment

9 NEC Maintenance Program

Nexus Care Managed Services

Server Specifications

Brochures

CITY OF TORRANCE
3031 Torrance Blvd.
Torrance, CA 90503

RFP NO. B2008-09

RFP to Furnish Telephone and Voicemail System Replacement

SECTION III PROPOSAL

FAILURE TO COMPLETE ALL ITEMS IN THIS SECTION MAY INVALIDATE PROPOSAL.

In accordance with your "Invitation to Propose", the following proposal is submitted to the City of Torrance.

1.0 GENERAL

Proposal Submitted By:

Nexus IS, Inc.
Name of Company

27202 West Turnberry Lane, Suite 100,
Address

Valencia, CA 91355
City/State/Zip Code

Phil Mills, Advanced Solutions Executive
Printed Name/Title

(661) 775-2843
Telephone Number/Fax Number

Form of Business Organization:

Please indicate the following (check one);

Corporation X Partnership _____ Sole Proprietorship _____

Other: _____

Business History:

How long have you been in business under your current name and form of business organization?

4 Years

If less than three (3) years and your company was in business under a different name, what was that name?

_____

_____

Contact for Additional Information:

Please provide the name of the individual at your company to contact for any additional information

Thomas Lyon

Name

VP of Professional Services Support

Title

(661) 775-2494

Telephone Number/Fax Number

Addenda Received:

Please indicate addenda information you have received regarding this proposal:

Addendum No. 1___Date Received: _4/3/08_____

Addendum No. 2___Date Received: _4/22/08_____

Addendum No. _3_Date Received: _5/2/08____

Addendum No. ___Date Received: _____

____ No Addenda received regarding this proposal.

Payment Terms: The City of Torrance Payment terms are Net 30.

Do you offer any discounted invoice terms? _____

Renewal Option:

Please state if your company would agree to a fourth and subsequent year(s) renewal of the maintenance requirements, as described herein.

Yes ___We would agree to a fourth and additional year(s) with prices, terms, and conditions unchanged.

Yes ___We would agree to a fourth and additional year(s) subject to renegotiation/bid.

No ___We would not be interested in renewing the maintenance coverage.

References:

Please supply the names of companies/agencies for whom you recently supplied comparable goods as requested in this proposal.

City of Poway 13369 Poway Rd., Poway, CA 92064 Glen O'Grady (858) 679-4322

Name of Company/Agency Address Person to contact/Telephone No.

City of Glendale, 141 N. Glendale Ave., Glendale, CA 91206 Jose Felix (818)551-4680

Name of Company/Agency Address Person to contact/Telephone No.

Scripps Clinic 10666 N.Torrance Pines Rd., La Jolla, CA 92037 John Rhew (619) 784-5927

Name of Company/Agency Address Person to contact/Telephone No.

Contract Extension to Other Cities/Agencies:

Please state, if requested by the City, if your company would agree to extend the same price, terms and conditions to other Cities/Agencies.

Yes _____We would agree to extend the same price, terms and conditions.

No _____We would not agree to extend the same price, terms and conditions.

Maintenance/Warranty Service Information:

A. Location:

How many miles is your company's service department located from the requested delivery address?

_36.43_____ miles

B. Maintenance Sub Contractors:

Do you plan to sub-contract the maintenance portion of this proposal to **a company other than your own** company's service department? Yes_____ No_X_____

If yes, what is that company's name and address?

_____

_____

_____

How many miles is this sub-contractor located from the City of Torrance delivery address?

_____

Contractor's Information:

Contractor's License Number: 834743_____ Expiration date: _3/31/2010_____

Sub Contractor's Information:

If subcontractor(s) is to be used in the performance of this project, please provide the following information:

1. Company Name:

   _____

   Address:

   _____

Contractor's License Number: _____ Expiration date: _____

2. Company Name:

   _____

   Address:

   _____

Contractor's License Number: _____ Expiration date: _____

3. Company Name:

   _____

   Address:

   _____

Contractor's License Number: _____ Expiration date: _____

ATTACHMENT

STATE OF CALIFORNIA

BIDDER'S AFFIDAVIT

COUNTY OF LOS ANGELES

Thomas Lyon being first duly sworn, deposes and says:

1. That he/she is the VP of Professional Services Support of Nexus IS, Inc.
(Title of Office) (Name of Company)

hereinafter called "Bidder", who has submitted to the City of Torrance a bid for

Furnish Telephone and Voicemail System Replacement
(Title of BID)

2. That the bid is genuine; that the same is not sham; that all statements of fact in the bid are true;

3. That the bid was not made in the interest or behalf of any person, partnership, company, association, organization or corporation not named or disclosed;

4. That the Bidder did not, directly or indirectly, induce solicit or agree with anyone else to submit a false or sham bid, to refrain from proposing, or to withdraw his bid, to raise or fix the bid price of the Bidder or of anyone else, or to raise or fix any overhead, profit or cost element of the Bidder's price or the price of anyone else; and did not attempt to induce action prejudicial to the interest of the City of Torrance, or of any other Bidder, or anyone else interested in the proposed purchase order;

5. That the Bidder has not in any other manner sought by collusion to secure for itself an advantage over any other Bidder or to induce action prejudicial to the interests of the City of Torrance, or of any other Bidder or of anyone else interested in the proposed purchase order;

6. That the Bidder has not accepted any bid from any subpurchase order or materialman through any bid depository, the bylaws, rules or regulations of which prohibit or prevent the Bidder from considering any bid from any subpurchase order or materialman, which is not processed through that bid depository, or which prevent any subpurchase order or materialman from proposing to any purchase order or who does not use the facilities of or accept bids from or through such bid depository;

7. That the Bidder did not, directly or indirectly, submit the Bidder's bid price or any breakdown thereof, or the contents thereof, or divulge information or data relative thereto, to any corporation, partnership, company, association, organization, bid depository, or to any member or agent thereof, or to any individual or group of individuals, except to the City of Torrance, or to any person or persons who have a partnership or other financial interest with said Bidder in its business.

8. That the Bidder has not been debarred from participation in any state, federal or public works project.

Dated this 30TH day of October 2008

(Bidder Signature)

VP PSSO
(Title)

Revised 6/13/07

CALIFORNIA ALL-PURPOSE ACKNOWLEDGMENT

State of California
County of Los Angeles } ss.

On 5/14/08 (Date) before me, Debra Lynn Casados, Notary Public (Name and Title of Officer (e.g., "Jane Doe, Notary Public")),

personally appeared Thomas Lyon (Name(s) of Signer(s)),

☑ personally known to me
☐ proved to me on the basis of satisfactory evidence

DEBRA LYNN CASADOS
Commission # 1570232
Notary Public - California
Los Angeles County
My Comm. Expires Apr 17, 2009

to be the person(s) whose name(s) is/are subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their authorized capacity(ies), and that by his/her/their signature(s) on the instrument the person(s), or the entity upon behalf of which the person(s) acted, executed the instrument.

WITNESS my hand and official seal.

Debra Lynn Casados
Signature of Notary Public

OPTIONAL

Though the information below is not required by law, it may prove valuable to persons relying on the document and could prevent fraudulent removal and reattachment of this form to another document.

Description of Attached Document

Title or Type of Document: _____

Document Date: _____ Number of Pages: _____

Signer(s) Other Than Named Above: _____

Capacity(ies) Claimed by Signer

Signer's Name: _____

☐ Individual
☐ Corporate Officer — Title(s): _____
☐ Partner — ☐ Limited ☐ General
☐ Attorney-in-Fact
☐ Trustee
☐ Guardian or Conservator
☐ Other: _____

Signer Is Representing: _____

RIGHT THUMBPRINT OF SIGNER
Top of thumb here

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ATTACHMENT 1

NON-DISCLOSURE AND CONFIDENTIALITY AGREEMENT

This Non-Disclosure and Confidentiality Agreement ("Agreement") is made and entered into as of ***[insert date]*** (the "Effective Date"), by and between the City of Torrance, a municipal corporation ("City"), and ***[insert bidders name]***, a California Corporation ("*Bidder*").

RECITALS:

A. The City wishes to obtain a proposal from the *Bidder* to provide a telephone and voicemail system replacement (RFP Bid No. 2008-09).

B. The nature of the proposal requested in the RFP will require the execution of a Non-Disclosure and Confidentiality Agreement.

AGREEMENT:

1. Confidentiality Agreement

In consideration of *Bidder* being made privy to confidential information belonging to the City, the party receiving such information agrees not to disclose this information to third parties or to use it for any purpose other than that for which it is received. *Bidder* shall treat any information received as confidential and proprietary to the City.

2. Confidential Information

a. Information to be treated as confidential includes all information relating to the concepts, planning, development, production, marketing, distribution, internal procedure, and all other aspects of the business of the City.

b. *Bidder* acknowledges and agrees that the information, materials and documents received from the City represents independent economic value and potential economic value from not being generally known to the public or to other persons who may derive economic value from its disclosure or use.

3. Proprietary Interest

Bidder shall use and maintain all information set forth above as trade secret and confidential proprietary information of the City and shall use and maintain such information in strictest confidence.

4. Non-Disclosure

Bidder shall not disclose any confidential information of the City to any third party or entity. *Bidder* shall not duplicate, reproduce or copy confidential information without the City's prior written consent. Upon termination of the business relationship anticipated by the parties hereto, *Bidder* shall promptly return to the City all copies, in any form whatsoever, of any confidential information or material.

5. Costs and Attorney Fees

any legal action, suit or proceeding relating to this Agreement is brought or initiated, the prevailing party shall be entitled to recover its court costs and reasonable attorneys' fees from the other party.

6. Severability

If any provision of this Agreement or the application of any such provision shall be held by a court or tribunal of competent jurisdiction to be void or unenforceable for any reason, the remaining provisions of this Agreement shall remain in full force and effect.

7. Entire Agreement

This Agreement constitutes the entire agreement between the parties hereto in connection with the subject matter hereof and supersedes all prior and contemporaneous agreements, understandings, negotiations or discussions, whether oral or written, of the parties. There are no understandings between the parties hereto except as set forth herein.

8. Choice of Law

This Agreement and all matters set forth herein shall be construed and interpreted in accordance with the laws of the State of California.

9. Notification

Bidder shall promptly notify the City in writing of any unauthorized release, disclosure or use of any of the City's confidential information or material, setting forth therein with peculiarity the circumstances of such event.

10. Injunction

Bidder acknowledges and agrees that any breach of this Agreement would cause irreparable harm to the City due to the unique nature of the City's confidential information. That this injury to the City would be extremely hard to assess in monetary damages and that such damages would be an insufficient remedy and that therefore, in the event of any such breach, the City should be awarded immediate temporary and permanent injunctive relief.

11. Subscription

a. In the event this Agreement is presented with or prior to the confidential information set forth herein and *Bidder* is unable to, or does not, confirm subscription to the Agreement by the City, *Bidder* expressly agrees to be bound by all of the terms and conditions of this Agreement upon *Bidder*'s examination or review of the enclosed, attached or disclosed confidential information, even in the event that the City does not execute this Agreement.

b. *Bidder* further agrees that it shall not disclose or divulge any confidential information of the City to any individual employee, consultant or agent of *Bidder* not directly involved in preparing a response to the proposal until such each individual employee, consultant or agent had executed a separate copy of this Agreement and becomes individually and personally bound by all of the terms and conditions of this Agreement.

12. Representatives

For purposes of this Agreement, the following named individuals on behalf of both parties shall be authorized to distribute and receive all information referred to in this Agreement.

City of Torrance:	Nexus IS, Inc:
X	X
X	X

13. Authority to Execute

The persons executing this Agreement on behalf of *Bidder* warrant that (i) *Bidder* is duly organized and existing; (ii) they are duly authorized to execute this Agreement on behalf of *Bidder*; (iii) by so executing this Agreement, *Bidder* is formally bound top the provisions of this Agreement; and (iv) the entering of this Agreement does not violate any provisions of any other Agreement to which *Bidder* is bound.

City of Torrance, a Municipal Corporation	For Nexus IS, Inc. a California Corporation
By:	By: Tom Lyon
Name:	Name: Tom Lyon
Title:	Title: VP of Professional Services Support
Date:	Date: October 31,2008

ADDENDUM #4

CITY OF TORRANCE
3031 Torrance Blvd.
Torrance, CA 90503

RFP B2008-09

Request for Proposal to Furnish Telephone and Voicemail System Replacement

THE FOLLOWING CHANGES AND/OR ADDITIONS ARE HEREBY INCORPORATED INTO AND MADE A MANDATORY PART OF THE SUBJECT REQUEST FOR PROPOSAL:

1. **MODIFICATION: Schedule of Events**
   Page 6. Replace the applicable table entries with the following and add new entries:

End of BAFO Meetings	August 6, 2008
Distribute Final BAFO Instructions	August 21, 2008
Final Questions Cutoff Date	August 28, 2008
BAFO Proposal Closing Date	By 2:00 PM PST; September 4, 2008
Contract Awarded	October 7, 2008 At 7:00 PM PST

By Order of the CIT Director

RICHARD SHIGAKI
Communications and Information Technology Director

By: _____
ERNEST GALLO
Project Manager

July 28, 2008
Please return this addendum with your final bid proposal.
I hereby acknowledge receipt of this addendum

_____
Name of Company

27202 W. Turnberry Lane, Ste 100
Address

Valencia,CA 91355
City State Zip Code

ADDENDUM #5

CITY OF TORRANCE
3031 Torrance Blvd.
Torrance, CA 90503

RFP B2008-09

Request for Proposal to Furnish Telephone and Voicemail System Replacement

THE FOLLOWING CHANGES AND/OR ADDITIONS ARE HEREBY INCORPORATED INTO AND MADE A MANDATORY PART OF THE SUBJECT REQUEST FOR PROPOSAL:

1. **MODIFICATION: Schedule of Events**
   Page 6. Replace the applicable table entries with the following and add new entries:

Distribute Final BAFO Instructions	September 25, 2008
Final Questions Cutoff Date	October 3, 2008
BAFO Proposal Closing Date	By 5:00 PM PST; October 16, 2008
Contract Awarded	At a date to be determined At 7:00 PM PST

2. **ADD: BAFO Submittal Information**
   Page 5. Add the following:

   BAFO proposal packages are to be delivered to City of Torrance, Communications & Information Technology Department, Attention: Ernest Gallo, 3031 Torrance Blvd., Torrance, CA 90503.

By Order of the CIT Director

RICHARD SHIGAKI
Communications and Information Technology Director

By: _____
ERNEST GALLO
Project Manager

August 19, 2008
Please return this addendum with your final bid proposal.
I hereby acknowledge receipt of this addendum

Philip S. Mott
Name of Company

27202 W. Turnberry Lane, Ste 100
Address

Valencia, CA 91355
City State Zip Code

ADDENDUM #6

CITY OF TORRANCE
3031 Torrance Blvd.
Torrance, CA 90503

RFP B2008-09

Request for Proposal to Furnish Telephone and Voicemail System Replacement

THE FOLLOWING CHANGES AND/OR ADDITIONS ARE HEREBY INCORPORATED INTO AND MADE A MANDATORY PART OF THE SUBJECT REQUEST FOR PROPOSAL:

1. **MODIFICATION: Schedule of Events**
   Page 6. Replace the applicable table entry with the following:

   BAFO Proposal Closing Date By 5:00 PM PST; October 20, 2008

By Order of the CIT Director

RICHARD SHIGAKI
Communications and Information Technology Director

By: _____
ERNEST GALLO
Project Manager

September 11, 2008
Please return this addendum with your final bid proposal.
I hereby acknowledge receipt of this addendum

_____
Name of Company

27202 W. Turnberry Lane, Ste 100
Address

Valencia, CA 91355
City State Zip Code

ADDENDUM #7

CITY OF TORRANCE
3031 Torrance Blvd.
Torrance, CA 90503

RFP B2008-09

Request for Proposal to Furnish Telephone and Voicemail System Replacement

THE FOLLOWING CHANGES AND/OR ADDITIONS ARE HEREBY INCORPORATED INTO AND MADE A MANDATORY PART OF THE SUBJECT REQUEST FOR PROPOSAL:

1. **ADD: ATTACHMENTS**
   Table of Contents. Add the following attachments:

   ATTACHMENTS
   H Extension Numbering Plan by Location
   I System Design Diagram

2. **MODIFY: Section 1.1 Purpose and Scope**
   Page 14. Replace second paragraph.

   The RFP shall require bidders to submit an Extended proposal only. The Extended proposal shall include both the core and satellite systems. All references to either the Minimum and/or Extended shall be assumed to all apply to the required final proposal.

3. **ADD: Section 3.1.1.5f Industry Standards**
   Page 25. Add the following:

   f. Americans with Disabilities Act

4. **MODIFY: Section 3.1.1.3 Network Infrastructure**
   Page 26. Add second paragraph

   The proposal shall additionally base its design on the City's system design diagram (Attachment I, System Design Diagram) discussed during BAFO meetings.

5. **APPEND: Section 3.1.1.6 Materials**
   Page 26. Add the following to the end of the paragraph.

   All replaced equipment and materials, including rectifier batteries, shall be hauled-away and disposed of properly. The City reserves the right to keep any selected old handsets, circuit cards, etc.

6. **CHANGE: Section 3.1.1.10 Servers, Workstations, and Related Computer Hardware Purchases**
   Page 27. Replace with the following:

   The proposal must include all voice, data and computer hardware and all implementation and integration services necessary to deploy the proposed solution. The vendor must indicate compatibility or assumptions of using or integrating the proposed hardware to existing City servers, workstations and

related computer hardware.

The City's standard applications include Windows Network, Windows Active Directory, Microsoft SQL database, Exchange Email Server, Outlook Email client, Internet Explorer Browser, Windows DNS, McAfee and Symantec Antivirus, and Microsoft Exchange 2007.

7. **CHANGE: Section 3.1.1.12 Design Choice**
Page 27. Replace the **first** sentence with the following:

The proposer must provide a detailed physical or logical system diagram that fully illustrates the proposed design.

8. **ADD: Section 3.1.1.12 Design Choice**
Page 27. Add the following new second paragraph:

The proposal must include a network diagram showing all related server quantities and locations. The diagram (or an attachment to the diagram) must include a short description of each server's function, a detailed hardware specifications list, a list of all software required on each server. The diagram must indicate anti-virus software compatibility and any restrictions per server. The diagram must indicate the proposed backup strategy for disk hardware failure and data recovery for each server. The diagram must list desktop PC client software and/or hardware that is required for proposed system features to operate.

9. **ADD: Section 3.2.2.13 DID Dialing**
Page 32. Add new attachment and make reference in first paragraph, last sentence.

See Attachment H, Extension Numbering Plan by Location.

10. **ADD: Section 3.2.2.26 Private Switch Automatic Location Identification (PS/ALI)**
Page 34. Add the following new second paragraph:

The proposed system is not required to trigger or otherwise update the existing Telident ALI Manager. Handset changes and moves will be entered manually in the ALI manager. Each core switch must be able to provide E9-1-1 information out to the telephone company's E9-1-1 switch on outgoing 9-1-1 calls. A minimum of two 9-1-1 calls must be processed simultaneously at each core switch over special trunks (i.e. CAMA). Additionally, 9-1-1 calls must route-advance busy to other core switches if local trunks are in use.

11. **ADD: Section 3.2.2.30.1f Telephone Instruments**
Page 34. Add the following item:

f. Two hardware-based business attendant consoles at City Hall first floor reception area and one at Police dispatch center.

12. **ADD: Section 3.2.2.30.1g Telephone Instruments**
Page 34. Add the following item:

g. Two software-based attendant consoles licenses (i.e. Zeecom) for remote use or backups to hardware consoles.

13. **ADD: Section 3.2.2.30.5**
Page 35. Add the following item:

The proposal must include and install the following types and quantities of handsets, add-on modules, etc.:

a. 901 each, 12-button, 300-series TDM handsets
b. 178 each, 24-button, 300-series TDM handsets
c. 75 each, 12-button, 700-series IP handsets
d. 75 each, 24-button, 700-series IP handsets
e. 43 each, 60-button DSS console modules
f. 16 each, DTR-4R-2 Digital Cordless II Phone
g. 24 each, ADA adapters for 300-series handset (i.e. logging recorder input)

The proposal must include prices for the following types of handsets, in the event the City elects to substitute or add to the list above:

a. 2-button, 300-series TDM handset
b. 6-button, 300-series TDM handset
c. 8-button, desi-less, 300-series TDM handset
d. 2-button, 700-series IP handset
e. 6-button, 700-series IP handset
f. 8-button, DESI-less LCD touch-screen, 700-series IP handset
g. 8-line key module
h. DESI-less Console
i. DESI-less Line Key Module
j. Bluetooth Wireless Handset Module
k. ACD Layout Line Key Option
l. Retro Keypad Like Key Option

14. ADD: Section 3.2.2.35 Encryption and Security Requirements
Page 35. Add the following new section:

The proposal must not include any additional security or encryption, other than that which is inherent to the products or design offered.

15. REPLACE: Section 3.2.4.6 System Programming Local
Page 37. Replace with the following new Title and Section

System Programming Requirements

The proposal must include a MA 4000 server and necessary licenses. The MA 4000 must be configured to provide basic, centralized system management capabilities. Additional, modular add-ons should be included in the proposal as options.

In addition to the MA 4000, the proposal must include no less than five (5) "MAT" licenses for use by City staff. The proposal shall optionally include a desktop and printer for each core location suitable to operate the MAT software.

The satellite locations must be programmable via a local laptop or other programming device. It is not acceptable to solely program the switch using a local handset.

16. ADD: Section 33.2.2.37 PBX Analog Dial Tone Service
Page 35. Add the following new section

All core switches must be configured with analog service hardware to comply with existing configuration described in Section 2.2.8, Special Analog Lines.

17. CHANGE: Section 3.2.3.1 Battery Back Up (UPS)

Page 35. Replace with the following:

The proposed core devices must be backed up by a rack-mounted, dual-rectifier battery system with no less than four (4) hours and satellite devices must be backed up with APC UPS systems for no less than 30 minutes during commercial power outages whether or not the site has generator backup. In both configurations, the battery system or UPS must be sized to operate all voice switches, data switches, terminals, modems, alarm panels and peripheral system components at the location.

18. **CHANGE: Section 3.3.1 General**
Page 37. Replace with the following:

The proposed system must include a centralized AVST CallXpress voicemail system. This system must provide fully integrated voicemail services to all core and satellite facilities included in this proposal.

19. **CHANGE: Section 3.3.2a Mandatory Requirements**
Page 37. Replace with the following:

Includes a physical and licensed 2500 mailbox configuration, but potentially upgradeable to 5000 mailboxes by adding hardware, software or licenses. Must include 50 Unified Messaging client licenses.

20. **CHANGE: Section 3.3.2c Mandatory Requirements**
Page 37. Replace with the following:

Includes a single server configuration to protect system, configuration and message files. The server will be located at City Hall. The server shall be RAID 1 equipped. Optionally, a second warm-standby server shall be proposed to be installed at the City Hall.

21. **ADD: Section 3.3.2q Mandatory Requirements**
Page 38. Include the following new section:

q. Server(s) shall be outfitted with no less than 48-ports and pre-configured to be compatible with the future CallXpress v.8.0 speech server (i.e. hard-drive size, speech card, additional ports).

22. **ADD: Section 3.3.2r Mandatory Requirements**
Page 38. Include the following new section:

r. Permits the creation of global or individual message retention rules. At a minimum, the retention of un-heard recorded voice messages shall be 30 days and heard messages shall be seven (7) days.

23. **ADD: Section 3.3.2s Mandatory Requirements**
Page 38. Include the following new section:

s. Permits non-UM users to be setup in "client-based" server configuration, while UM users are set-up in "server-based" server configuration.

24. **ADD: Section 3.2.2t Mandatory Requirements**
Page 38. Include the following:

t. Includes ESP and ScheduleXpress functionality

25. **ADD: Section 3.3.2u Voicemail System - Mandatory Requirements**
Page 38. Include the following:

u. Include all server hardware and software necessary to deploy the required system.

26 **ADD: Section 3.2.3.4 Installation Requirements**
Page 36. Add the following new section

All proposed satellite equipment shall be assumed to be wall mounted in the same spot as the existing equipment.

The City will provide 23-inch wide, 7-foot tall cabinets for each of the five core switches. It shall be the bidder's responsibility to properly install the provided cabinet, to include bracing as required.

27. **ADD: Section 3.3.2v Voicemail System - Mandatory Requirements**
Page 38. Include the following:

v. Include all software subscription and onsite hardware maintenance for all provided equipment as described further in section 4.7.5.

28. **ADD: Section 3.3.2.1f Voicemail System – Optional Requirements**
Page 38. Include the following:

f. Proposal must list all modules or license add-on functionality and list their costs in a separate detailed price sheet.

29. **CHANGE: Section 3.3.3 Fax Services**
Page 38. Replace with the following:

The proposed voicemail solution must integrate to and operate with the existing RightFax v.9.0 server with the proposed AVST system. All existing RightFax functions and coversheet customizations must be retained.

30. **ADD: Section 3.4.6 ACD - Optional Requirement**
Page 40. Add the following new section:

3.4.6 Optional Requirement
Include no less than 20 each, UCB "Executive Desktop" licenses to be installed after core deployment. The proposal must clearly explain to what degree, if necessary, the proposed ACD solution must be changed or upgraded to permit the deployment of the Executive Desktop feature.

31. **CHANGE: Section 3.6.1 IVR - General**
Page 41. Replace with the following:

The proposed AVST CallXpress must be license and enabled to include the Automated Agent IVR module so that NotifyXpress canned IVR application can be used. No other IVR functionality is required. Any other IVR functionality included by default with the Automated Agent requirement shall be accepted.

32. **DELETE: Section 3.6.2a-n IVR Mandatory Requirements**
Page 41. Delete the following:

Bulleted items a through n are deleted.

33. **ADD: Section 3.6.2 IVR Mandatory Requirements**
Page 41. Add the following:

Only those features and functionality necessary to deploy NotifyXpress shall be mandatory. Any other IVR features or functionality included by default shall be accepted.

34. **DELETE: Section 3.8 Speech Attendant**
Page 42. Delete the following:

Speech Attendant requirement is deleted.

35. **ADD: Section 3.9.3f Desktop Handsets**
Page 44. Add the following:

f. A minimum of two satellite locations will be equipped with all IP handsets. Their location will be determined per the final system design. All 17 remaining satellite locations will be equipped with all TDM handsets.

36. **ADD: Section 3.9.3g Desktop Handsets**
Page 44. Add the following:

g. The proposal shall include no less than five (5) basic "softphone" licenses to be installed by bidder on computers to be determined after core system deployment.

37. **DELETE: Sections 3.10.1, 3.10.2 and 3.10.3 Wireless Telecommunications**
Page 45. Delete the following:

Section 3.10.1 - General,
Section 3.10.2 - Quantities and Distances
Section 3.10.3 - Mandatory Requirements.

38. **CHANGE: Section 4.4.1.7 Facility Requirements – Technical Staff Training**
Page 48. Replace with the following:

The proposal must include and itemize all training necessary to result in three factory certified City technicians with the skill set necessary to maintain the proposed telephone system.

39. **ADD: Section 4.7 MAINTENANCE**
Page 49. Add the following as the new second sentence:

Any maintenance agreement offered must include coverage for all handsets, phone switches and all related purchased equipment necessary to operate the proposed system.

40. **MODIFY: Section 4.7.4 Onsite Technician (City's Option)**
Page 49. Add the following sentences at end of paragraph.

The proposal must also include the costs and terms to provide for a fully qualified data network technician for one (1) month beginning from the day of system acceptance.

41. **REPLACE: Section 4.7.5b Computer Maintenance and Support**
Page 49.

All software necessary to operate any system servers, workstations, and related computer hardware must be provided by the bidder and an annual "software assurance" maintenance program must be included in the proposal. The proposal must detail what the program includes and what services are not covered.

42. **ADD: Section 4.7.7 Network Maintenance and Support**
Page 50. Add the following new section

The proposal must describe what network-related technical and engineering services the bidder can provide beyond that included in the proposed annual maintenance and support agreement. For example, the bidder should describe whether they offer Cisco certified network engineer support or troubleshoot LAN or WAN data network problems. The bidder should describe how services are priced and give examples (i.e. block of prepaid hours, time & materials, fixed contract).

43. **REPLACE: Section 3.2.2.11 Conference (audio) 8-part or more**
Page 31. Replace with the following.

All five (5) core switch locations must be equipped with an audio conference bridge feature capable of no less than 8 and up to 16 total participants. The conference bridge must be available to any combination of callers and users, whether they dial directly in or are transferred in. The conference bridge must also include the following features:

44. **ADD: Section 3.3.2q Mandatory Requirements**
Page 38. Add bulleted sentence.

q. Have similar (or identical) voice menus, prompts, key codes, etc (i.e. Centigram emulation) as the existing system described in Section 2.2.13.

45. **DELETE: Section 3.3.2.1b Optional Requirements**
Page 38. Delete bullet a. and b. sentences.

46. **REPLACE: Section 3.4.1 General**
Page 39. Replace with the following.

The proposed system must include an Automatic Call Distribution (ACD) solution. The system shall include one single ACD located in the City Hall facility along with the proposed core switch. The ACD shall be installed with one, 10-phone call center for the Public Works department at the City Yard.

47. **MODIFY: Section 3.2.4.2 Floorplans & Documentation**
Page 36. Replace first sentence only.

The bidder shall be solely responsible for verifying the accuracy of and creating any floorplans (using base diagrams provided), cable sheets, MDF and IDF locations, handset locations and inventories, etc. within the scope of the project.

By Order of the CIT Director

RICHARD SHIGAKI
Communications and Information Technology Director

By: _____
ERNEST GALLO
Project Manager

September 25, 2008
Please return this addendum with your final bid proposal.
I hereby acknowledge receipt of this addendum

_____
Name of Company

27202 West Turnberry, Suite 100
Address

Valencia, CA 91355
City State Zip Code

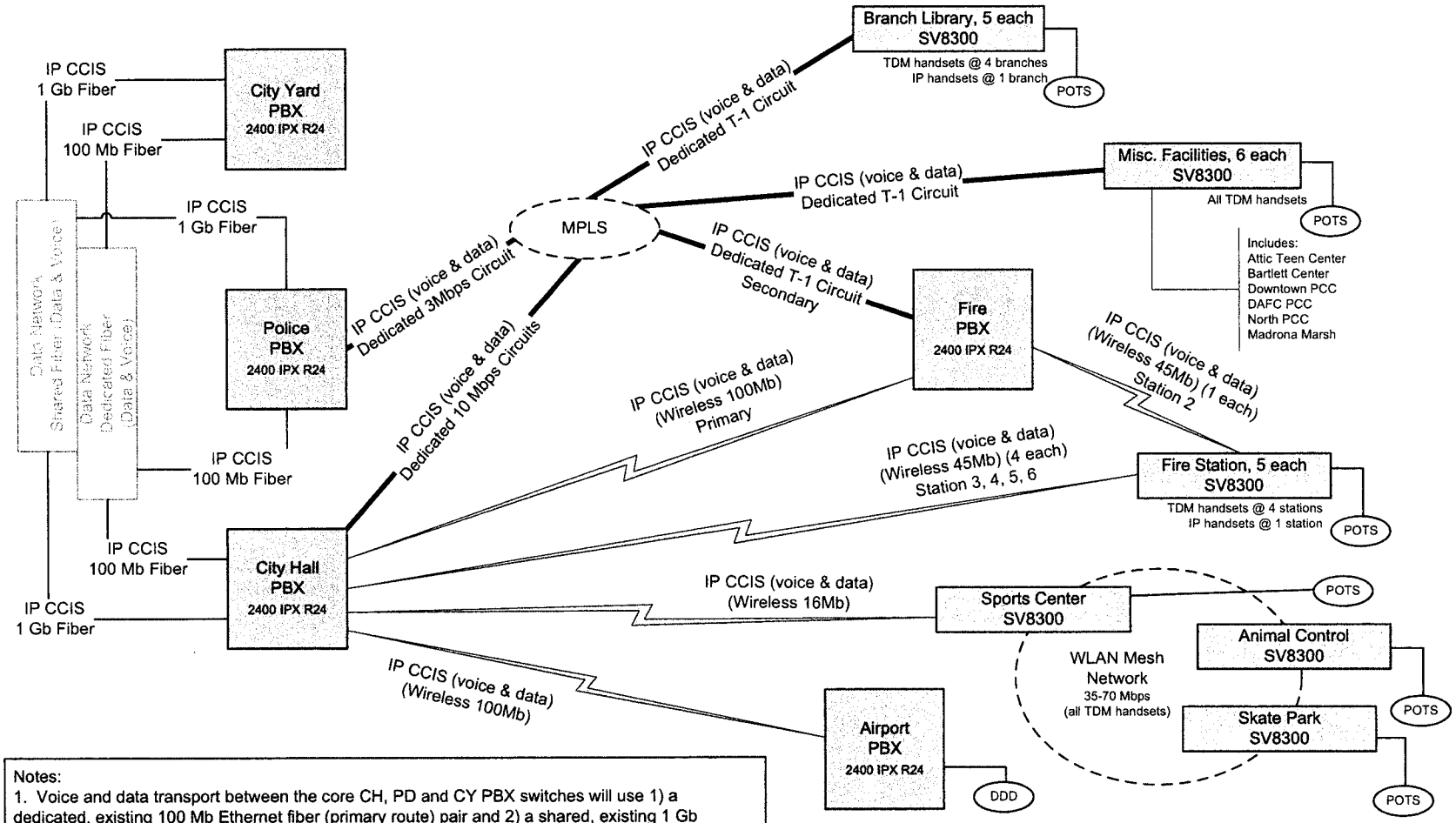
ATTACHMENT H
(Paragraph 3.2.2.13.3)

City of Torrance
Telephone Extensions by Location
(as of September 2007)

Extension	Prefix	Area Code	Location
2400 – 2499	618	310	City Hall
2500 – 2599	618	310	City Hall
2700 – 2799	618	310	City Hall
2800 – 2899	618	310	City Hall
2900 – 2999	618	310	City Hall
3900 – 3999	618	310	City Hall
5800 – 5899	618	310	City Hall
5900 – 5999	618	310	City Hall
7500 – 7599	781	310	City Hall
7600 – 7699	781	310	City Hall
2300 – 2399	618	310	Police Department
3800 – 3899	618	310	Police Department
5500 – 5599	618	310	Police Department
5600 – 5699	618	310	Police Department
5700 – 5799	618	310	Police Department
6300 – 6399	618	310	Police Department
6500 – 6599	224	310	Police Department
7100 – 7199	781	310	Police Department
3000 – 3099	618	310	City Yard
6200 – 6299	618	310	City Yard
6900 – 6999	781	310	City Yard
7000 – 7099	781	310	Fire Headquarters
7900 – 7999	784	310	General Aviation Center

Total of 2500 extensions

System Design Diagram



Notes:
1. Voice and data transport between the core CH, PD and CY PBX switches will use 1) a dedicated, existing 100 Mb Ethernet fiber (primary route) pair and 2) a shared, existing 1 Gb Ethernet fiber (secondary route) port.
2. After the fiber optic infrastructure is upgraded sometime in Summer 2009, the dedicated 100 Mb pair will be either 1) replaced by a 1 Gb path or 2) deleted without replacement in favor of passing all traffic via the shared data network. The fiber upgrade will include path redundancies built-into the data network.
3. The core CH, PD and CY PBX switches must be operational first and successfully operate for at least one week before satellite locations can be migrated.

Attachment I
(Paragraph 3.1.1.3)

ADDENDUM #8

CITY OF TORRANCE
3031 Torrance Blvd.
Torrance, CA 90503

RFP B2008-09

Request for Proposal to Furnish Telephone and Voicemail System Replacement

THE FOLLOWING CHANGES AND/OR ADDITIONS ARE HEREBY INCORPORATED INTO AND MADE A MANDATORY PART OF THE SUBJECT REQUEST FOR PROPOSAL:

1. **MODIFICATION: Schedule of Events**
   Page 6. Replace the applicable table entry with the following:

   BAFO Proposal Closing Date By 5:00 PM PST; October 31, 2008

2. **CORRECTION: Addendum #7**
   Item #14. To read as follows:

   Section 3.2.2.36 Encryption and Security Requirements

3. **CORRECTION: Addendum #7**
   Item #16. To read as follows:

   Section 3.2.2.37 PBX Analog Dial Tone Service

4. **CORRECTION: Addendum #7**
   Item #44. To read as follows:

   Section 3.3.2w Mandatory Requirements

   w. Have similar (or identical) voice menus, prompts, key codes, etc (i.e. Centigram emulation) as the existing system described in Section 2.2.13.

5. **CORRECTION: Attachment I – System Design Diagram**
   Attachment I. Corrected system design diagram

THE FOLLOWING QUESTIONS WERE SUBMITTED TO COMMUNICATIONS AND INFORMATION TECHNOLOGY (CIT) DEPARTMENT REGARDING RFP B2008-09. Included are the answers to these questions by CIT. As part of the protocol for the RFP, a copy of the answers is being sent to all known Proposers:

1. *"The due date is October 20, but how many copies did the city require?"*

   CIT Response: The proposal must include one original plus two (2) duplicate copies. The proposal may also include an electronic copy (i.e. PDF files on CD-ROM)

2. *"Addendum #7 includes attachments, additions and modifications, did you want us to just show that we're aware of them and to reply on the Addendum by signing off on them?"*

CIT Response: Yes. A signed addendum acknowledges receipt of the addendum and of all its contents.

3. *"#40 of Addendum #7 asks for an Onsite DATA Technician for 30 days. Can you clarify what level of expertise i.e., Network Engineer, Senior Network Engineer or System Integration Designer?"*

   CIT Response: The proposal must include a Senior Network Engineer with strong VoIP experience.

4. *"#30 of Addendum #7 asks for 29 UCB "Executive Desktop" licenses, and then #46 discusses centralized ACD for 10 users at the Public Works department at the City Yard. Can we assume that the ACD will be provided by UCB, and NOT the NEC ACD?"*

   CIT Response: Yes. ACD will be provided by UCB. The addendum calls for 20 each, UCB "Executive Desktop" licenses.

5. *"Is there a particular format you want for the pricing response?"*

   CIT Response: The proposals must use the original price sheet format provided. Please complete the provided sections as best as you can. Bidders are strongly encouraged to also include more detailed price sheets for evaluation.

6. *"Since the diagram shows an IP CCIS connection between all sites, will there be a need to equip the SV8300's for OPX lines back to the main site? Also, will there be a requirement to maintain T1 CCIS between any core sites?"*

   CIT Response: No. All previous references to OPX requirements have been deleted/removed. No. There is no requirement for T1 CCIS connectivity after system acceptance. However, depending on the agreed upon final deployment plan, T1 CCIS may be required only during cutover.

7. *"At the BAFO meeting there were discussions about the City's interest in having the SV8500 at the core sites instead of the 2400IPX. The diagram shows 2400IPX. Please confirm that this is the platform desired in our final pricing response."*

   CIT Response: See corrected diagram attached to this addendum.

8. *"The Data Assessment previously included was based on 20 nodes (Addendum #2, Item 12). With the final IP design please confirm the Scope you want to have assessed? i.e. # of LAN Switches, WAN Routers"*

   CIT Response: The data assessment must evaluate connectivity to/from all 19 satellite locations and between all five (5) core locations. A total of 30 "nodes" should be assumed.

9. *"(Addendum 7 #6) – Will the City provide the necessary LAN switch ports for connecting the Voice Application Servers?"*

   CIT Response: Yes.

10. *"(Addendum 7 #6) – Do the necessary PoE switch ports to support IP Handsets exist today where the City wants them deployed or will this be the responsibility of the Vendor? If Vendor, please provide the device counts per site based on locations within 300 meter radius to an IDF."*

    CIT Response: No. The City will provide any necessary PoE data switches, power injectors or elect to use wall-outlet plug-in power supplies.

11. *"(Addendum 7 #6) – Will the City provide the Workstations for users associated with desktop applications, such as, ACD, Consoles, UM & Softphones which use Desktop PC Client Software?"*

CIT Response: Yes. Existing client PCs will be used. The proposal must indicate if and why a dedicated PC is required. If required, the new PC must be included in the proposal.

12. *"For Attendant Software-Based Consoles, will the City supply the Workstations? Will these be deployed Day 1?"*

    CIT Response: Yes. A PC will be provided for the one license requested. The attendant software must be installed and tested prior to final acceptance.

13. *"Are any of the phones listed in Addendum 7, Item 13 to be spares?"*

    CIT Response: No. The list did not include spares.

14. *"Attachment F & G are based on existing inventory. Will the Vendor be provided with similar Attachments so that we can determine how to equip each system for IP, Digital & Analog Station Ports/Licensing and Trunking (PRI, analog, OPX) requirements? And how many and which type of phone is to be installed at each site?"*

    CIT Response: No. Final handset installations will be determined subsequent to completing the detailed user inventory as described in Section 3.2.4.2. Generally, all 6-button handsets shall be replaced with new 12 button handsets. All 16- and 32-button handsets shall be replaced with new 24-button handsets. All 24- and 60-button DSS modules shall be replaced with new 60-button DSS modules.

15. *"There was no mention in Addendum 7 of the Call Accounting requirements as stated in Section 3.5. Please confirm what the City is requiring for this Application. Do you want the MA4000 Expense Management Module to handle this requirement?"*

    CIT Response: The CDR requirement in Section 3.5 still applies.

16. *"(Addendum 7 #39) Please confirm the term of Maintenance Coverage to be included for all systems and applications."*

    CIT Response: The maintenance coverage term in Section 4.7 still applies.

17. *"(Addendum 7 #17) – This item states a requirement to provide back up power to "operate all" components at a location. Does this apply to vendor supplied equipment only or will we be provided with a list, including specifications, for each add'l component we need to provide back up power?"*

    CIT Response: The proposal shall assume that at the: 1) core locations only those items purchased as part the proposal shall be powered and 2) satellite locations only those items purchased as part the proposal and a Cisco 2800 router and Cisco 3600 switch shall be powered.

18. *"(Addendum 7 #35) – Please confirm that you want to use a SV8300 vs a SR-300 (Survivable Remote Gateway) at the Satellite sites to be equipped only with IP handsets. If SV8300, we need to know the # of IP licenses to be equipped for each system."*

    CIT Response: Yes. Refer to diagram attached to this addendum. The following locations will be assigned IP handsets: Henderson Library (6 each), Fire Station 5 (6 each), Madrona Marsh (15 each), and Downtown Police Community Center (6 each).

19. *"(Addendum 7 #46) – Should the Centralized ACD System be equipped with more than the 10 licenses to be working Day 1? Do you want the Agents/Supervisors to have Agent Desktop licenses for real-time*

viewing of all their Call Center Activity? This feature also allows for Chat between agents and supervisors, along with log-in status."

CIT Response: No, only 10 licenses are required. Yes, supervisors must be able to view call center activity in real-time.

20. *"With the increased number of IP handsets, should each bidder include PoE switches to support the total number of IP handsets (to include the minimum 2 satellite locations) or can the bidders assume City of Torrance will have PoE switched ports in all locations receiving an IP handset?"*

    CIT Response: No. Refer to City's replies to #10 and #18.

21. *"What is the new Contract Award date?"*

    CIT Response: The Contract Award date is presumed to be the date staff's recommendation is approved by City Council. Based on the revised proposal due date, staff projects submitting their recommendation to Council for the December 9th meeting. Typically, a bidder's request to negotiate terms, submit documents, etc. delays the actual award date.

22. *"In regards to bidder responses to Addendum #7, what format would City of Torrance prefer (electronic, binder, etc.)? If physical copies are requested, how many copies? Should we include additional copies of our original response? Should all pricing be provided in the Extended Pricing section of the original Section 3.0 System Pricing?"*

    CIT Response: Please refer to City's reply to #1 and #5.

By Order of the CIT Director

RICHARD SHIGAKI
Communications and Information Technology Director

By: _____
ERNEST GALLO
Project Manager

October 9, 2008
Please return this addendum with your final bid proposal.
I hereby acknowledge receipt of this addendum

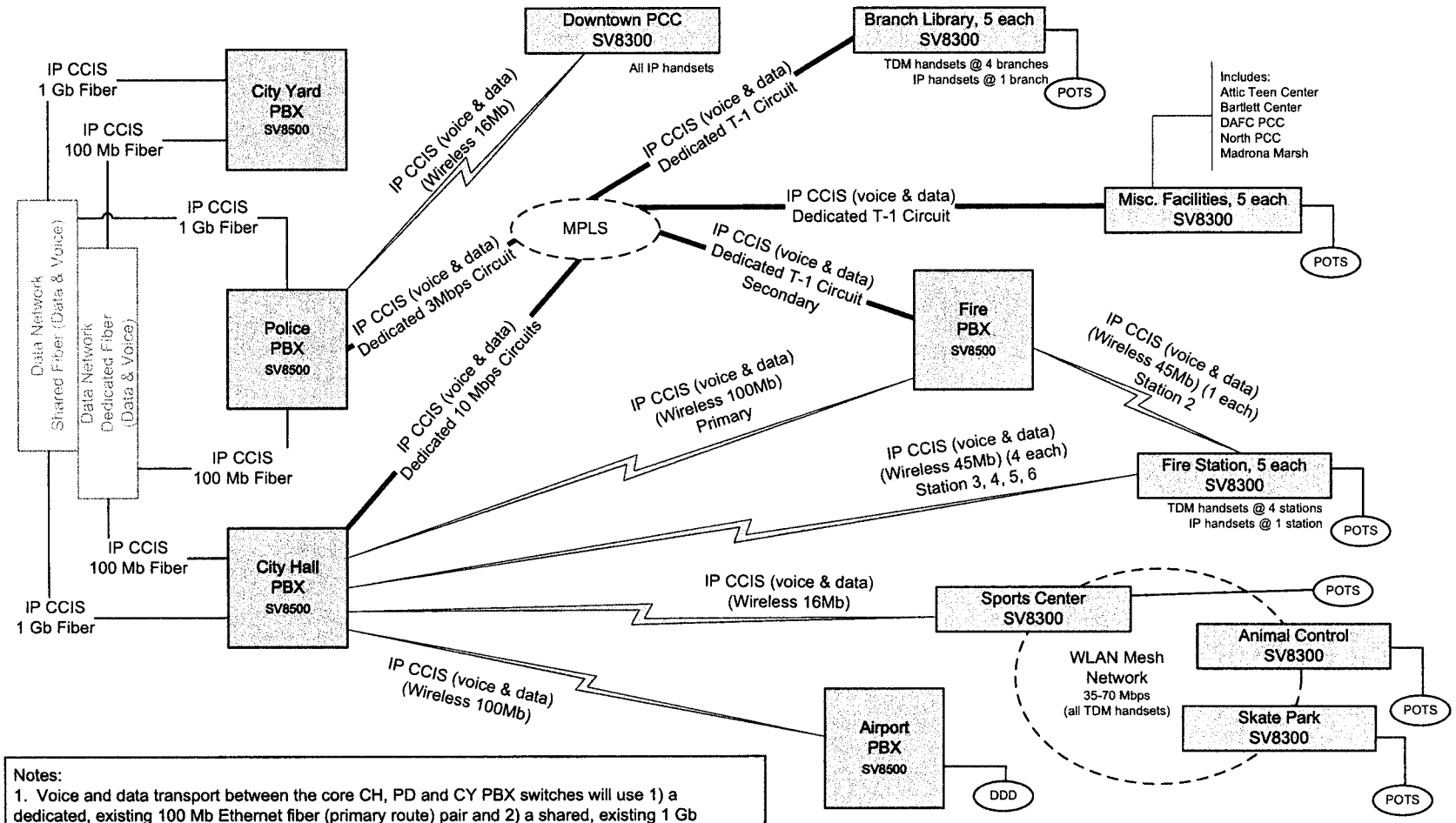
_____
Name of Company

27202 West Turnberry, Suite 100
Address

Valencia, CA 91355
City State Zip Code

System Design Diagram

(10/9/08)



Notes:

1. Voice and data transport between the core CH, PD and CY PBX switches will use 1) a dedicated, existing 100 Mb Ethernet fiber (primary route) pair and 2) a shared, existing 1 Gb Ethernet fiber (secondary route) port.
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Attachment I
(Paragraph 3.1.1.3)

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GENERAL INFORMATION

Customer Contact Information

Name	Title	E-mail Address	Phone
Ernest Gallo	Communications Manager	egallo@torrnet.com	(310) 618-2885
Jim Caprio	Communications Supervisor	jcaprio@torrnet.com	(310) 781-7696
Richard Shigaki	Communications/IT Director	rshigaki@torrnet.com	(310) 328-5310
Eric Ngo	Systems Analyst	engo@torrnet.com	(310) 328-5310

Nexus Contact Information

Name	Title	E-mail Address	Phone
Phil Mills	Account Manager	Phil.Mills@nexusis.com	(661) 775-2843
Heidi Gloudemans	NEC Pre-Sales Engineer	Heidi.gloudemans@nexusis.com	(206) 219-6201
Bob Morrell	NEC Sales Manager	Bob.Morrell@nexusis.com	(206) 219-6242
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Mike Heiman	VP Engineering	Mike.Heiman@nexusis.com	(661) 775- 2409

Document History

Author: Phil Mills

Revision History

Version	Issue Date	Status	Reason for Change
1.0	Oct. 31, 2008	Revision 1	BAFO Revised RFP Requirement

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PROPOSAL SUMMARY

Nexus is pleased to present this revised RFP response to City of Torrance for a NEC SV8500 voice solution. Using the information discussed in our BAFO meetings, as well as a careful review of your updated RFP requirements, we feel you have taken the right approach in selecting a system that will deliver an efficient and reliable communications experience for employees as well as residents and businesses contacting the City of Torrance.

Governments worldwide are investing in a converged network that transforms the ways they interact with citizens. By linking local, regional, and provincial departments and assets on the same network, governments provide constituents with communication and collaboration tools that promote citizen interaction and enable timely and accurate decision-making capabilities. Bottom line, governments that adopt wired and wireless broadband, unified communications, security applications, and storage services are able to dramatically extend their capabilities, resulting in increased networking efficiencies.

In this proposal we will demonstrate how Nexus' experience, expertise, and ability to execute will help the City of Torrance benefit from this advanced technology powered by NEC. This solution is highly reliable, readily scalable, integrates well with your existing systems, is easy to administer, and costs less to maintain than your existing end of life NEC platform.

City of Torrance's Communication Challenge

In today's fast-paced business environment, City of Torrance employees must increasingly rely on a variety of technologies and devices to meet their communications requirements. The proliferation of e-mail, instant messaging, voice messaging, FAX, rich-media conferencing, and other technologies can lead to information overload, misdirected communications, and communications bottlenecks that delay decisions, slow down processes, and reduce productivity.

This dispersed approach to communications translates to missed deadlines and opportunities, driving constituents away and hampering your ability to quickly adapt and respond to changes. According to Forrester Research, more than 50 percent of companies surveyed said that communication inefficiencies have become "status quo"—so much so that they experience project delays on a weekly basis. (March 2005 Next-Generation Communications Study).

Municipalities like City of Torrance need a reliable communications solution that will overcome these hurdles and enable them to:

- Gain visibility into the availability, schedules, and presence of primary decision makers and primary players in a timely way.
- Collaborate with colleagues—spontaneously, productively, cost-effectively, and on an ongoing basis—to produce tangible business benefits.

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WHY CHOOSE NEXUS AS YOUR PARTNER?

As a **NEC Triple Diamond Dealer** and **Cisco Gold Certified Partner**, Nexus is a leading partner of the Manufacturers the City of Torrance has learned to trust. These designations recognize Nexus for its in-depth sales capabilities, technology skills and service offerings, as well as proven experience and investment in the training and personnel needed to meet the growing global demand for highly sophisticated, applications-based unified communications solutions.

Experience

We have installed Advanced Technologies to over 10,000 customers. This experience has taught us the proper methodologies for understanding your organizational goals and how to translate those into a repeatable and predictable process that delivers customer satisfaction. As an organization, we use the latest products and learn from our own installations rather than learning at the customer installation site. As a result, we know what it takes for an organization to successfully implement a converged environment.

Expertise

We invest heavily in hiring, training and retaining top talent in our industry. In the last year alone, Nexus has invested over $1 million in training and development to keep our teams ahead of the technology curve. This expertise is recognized by the fact that, out of 1000 NEC partners, Nexus is one of Five Triple Diamond Dealers.

Nexus differentiates itself by...

- *10,000 customers served*
- *NEC Triple Diamond Dealer*
- *Gold Partner with Cisco and Microsoft*
- *Master ATP Certified Partner*

Execution

Nexus' top priority is to ensure a long-term successful relationship with our customers. To assist our customers in achieving their goals, we integrate advanced technology at the time of release. "First and Fast to Market" is the method we use to learn and transfer that knowledge to our customer's deployment experience. We also have deployment teams with experienced professionals in every key discipline to help customers better utilize the power of IP.

Conclusion

Successful organizations have used Nexus' advanced technologies including: Converged Networks, Unified Communications with Presence and Mobility, Unified Contact Centers, Data Protection Security, Wireless, Professional Services, Managed Services, and collaboration with TelePresence, WebEx,

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MeetingPlace, and Digital Media Signage to differentiate themselves and achieve their organization's objectives.

WHY CHOOSE AN NEC SOLUTION?

Experience

Market leadership, competitive advantage and growth opportunities are not guaranteed through innovative technologies alone. Savvy businesses depend on the expertise of technology solutions providers, who can customize and deliver the services required in today's connected enterprise to ensure optimal performance and return on investment.

That is why thousands of enterprises across North America, including Fortune 1000 companies and major vertical industries such as healthcare, education, and hospitality, trust NEC Unified Solutions to deliver unparalleled excellence and customized solutions for their unique networking and communications needs.

NEC Unified Solutions optimizes a customer's communications infrastructure and technology investments, and delivers excellence through its Professional and Managed services like network assessments; remote monitoring and management; systems integration and network security.

With today's economy and demanding public needs, businesses are under constant pressure to perform at their highest production and service levels in order to retain loyal customers. This pressure is increased as companies try to meet employee needs for better working conditions, shorter hours, more money and continued training and education.

NEC products and services are designed to fulfill the needs of enterprise business customers and employees while maintaining the basic requirement to make money. With NEC communications products, applications and services, today's enterprise businesses can provide systems with over 24,000 ports and have all of their communications systems and networking needs met through one vendor.

NEC Unified Solutions' comprehensive portfolio includes:

- SMB & Enterprise Communications Platforms
- Unified Communications
- Network Infrastructure
- VoIP Solutions
- Contact Center Applications
- Network Security Solutions
- Broadband & Carrier Services
- Wireless Solutions
- Digital Signage

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- Infrastructure Services
- Managed Services
- Professional Services

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TECHNICAL OVERVIEW OF PROPOSED SOLUTION

SV8500

Nexus is pleased to respond with a NEC SV8500 Communications solution. The SV8500 (part of the UNIVERGE360 Unified Communications strategy) is a comprehensive, scalable, and secure IP communications system of voice, data and presence products. UNIVERGE360 provides a highly mobile and more personal way of communicating, offering even the largest global enterprises exceptional levels of customer satisfaction, mobility, and security.

Integrated Approach to Unified Communications

- *Improves accessibility to information and experts.*
- *Increases productivity and speeds up task completion and issue resolution.*
- *Enhances customer service, satisfaction, and loyalty.*
- *Improves business agility.*
- *Promotes sustainable competitive advantage.*
- *Increases sales and profitability.*

Nexus recognizes that essential elements are necessary to achieve a more unified and efficient enterprise. Too many telecommunications equipment providers limit their definition of Unified Communication to just the network because the plumbing is seen as equivalent to the full communication system. Nexus pays close attention to the implementation and updating of infrastructure, but we do not believe the story ends there – it is merely the foundation upon which UNIVERGE360 is built. With this foundation, Unified Communications encapsulates all end-user applications in a single environment common to mobile devices and desktop environments. These are two of the elements that make up a Unified Business, which is defined by a user's role in a business process, as part of a team, and as a communication consumer in her own right.

More than just a voice solution, NEC SV8500 is a strategic business investment that integrates communications more closely with your processes, helping ensure that information reaches recipients quickly and through the most appropriate medium. This solution can transform your business with advanced messaging, virtual contact centers, mobile IP soft phones, and unified messaging.

Solution Benefits

NEC SV8500 improves operational efficiency and contributes to a consistent and superior customer experience by making communications more effective, secure, mobile, and personal. Areas of benefits for real-world organizations that deploy unified communications:

- **Improved Customer Service and Competitive Advantage**: In a January 2006 survey, 83 percent of executives stated that unified communications gave them a competitive advantage over other organizations in their industries. Sources for competitive advantage include the ability to transfer

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and route calls easily, presence technology that enables employees to quickly determine the best method for reaching co-workers, single number reach, and Cisco Unity unified messaging.

- **Improved Operational Efficiency**: NEC SV8500 and UNIVERGE360 bring speed and agility to business processes, enabling great automation and fewer errors and promoting productivity and operational efficiency. According to Sage Research, "employees at organizations using unified communications clients...save a full 32 minutes per day on average by being able to reach other co-workers on the first attempt."
- **Organizational Efficiency:** Companies reported cost savings and revenue generation benefits. One example of cost savings comes from customer's ability to support their own telephony systems rather than relying on outside IT support. Another example is improvement of call center flow and volume.
- **End-User Productivity:** Companies improved productivity with a workforce that could be more mobile without sacrificing functionality. Almost half of the companies surveyed reported less telephone tag—saving an average of four hours per week per employee.

1. **IT Staff Productivity**: Company IT staff were able to manage moves, adds, changes, and other normal support tasks more quickly. They also spent less time providing help desk support for telephony.
2. **Retail**: Seventy-five percent of retail store managers said they would save from several minutes to up to one hour per event with the ability to reach decision makers using any communications device, with a single phone number.
3. **Healthcare**: Seventy percent of nurses said they would save from 30 minutes to one hour daily with instant access to experts, which translates into better patient care and lower staffing costs.
4. **Financial Services**: Sixty-six percent of respondents said that if loan specialists could save time by more quickly reaching bankers, they could process more loan application inquiries per day. All of these respondents estimated that they would save at least four hours per loan.
5. **Controlled Costs**: Research shows that unified communications provide both employee productivity and direct cost savings. Sources of cost savings include reduced IT network management requirements, elimination of multiple leased lines at multiple branch offices, and the ability to shift from third-party conferencing services to internal conferencing.

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The following table summarizes the benefits and concrete returns found in the 2006 Sage Research study.

Benefit	Average Benefit Reported
Additional sales revenue; for example, from increased call center activity	$3000 more monthly sales per inbound sales agent
Additional inbound sales calls from integrated contact center applications	30 additional calls daily per inbound sales agent
Less telephone tag for employees.	4.3 hours savings weekly per employee
Increased mobile worker employee.	5 hours weekly per mobile worker
Improved remote office employee productivity.	4 hours weekly per remote office employee
Faster moves, adds, and changes to telephone extensions.	2 hours per move; average of three yearly moves per employee
Less time spent on vendor management because of single-vendor solution.	5 hours monthly per IT employee
Less time spent managing telephony-related equipment.	4.7 hour weekly for IT group
Less time spent resolving user issues because users can use telephony features without needing assistance.	4.7 hours weekly per IT employee involved with telephone support

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PROPOSED NEXUS PROFESSIONAL SERVICES

Since the mid-1980s, Nexus has focused on providing the engineering and support expertise to meet customer requirements for advanced technology solutions. Our thorough understanding of networks, security, wireless, voice, video, data, and IP telephony, along with our strong relationships with technology leaders Cisco, NEC, and Microsoft, enables us to deliver a wide range of effective technology solutions.

Our professional services use successful methodologies based on a six-phase technology solution life cycle that enables quick deployment of advanced technologies with minimal disruption to your business operations.

Nexus specializes in delivering innovative convergence solutions that provide businesses with a distinct competitive advantage. We understand the challenges posed by today's rapidly evolving technologies and leverage our extensive engineering team to help our clients meet these challenges. We work hard to understand the unique needs of each of our clients, and develop a personalized technology strategy to help them succeed.

Below is a sample of a professional service engagement which is included in Nexus proposals that follow Nexus' proven methodology. Professional service engagements will be customized during the scope of work process.

Sample UC Professional Services engagement:

- Assignment of Nexus Project Manager.
- Provide NexusCare second day support.
- Provide knowledge transfer for administering the systems and to end users.
- Assignment of Nexus Project Manager.
- Coordinate status meetings, equipment, change orders (if needed).
- Work with your team to collect database information for current user information.
- Install/configure SV8500 servers and edge SV8300
- Configure and test IP phones.
- Configure voice gateways at remote locations.
- Configure integration with additional customer applications.
- Provide help desk during cutover.

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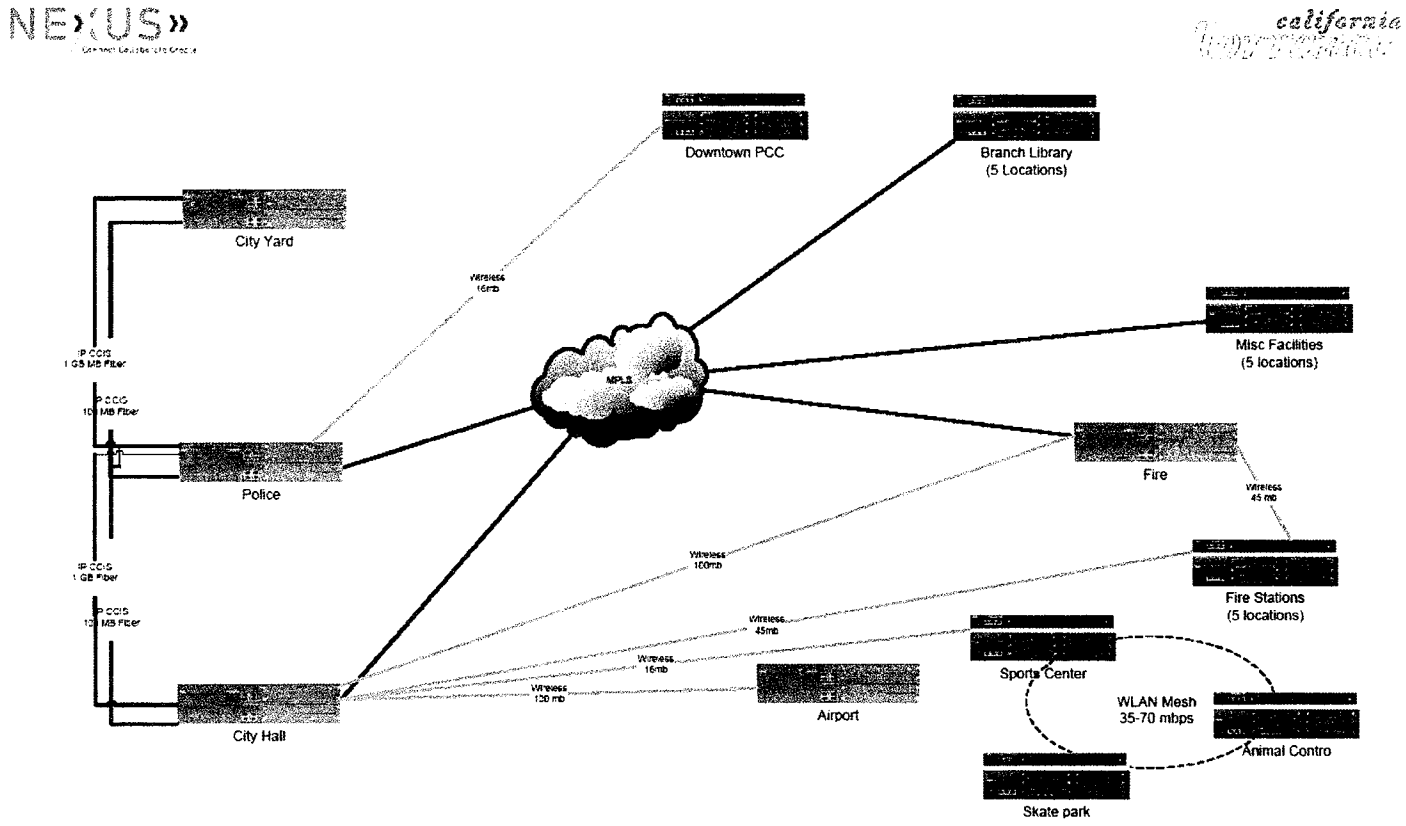
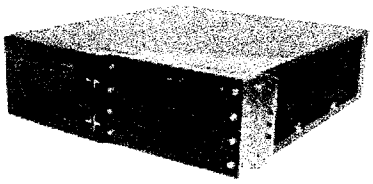
PROPOSED NEC SV8500 ARCHITECTURE



COMPONENTS

SV8500 Voice Server



UNIVERGE SV8500

NEC's UNIVERGE SV8500 Communications Server is the optimal product for a pure IP or converged hybrid network. It was developed to fully satisfy the communication needs of the enterprise and is an integral part of NEC's UNIVERGE®360 approach to empower your business and to make your network a more productive asset.

The flexible SV8500 supports a powerful set of open standards for interoperability and provides a cost-effective means of leveraging your organization's existing investments. Even though it is designed to be a part of a pure IP architecture, the SV8500 can accommodate pre-existing traditional systems and support solutions that use both centralized or distributed conferencing and trunking equipment.

The SV8500 serves as the foundation upon which a robust IP telephony solution can be built. It is the next step on the evolutionary path of the SV7000 and the NEAX 2400 systems, and it can be incorporated into networks that contain either one or both of these products.

SV8300 Voice Server

Business today demands efficient, seamless communication to enable rapid decision-making and customer responsiveness. NEC's UNIVERGE360 is our approach to help small to medium-sized sites succeed at this accelerated level by unifying all aspects of business communication. The UNIVERGE SV8300 Communications Server is an integral part of this initiative.

The SV8300 Communications Server is the ideal system for medium-sized businesses that wish to compete and grow their businesses over time. This robust, feature-rich solution is completely scalable and can be expanded to meet your communications needs both now and in the future.

Designed to be both versatile and scalable for your growing business needs; the SV8300 supports IP, TDM video, wired or wireless. It also provides high-powered features and applications that can be transparently shared between branch or remote locations. Individuals, departments and locations can work more efficiently by using this feature to communicate seamlessly in real time.
For the City of Torrance, edge/remote sites will be serviced by SV8300 voice servers.

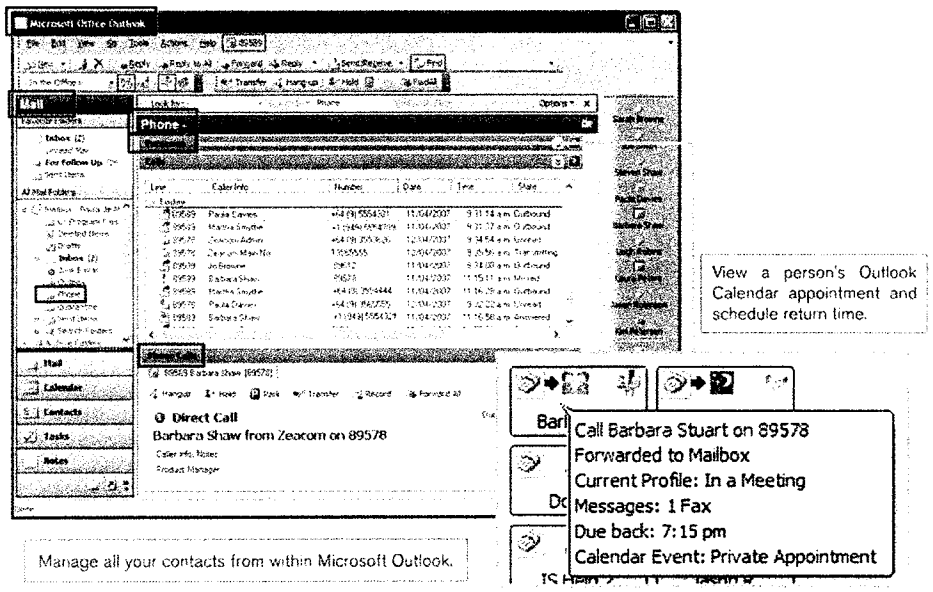
Unified Communications for Business

Many companies use call centers, or contact centers as they are now known, to centralize the handling of large numbers of inbound inquiries. These inquiries can range from requests for product or service information through to orders and post-sales support.

Contact centers may also make outgoing calls as a means of up selling an existing customer base, acquiring new customers, debt collection and for a wide variety of other purposes. Contact centers go far beyond simply handling phone calls as customers increasingly wish to communicate via other means such as by fax, email, SMS messaging, chat and via your company's website.

A company's contact center is often the first experience its prospects and customers have of the business, however many contact centers struggle to meet customer expectations with the resources available to them.

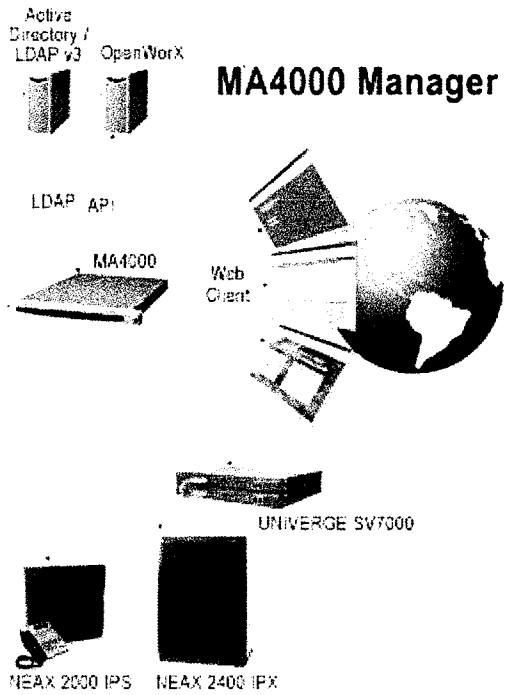
A UCB contact center solution is tailored not only to your organization's requirements but also to the needs and preferences of your customers. UCB's contact center solutions offer a modular, scalable solution that can cater to a 200 seat contact center environment.



MA4000

The NEC MA4000 Management System is a web based, centralized voice server management system. MA4000 has the ability to manage the normal day-to-day tasks of voice server administration:

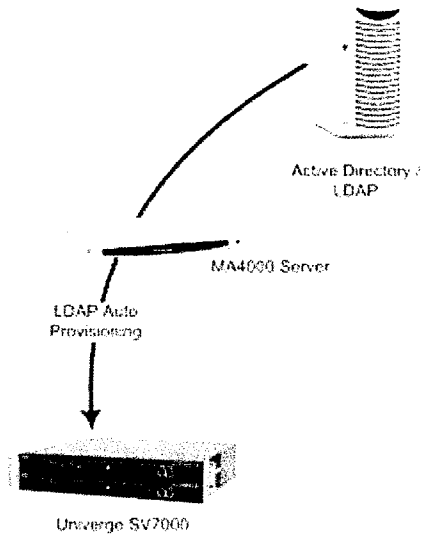
Support for all NEC UNIVERGE™ Voice Systems:



- SV8500
- 2400 IPX
- 2000 IPS
- Web Browser Operation
- Email Alarm Notification
- Alarm Client Notification
- LDAP Auto Provisioning Service
- LDAP Authentication
- Windows Authentication
- IT Friendly Interface
- Flexible Access Levels (Roles)
- Application Program Interface (API & SDK)
- Security
- HTTPS supported
- Audit Trail Logging
- Customizable Portals
- Command Line Interface
- Integration to OpenWorX
- Centralized Authentication Service (NEC CAS)
- System Health Monitoring
- Schedulable Range programming

Centralized management is an essential part of a complete voice solution in today's enterprise environments. The MA4000 has the ability to manage all of a company's voice servers simultaneously and with virtually no interaction by the administrator on a daily basis. MA4000's friendly user interface is simple to use and requires almost no training for an administrator to begin using the management system. Traditionally, voice servers have been difficult and cryptic to administer.

MA4000 has removed the mystery behind voice server administration. Powerful tools in MA4000 allow for any task performed within the system to be done with ease. Tools like Range Programming can perform large tasks, such as adding new stations, changing station programming or numbering, and moving, swapping or deleting stations, over 12 times faster than using traditional methods.



Another powerful tool touted by the MA4000 is its LDAP auto-provisioning system. Using advanced and granular LDAP integration, data filters and provisioning templates, the LDAP Auto-Provisioning System provides standardized integration to an administrator's existing network provisioning system. This is a true single point of entry and will greatly reduce the amount of time and effort necessary to complete moves, adds and changes within an enterprise network.

AVST Voicemail Solution

At the core of CallXpress is an advanced voice mail system that answers your calls when you can't. Your personalized messages can let callers know if you're on another call, away from your desk or out of the office. It can also route customers to self-service applications when you can't talk to them in person.

For even greater productivity, all of your messages — voice, fax and e-mail — appear in your Microsoft Outlook®, Lotus Notes®, or other IMAP4-compatible e-mail box. Messages can be prioritized easily and accessed in any order. No longer will you have to dig through all your voice messages just to get to the important ones. The end result: less time managing your messages and more time acting on them.

Your global employees can take advantage of the mobility features of CallXpress, because it supports multilingual text-to-speech. CallXpress desktop clients are available in Danish, Dutch, English, French, German, Italian, Norwegian, Spanish, Swedish and Finnish.

Automated Agent is an optional module of CallXpress that supports full-featured Interactive Voice Response (IVR) capabilities. For development purposes, Automated Agent operates as a third-party plug-in into Microsoft's Visual Basic (VB) programming environment, essentially providing access to the messaging and call processing engines of CallXpress from within VB applications. As Automated Agent does not utilize a proprietary scripting environment and data access connectors, IVR applications can be implemented very easily and economically. With the basic features of Visual Basic, along with the vast array of other third-party controls available for Visual Basic, Automated Agent can be used to develop custom IVR applications that interact with a wide range of host, server and database environments. Automated Agent is fully integrated with all other features of CallXpress, providing advanced and automated applications directly from within CallXpress, with no need to transfer the calls to other servers.

The CallXpress Application Programming Interface (API) allows programs to access the CallXpress messaging handling and line control functions, as well as to access individual mailbox content.

Since Automated Agent does not utilize a proprietary scripting environment and data access connectors, IVR applications can be implemented very easily and economically. With the basic features of Visual Basic, along with the vast array of other third-party controls available for Visual Basic, Automated Agent can be used to develop custom IVR applications that interact with a wide range of host, server and database environments

As well as supporting the traditional CallXpress Telephone User Interface, CallXpress also supports a number of Alternative Telephone User Interfaces. The CallXpress Alternate Addressing TUI is identical to the CallXpress Legacy TUI with the exception of how new messages are addressed (See CallXpress Alternate Addressing TUI). The other alternative interfaces have been designed to mimic the user interfaces of popular legacy voice mail systems. These interfaces closely duplicate the prompts and keystrokes used on those legacy systems to perform all of the messaging functions on the system. For the Aria and Serenade systems, CallXpress offers two alternate interfaces; a traditional one and one with a more concise set of prompts. Using these interfaces allows users to move from one of the legacy systems to a CallXpress system with little or no training being required. CallXpress currently offers the following user interfaces:

- CallXpress Legacy
- CallXpress New Addressing
- Octel Aria
- Alternate Octel Aria
- Octel Serenade
- Alternate Octel Serenade
- Centigram
- Avaya Intuity
- Nortel Meridian Mail

While these interfaces are not perfect copies of the legacy interfaces (the PhoneManager mailbox setup functions differ from the legacy version equivalents), they do allow a user to perform the following critical messaging functions using the exact key strokes they know from the older interface:

- Read messages
- Forward messages
- Delete messages

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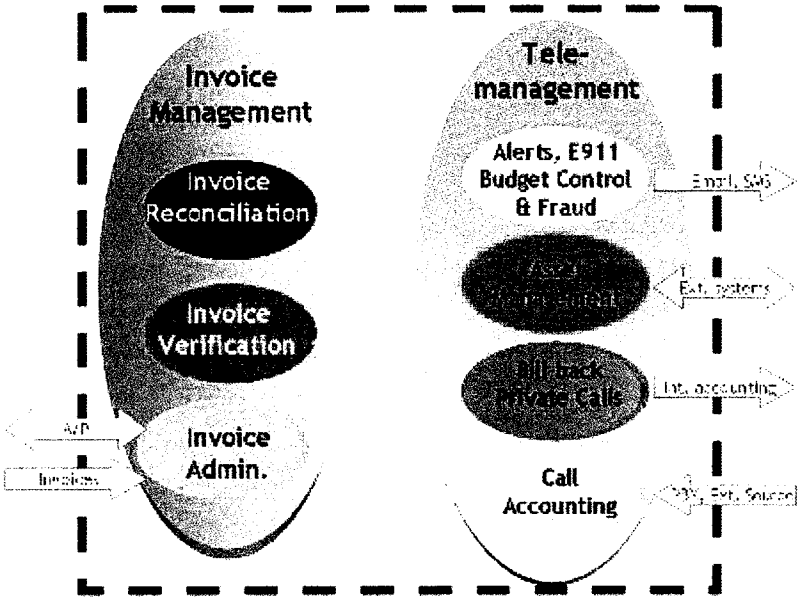
- Save messages
- Send new messages
- Pause, resume, skip ahead, ship back, etc.

MTS

MTS (wholly owned subsidiary of NEC) has visionary Telecommunications Expense Management (TEM) solution helps corporations, universities, institutions, government agencies, airports, utilities, and other enterprises looking for telecom expense management solutions. Reduce communications cost by improving the efficiency, performance, and accountability of telecommunications usage as well as reconciling telecommunications invoices against actual contracts.



- Operation Costs – Know what you're spending.
- Audit Controls – Know if your phone bills are correctly priced
- Fraud Control – Know if your system is abused
- Activity Analysis – Know how your communications are used
- Performance – Know who is using your equipment, and when
- Utilization – Know how and to what extent your devices are being used
- Facilities – Know your inventory and assets expenses.

- Work Flow - Track work orders, trouble tickets and service requests, as well as Invoice approval processes.
- Managed Services – Outsourcing your IT communications.

You know automatically in real time by proactive alerts and messages.

The basis of our telecom expense management software is the MTS Application Suite infrastructure consisting of a series of modules that can be added as desired to cover telecom invoice management and much more. The basis of the TEM platform is the MTS Application Suite infrastructure consisting of a series of modules that can be added as desired. The MTS Application Suite is an integrated proactive and policy-based solution to manage and control the entire communications network, from basic Call Accounting through usage tracking and invoice reconciliation up to full IT Service Management. This web-based comprehensive, fully scalable solution lets enterprises and organizations save money and be more productive by providing them with the right tools to effectively manage their IT operations and services, thereby significantly reducing the cost and complexity associated with managing and monitoring internal and external communications.

The MTS Application Suite is designed to fit across the board of all organizations, enterprises, institutions or companies that desire to monitor, control, and manage their telecommunications expenses. The solution caters to all vertical markets, and is especially cost-effective for those enterprises that span multi-sites and have high volume communications traffic and expenses. It is these organizations that are also vulnerable to abuse and fraud, and the MTS solution is ideally suited for tracking these conditions, - while at the same time assuring the privacy of the parties.

The system's scalable, agile and modular architecture supports the ongoing expansion of system functionality. New modules may be added, based on customer requests, special projects requirements or market trends, and offer a comprehensive range of functionalities, including;

- Invoice Management (Bill Reconciliation, Dispute Management)
- Call Accounting & Management (On-line Directory of personnel
- Facilities Management (Assets, Cables, Inventory)
- Workflow & Help Desk (Work Orders, Trouble Tickets, MACs, Service Requests, Invoice Approval process)
- Mobile Phone Usage Management (Calls Verification & Reconciliation)
- Switch and IT Provisioning (Class of Service, Switch Control)
- Bill-back (Charging to Accounts, Sending Invoices)
- Fraud Management (Alarms, Alerts)
- Budget Control Management (Credit Limit Manager)

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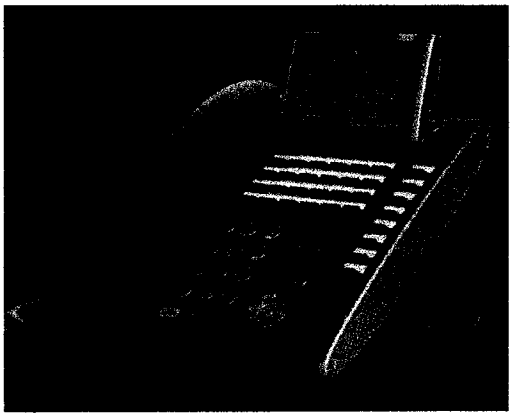
- Reports (System, User Created, Performance Metrics, ACD & Traffic)
- Private Calls (Tagging)
- My Portal (Executive dashboard, Web Self-viewing)

Enterprise 1U Server Option

- 1.6 GHz Dual Core Intel Xeon Processor (one)
- 2GB RAM
- 73GB Hard Drive (one)
- DVD-ROM drive
- 4 USB 2.0 Ports
- Microsoft Windows 2003 Server Operating System
- Recommended for MA4000

NEC Digital and IP Phones



In today's intensely competitive business environment, smart companies know that it takes great customer service to get ahead.

UNIVERGE Desktop Digital Terminals offer features and benefits that brilliantly capture the essence of form and function while providing businesses the means to seamlessly communicate with their customers. These terminals, which are an important part of NEC's UNIVERGE360 approach, deliver exceptional value and can be customized to fit your organization's needs. With their user-friendly ergonomic design, a range of models to choose from and a choice of interfaces and options, they provide users with access to the full power of UNIVERGE communication platforms.

NEC's UNIVERGE Desktop IP Terminals provide all the features and functionality of traditional phones with the seamless integration of advanced IP applications. Integration of voice and data is no longer

limited to the network or the PC desktop; it is now in the end-users' hands, providing role-enabled communications as part of NEC's UNIVERGE360 approach.

UNIVERGE Desktop IP Terminals are ergonomically designed for natural comfort and facilitate use through an array of menu-driven soft key functions and easy-access function keys. Together, these aspects of the terminal deliver power, versatility and programmability to all user stations, maximizing efficiency and productivity.

Because the entire desktop surface is crafted for user productivity and fosters better speed, service and performance, the UNIVERGE Desktop IP Terminal can help your business reach more profitable heights.

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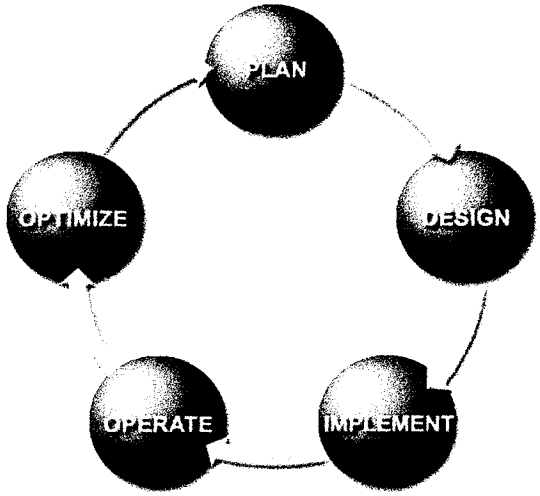
NEXUS COMMUNICATIONS PRACTICE METHODOLOGY

Full Lifecycle Support



Nexus IS' Professional Services portfolio covers the spectrum of lifecycle support for communication technologies and applications. From planning, needs assessment, system analysis and design, to implementation and integration, to maintenance, training, and on-going operations support and management - Nexus IS provides end-to-end professional services designed to maximize system performance and your return on investment.

The following steps outline and illustrate the major activities, methodologies and significant milestones involved in successful IP Communications projects. We will develop detailed project plans and timelines specifically designed to meet your company's individual needs and requirements.

Planning

During the planning stage, we will document the logical and physical attributes of the network so that we have a comprehensive understanding of the voice and data networks. The following sample of tasks that are used as a guideline:

- Identify Business Requirements
- Discover/Document Station requirements
- Discover/Document System requirements for which we have been contracted
- Document the cabling infrastructure for voice and data as provided by City of Torrance
- Data jacks/cable pair locations
- Demarc locations for minimum points of entry
- Document the IP addressing scheme used in each building - customer provided information
- Identify/Document which subnets are using DHCP
- The logical layout for the data network will be documented and verified with Client
- All information will be recorded in an Excel spreadsheet and provided to Client for verification
- Assess the cabling infrastructure and note required changes

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Design

Translate identified business requirements into a technical design

Determine how the existing and new data networks will be joined from a logical perspective

Determine how the new data core switches will be connected to the existing data switches to exchange IP routing tables

Based on station reviews, document how the class of service groups for each user will be defined

Determine Call Center physical location, logical integration and call flow

Implementation

Our key project Implementation and Cutover Support deliverables and requirements are detailed below in the following sections:

- Project Implementation Narrative Overview
- Project Milestones
- Project Implementation Work Plan
- Project Team and Roles
- Project Initiation
- Deliverables
- Detailed Station Data Collection Plan
- Summary Training Plan and Deliverables
- Implementation and Cutover Testing Plans
- Data Network Cutover Plan
- Cutover Help Desk and Issues Escalation
- Disposal of Existing Equipment Plan
- IP Telephony Knowledge Transfer
- System Documentation

Project Implementation Narrative Overview

A significant advantage of a typical IP Communications converged solution is the minimal downtime required for system cutover and the ability to conduct pre-cutover configuration testing on most system components. The Data Network System will often be installed and cutover by network segment allowing for minimal disruption of data network service.

During the installation, pre-cutover period, the system can often operate in parallel to the existing system. Additionally, a parallel installation will make possible practical hands-on end-user system training. By creating a parallel environment if determined during the RDD that this is a requirement (additional costs may apply)

most of the existing Data Network segments will be able to be temporarily cutover, tested, and validated, allowing the time to resolve any possible system integration issues well in advance of cutover. When cutover, the entire system operation will be tested and validated per the agreed Cutover Testing Plan to ensure system functionality.

Project Milestones

1. Project Management Plan and Schedule Approved
2. Requirements and Design Definition Review
3. Requirements and Design Definition Complete
4. Voice System Design Approved
5. Policies and Procedures Acceptance
6. Training Curriculum Acceptance
7. Pilot Staging and Testing of System Equipment
8. Pilot Staging and Testing of Environment Complete
9. Pilot System Acceptance Testing and Acceptance
10. Training Phase Completed
11. Production Staging and Testing of System Equipment
12. Production Staging and Testing of Environment Complete
13. Production System Acceptance Testing and Acceptance
15. Performance Period Complete
16. Onsite Support Complete
17. Final System Acceptance
18. Transfer to Warranty Support

Project Implementation Plan

Project Implementation Plan is critical to ensure the success of any IP Communications project.

Upon contract award, Nexus IS will guide City of Torrance through a formal process of defining a comprehensive Project Implementation plan for approval.

The final Project Implementation Plan will detail all tasks, resource assignments, task responsibilities, task dependencies, and start stop timeframes for each. Detailed reports, charts, and calendars will be provided by our Project Management team as needed.

Project Team and Roles

Nexus IS will designate a Project Manager to manage your Network Project. This individual will be the focus of Client contact for Nexus IS activities throughout the engagement. If temporary or permanent substitutions are made for this individual or any individual listed below during the course of the engagement, you will be notified in writing and provided full contact information for the new individual.

It is important to assemble an appropriate team for executing the deployment project. The following table illustrates roles that may be required from both Nexus IS and the City of Torrance to make up the project team. Nexus IS will provide City of Torrance a project team consisting of a Nexus project manager, Nexus engineers and participants from each of our subcontractors' disciplines. This team will expand or contract over the project timeframe depending on the project schedule.

Nexus IS Roles	Description
Nexus Project Manager:	Manages process control and drives the project to timely completion of all tasks and milestones. Updates Implementation plans and coordinates status meetings, produces status reports
Network and Security Architecture Lead:	Responsible for the design and implementation of the network infrastructure equipment, network management system, and security structure for the network and voice system
Design Consultants:	Working under the direction of the Solution Architects the Design Consultants will assist and lead various implementation tasks
Service Engineers	Working under the direction of the Design Consultants the Service Engineers will be responsible for installing distributed network switches and the during the rollout phases

Client Roles	
Client's Project Manager	The Client Project Manager will work directly with the Nexus Project Manager to ensure that the project meets all of the scheduled tasks and milestones. Together, the managers will create plans, coordinate resources, schedule meetings and produce status reports
Client's Network and Security Lead	The Network and Security Lead people will work together with the Nexus Network and Security Architect to design and implement the network infrastructure equipment and develop the security structure for the network infrastructure and voice system. By working with the Architects and attending training courses this person would be the primary network and security support person once the network is implemented.
Client's IT Staff	Client's IT Staff will be utilized to assist with installing various network components and the IP phones. Working with the Nexus Design Consultants will allow them to gain knowledge to be able to assist with supporting the network.
Client Business Analysts	The Business Analyst staff will be utilized to act as Subject Matter Experts pertaining to the functional and business requirements of the Applications being installed.

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Project Initiation

- Upon contract signature by authorized representatives of client and Nexus IS, Nexus IS will commence with Project Initiation. Project Initiation may consist of the following:
- Assignment, scheduling and commitment of Nexus resources where required
- Development of the preliminary project plan
- Review of Designs as required
- Initiation of the acquisition of hardware, software, and licenses to be used by Nexus and deemed necessary by Nexus for the delivery of the project
- Nexus internal project plan reviews with assigned resources
- Presentation of preliminary project plan, any preliminary designs and Nexus project kick off package as required
- Nexus and client review of the project with client project management and technical staff
- Client and Nexus staff, project kick off meetings as required
- Nexus project management will notify the client of Project Initiation. Project Initiation will be considered the first milestone in the delivery of the project.

Deliverables

Summary of Project Deliverables

All written deliverables will be presented to you in both soft and hard copy. Written deliverables will be distributed via email to appropriate designated client contacts for review. A meeting will be arranged after the deliverable has been sent out to review the contents, resolve any unanswered questions and obtain approval. Access via the customer web portal will also be available for all documentation and easy access to all project team members.

Nexus Presentation of the written documents will be clearly scheduled in the Project Plan. Client acceptance of the written deliverable is generally expected five (5) days after presentation unless otherwise noted in the project plan.

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Project Management Plan and Schedule Approved. Some of these are very detail oriented some are less so. So will also reside as part of other plans and may not stand on their own nor be provided separately but rather as part of another plan.	■ Initial Detailed Project Plan ■ Initial Detailed Project Schedule ■ Initial Project Document Repository ■ Communication Plan ■ Change Management Plan ■ Configuration Management Plan ■ UCB Project Plan ■ Training Plan ■ Cutover Fallback Plan ■ Critical Services Cutover Plan
System Design Review	■ System Design
System Requirements Complete	■ Verified List of Equipment to Order
Network and Voice System Design Approved	■ Network and Voice Design Document
Equipment and Circuit Order Placement and Receipt	■ None
Offsite Staging and Testing of System Equipment	■ None
Staging and Testing of Environment Complete	■ Staging Environment Design
Onsite Network Equipment Staging and Testing Complete. This will merge with the voice staging and testing.	■ System Test and Acceptance Plan ■ System Test and Acceptance Results
Network IP Assessment Complete	■ Result analysis ■ Recommendations
Onsite Voice Equipment Staging and Testing Complete. This will merge with the data staging and testing.	■ System Test and Acceptance Plan ■ System Test and Acceptance Results
Voice Implementation Complete	■ Deployment Plan ■ As-Built Documentation
Performance Period Complete	■ Performance Period Results
System Documentation	■ Functional and Technical Documentation
Onsite Support Complete, Transfer to Warranty Support	■ Support Plan
Final System Acceptance	■ Final Acceptance Form

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Detailed Station Data Collection Plan

Identify Team Members	■ The team will meet to determine the procedures used to gather the required information	■ Client Representative to make system wide feature design decisions. ■ Client Representative for each department, or delegate, to communicate with end users. ■ Nexus IS project manager. ■ Nexus IS Telephony design team
Develop the numbering plan	■ Number range for DID stations ■ Number range for non-DID stations ■ Number range to access features such as Park, Pick up groups and meet-me conferencing ■ Number ranges for 4-digit dialing plan to other locations	■ Client project team. ■ Nexus IS Project Manager ■ Nexus IS Telephony design team
Determine Dialing Restriction Requirements	■ Identify calling areas for the system such as local only, California only, North America only and international ■ Identify any specific numbers to block such as 976 and 900 numbers	■ Client project team. ■ Nexus IS Project Manager ■ Nexus IS Telephony design team
Determine call flow for main incoming numbers	■ Attendants ■ Voicemail Automated Attendants	■ Client project team. ■ Nexus IS Project Manager ■ Nexus IS Telephony design team
Design ACD Requirements	■ Incoming Call flow ■ Queuing Options ■ Announcements ■ Agent Skill groups ■ Individual Agent Information ■ Reporting Requirements	■ Client project team. ■ Nexus IS Project Manager ■ Nexus IS IPCC design team ■ Nexus IS Telephony design team
Standardize features	■ Identify key features to offer for all IP phone ■ Identify any restricted features that will not be deployed ■ Customize templates to distribute for data collection for each IP Phone ■ Develop system to collect data for each analog device	■ Client project team. ■ Nexus IS Project Manager ■ Nexus IS Telephony design team
Meet with departments to gather details for each phone	■ Determine use of predetermined features ■ Identify line appearance requirements ■ Gather voicemail information ■ Collect name and station number information for each device	■ Client project team. ■ Client department representative. ■ Nexus IS Project Manager ■ Nexus IS Telephony design team
Compile all gathered information into legible documents	■ Call flow diagrams ■ Spreadsheets for device data ■ System wide configuration requirements	■ Nexus IS Project Manager ■ Nexus IS Telephony design team
Review Data collection documentation for acceptance	■ Discuss and review for finalization ■ Client to sign off for acceptance	■ Client project team. ■ Nexus IS Project Manager ■ Nexus IS Telephony design team

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Summary Training Plan and Deliverables

Nexus IS will provide a combination of Cisco training material and customized quick reference guides for your employees. Training materials will be provided in hard copy as well as electronically in PDF format.

Client staff training: ■ Nexus IS will work with the Client project team to schedule training classes for your key staff members to attend ■ Where applicable classes will consist of live phones, and additional peripheral devices required for attendees to obtain hands on training ■ Class size will be based on facilities available. Nexus IS recommends classes no larger than 25 attendees ■ Class duration will vary based on class size. As an example, a class for 25 people to cover the phones will require approximately 30 minutes ■ Information on frequently asked questions and common in-service issues will also be included
Attendant Training: ■ Nexus IS will provide training material for the Attendant Consoles ■ Classes will consist of live phones and PC consoles to obtain hands on experience for call processing ■ Class size recommended is to be no larger than 4 attendees ■ Class duration will be approximately 2 hours ■ At Cutover - Trainers will be assigned to support attendant console operators on the day of cutover until the time each operator is comfortable operating the system on their own
ACD Agent and Supervisor Training: ■ Nexus IS will provide training material for agents and supervisors ■ Training will include live phones and configured PCs, if required, for hands on experience ■ Agent class size recommended is to be no larger than 10 agents ■ Agent class duration will be approximately 1 hour ■ Supervisor class size recommended is to be no more than 4 supervisors ■ Supervisor class duration will be approximately 2 hours ■ Agents and supervisors should be trained on the standard use of the IP phones and voicemail prior to agent training ■ It is recommended that Supervisors also attend an agent class
Announcement Recording Training: ■ Nexus IS will provide training to the appropriate client staff to record announcements within the systems provided. ■ Training will include the ACD announcements to callers in queue, automated attendant scripts, and night announcements.
System Administration: ■ Training will include basic additions, moves and changes to allow you to be self supportive in these areas ■ Training will include basic troubleshooting on most systems. ■ This training is NOT meant to be all encompassing or to leave Oxnard ESD self supportive on scripting.

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Implementation and Cutover Testing Plan

The following table outlines the steps and timeframes to perform implementation, testing and validation of the Data Network and the Voice System (SAMPLE):

PHASE 1 – VOICE SYSTEM
Pre-Cutover Testing of Voice Equipment
Receive, inventory, assemble, and program equipment
Begin burn-in, invite customer to inspect & test the NEC equipment at the Nexus Install Lab
End burn-in, invite customer to inspect, test & accept the NEC equipment at the Nexus Install Lab, not all items can be configured off site (i.e. some items will require AD integration on customer prem.)
Deploy equipment to customers site & have equipment inventoried by approved customer contact
Install SV8500's, MA4000, AVST, UCB, SV8300's, and MTS per Implementation Plan
NEC SV8500/SV8300 functionality testing
Test communication between core sites and satellites
Test integration with new and existing applications
Integration of SV8500/SV8300 with AVST Voicemail testing
Test for automatic login
Test for message waiting indication
Test call flow through all configured automated attendants
Place multiple simultaneous calls to ensure proper call handling
UCB configuration testing
Verify call flow through UCB Contact Center scripts
Verify call queuing and announcements
Verify CTI integration
Verify delivery to agent in the proper skill group
Place multiple simultaneous calls to ensure proper call handling
Schedule window to pre-test connectivity to IVR and Call accounting systems
Connect Call accounting system to SV8500 and verify CDR records are presented
Connect IVR system to CCM and verify call flow
Place multiple simultaneous calls to ensure proper call handling
Connect 10 IP phones to test basic feature functionality
Test station to station calling
Test features such as Park, Pick-up Groups and Meet-Me Conferencing
Test basic call processing such as Hold, Transfer, and Conference
Schedule window to pre-test connectivity to other Client locations
Test 4 digit dial plan
Connect new circuits to the voice gateways
Conduct testing with the carrier to bring the circuits up for outbound calling
Test outbound calling
Connect all analog gateways
Test all analog ports at the MDF for outbound calling and feature functionality
Deploy all IP Phones and test for connectivity, station to station calls, outbound calls, and feature functionality
Client to verify and accept testing
Testing Complete – Schedule Voice Cutover

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Cutover Testing – Voice
Integrate IVR and Call accounting to the new system
Move all PSTN voice circuits to the new system
Carrier to transfer all existing numbers to the new circuits
Perform extensive testing of inbound calls
Include inbound calls to any Automated Attendants
Include inbound calls to any Attendant consoles
Include inbound calls to the IVR System
Include inbound calls to UCB queues
Client to verify testing
Successful testing will qualify the cutover to move forward
Client will make fall-back decision if testing is not successful
Cutover all analog ports using the cut sheets previously provided
Test and verify all analog devices for connectivity

Voice System Sample Cutover Plan

Task
Connect all possible equipment in parallel
Verify all pre-cutover testing has been completed
Initiate Telco to translate the inbound numbers from the PBX to the new circuits
Move any legacy systems to new system
Move any required network circuits to the new system
Cross connect only critical analog devices to the new system
Testing per Cutover Testing Plan
Complete testing to make fallback decision
Decision to fallback is made
Initiate Telco to translate the numbers back to the original lines
Move required circuits back to the existing PBX
Move any legacy systems back to existing PBX
Cross connect the critical analog devices back to the existing PBX
Complete testing to verify that there are no issues

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Cutover Help Desk and Issues Escalation (Day 1)

An onsite post cutover Help Desk will be setup and staffed appropriately to handle end-user questions, issues, and trouble-tickets. The Help Desk will be made available for a minimum of one (1) day up to five (5) days for both the lab and the production networks. If determined during the RDD phase additional time can be included at an additional cost. Nexus can provide this additional support either on-site or remotely.

All end-user technical support requests should be made by initiating a Help Desk trouble ticket. Designated Client technical contacts may work issues directly with the Project Manager and Engineering Support Team. The specific plan will be communicated in the plan that corresponds to this section.

All issues will be worked on a Priority/Severity basis agreed upon during the Design/Implementation Phase.

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CLOSING

Customers increasingly expect to be able to interact with companies through whichever channel best suits their needs and are likely to use a combination of communication channels. Many companies are not equipped to address the convergence of traditional and Internet-based communication channels and, consequently, cannot offer customers the flexibility and service they demand. To date, companies have turned to several types of products to deliver customer service. These products have primarily been point solutions targeted at discrete communication channels. Deploying these disparate solutions requires significant integration and, as a result, they can be difficult and expensive to implement and maintain.

Nexus IS, Inc. is a professional services company providing engineering and support expertise to meet the requirements for advanced communication solutions. Our expertise in voice, data, wireless and IP telephony, and our strong partnership with NEC and Cisco allows us to design, implement and manage solutions from simple phone systems to very complex converged networks. Throughout our 24-year history, we have remained committed to providing customized, state-of-the-art technology solutions to our clients. To achieve this, our forward-looking management team has maintained a strong engineering focus, and an emphasis on excellence in implementing and maintaining complex communications solutions.

Designed to meet the goals of today's businesses—growing revenue, reducing costs, and utilizing resources more efficiently—NEC converged solutions offer a welcome alternative to a total reinvention of voice and data networks. Now your business doesn't have to reinvent; you can rethink by leveraging your partnership with Nexus, and continue migrating toward a fully converged network.

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» Nexus IS Overview

- Established industry leader since 1983
- Over 2,500 customers
- Offering a complete suite of Advanced Technologies
- Solid financial performance and executive leadership
  - $140 million 2007 revenues
  - Profitable
- Over 300 employees, 175 technicians and engineers with certifications in Legacy and Advanced Technologies

Strategic Partnerships

www.cisco.com

An NEC Unified Solutions Authorized Dealer

Authorized Dealer

NEC

NEC Unified Solutions, Inc.

An Award Winning Cisco Gold Certified Partner

CISCO PARTNER

Gold Certified

A Microsoft Gold Certified Partner

Microsoft®

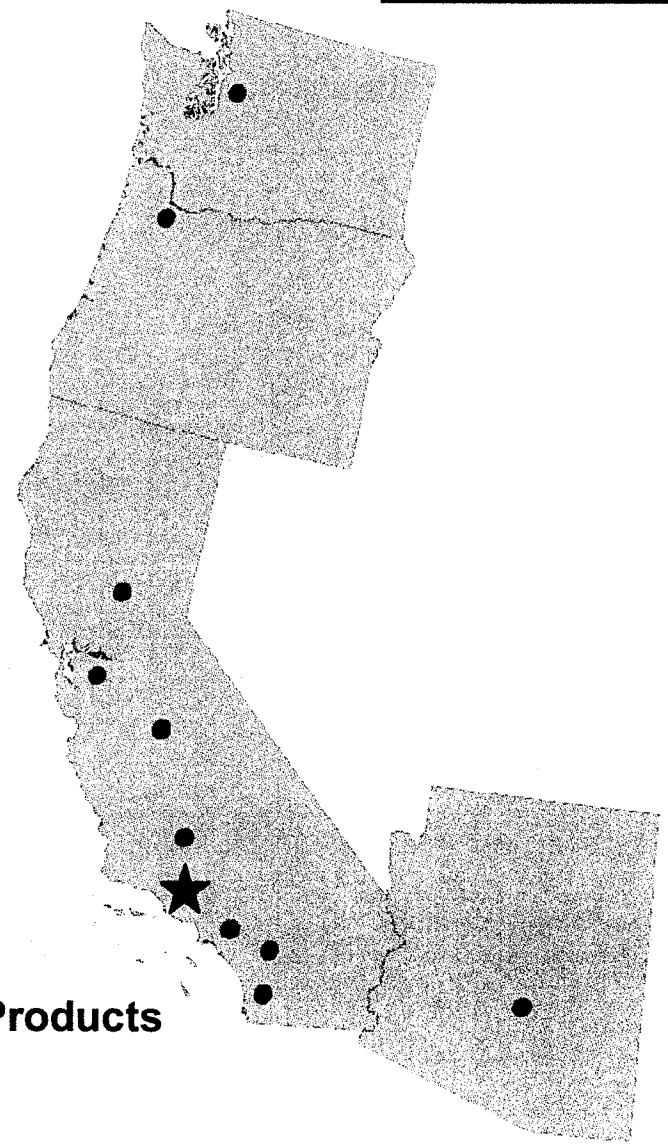
GOLD CERTIFIED

Partner

Operations Staffing & Abilities

www.nexusis.com

- **Dispatch/Technician (70)**
- **Project Managers (20)**
- **Logistics (10)**
- **Client Services (22)**
  - Customer Support (8)
  - Tech Assistance Center (14)
- **Engineers (67)**
  - Applications Consultants (Pre – 27)
  - Systems Engineers (Post – 40)
- **NEC Technical Certifications (NTC)**
  - Univerge, IPX, IPS, IPK
- **Microsoft Certifications (2000, 2003 and 2007)**
  - MCSE, MCAD, MCDBA and specialties in Voice and Msg
- **Cisco Certifications**
  - CCNP, CCDP, CCIE and UC Masters
- **Carrier Support (2)**
- **Engineering, implementation and maintenance**
- **Local Order Fulfillment with New and Refurbished Products**

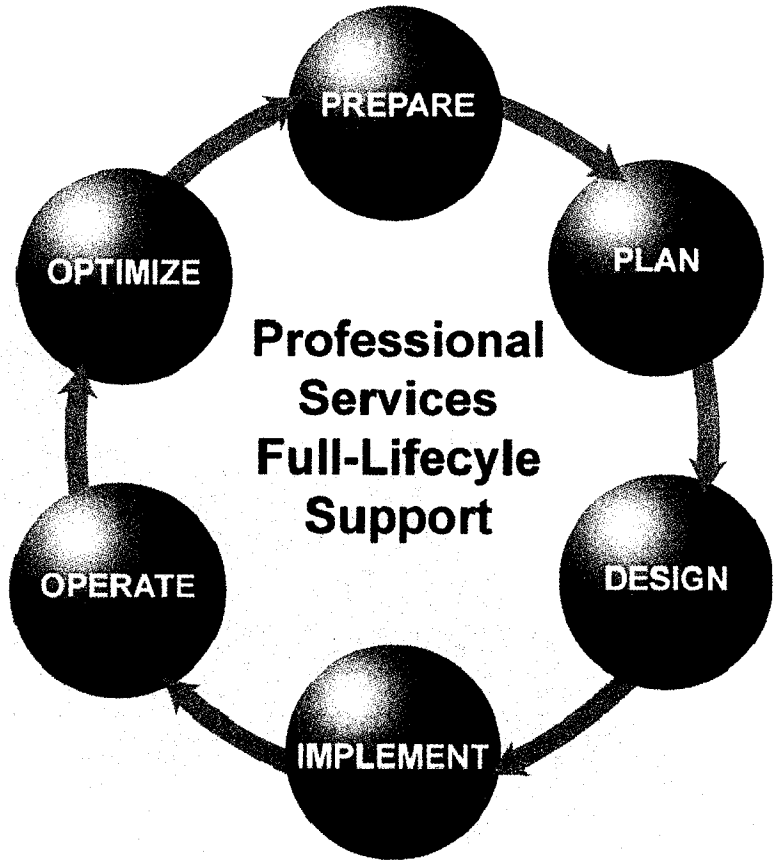


» Who is Nexus IS?

- Specialized in Advanced Technologies:
  - Telephony & IP Telephony
  - Advanced Routing & Infrastructure
  - Security
    - Vulnerability Assessment
    - Intrusion Detection
    - Products and Services
  - Rich Media Conferencing
  - Telepresence (one of ten worldwide)
  - Wireless
  - Video
  - IP Contact Center
  - Custom Application Development

How does Nexus Engage?

Professional Services Full-Lifecycle Support



- Prepare
  - Requirements development
  - Proof of Concept management
- Plan
  - Assessment Services
  - Consulting Services
- Design
  - Solution Design
  - Implementation Planning
- Implement
  - Project Management
  - Implementation
  - Training
- Operate
  - Service & Maintenance
  - Managed Services/Monitoring
- Optimize
  - Assessment
  - System Optimization

» Professional Service Organization

- ***Professional Services Deployment Teams***
  - Contract Sales Implementation
  - Project Managed Technical Projects
  - Implementation Processes
  - Full Service Training

- ***Professional Services Support Teams***
  - Customer Relationship Management
  - Day 2 Support (Service/Repair)
  - Field Moves, Adds and Changes (MAC)
  - Non-Project Managed Project Implementation
  - Cabling Infrastructure

Strategic Partnerships

www.nexusis.com

NEC

ACTIVE VOICE

Zeacom

CISCO PARTNER Gold Certified

AVST

Cistera Networks

EQUALLOGIC

IPCELERATE

KENTROX

Knoah

METROPOLIS TECHNOLOGIES

NUANCE

ADTRAN

Sagem-Interstar SAFRAN Group

AMP NETCONNECT

APC Legendary Reliability®

TREND MICRO

verizon

TANDBERG

» Why Nexus IS?

We are an NEC Go-To Partner

Over 20 years of experience as an NEC Dealer of IPK, IPS, IPX & Univerge systems.

- Achievement and Accomplishments
  - NEC Triple Diamond Dealer
  - NEC National Partner (One of 6)
  - Microsoft Gold Partner
  - Cisco's U.S. Global and National Commercial Partner of the Year (2007)
  - Cisco's U.S. and Canada Regional West Partner of the Year (2007)
  - Cisco's U.S. and Canada Regional West Cisco Capital Partner of the Year (2007)
- Experience selling and installing the latest solutions
  - 2,000+ system installations w/over 500,000 ports
  - Over 300 VoIP installations
  - Over 200 call center installations

» Why Nexus IS?

"Our People Make the Difference"

- Talented
  - Over 300 NEC & Cisco Certifications company-wide
  - 45% of company engineering-based
- Experienced
  - Engineers averaging over 17 years in the Communications industry
    - Pre-sales engineering
    - Deployment engineering
    - Post sales engineering

» Your Nexus Account Team

www.nexusis.com

Name	Title	Role	Years of Exp
Phil Mills	Account Manager	Team Lead for City of Torrance and NEC. Front line business manager.	Industry: 24 yrs
Bob Morrell	RSM	Sales Escalation	23 yrs
Heidi Gloudemans	NEC Pre-Sales Engineer	NEC Pre and Post Sales Engineering Support	4 yrs
Mark McGrath	Managing Consultant	Implementation Management Los Angeles Region	23 yrs
Dale Hardy	V.P. Professional Services	Overall Responsibility for Professional Services	29 yrs
Tom Lyon	VP Services and Support	Post Implementation Support Services	25 yrs
Mike Heiman	VP Engineering Services	Pre and Post Sales Engineering Management	24 yrs

» Why Nexus IS?

"Our People Always Execute"

Professional Services Deployment Teams

- Proven project methodology
  - Kickoff with Nexus team and customer
  - Statement of Work (SOW) review and refinement
  - Agreement of project timelines
  - Weekly status reports
  - Customer access to on-line project portal
  - Improved change order process
  - Post-installation meeting
  - Integrate to Day 2 Support
- Our deployment teams consistently deliver successful Large PBX, IP Telephony, VoIP and Advanced Technology installations to our clients

» Deployment Teams

Dedicated Deployment Teams

- Each team consists of members from a Nexus IS discipline: Advanced Technology Engineers, Project Management
- Team Member Specialties
  - NEC TDM & IP Telephony, Messaging, Routing & Switching, & Security
  - Advanced Technologies (Call Center, Rich Media Communications, TelePresence)
  - Project Management
  - Database Collection
  - Training
  - Other Specialties include: Microsoft

» Customer Web Portal

www.nexusis.com

Nexus IS, Inc. > Home - Microsoft Internet Explorer

File Edit View Favorites Tools Help

Back Search Favorites

Address http://projects.nexusis.com/Default.aspx?tabid=1&ctl=Login Go Links

NEXUS» Integration Services

Home Login

Wednesday, May 10, 2006

Account Login

Username:

Password:

Remember Login

Login

Password Reminder

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Trusted sites

Start | Disconnec... | MSN Mess... | 2 Yahoo... | Inbox - Mi... | 3 Micros... | 4 Inter... | suewilson... | Nexus IS ... | 10:36 AM Wednesday

» Customer Web Portal

www.nexusis.com

Nexus IS, Inc. > G-H > Google - Microsoft Internet Explorer

File Edit View Favorites Tools Help

Back Search Favorites

Address http://projects.nexusis.com/Default.aspx?tabid=303 Go Links

NEXUS»

Tuesday, May 16, 2006

Home A B C D E F G H I J K L M N O P Q R S T U V W X Y Z

Google
Logout

Project Teams

Project Consultant's Name
Title, Phone Number

Managing Consultant's Name
Title, Phone Number

Complex Technologies Made Simple

Weekly Status Reports

Title	Owner	Category	Last Updated	Size (KB)	
2006 04/21	Diana Tapp		5/11/2006	180.22	Download
2006 04/28	Diana Tapp		5/11/2006	180.22	Download
2006 05/05	Diana Tapp		5/11/2006	180.22	Download
2006 05/12	Diana Tapp		5/11/2006	114.69	Download

Project Plans

Title	Owner	Category	Last Updated	Size (KB)	
2006 05/11	Diana Tapp		5/11/2006	175.62	Download

Project Checklist

Title	Owner	Category	Last Updated	Size (KB)	
2006 05/11	Diana Tapp		5/11/2006	34.30	Download

Other Documents

Feedback

Email: info@X3312

Your Name: Google

Subject:

Message:

Done Trusted sites

Start Disc... 3 M.. Yah... sue... 3 M.. 3 M.. 2 M.. Cha... 2 I... Cisc... Win... 4:11 PM Tuesday

» Customer Web Portal

www.nexusis.com

Google Status Report.doc - Microsoft Word

File Edit View Insert Format Tools Table Window Help

Final Showing Markup Show

NEXUS

Weekly Status Report

HARDWARE STATUS

Quote Date	Owner	Project Name	Site Location	Due Date	Part Number	Description	Commit Date	Ship Date	Tracking #	Comments

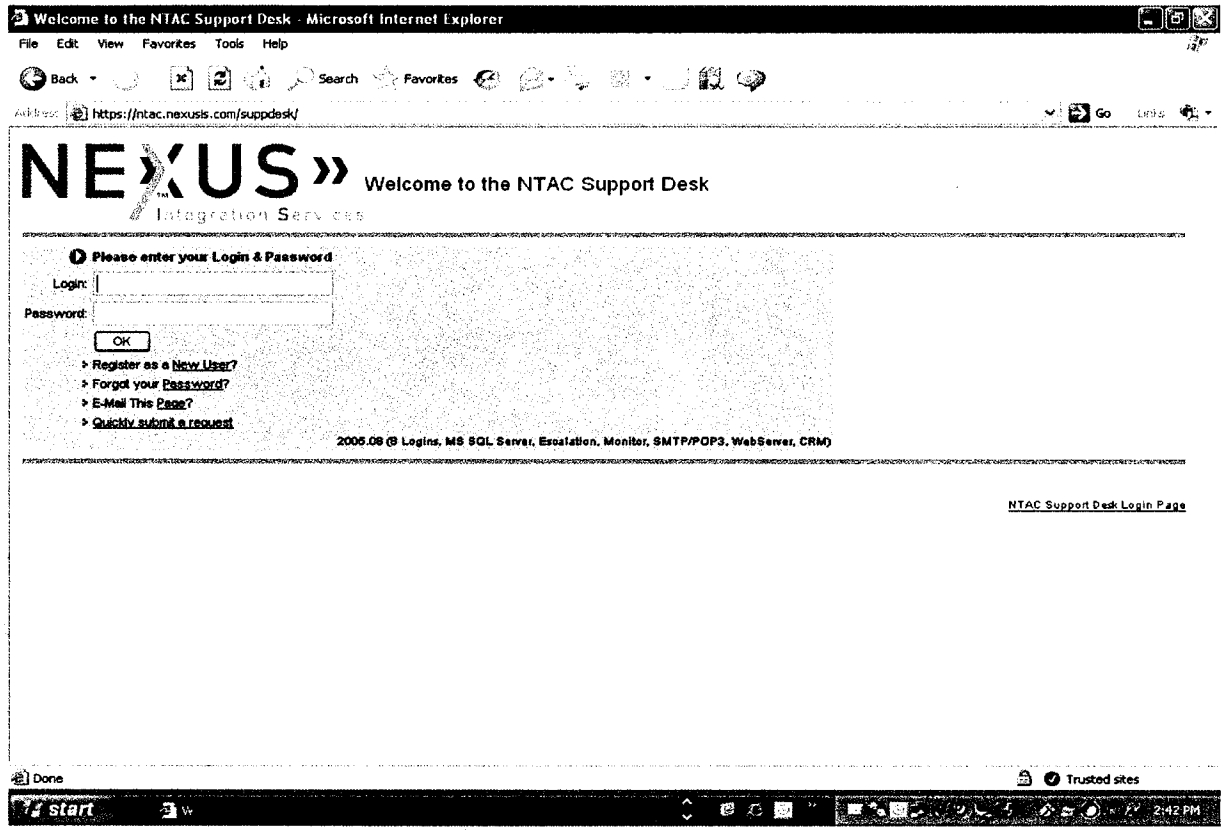
Page 5 Sec 2 5/6 At Ln Col REC TRK EXT OVR English (U.S

Start Dis... 3 M. su... 3 M. 3 M. 3 M. 2 M. 2 I.. Cis... Wi... Mic... 4:42 PM Tuesday

Deployed Case Management Software

www.nexusis.com

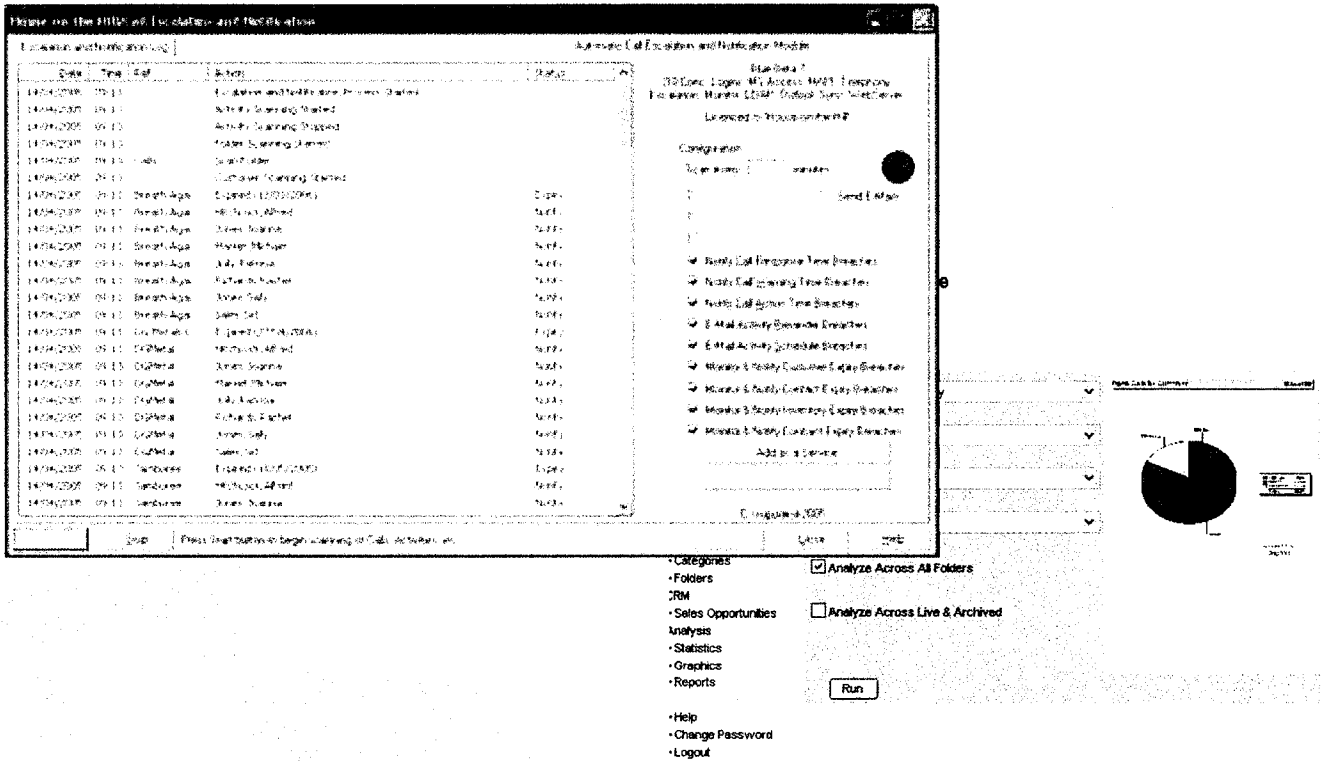
- **Webserver**



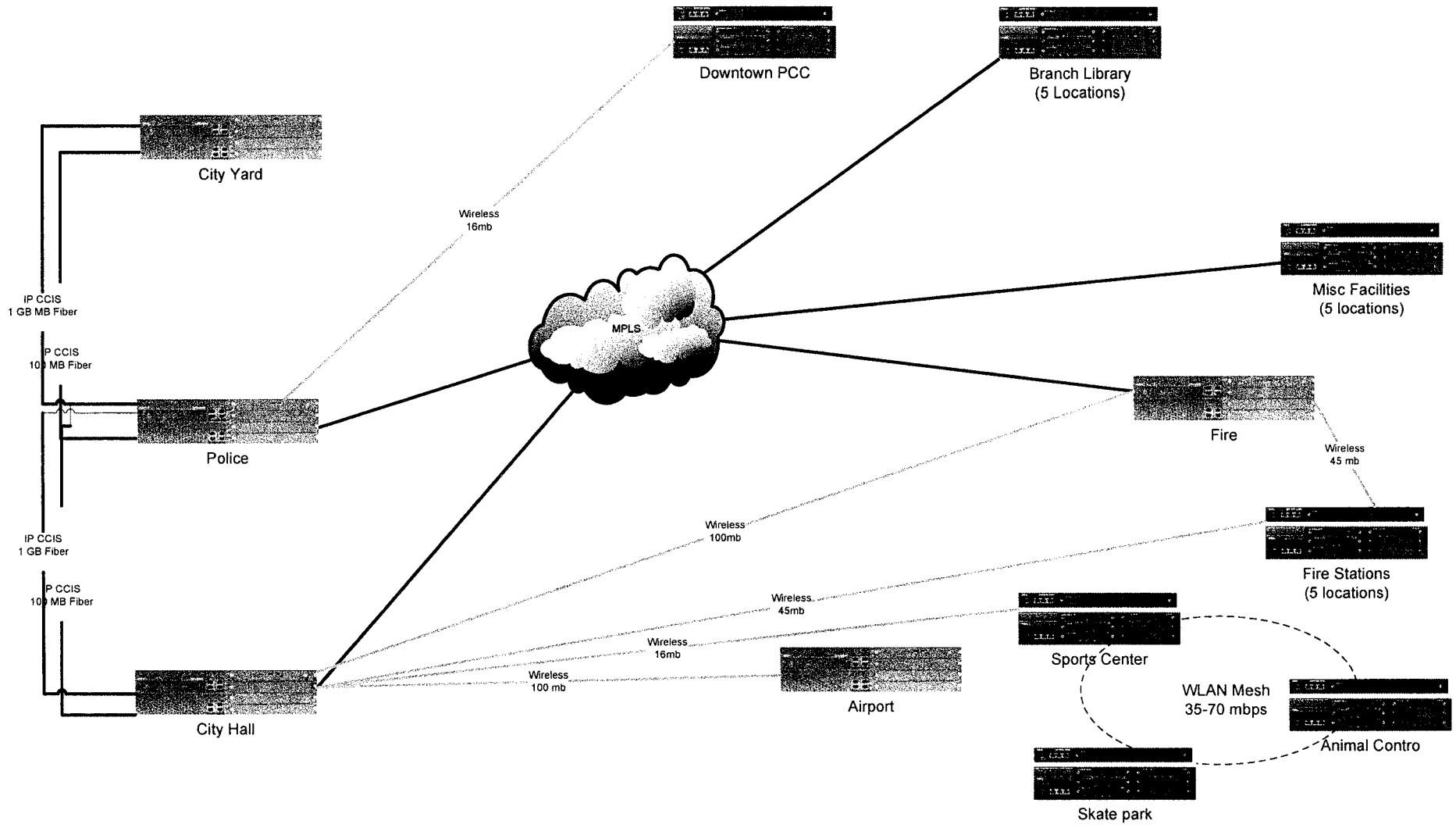
Nexus TAC Case Management Software

www.nexusis.com

- **Extensive Reporting**

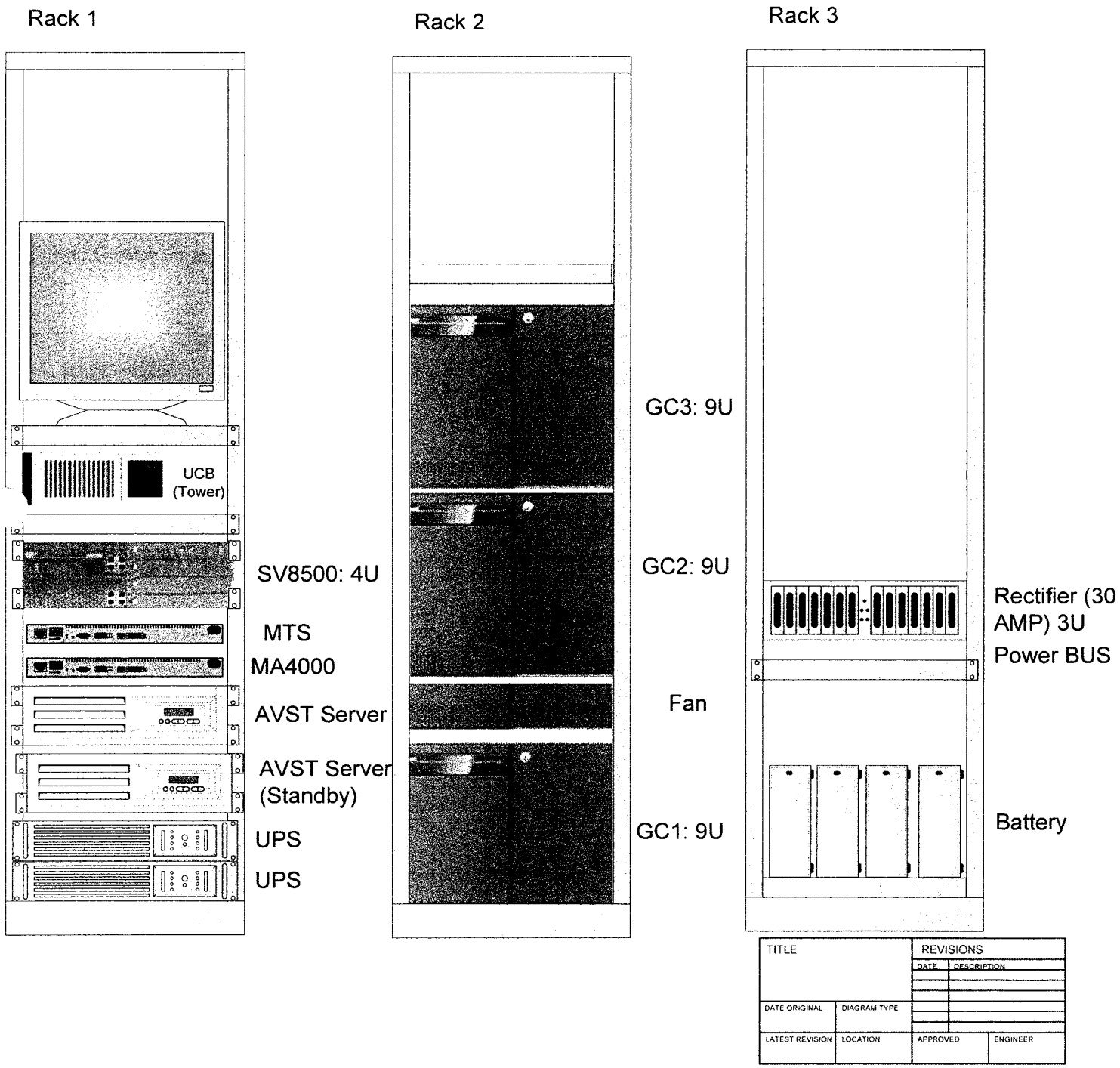


NEXUS
Integration Services

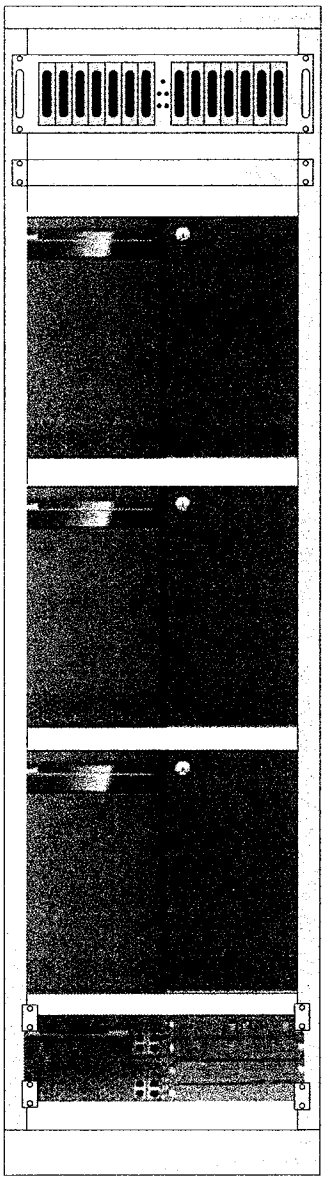


Downtown PCC
Branch Library
(5 Locations)
City Yard
Wireless
16mb
Misc Facilities
(5 locations)
IP CCIS
1 GB MB Fiber
MPLS
Police
Fire
Wireless
45 mb
Wireless
100mb
Fire Stations
(5 locations)
IP CCIS
1 GB Fiber
Wireless
45mb
Wireless
16mb
Sports Center
Wireless
100 mb
Airport
WLAN Mesh
35-70 mbps
City Hall
Animal Contro
Skate park

NEC Univerge 8500: City Hall Rack Estimates



Rack 1



Rectifier (30 AMP)
3U

GC3: 9U

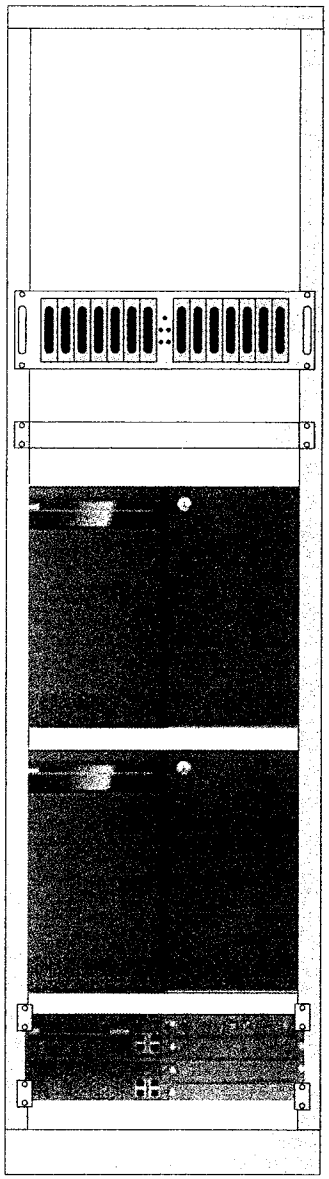
GC2: 9U

GC1: 9U

SV8500: 4U

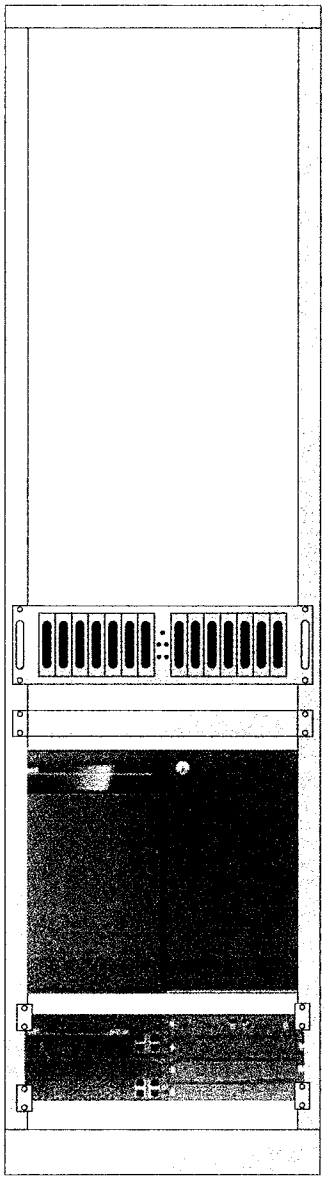
TITLE		REVISIONS	
		DATE	DESCRIPTION
DATE ORIGINAL	DIAGRAM TYPE		
LATEST REVISION	LOCATION	APPROVED	ENGINEER

Rack 1



TITLE		REVISIONS	
		DATE	DESCRIPTION
DATE ORIGINAL	DIAGRAM TYPE		
LATEST REVISION	LOCATION	APPROVED	ENGINEER

Rack 1



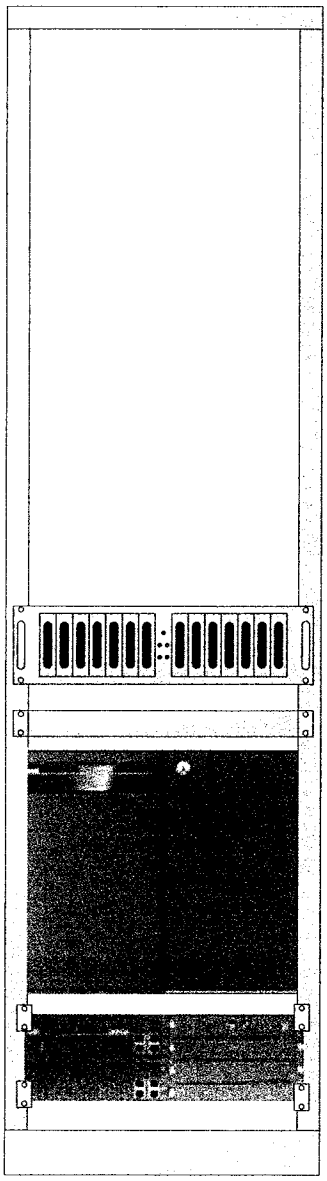
Rectifier (30 AMP)
3U

GC1: 9U

SV8500: 4U

TITLE		REVISIONS	
		DATE	DESCRIPTION
DATE ORIGINAL	DIAGRAM TYPE		
LATEST REVISION	LOCATION	APPROVED	ENGINEER

Rack 1



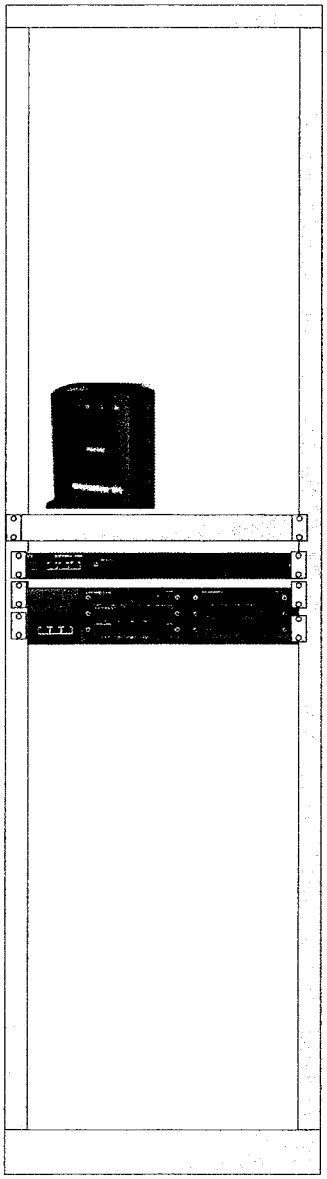
Rectifier (30 AMP)
3U

GC1: 9U

SV8500: 4U

TITLE		REVISIONS	
		DATE	DESCRIPTION
DATE ORIGINAL	DIAGRAM TYPE		
LATEST REVISION	LOCATION	APPROVED	ENGINEER

Rack 1



Minuteman UPS (Shelf)

Core 8300 (1U)

Expansion (2 U)

TITLE		REVISIONS	
		DATE	DESCRIPTION
DATE ORIGINAL	DIAGRAM TYPE		
LATEST REVISION	LOCATION	APPROVED	ENGINEER

3.0 SYSTEM PRICING

Proposals must include prices for alt Minimum and Extended configuration items Items 10.0 and 21.0 required. may be detailed and explained further on a separate attached sheet of 8.5 x 11 paper.

	Line Item	Minimum	Extended
1.0	Central Call Switches/Processors		$562,186.17
2.0	Telephone Sets		$102,455.30
3.0	Infrastructure		$8,722.64
4.0	Voice Messaging		$84,348.60
5.0	Automated Call Distribution		$17,193.82
6.0	Call Accounting		$20,889.93
7.0	Auto Attendant		$ Incl in VM
8.0	Training		$ Incl
9.0	Project Management		$53,691.28
10.0	Other: Labor		$302,618.21
	Telephone - Pre-tax Total		$1,103,225.81
	Sales Tax		$81,776.63
	Total Telephone Capital Cost		$1,185,002.42
11.0	Maintenance Costs (Year 1)		$34,189.24
12.0	Maintenance Costs (Year 2)		$42,300.79
13.0	Maintenance Costs (Year 3)		$56,996.34
	Total Operating Costs		$133,486.37
14.0	Data Network System		
	Data - Pre-tax Total $		
	Sales Tax $		
	Total Data Network Capital Cost		
15.0	Maintenance Costs (Year 1)		
16.0	Maintenance Costs (Year 2)		
17.0	Maintenance Costs (Year 3)		
	Total Operating Costs		

	Line Item	Minimum	Extended
18.0	Integrated Voice Response	[illegible]	Incl.
19.0	Speech Attendant Option	[illegible]	Incl.
20.0	Wireless Phone Option	[illegible]	[illegible]
21.0	Other: _____	[illegible]	[illegible]
	Add-ons - Pre-tax Total	[illegible]	[illegible]
	Discount	[illegible]	[illegible]
	Trade-in Credit	[illegible]	[illegible]
	Total Add-ons Capital Cost	[illegible]	[illegible]
22.0	Maintenance Costs (Year 1)	[illegible]	[illegible]
23.0	Maintenance Costs (Year 2)	[illegible]	[illegible]
24.0	Maintenance Costs (Year 3)	[illegible]	[illegible]
	Total Operating Costs	[illegible]	[illegible]
	Total Capital costs without add-ons	[illegible]	[illegible]
	Total Capital costs with add-ons	[illegible]	$1,185,002.42
	Total Capital and Operating costs without add-ons	[illegible]	[illegible]
	Total Capital and Operating costs with add-ons	[illegible]	$1,318,488.81

System Line Item List
for
City of Torrance: City Hall
SCHEDULE A - ORDER SUMMARY - SV8500 System

LINE #	PART #	QTY	DESCRIPTION	$/Total
1	8510000	1	SV8500 DVD	
2	8510001	1	85-104 S1 MAIN SYSTEM	
3	8510100	1	SV8500 GENERIC SOFTWARE LICENS	
4	8510401	1	SV8500 CCIS/FCCS NETWORK OPTIO	
5	8510800	137	SV8500 IP ENDPOINT LICENSE	
6	8510900	5	SV8500 SP SOFTPHONE LICENSE	
7	8510975	152	SV8500 P2P CCIS (1CH) LICENSE	
8	8510999	5	SV8500 384 PORT CAPACITY OPTIO	
9	8520000	1	UNIVERGE SV8500 CHASSIS	
10	8520001	2	SCF-CP00-A	
11	8520004	2	SN1753 PWRMAC	
12	8520005	1	SCG-PC00-A	
13	8520006	1	SCG-M00-A	
14	8520008	2	SCG-GT00-A	
15	8520011	4	UNIVERGE SV8500 PIR	
16	8520014	1	UNIVERGE SV8500 FANU(V)	
17	8520016	1	SN1749 BASEUD-A	
18	8520021	1	SV8500 SPARE FUSE-A	
19	8520025	2	CF-2G-A PROGRAMMED	
20	8522000	2	PH-SW10-A	
21	8522002	6	PH-PC36	
22	8522004	4	PA-PW55-C	
23	8522005	4	PA-PW54-C	
24	8522008	2	SPA-8RSTAD-A	
25	8522011	1	SPA-CS33 ATI-A	
26	8522014	1	SPA-CFTW-A	
27	8524003	1	SPA-16COTBEB-A	
28	8524008	5	SPA-PRTC-B	
29	8524011	2	SPA-32IPPADB	
30	8525008	2	SN716 DESK CONSOLE PACKAGE	
31	8528000	1	PIR BUS-MUSIC CA-A	
32	8528001	1	D37-PS40 CA-A	
33	8528002	1	D15 ST-FF CA-A	
34	8528003	1	D15 ST-F CA-A	
35	8528004	2	D37-SC50 CA-A	
36	8528005	1	D15F EXALM CA-A	
37	8528006	3	D15 ST CA-A	
38	8528008	6	D25 CRS CA-A	
39	8528010	12	MT24-D25 CA-A	
40	8528015	4	3P PWR CA-A	
41	8528016	4	3P PWR CA-B	
42	8530000	13	SPA-16LCCD-A	
43	8530004	29	SPA-16ELCN-A	
44	8540001	1	MIGRATION PROMO TRACKING-1-4 G	
45	8540100	1	SV8500 LICENSE TRANSFER	
46			***APPLICATION SERVER ITEMS***	
47	542224	2	SERIES3800 S110R-1 /WIN2K3 STD	
48			***APPS 1 ITEMS***	
49	390911	1	MA4000 GENERIC SW PKG	
50	390921	1	MA4000 IPS/SV8300 MANAGER OPTI	
51	390923	1	MA4000 IPX/SV7/SV85 MGR OPTION	
52	390924	400	MA4000 IPX/SV7/SV85 EXT LIC (1	
53	390938	1	MA4000 VOICE MAIL OPTION	
54	390939	500	MA4000 VOICE MAIL EXT LIC (1)	
55	390940	1	MA4000 TRAFFIC MANAGER	
56	391940	2	MA4000 SQL 2005 GENERIC PKG	
57	391941	2	MA4000 SQL 2005 PROCESSOR LIC	
58	391950	2	MA4000 IPS/SV8300 EXT LIC (100	
59	391952	1	MA4000 IPX/SV7/SV85 EXT LIC (1	
60	391956	2	MA4000 VM EXT LIC (1000)	
61	391961	1	MA4 90 DAY TRIAL PROMO	
62			***APPS 2 ITEMS***	
63	221410	2	D/4 PCI-E 4 PORT ANALOG BOARD.	
64	225200	32	UC4B PER USER LICENSE	
65	225201	1	CT CONTROL-5 USER BASE	
66	225202	1	CT CONTROL-5 USER AO	
67	225204	1	AGENT DESKTOP-5 USER BASE	
68	225205	1	AGENT DESKTOP-5 USER AO	
69	225236	1	NEC SOFT PORTS ENABLED(FIRST 4	
70	225237	1	NEC SFT PTS ENABLED(PER AO 4 P	
71	225242	1	EXECUTIVE DESKTOP-10 USER BASE	

System Line Item List
for
City of Torrance: City Hall
SCHEDULE A - ORDER SUMMARY - SV8500 System

LINE #	PART #	QTY	DESCRIPTION	$/Total
72	225243	2	EXECUTIVE DESKTOP-5 USER AO	
73	225248	1	CONSOLE-1 USER BASE	
74	225249	1	CONSOLE-1 USER AO	
75	225311	1	UCB/Q-MASTER 120 LI SRVR (TOWE	
76	225313	1	UCB CORE SW KIT	
77	391810	1	EXPENSE MANAGEMENT-ENTERPRISE	
78	391875	2	INSTALLATION, ONE DAY -ON SITE	
79	391876	2	USER TRAINING,ONE DAY- ON SITE	
80	391881	4	EM PROJ MGMT - PER HOUR	
81	391882	1	EM BASIC INSTALLATION - ONSITE	
82			***TERMINAL ITEMS***	
83	221765	1	DTERM SP30 SOFTWARE CD.	
84	680002	285	DTL-12D-1 (BK) TEL	
85	680004	70	DTL-24D-1 (BK) TEL	
86	680012	16	DCL-60-1 (BK) CONSOLE	
87	680601	24	ADA-L	
88	680652	15	DESI ITL/DTL-12D (PKG 25)	
89	680654	1	DESI DCL-60 (PKG 25)	
90	680659	6	DESI ITL/DTL-24D (PKG 25)	
91	690002	57	ITL-12D-1 (BK) TEL	
92	690004	75	ITL-24D-1 (BK) TEL	
93	730088	13	DTR-4R-2 (BK) CORDLESS	
94	780135	2	AC-2R	
95			***NEC MAINTENANCE ITEMS***	
96	390000303	1	MNT MULTI YEAR CONTRACT 3-YRS	
97			***ASSOCIATE MAINTENANCE ITEMS***	
98	390911081	612	MNT MA4000 SW PREMIUM APS1	
99	85109990081	15	MNT SV85/7-24K SW (1-16 CAP LI	
100			**Hardware Maintenance**	
101	99999999	1	Nexus Year 2 Hardware Maintenance (Core NEC)	
102	99999999	1	Nexus Year 3 Hardware Maintenance (Core NEC)	
103	220500303	1	MNT UCB/QM 3-YEAR CONTRACT	
104	391900303	1	MNT MTS 3-YEAR CONTRACT	
105	220500081	495	MNT UCB/QM SW PREMIUM APS1	
106	391900081	210	MNT MA4EM SW PREMIUM APS	
107			**Miscellaneous Installation Hardware**	
108	NEX-25PX25180DEC	50	25PX25-180 Amphenol Cables	
109	SIE-S66M1-50	25	Siemons - 66M150 Connecting Blocks	
110	SIE-S89B	25	Siemons - 89-B Brackets	
111	AMP-569389-1	4	1-Pair Cross-Connect Wire (1000 ft. reel)	
112	999999	4	Miscellaneous Installation Materials	
113	DCM00K03S2X30	1	Rectifier Cage, 10AMP Module	
114	1TWFO500H54B	2	APC 10 AMP RECTIFIER MODULE	
115	DCMOPTBATN	1	BATTERY KIT	
116	DCBT004	1	BATTERIES	
117			**Chatsworth Equipment Racks**	
118	55053-503	3	Chatsworth 19" X 7' Standard Floor Equipment Rack	
119	999999	3	Miscellaneous Material Per Rack	
120			**UPS Back-Up Systems**	
121	SURTA3000XL	2	APC SMART-UPS RT 3000VA 120V (Battery backup for MA4000, MTS, UCB and AVS'	
122			**AVST Voicemail**	
123	1024-03010-48	1	CallXpress Advanced Messaging - 48 Ports/50 Seats	
124	1024-03902-00	1	CallXpress UM Bundle 1 - adds initial text-to-speech (TTS) channel for TUI access to e-ma	
125	1024-03162-00	1	CallXpress Unified Messaging for Microsoft Exchange	
126	1024-03121-00	1	Centigram TUI Emulation	
127	1024-04045-00	1	NEC NEAX 2400/SV7000 LAN MCI	
128	1024-03175-00	1	Automated Agent (IVR)	
129	1000-05003-00	1	NotifyXpress - Initial 2 ports (Requires Automated Agent License)	
130	1000-05004-00	6	NotifyXpress - Each additional port (3-48)	
131	1000-05002-00	1	ScheduleXpress	
132	1090-98105-00	40	AVST Competitive Trade-In Promo	
133	1016-08072-00	2	D/240JCT-T1-U 24-Port Card (uPCI)	
134	1024-03636-00	1	I-4000 Level 6 Rack with CallXpress Pre-Load (License not included.)	
135			**AVST Voicemail: Warm Standy**	
136	1024-03010-48	1	CallXpress Advanced Messaging - 48 Ports/50 Seats	
137	1024-03902-00	1	CallXpress UM Bundle 1 - adds initial text-to-speech (TTS) channel for TUI access to e-ma	

System Line Item List
for
City of Torrance: City Hall
SCHEDULE A - ORDER SUMMARY - SV8500 System

LINE #	PART #	QTY	DESCRIPTION	$/Total
138	1024-03162-00	1	CallXpress Unified Messaging for Microsoft Exchange	
139	1024-03121-00	1	Centigram TUI Emulation	
140	1024-04045-00	1	NEC NEAX 2400/SV7000 LAN MCI	
141	1024-03175-00	1	Automated Agent (IVR)	
142	1000-05003-00	1	NotifyXpress - Initial 2 ports (Requires Automated Agent License)	
143	1000-05004-00	6	NotifyXpress - Each additional port (3-48)	
144	1000-05002-00	1	ScheduleXpress	
145	1090-98105-00	40	AVST Competitive Trade-In Promo	
146	1016-08072-00	2	D/240JCT-T1-U 24-Port Card (uPCI)	
147	1024-03636-00	1	I-4000 Level 6 Rack with CallXpress Pre-Load (License not included.)	
148			**AVST Xpress Care: Year 2 (Core and Warm Standby)**	
149	1090-98601-00	2	Extended Hardware Warranty - One Year (15% of MSLP Per Year)	
150	1090-98322-00	96	1 Year - XpressCare Extension - CallXpress with 50 UM Clients - Per Port	
151	1090-98322-02	2	1 Year - XpressCare Extension - TTS Channel - Per Channel	
152			**AVST Xpress Care: Year 3 (Core and Warm Standby)**	
153	1090-98602-00	2	Extended Hardware Warranty - Two Years (15% of MSLP Per Year)	
154	1090-98323-00	96	2 Years - XpressCare Extension - CallXpress with 50 UM Clients - Per Port	
155	1090-98323-02	2	2 Years - XpressCare Extension - TTS Channel - Per Channel	
156				
			Equipment Total	467,589.07
			Sales Tax 8.25%	38,576.10
			Labor/Services Total	153,946.29
			Total Investment	**660,111.46**

This price includes material, installation labor, 8.25% sales tax, and a one year warranty.
This quote is valid until Tuesday, December 30, 2008

Authorized Customer Signature

Authorized Nexus IS Entity Signature

Payment Term1 50% / $330055.73
Payment Term2 40% / $264044.58
Payment Term3 10% / $66011.15
Payment Term4 0% / $0

The Customer's signature acknowledges that the Customer has read and accepted the terms and conditions of the above referenced contract, the customer authorizes Nexus IS to obtain credit information prior to accepting this order.

System Line Item List
for
City of Torrance: Airport
SCHEDULE A - ORDER SUMMARY - SV8500 System

LINE #	PART #	QTY	DESCRIPTION	$/Total
1	8510000	1	SV8500 DVD	
2	8510001	1	85-104 S1 MAIN SYSTEM	
3	8510100	1	SV8500 GENERIC SOFTWARE LICENS	
4	8510401	1	SV8500 CCIS/FCCS NETWORK OPTIO	
5	8510975	32	SV8500 P2P CCIS (1CH) LICENSE	
6	8510999	2	SV8500 384 PORT CAPACITY OPTIO	
7	8520000	1	UNIVERGE SV8500 CHASSIS	
8	8520001	2	SCF-CP00-A	
9	8520004	2	SN1753 PWRMAC	
10	8520005	1	SCG-PC00-A	
11	8520006	1	SCG-M00-A	
12	8520008	2	SCG-GT00-A	
13	8520011	1	UNIVERGE SV8500 PIR	
14	8520014	1	UNIVERGE SV8500 FANU(V)	
15	8520016	1	SN1749 BASEUD-A	
16	8520021	1	SV8500 SPARE FUSE-A	
17	8520025	2	CF-2G-A PROGRAMMED	
18	8522000	2	PH-SW10-A	
19	8522004	1	PA-PW55-C	
20	8522005	1	PA-PW54-C	
21	8522008	2	SPA-8RSTAD-A	
22	8522014	1	SPA-CFTW-A	
23	8524003	1	SPA-16COTBEB-A	
24	8524005	1	SPA-DTIC-A	
25	8524011	1	SPA-32IPPADB	
26	8528000	1	PIR BUS-MUSIC CA-A	
27	8528001	1	D37-PS40 CA-A	
28	8528002	1	D15 ST-FF CA-A	
29	8528003	1	D15 ST-F CA-A	
30	8528004	2	D37-SC50 CA-A	
31	8528005	1	D15F EXALM CA-A	
32	8528015	1	3P PWR CA-A	
33	8528016	1	3P PWR CA-B	
34	8530000	1	SPA-16LCCD-A	
35	8530004	3	SPA-16ELCN-A	
36	8540001	1	MIGRATION PROMO TRACKING-1-4 G	
37	8540100	1	SV8500 LICENSE TRANSFER	
38	391961	1	MA4 90 DAY TRIAL PROMO	
39			***TERMINAL ITEMS***	
40	680002	14	DTL-12D-1 (BK) TEL	
41	680004	9	DTL-24D-1 (BK) TEL	
42	730088	3	DTR-4R-2 (BK) CORDLESS	
43			***NEC MAINTENANCE ITEMS***	
44	390000303	1	MNT MULTI YEAR CONTRACT 3-YRS	
45			***ASSOCIATE MAINTENANCE ITEMS***	
46	85109990081	6	MNT SV85/7-24K SW (1-16 CAP LI	
47		1	Nexus Year 2 Hardware Maintenance	
48	NEX-25PX25180DEC	1	Nexus Year 3 Hardware Maintenance	
49	SIE-S66M1-50		**Miscellaneous Installation Hardware**	
50	SIE-S89B	14	25PX25-180 Amphenol Cables	
51	AMP-569389-1	7	Siemons - 66M150 Connecting Blocks	
52	999999	7	Siemons - 89-B Brackets	
53	DCM00K03S2X30	1	1-Pair Cross-Connect Wire (1000 ft. reel)	
54	1TWFO500H54B	1	Miscellaneous Installation Materials	
55	DCMOPTBATN	1	Rectifier Cage, 10AMP Module	
56	DCBT004	2	APC 10 AMP RECTIFIER MODULE	
57		1	BATTERY KIT	
58	55053-503	1	BATTERIES	
59	999999		**Chatsworth Equipment Racks**	
60		1	Chatsworth 19" X 7' Standard Floor Equipment Rack	
61		1	Miscellaneous Material Per Rack	
62				
			Equipment Total	54,433.38
			Sales Tax 8.25%	4,490.75
			Labor/Services Total	17,532.69
			Total Investment	76,456.83

This price includes material, installation labor, 8.25% sales tax, and a one year warranty.
This quote is valid until Monday, December 29, 2008

System Line Item List
for
City of Torrance: Airport
SCHEDULE A - ORDER SUMMARY - SV8500 System

LINE #	PART #	QTY	DESCRIPTION	$/Total

Authorized Customer Signature

Authorized Nexus IS Entity Signature

Payment Term1 50% / $38228.41
Payment Term2 40% / $30582.73
Payment Term3 10% / $7645.68
Payment Term4 0% / $0

The Customer's signature acknowledges that the Customer has read and accepted the terms and conditions of the above referenced contract, the customer authorizes Nexus IS to obtain credit information prior to accepting this order.

System Line Item List
for
City of Torrance: Fire
SCHEDULE A - ORDER SUMMARY - SV8500 System

LINE #	PART #	QTY	DESCRIPTION	$/Total
1	8510000	1	SV8500 DVD	
2	8510001	1	85-104 S1 MAIN SYSTEM	
3	8510100	1	SV8500 GENERIC SOFTWARE LICENS	
4	8510401	1	SV8500 CCIS/FCCS NETWORK OPTIO	
5	8510975	52	SV8500 P2P CCIS (1CH) LICENSE	
6	8510999	2	SV8500 384 PORT CAPACITY OPTIO	
7	8520000	1	UNIVERGE SV8500 CHASSIS	
8	8520001	2	SCF-CP00-A	
9	8520004	2	SN1753 PWRMAC	
10	8520005	1	SCG-PC00-A	
11	8520006	1	SCG-M00-A	
12	8520008	2	SCG-GT00-A	
13	8520011	1	UNIVERGE SV8500 PIR	
14	8520014	1	UNIVERGE SV8500 FANU(V)	
15	8520016	1	SN1749 BASEUD-A	
16	8520021	1	SV8500 SPARE FUSE-A	
17	8520025	2	CF-2G-A PROGRAMMED	
18	8522000	2	PH-SW10-A	
19	8522004	1	PA-PW55-C	
20	8522005	1	PA-PW54-C	
21	8522008	2	SPA-8RSTAD-A	
22	8522014	1	SPA-CFTW-A	
23	8524003	1	SPA-16COTBEB-A	
24	8524005	1	SPA-DTIC-A	
25	8524011	1	SPA-32IPPADB	
26	8528000	1	PIR BUS-MUSIC CA-A	
27	8528001	1	D37-PS40 CA-A	
28	8528002	1	D15 ST-FF CA-A	
29	8528003	1	D15 ST-F CA-A	
30	8528004	2	D37-SC50 CA-A	
31	8528005	1	D15F EXALM CA-A	
32	8528015	1	3P PWR CA-A	
33	8528016	1	3P PWR CA-B	
34	8530000	2	SPA-16LCCD-A	
35	8530004	4	SPA-16ELCN-A	
36	8540001	1	MIGRATION PROMO TRACKING-1-4 G	
37	8540100	1	SV8500 LICENSE TRANSFER	
38	391961	1	MA4 90 DAY TRIAL PROMO	
39			***TERMINAL ITEMS***	
40	680002	30	DTL-12D-1 (BK) TEL	
41	680004	12	DTL-24D-1 (BK) TEL	
42	680012	2	DCL-60-1 (BK) CONSOLE	
43			***NEC MAINTENANCE ITEMS***	
44	390000303	1	MNT MULTI YEAR CONTRACT 3-YRS	
45			***ASSOCIATE MAINTENANCE ITEMS***	
46	85109990081	6	MNT SV85/7-24K SW (1-16 CAP LI	
47		1	Nexus Year 2 Hardware Maintenance	
48	NEX-25PX25180DEC	1	Nexus Year 3 Hardware Maintenance	
49	SIE-S66M1-50		**Miscellaneous Installation Hardware**	
50	SIE-S89B	14	25PX25-180 Amphenol Cables	
51	AMP-569389-1	7	Siemons - 66M150 Connecting Blocks	
52	999999	7	Siemons - 89-B Brackets	
53	DCM00K03S2X30	1	1-Pair Cross-Connect Wire (1000 ft. reel)	
54	1TWFO500H54B	1	Miscellaneous Installation Materials	
55	DCMOPTBATN	1	Rectifier Cage, 10AMP Module	
56	DCBT004	2	APC 10 AMP RECTIFIER MODULE	
57		1	BATTERY KIT	
58	55053-503	1	BATTERIES	
59	999999		**Chatsworth Equipment Racks**	
60		1	Chatsworth 19" X 7' Standard Floor Equipment Rack	
61		1	Miscellaneous Material Per Rack	
62				

Equipment Total		60,158.53
Sales Tax	**8.25%**	4,963.08
Labor/Services Total		18,915.71
Total Investment		**84,037.32**

This price includes material, installation labor, 8.25% sales tax, and a one year warranty.
This quote is valid until Monday, December 29, 2008

System Line Item List
for
City of Torrance: Fire
SCHEDULE A - ORDER SUMMARY - SV8500 System

LINE #	PART #	QTY	DESCRIPTION	$/Total

Authorized Customer Signature

Authorized Nexus IS Entity Signature

Payment Term1 50% / $42018.66
Payment Term2 40% / $33614.93
Payment Term3 10% / $8403.73
Payment Term4 0% / $0

The Customer's signature acknowledges that the Customer has read and accepted the terms and conditions of the above referenced contract, the customer authorizes Nexus IS to obtain credit information prior to accepting this order.

System Line Item List
for
City of Torrance: PD
SCHEDULE A - ORDER SUMMARY - SV8500 System

LINE #	PART #	QTY	DESCRIPTION	$/Total
1	8510000	1	SV8500 DVD	
2	8510001	1	85-104 S1 MAIN SYSTEM	
3	8510100	1	SV8500 GENERIC SOFTWARE LICENS	
4	8510401	1	SV8500 CCIS/FCCS NETWORK OPTIO	
5	8510975	64	SV8500 P2P CCIS (1CH) LICENSE	
6	8510999	4	SV8500 384 PORT CAPACITY OPTIO	
7	8520000	1	UNIVERGE SV8500 CHASSIS	
8	8520001	2	SCF-CP00-A	
9	8520004	2	SN1753 PWRMAC	
10	8520005	1	SCG-PC00-A	
11	8520006	1	SCG-M00-A	
12	8520008	2	SCG-GT00-A	
13	8520011	3	UNIVERGE SV8500 PIR	
14	8520014	1	UNIVERGE SV8500 FANU(V)	
15	8520016	1	SN1749 BASEUD-A	
16	8520021	1	SV8500 SPARE FUSE-A	
17	8520025	2	CF-2G-A PROGRAMMED	
18	8522000	2	PH-SW10-A	
19	8522002	4	PH-PC36	
20	8522004	3	PA-PW55-C	
21	8522005	3	PA-PW54-C	
22	8522008	2	SPA-8RSTAD-A	
23	8522014	1	SPA-CFTW-A	
24	8524003	1	SPA-16COTBEB-A	
25	8524005	2	SPA-DTIC-A	
26	8524011	1	SPA-32IPPADB	
27	8528000	1	PIR BUS-MUSIC CA-A	
28	8528001	1	D37-PS40 CA-A	
29	8528002	1	D15 ST-FF CA-A	
30	8528003	1	D15 ST-F CA-A	
31	8528004	2	D37-SC50 CA-A	
32	8528005	1	D15F EXALM CA-A	
33	8528006	2	D15 ST CA-A	
34	8528008	4	D25 CRS CA-A	
35	8528010	8	MT24-D25 CA-A	
36	8528015	3	3P PWR CA-A	
37	8528016	3	3P PWR CA-B	
38	8530000	11	SPA-16LCCD-A	
39	8530004	27	SPA-16ELCN-A	
40	8540001	1	MIGRATION PROMO TRACKING-1-4 G	
41	8540100	1	SV8500 LICENSE TRANSFER	
42	391961	1	MA4 90 DAY TRIAL PROMO	
43			***TERMINAL ITEMS***	
44	680002	328	DTL-12D-1 (BK) TEL	
45	680004	76	DTL-24D-1 (BK) TEL	
46	680012	6	DCL-60-1 (BK) CONSOLE	
47	680652	14	DESI ITL/DTL-12D (PKG 25)	
48	680654	1	DESI DCL-60 (PKG 25)	
49	680659	4	DESI ITL/DTL-24D (PKG 25)	
50			***NEC MAINTENANCE ITEMS***	
51	390000303	1	MNT MULTI YEAR CONTRACT 3-YRS	
52			***ASSOCIATE MAINTENANCE ITEMS***	
53	85109990081	12	MNT SV85/7-24K SW (1-16 CAP LI	
54		1	Nexus Year 2 Hardware Maintenance	
55	NEX-25PX25180DEC	1	Nexus Year 3 Hardware Maintenance	
56	SIE-S66M1-50		**Miscellaneous Installation Hardware**	
57	SIE-S89B	50	25PX25-180 Amphenol Cables	
58	AMP-569389-1	25	Siemons - 66M150 Connecting Blocks	
59	999999	25	Siemons - 89-B Brackets	
60	DCM00K03S2X30	4	1-Pair Cross-Connect Wire (1000 ft. reel)	
61	1TWFO500H54B	4	Miscellaneous Installation Materials	
62	DCMOPTBATN	1	Rectifier Cage, 10AMP Module	
63	DCBT004	2	APC 10 AMP RECTIFIER MODULE	
64		1	BATTERY KIT	
65	55053-503	1	BATTERIES	
66	999999		**Chatsworth Equipment Racks**	
67		1	Chatsworth 19" X 7' Standard Floor Equipment Rack	
68		1	Miscellaneous Material Per Rack	
69				
			Equipment Total	169,486.84

System Line Item List
for
City of Torrance: PD
SCHEDULE A - ORDER SUMMARY - SV8500 System

LINE #	PART #	QTY	DESCRIPTION		$/Total
				Sales Tax 8.25%	13,982.66
				Labor/Services Total	86,109.94
				Total Investment	**269,579.44**

This price includes material, installation labor, 8.25% sales tax, and a one year warranty.
This quote is valid until Monday, December 29, 2008

Authorized Customer Signature

Authorized Nexus IS Entity Signature

Payment Term1 50% / $134789.72
Payment Term2 40% / $107831.78
Payment Term3 10% / $26957.94
Payment Term4 0% / $0

The Customer's signature acknowledges that the Customer has read and accepted the terms and conditions of the above referenced contract. the customer authorizes Nexus IS to obtain credit information prior to accepting this order.

NEXUS

System Line Item List
for
City of Torrance: City Yard
SCHEDULE A - ORDER SUMMARY - SV8500 System

LINE #	PART #	QTY	DESCRIPTION	$/Total
1	8510000	1	SV8500 DVD	
2	8510001	1	85-104 S1 MAIN SYSTEM	
3	8510100	1	SV8500 GENERIC SOFTWARE LICENS	
4	8510401	1	SV8500 CCIS/FCCS NETWORK OPTIO	
5	8510975	32	SV8500 P2P CCIS (1CH) LICENSE	
6	8510999	3	SV8500 384 PORT CAPACITY OPTIO	
7	8520000	1	UNIVERGE SV8500 CHASSIS	
8	8520001	2	SCF-CP00-A	
9	8520004	2	SN1753 PWRMAC	
10	8520005	1	SCG-PC00-A	
11	8520006	1	SCG-M00-A	
12	8520008	2	SCG-GT00-A	
13	8520011	2	UNIVERGE SV8500 PIR	
14	8520014	1	UNIVERGE SV8500 FANU(V)	
15	8520016	1	SN1749 BASEUD-A	
16	8520021	1	SV8500 SPARE FUSE-A	
17	8520025	2	CF-2G-A PROGRAMMED	
18	8522000	2	PH-SW10-A	
19	8522002	2	PH-PC36	
20	8522004	2	PA-PW55-C	
21	8522005	2	PA-PW54-C	
22	8522008	2	SPA-8RSTAD-A	
23	8522014	1	SPA-CFTW-A	
24	8524003	1	SPA-16COTBEB-A	
25	8524005	1	SPA-DTIC-A	
26	8524011	1	SPA-32IPPADB	
27	8528000	1	PIR BUS-MUSIC CA-A	
28	8528001	1	D37-PS40 CA-A	
29	8528002	1	D15 ST-FF CA-A	
30	8528003	1	D15 ST-F CA-A	
31	8528004	2	D37-SC50 CA-A	
32	8528005	1	D15F EXALM CA-A	
33	8528006	1	D15 ST CA-A	
34	8528008	2	D25 CRS CA-A	
35	8528010	4	MT24-D25 CA-A	
36	8528015	2	3P PWR CA-A	
37	8528016	2	3P PWR CA-B	
38	8530000	4	SPA-16LCCD-A	
39	8530004	13	SPA-16ELCN-A	
40	8540001	1	MIGRATION PROMO TRACKING-1-4 G	
41	8540100	1	SV8500 LICENSE TRANSFER	
42	391961	1	MA4 90 DAY TRIAL PROMO	
43			***TERMINAL ITEMS***	
44	680002	165	DTL-12D-1 (BK) TEL	
45	680004	18	DTL-24D-1 (BK) TEL	
46	680652	7	DESI ITL/DTL-12D (PKG 25)	
47	680659	1	DESI ITL/DTL-24D (PKG 25)	
48			***NEC MAINTENANCE ITEMS***	
49	390000303	1	MNT MULTI YEAR CONTRACT 3-YRS	
50			***ASSOCIATE MAINTENANCE ITEMS***	
51	85109990081	9	MNT SV85/7-24K SW (1-16 CAP LI	
52		1	Nexus Year 2 Hardware Maintenance	
53	NEX-25PX25180DEC	1	Nexus Year 3 Hardware Maintenance	
54	SIE-S66M1-50		**Miscellaneous Installation Hardware**	
55	SIE-S89B	26	25PX25-180 Amphenol Cables	
56	AMP-569389-1	13	Siemons - 66M150 Connecting Blocks	
57	999999	13	Siemons - 89-B Brackets	
58	DCM00K03S2X30	2	1-Pair Cross-Connect Wire (1000 ft. reel)	
59	1TWFO500H54B	2	Miscellaneous Installation Materials	
60	DCMOPTBATN	1	Rectifier Cage, 10AMP Module	
61	DCBT004	2	APC 10 AMP RECTIFIER MODULE	
62		1	BATTERY KIT	
63	55053-503	1	BATTERIES	
64	999999		**Chatsworth Equipment Racks**	
65		1	Chatsworth 19" X 7' Standard Floor Equipment Rack	
66		1	Miscellaneous Material Per Rack	
67				

Equipment Total		99,609.90
Sales Tax	**8.25%**	8,217.82
Labor/Services Total		39,862.45
Total Investment		**147,690.17**

System Line Item List
for
City of Torrance: City Yard
SCHEDULE A - ORDER SUMMARY - SV8500 System

LINE #	PART #	QTY	DESCRIPTION	$/Total

This price includes material, installation labor, 8.25% sales tax, and a one year warranty.
This quote is valid until Monday, December 29, 2008

Authorized Customer Signature

Authorized Nexus IS Entity Signature

Payment Term1 50% / $73845.08
Payment Term2 40% / $59076.07
Payment Term3 10% / $14769.02
Payment Term4 0% / $0

The Customer's signature acknowledges that the Customer has read and accepted the terms and conditions of the above referenced contract, the customer authorizes Nexus IS to obtain credit information prior to accepting this order.

NEXUS

System Line Item List
for
City of Torrance: Animal Control
SCHEDULE A - ORDER SUMMARY - UNIVERGE SV8300 System

LINE #	PART #	QTY	DESCRIPTION	$/Total	Unit Pre Order
1	670011	1	SV8300 SIP BASIC PLUS PKG	3,034.40	3,034.40
2	670109	1	CD-16DLCA	213.96	213.96
3	670110	1	CD-4COTB	83.64	83.64
4	670501	1	CHS2U JOINT BRACKET KIT	19.45	19.45
5	670502	1	CHS1U RACK MOUNT KIT	31.12	31.12
6	670508	1	CHS2U RACK MOUNT KIT.	19.45	19.45
7	670516	1	RS CONSOLE CA-A	42.79	42.79
8	670535	1	INSTALLATION CABLE (MOD8 - 25	23.34	23.34
9	670756	1	LS-SYS-R1-LIC	583.54	583.54
10	670765	8	LS-TRK-P2PCCIS-LIC	311.22	38.90
11	670766	1	LS-NW-CCIS-LIC	77.81	77.81
12	670856	1	AS SV8300 SYSTEM DOCUMENTATION	5.84	5.84
13			***TERMINAL ITEMS***		
14	680002	8	DTL-12D-1 (BK) TEL	769.86	96.23
15	680012	1	DCL-60-1 (BK) CONSOLE	102.38	102.38
16			**Software Assurance and Maintenance**		
17	670011081	3	MNT SV8300 PREMIUM SW 64-PORT (3 Years)	819.00	273.00
18	999999	1	Nexus Hardware Maintenance Year 2	0.00	0.00
19	999999	1	Nexus Hardware Maintenance Year 3	748.89	748.89
20			**Miscellaneous Installation Hardware**		
21	NEX-25PX25180DEC	5	25PX25-180 Amphenol Cables	165.17	33.03
22	SIE-S66M1-50	3	Siemons - 66M150 Connecting Blocks	22.24	7.41
23	SIE-S89B	3	Siemons - 89-B Brackets	4.41	1.47
24			**30 Minute Backup Battery**		
25	PRO700E	1	700VA Line-Interactive UPS with 6 Outlets	240.45	240.45
26					

Equipment Total		7,318.95
Sales Tax	**8.25%**	603.81
Labor/Services Total		1,985.59
Total Investment		**9,908.35**

This price includes material, installation labor, 8.25% sales tax, and a one year warranty.
This quote is valid until Monday, December 29, 2008

Authorized Customer Signature

Authorized Nexus IS Entity Signature

Payment Term1 50% / $4954.17
Payment Term2 40% / $3963.34
Payment Term3 10% / $990.83
Payment Term4 0% / $0

The Customer's signature acknowledges that the Customer has read and accepted the terms and conditions of the above referenced contract, the customer authorizes Nexus IS to obtain credit information prior to accepting this order.

NEXUS

System Line Item List
for
City of Torrance: Barlett
SCHEDULE A - ORDER SUMMARY - UNIVERGE SV8300 System

LINE #	PART #	QTY	DESCRIPTION	$/Total	Unit Pre Order
1	670011	1	SV8300 SIP BASIC PLUS PKG	3,034.40	3,034.40
2	670109	1	CD-16DLCA	213.96	213.96
3	670110	1	CD-4COTB	83.64	83.64
4	670501	1	CHS2U JOINT BRACKET KIT.	19.45	19.45
5	670502	1	CHS1U RACK MOUNT KIT	31.12	31.12
6	670508	1	CHS2U RACK MOUNT KIT.	19.45	19.45
7	670516	1	RS CONSOLE CA-A	42.79	42.79
8	670535	1	INSTALLATION CABLE (MOD8 - 25	23.34	23.34
9	670756	1	LS-SYS-R1-LIC	583.54	583.54
10	670765	8	LS-TRK-P2PCCIS-LIC	311.22	38.90
11	670766	1	LS-NW-CCIS-LIC	77.81	77.81
12	670856	1	AS SV8300 SYSTEM DOCUMENTATION	5.84	5.84
13			***TERMINAL ITEMS***		
14	680004	14	DTL-24D-1 (BK) TEL	1,547.91	110.57
15	680012	1	DCL-60-1 (BK) CONSOLE	102.38	102.38
16			**30 Minute Backup Battery**		
17	PRO700E	1	700VA Line-Interactive UPS with 6 Outlets	240.45	240.45
18			**Software Assurance and Maintenance**		
19	670011081	3	MNT SV8300 PREMIUM SW 64-PORT (3 Years)	819.00	273.00
20	99999	1	Nexus Hardware Maintenance Year 2	0.00	0.00
21	99999	1	Nexus Hardware Maintenance Year 3	748.89	748.89
22			**Miscellaneous Installation Hardware**		
23	NEX-25PX25180DEC	5	25PX25-180 Amphenol Cables	165.17	33.03
24	SIE-S66M1-50	3	Siemons - 66M150 Connecting Blocks	22.24	7.41
25	SIE-S89B	3	Siemons - 89-B Brackets	4.41	1.47
26					

Equipment Total	8,097.00
Sales Tax 8.25%	668.00
Labor/Services Total	2,630.47
Total Investment	**11,395.47**

This price includes material, installation labor, 8.25% sales tax, and a one year warranty.
This quote is valid until Monday, December 29, 2008

Authorized Customer Signature

Authorized Nexus IS Entity Signature

Payment Term1 50% / $5697.74
Payment Term2 40% / $4558.19
Payment Term3 10% / $1139.55
Payment Term4 0% / $0

The Customer's signature acknowledges that the Customer has read and accepted the terms and conditions of the above referenced contract, the customer authorizes Nexus IS to obtain credit information prior to accepting this order.

System Line Item List
for
City of Torrance: Fire Station #1
SCHEDULE A - ORDER SUMMARY - UNIVERGE SV8300 System

LINE #	PART #	QTY	DESCRIPTION	$/Total	Unit Pre Order
1	670011	1	SV8300 SIP BASIC PLUS PKG	3,034.40	3,034.40
2	670110	1	CD-4COTB	83.64	83.64
3	670501	1	CHS2U JOINT BRACKET KIT.	19.45	19.45
4	670502	1	CHS1U RACK MOUNT KIT	31.12	31.12
5	670508	1	CHS2U RACK MOUNT KIT.	19.45	19.45
6	670516	1	RS CONSOLE CA-A	42.79	42.79
7	670535	1	INSTALLATION CABLE (MOD8 - 25	23.34	23.34
8	670756	1	LS-SYS-R1-LIC	583.54	583.54
9	670765	8	LS-TRK-P2PCCIS-LIC	311.22	38.90
10	670766	1	LS-NW-CCIS-LIC	77.81	77.81
11	670856	1	AS SV8300 SYSTEM DOCUMENTATION	5.84	5.84
12			***TERMINAL ITEMS***		
13	680012	1	DCL-60-1 (BK) CONSOLE	102.38	102.38
14	690002	6	ITL-12D-1 (BK) TEL	884.52	147.42
15			**30 Minute Backup Battery**		
16	PRO700E	1	700VA Line-Interactive UPS with 6 Outlets	240.45	240.45
17			**Software Assurance and Maintenance**		
18	670011081	3	MNT SV8300 PREMIUM SW 64-PORT (3 Years)	819.00	273.00
19	99999	1	Nexus Hardware Maintenance Year 2	0.00	0.00
20	99999	1	Nexus Hardware Maintenance Year 3	712.86	712.86
21			**Miscellaneous Installation Hardware**		
22	NEX-25PX25180DEC	5	25PX25-180 Amphenol Cables	165.17	33.03
23	SIE-S66M1-50	3	Siemons - 66M150 Connecting Blocks	22.24	7.41
24	SIE-S89B	3	Siemons - 89-B Brackets	4.41	1.47
25					

Equipment Total	7,183.61
Sales Tax 8.25%	592.65
Labor/Services Total	1,730.38
Total Investment	**9,506.64**

This price includes material, installation labor, 8.25% sales tax, and a one year warranty.
This quote is valid until Monday, December 29, 2008

Authorized Customer Signature

Authorized Nexus IS Entity Signature

Payment Term1 50% / $4753.32
Payment Term2 40% / $3802.65
Payment Term3 10% / $950.66
Payment Term4 0% / $0

The Customer's signature acknowledges that the Customer has read and accepted the terms and conditions of the above referenced contract, the customer authorizes Nexus IS to obtain credit information prior to accepting this order.

System Line Item List
for
City of Torrance: Fire Station #3
SCHEDULE A - ORDER SUMMARY - UNIVERGE SV8300 System

LINE #	PART #	QTY	DESCRIPTION	$/Total	Unit Pre Order
1	670011	1	SV8300 SIP BASIC PLUS PKG	3,034.40	3,034.40
2	670107	1	CD-8DLCA	112.82	112.82
3	670110	1	CD-4COTB	83.64	83.64
4	670501	1	CHS2U JOINT BRACKET KIT	19.45	19.45
5	670502	1	CHS1U RACK MOUNT KIT	31.12	31.12
6	670508	1	CHS2U RACK MOUNT KIT.	19.45	19.45
7	670516	1	RS CONSOLE CA-A	42.79	42.79
8	670535	1	INSTALLATION CABLE (MOD8 - 25	23.34	23.34
9	670756	1	LS-SYS-R1-LIC	583.54	583.54
10	670765	8	LS-TRK-P2PCCIS-LIC	311.22	38.90
11	670766	1	LS-NW-CCIS-LIC	77.81	77.81
12	670856	1	AS SV8300 SYSTEM DOCUMENTATION	5.84	5.84
13			***TERMINAL ITEMS***		
14	680002	6	DTL-12D-1 (BK) TEL	577.40	96.23
15	680012	1	DCL-60-1 (BK) CONSOLE	102.38	102.38
16			**30 Minute Backup Battery**		
17	PRO700E	1	700VA Line-Interactive UPS with 6 Outlets	240.45	240.45
18			**Software Assurance and Maintenance**		
19	670011081	3	MNT SV8300 PREMIUM SW 64-PORT (3 Years)	819.00	273.00
20	99999	1	Nexus Hardware Maintenance Year 2	0.00	0.00
21	99999	1	Nexus Hardware Maintenance Year 3	731.86	731.86
22			**Miscellaneous Installation Hardware**		
23	NEX-25PX25180DEC	5	25PX25-180 Amphenol Cables	165.17	33.03
24	SIE-S66M1-50	3	Siemons - 66M150 Connecting Blocks	22.24	7.41
25	SIE-S89B	3	Siemons - 89-B Brackets	4.41	1.47
26					

Equipment Total		7,008.30
Sales Tax	**8.25%**	578.18
Labor/Services Total		1,718.62
Total Investment		**9,305.10**

This price includes material, installation labor, 8.25% sales tax, and a one year warranty.
This quote is valid until Monday, December 29, 2008

Authorized Customer Signature

Authorized Nexus IS Entity Signature

Payment Term1 50% / $4652.55
Payment Term2 40% / $3722.04
Payment Term3 10% / $930.51
Payment Term4 0% / $0

The Customer's signature acknowledges that the Customer has read and accepted the terms and conditions of the above referenced contract. the customer authorizes Nexus IS to obtain credit information prior to accepting this order.

NEXUS»

System Line Item List
for
City of Torrance: Fire Station #4
SCHEDULE A - ORDER SUMMARY - UNIVERGE SV8300 System

LINE #	PART #	QTY	DESCRIPTION	$/Total	Unit Pre Order
1	670011	1	SV8300 SIP BASIC PLUS PKG	3,034.40	3,034.40
2	670107	1	CD-8DLCA	112.82	112.82
3	670110	1	CD-4COTB	83.64	83.64
4	670501	1	CHS2U JOINT BRACKET KIT	19.45	19.45
5	670502	1	CHS1U RACK MOUNT KIT	31.12	31.12
6	670508	1	CHS2U RACK MOUNT KIT.	19.45	19.45
7	670516	1	RS CONSOLE CA-A	42.79	42.79
8	670535	1	INSTALLATION CABLE (MOD8 - 2:	23.34	23.34
9	670756	1	LS-SYS-R1-LIC	583.54	583.54
10	670765	8	LS-TRK-P2PCCIS-LIC	311.22	38.90
11	670766	1	LS-NW-CCIS-LIC	77.81	77.81
12	670856	1	AS SV8300 SYSTEM DOCUMENTATION	5.84	5.84
13			***TERMINAL ITEMS***		
14	680002	6	DTL-12D-1 (BK) TEL	577.40	96.23
15	680012	1	DCL-60-1 (BK) CONSOLE	102.38	102.38
16			**30 Minute Backup Battery**		
17	PRO700E	1	700VA Line-Interactive UPS with 6 Outlets	240.45	240.45
18			**Software Assurance and Maintenance**		
19	670011081	3	MNT SV8300 PREMIUM SW 64-PORT (3 Years)	819.00	273.00
20	99999	1	Nexus Hardware Maintenance Year 2	0.00	0.00
21	99999	1	Nexus Hardware Maintenance Year 3	731.86	731.86
22			**Miscellaneous Installation Hardware**		
23	NEX-25PX25180DEC	5	25PX25-180 Amphenol Cables	165.17	33.03
24	SIE-S66M1-50	3	Siemons - 66M150 Connecting Blocks	22.24	7.41
25	SIE-S89B	3	Siemons - 89-B Brackets	4.41	1.47
26					

Equipment Total	7,008.30
Sales Tax 8.25%	578.18
Labor/Services Total	1,718.62
Total Investment	**9,305.10**

This price includes material, installation labor, 8.25% sales tax, and a one year warranty.
This quote is valid until Monday, December 29, 2008

Authorized Customer Signature

Authorized Nexus IS Entity Signature

Payment Term1 50% / $4652.55
Payment Term2 40% / $3722.04
Payment Term3 10% / $930.51
Payment Term4 0% / $0

The Customer's signature acknowledges that the Customer has read and accepted the terms and conditions of the above referenced contract, the customer authorizes Nexus IS to obtain credit information prior to accepting this order.

NEXUS» Integration Services

System Line Item List
for
City of Torrance: Fire Station #5
SCHEDULE A - ORDER SUMMARY - UNIVERGE SV8300 System

LINE #	PART #	QTY	DESCRIPTION	$/Total	Unit Pre Order
1	670011	1	SV8300 SIP BASIC PLUS PKG	3,034.40	3,034.40
2	670107	1	CD-8DLCA	112.82	112.82
3	670110	1	CD-4COTB	83.64	83.64
4	670501	1	CHS2U JOINT BRACKET KIT.	19.45	19.45
5	670502	1	CHS1U RACK MOUNT KIT	31.12	31.12
6	670508	1	CHS2U RACK MOUNT KIT.	19.45	19.45
7	670516	1	RS CONSOLE CA-A	42.79	42.79
8	670535	1	INSTALLATION CABLE (MOD8 - 25	23.34	23.34
9	670756	1	LS-SYS-R1-LIC	583.54	583.54
10	670765	8	LS-TRK-P2PCCIS-LIC	311.22	38.90
11	670766	1	LS-NW-CCIS-LIC	77.81	77.81
12	670856	1	AS SV8300 SYSTEM DOCUMENTATION	5.84	5.84
13			***TERMINAL ITEMS***		
14	680002	6	DTL-12D-1 (BK) TEL	577.40	96.23
15	680012	1	DCL-60-1 (BK) CONSOLE	102.38	102.38
16			**30 Minute Backup Battery**		
17	PRO700E	1	700VA Line-Interactive UPS with 6 Outlets	240.45	240.45
18			**Software Assurance and Maintenance**		
19	670011081	3	MNT SV8300 PREMIUM SW 64-PORT (3 Years)	819.00	273.00
20	99999	1	Nexus Hardware Maintenance Year 2	0.00	0.00
21	99999	1	Nexus Hardware Maintenance Year 3	731.86	731.86
22			**Miscellaneous Installation Hardware**		
23	NEX-25PX25180DEC	5	25PX25-180 Amphenol Cables	165.17	33.03
24	SIE-S66M1-50	3	Siemons - 66M150 Connecting Blocks	22.24	7.41
25	SIE-S89B	3	Siemons - 89-B Brackets	4.41	1.47
26					

Equipment Total	7,008.30
Sales Tax 8.25%	578.18
Labor/Services Total	1,718.62
Total Investment	**9,305.10**

This price includes material, installation labor, 8.25% sales tax, and a one year warranty.
This quote is valid until Monday, December 29, 2008

Authorized Customer Signature

Authorized Nexus IS Entity Signature

Payment Term1 50% / $4652.55
Payment Term2 40% / $3722.04
Payment Term3 10% / $930.51
Payment Term4 0% / $0

The Customer's signature acknowledges that the Customer has read and accepted the terms and conditions of the above referenced contract, the customer authorizes Nexus IS to obtain credit information prior to accepting this order.

NEXUS

System Line Item List
for
City of Torrance: Fire Station #6
SCHEDULE A - ORDER SUMMARY - UNIVERGE SV8300 System

LINE #	PART #	QTY	DESCRIPTION	$/Total	Unit Pre Order
1	670011	1	SV8300 SIP BASIC PLUS PKG	3,034.40	3,034.40
2	670109	1	CD-16DLCA	213.96	213.96
3	670110	1	CD-4COTB	83.64	83.64
4	670501	1	CHS2U JOINT BRACKET KIT.	19.45	19.45
5	670502	1	CHS1U RACK MOUNT KIT	31.12	31.12
6	670508	1	CHS2U RACK MOUNT KIT.	19.45	19.45
7	670516	1	RS CONSOLE CA-A	42.79	42.79
8	670535	1	INSTALLATION CABLE (MOD8 - 25	23.34	23.34
9	670756	1	LS-SYS-R1-LIC	583.54	583.54
10	670765	8	LS-TRK-P2PCCIS-LIC	311.22	38.90
11	670766	1	LS-NW-CCIS-LIC	77.81	77.81
12	670856	1	AS SV8300 SYSTEM DOCUMENTATION	5.84	5.84
13			***TERMINAL ITEMS***		
14	680002	15	DTL-12D-1 (BK) TEL	1,443.49	96.23
15	680012	1	DCL-60-1 (BK) CONSOLE	102.38	102.38
16			**30 Minute Backup Battery**		
17	PRO700E	1	700VA Line-Interactive UPS with 6 Outlets	240.45	240.45
18			**Software Assurance and Maintenance**		
19	670011081	3	MNT SV8300 PREMIUM SW 64-PORT (3 Years)	819.00	273.00
20	99999	1	Nexus Hardware Maintenance Year 2	0.00	0.00
21	99999	1	Nexus Hardware Maintenance Year 3	748.89	748.89
22			**Miscellaneous Installation Hardware**		
23	NEX-25PX25180DEC	5	25PX25-180 Amphenol Cables	165.17	33.03
24	SIE-S66M1-50	3	Siemons - 66M150 Connecting Blocks	22.24	7.41
25	SIE-S89B	3	Siemons - 89-B Brackets	4.41	1.47
26					

Equipment Total	7,992.58
Sales Tax 8.25%	659.39
Labor/Services Total	2,645.87
Total Investment	**11,297.83**

This price includes material, installation labor, 8.25% sales tax, and a one year warranty.
This quote is valid until Monday, December 29, 2008

Authorized Customer Signature

Authorized Nexus IS Entity Signature

Payment Term1 50% / $5648.92
Payment Term2 40% / $4519.13
Payment Term3 10% / $1129.78
Payment Term4 0% / $0

The Customer's signature acknowledges that the Customer has read and accepted the terms and conditions of the above referenced contract, the customer authorizes Nexus IS to obtain credit information prior to accepting this order.

NEXUS» Integration Services

System Line Item List
for
City of Torrance: Henderson Branch Library
SCHEDULE A - ORDER SUMMARY - UNIVERGE SV8300 System

LINE #	PART #	QTY	DESCRIPTION	$/Total	Unit Pre Order
1	670011	1	SV8300 SIP BASIC PLUS PKG	3,034.40	3,034.40
2	670107	1	CD-8DLCA	112.82	112.82
3	670110	1	CD-4COTB	83.64	83.64
4	670501	1	CHS2U JOINT BRACKET KIT.	19.45	19.45
5	670502	1	CHS1U RACK MOUNT KIT	31.12	31.12
6	670508	1	CHS2U RACK MOUNT KIT.	19.45	19.45
7	670516	1	RS CONSOLE CA-A	42.79	42.79
8	670535	1	INSTALLATION CABLE (MOD8 - 25	23.34	23.34
9	670756	1	LS-SYS-R1-LIC	583.54	583.54
10	670765	8	LS-TRK-P2PCCIS-LIC	311.22	38.90
11	670766	1	LS-NW-CCIS-LIC	77.81	77.81
12	670856	1	AS SV8300 SYSTEM DOCUMENTATION	5.84	5.84
13			***TERMINAL ITEMS***		
14	680002	6	DTL-12D-1 (BK) TEL	577.40	96.23
15	680012	1	DCL-60-1 (BK) CONSOLE	102.38	102.38
16			**30 Minute Backup Battery**		
17	PRO700E	1	700VA Line-Interactive UPS with 6 Outlets	240.45	240.45
18			**Software Assurance and Maintenance**		
19	670011081	3	MNT SV8300 PREMIUM SW 64-PORT (3 Years)	819.00	273.00
20	99999	1	Nexus Hardware Maintenance Year 2	0.00	0.00
21	99999	1	Nexus Hardware Maintenance Year 3	731.86	731.86
22			**Miscellaneous Installation Hardware**		
23	NEX-25PX25180DEC	5	25PX25-180 Amphenol Cables	165.17	33.03
24	SIE-S66M1-50	3	Siemons - 66M150 Connecting Blocks	22.24	7.41
25	SIE-S89B	3	Siemons - 89-B Brackets	4.41	1.47
26					

Equipment Total	7,008.30
Sales Tax 8.25%	578.18
Labor/Services Total	1,718.62
Total Investment	**9,305.10**

This price includes material, installation labor, 8.25% sales tax, and a one year warranty.
This quote is valid until Monday, December 29, 2008

Authorized Customer Signature

Authorized Nexus IS Entity Signature

Payment Term1 50% / $4652.55
Payment Term2 40% / $3722.04
Payment Term3 10% / $930.51
Payment Term4 0% / $0

The Customer's signature acknowledges that the Customer has read and accepted the terms and conditions of the above referenced contract, the customer authorizes Nexus IS to obtain credit information prior to accepting this order.

NEXUS»

System Line Item List
for
City of Torrance: Madrona Marsh
SCHEDULE A - ORDER SUMMARY - UNIVERGE SV8300 System

LINE #	PART #	QTY	DESCRIPTION	$/Total	Unit Pre Order
1	670011	1	SV8300 SIP BASIC PLUS PKG	3,034.40	3,034.40
2	670109	1	CD-16DLCA	213.96	213.96
3	670110	1	CD-4COTB	83.64	83.64
4	670501	1	CHS2U JOINT BRACKET KIT.	19.45	19.45
5	670502	1	CHS1U RACK MOUNT KIT	31.12	31.12
6	670508	1	CHS2U RACK MOUNT KIT.	19.45	19.45
7	670516	1	RS CONSOLE CA-A	42.79	42.79
8	670535	1	INSTALLATION CABLE (MOD8 - 25	23.34	23.34
9	670756	1	LS-SYS-R1-LIC	583.54	583.54
10	670765	8	LS-TRK-P2PCCIS-LIC	311.22	38.90
11	670766	1	LS-NW-CCIS-LIC	77.81	77.81
12	670856	1	AS SV8300 SYSTEM DOCUMENTATION	5.84	5.84
13			***TERMINAL ITEMS***		
14	680004	15	DTL-24D-1 (BK) TEL	1,658.48	110.57
15	680012	1	DCL-60-1 (BK) CONSOLE	102.38	102.38
16			**30 Minute Backup Battery**		
17	PRO700E	1	700VA Line-Interactive UPS with 6 Outlets	240.45	240.45
18			**Software Assurance and Maintenance**		
19	670011081	3	MNT SV8300 PREMIUM SW 64-PORT (3 Years)	819.00	273.00
20	99999	1	Nexus Hardware Maintenance Year 2	0.00	0.00
21	99999	1	Nexus Hardware Maintenance Year 3	748.89	748.89
22			**Miscellaneous Installation Hardware**		
23	NEX-25PX25180DEC	5	25PX25-180 Amphenol Cables	165.17	33.03
24	SIE-S66M1-50	3	Siemons - 66M150 Connecting Blocks	22.24	7.41
25	SIE-S89B	3	Siemons - 89-B Brackets	4.41	1.47
26					

Equipment Total	8,207.56
Sales Tax 8.25%	677.12
Labor/Services Total	2,661.62
Total Investment	**11,546.31**

This price includes material, installation labor, 8.25% sales tax, and a one year warranty.
This quote is valid until Monday, December 29, 2008

Authorized Customer Signature

Authorized Nexus IS Entity Signature

Payment Term1 50% / $5773.15
Payment Term2 40% / $4618.52
Payment Term3 10% / $1154.63
Payment Term4 0% / $0

The Customer's signature acknowledges that the Customer has read and accepted the terms and conditions of the above referenced contract, the customer authorizes Nexus IS to obtain credit information prior to accepting this order.

System Line Item List
for
City of Torrance: North Torr
SCHEDULE A - ORDER SUMMARY - UNIVERGE SV8300 System

LINE #	PART #	QTY	DESCRIPTION	$/Total	Unit Pre Order
1	670011	1	SV8300 SIP BASIC PLUS PKG	3,034.40	3,034.40
2	670107	1	CD-8DLCA	112.82	112.82
3	670110	1	CD-4COTB	83.64	83.64
4	670501	1	CHS2U JOINT BRACKET KIT	19.45	19.45
5	670502	1	CHS1U RACK MOUNT KIT	31.12	31.12
6	670508	1	CHS2U RACK MOUNT KIT.	19.45	19.45
7	670516	1	RS CONSOLE CA-A	42.79	42.79
8	670535	1	INSTALLATION CABLE (MOD8 - 25	23.34	23.34
9	670756	1	LS-SYS-R1-LIC	583.54	583.54
10	670765	8	LS-TRK-P2PCCIS-LIC	311.22	38.90
11	670766	1	LS-NW-CCIS-LIC	77.81	77.81
12	670856	1	AS SV8300 SYSTEM DOCUMENTATION	5.84	5.84
13			***TERMINAL ITEMS***		
14	680002	6	DTL-12D-1 (BK) TEL	577.40	96.23
15	680012	1	DCL-60-1 (BK) CONSOLE	102.38	102.38
16			**30 Minute Backup Battery**		
17	PRO700E	1	700VA Line-Interactive UPS with 6 Outlets	240.45	240.45
18			**Software Assurance and Maintenance**		
19	670011081	3	MNT SV8300 PREMIUM SW 64-PORT (3 Years)	819.00	273.00
20	99999	1	Nexus Hardware Maintenance Year 2	0.00	0.00
21	99999	1	Nexus Hardware Maintenance Year 3	731.86	731.86
22			**Miscellaneous Installation Hardware**		
23	NEX-25PX25180DEC	5	25PX25-180 Amphenol Cables	165.17	33.03
24	SIE-S66M1-50	3	Siemons - 66M150 Connecting Blocks	22.24	7.41
25	SIE-S89B	3	Siemons - 89-B Brackets	4.41	1.47
26					

Equipment Total	7,008.30
Sales Tax 8.25%	578.18
Labor/Services Total	1,718.62
Total Investment	9,305.10

This price includes material, installation labor, 8.25% sales tax, and a one year warranty.
This quote is valid until Monday, December 29, 2008

Authorized Customer Signature

Authorized Nexus IS Entity Signature

Payment Term1 50% / $4652.55
Payment Term2 40% / $3722.04
Payment Term3 10% / $930.51
Payment Term4 0% / $0

The Customer's signature acknowledges that the Customer has read and accepted the terms and conditions of the above referenced contract, the customer authorizes Nexus IS to obtain credit information prior to accepting this order.

System Line Item List
for
City of Torrance: PCC Del Amo
SCHEDULE A - ORDER SUMMARY - UNIVERGE SV8300 System

LINE #	PART #	QTY	DESCRIPTION	$/Total	Unit Pre Order
1	670011	1	SV8300 SIP BASIC PLUS PKG	3,034.40	3,034.40
2	670107	1	CD-8DLCA	112.82	112.82
3	670109	1	CD-16DLCA	213.96	213.96
4	670110	1	CD-4COTB	83.64	83.64
5	670501	1	CHS2U JOINT BRACKET KIT.	19.45	19.45
6	670502	1	CHS1U RACK MOUNT KIT	31.12	31.12
7	670508	1	CHS2U RACK MOUNT KIT.	19.45	19.45
8	670516	1	RS CONSOLE CA-A	42.79	42.79
9	670535	2	INSTALLATION CABLE (MOD8 - 25	46.68	23.34
10	670756	1	LS-SYS-R1-LIC	583.54	583.54
11	670765	8	LS-TRK-P2PCCIS-LIC	311.22	38.90
12	670766	1	LS-NW-CCIS-LIC	77.81	77.81
13	670856	1	AS SV8300 SYSTEM DOCUMENTATION	5.84	5.84
14			***TERMINAL ITEMS***		
15	680004	22	DTL-24D-1 (BK) TEL	2,432.43	110.57
16	680012	1	DCL-60-1 (BK) CONSOLE	102.38	102.38
17			**30 Minute Backup Battery**		
18	PRO700E	1	700VA Line-Interactive UPS with 6 Outlets	240.45	240.45
19			**Software Assurance and Maintenance**		
20	670011081	3	MNT SV8300 PREMIUM SW 64-PORT (3 Years)	819.00	273.00
21	99999	1	Nexus Hardware Maintenance Year 2	0.00	0.00
22	99999	1	Nexus Hardware Maintenance Year 3	771.83	771.83
23			**Miscellaneous Installation Hardware**		
24	NEX-25PX25180DEC	5	25PX25-180 Amphenol Cables	165.17	33.03
25	SIE-S66M1-50	3	Siemons - 66M150 Connecting Blocks	22.24	7.41
26	SIE-S89B	3	Siemons - 89-B Brackets	4.41	1.47
27					

Equipment Total	9,140.61
Sales Tax 8.25%	754.10
Labor/Services Total	3,439.97
Total Investment	**13,334.68**

This price includes material, installation labor, 8.25% sales tax, and a one year warranty.
This quote is valid until Monday, December 29, 2008

Authorized Customer Signature

Authorized Nexus IS Entity Signature

Payment Term1 50% / $6667.34
Payment Term2 40% / $5333.87
Payment Term3 10% / $1333.47
Payment Term4 0% / $0

The Customer's signature acknowledges that the Customer has read and accepted the terms and conditions of the above referenced contract. the customer authorizes Nexus IS to obtain credit information prior to accepting this order.

NEXUS»

System Line Item List
for
City of Torrance: PCC Downtown
SCHEDULE A - ORDER SUMMARY - UNIVERGE SV8300 System

LINE #	PART #	QTY	DESCRIPTION	$/Total	Unit Pre Order
1	670011	1	SV8300 SIP BASIC PLUS PKG	3,034.40	3,034.40
2	670110	1	CD-4COTB	83.64	83.64
3	670501	1	CHS2U JOINT BRACKET KIT.	19.45	19.45
4	670502	1	CHS1U RACK MOUNT KIT	31.12	31.12
5	670508	1	CHS2U RACK MOUNT KIT.	19.45	19.45
6	670516	1	RS CONSOLE CA-A	42.79	42.79
7	670535	1	INSTALLATION CABLE (MOD8 - 25	23.34	23.34
8	670756	1	LS-SYS-R1-LIC	583.54	583.54
9	670765	8	LS-TRK-P2PCCIS-LIC	311.22	38.90
10	670766	1	LS-NW-CCIS-LIC	77.81	77.81
11	670856	1	AS SV8300 SYSTEM DOCUMENTATION	5.84	5.84
12			***TERMINAL ITEMS***		
13	690002	6	ITL-12D-1 (BK) TEL	884.52	147.42
14			**30 Minute Backup Battery**		
15	PRO700E	1	700VA Line-Interactive UPS with 6 Outlets	240.45	240.45
16			**Software Assurance and Maintenance**		
17	670011081	3	MNT SV8300 PREMIUM SW 64-PORT (3 Years)	819.00	273.00
18	99,999	1	Nexus Hardware Maintenance Year 2	0.00	0.00
19	99,999	1	Nexus Hardware Maintenance Year 3	712.86	712.86
20			**Miscellaneous Installation Hardware**		
21	NEX-25PX25180DEC	5	25PX25-180 Amphenol Cables	165.17	33.03
22	SIE-S66M1-50	3	Siemons - 66M150 Connecting Blocks	22.24	7.41
23	SIE-S89B	3	Siemons - 89-B Brackets	4.41	1.47
24					

Equipment Total	7,081.23
Sales Tax 8.25%	584.20
Labor/Services Total	1,723.26
Total Investment	**9,388.70**

This price includes material, installation labor, 8.25% sales tax, and a one year warranty.
This quote is valid until Monday, December 29, 2008

Authorized Customer Signature

Authorized Nexus IS Entity Signature

Payment Term1 50% / $4694.35
Payment Term2 40% / $3755.48
Payment Term3 10% / $938.87
Payment Term4 0% / $0

The Customer's signature acknowledges that the Customer has read and accepted the terms and conditions of the above referenced contract. the customer authorizes Nexus IS to obtain credit information prior to accepting this order.

NEXUS»

System Line Item List
for
City of Torrance: PCC North
SCHEDULE A - ORDER SUMMARY - UNIVERGE SV8300 System

LINE #	PART #	QTY	DESCRIPTION	$/Total	Unit Pre Order
1	670011	1	SV8300 SIP BASIC PLUS PKG	3,034.40	3,034.40
2	670109	1	CD-16DLCA	213.96	213.96
3	670110	1	CD-4COTB	83.64	83.64
4	670501	1	CHS2U JOINT BRACKET KIT.	19.45	19.45
5	670502	1	CHS1U RACK MOUNT KIT	31.12	31.12
6	670508	1	CHS2U RACK MOUNT KIT.	19.45	19.45
7	670516	1	RS CONSOLE CA-A	42.79	42.79
8	670535	1	INSTALLATION CABLE (MOD8 - 25	23.34	23.34
9	670756	1	LS-SYS-R1-LIC	583.54	583.54
10	670765	8	LS-TRK-P2PCCIS-LIC	311.22	38.90
11	670766	1	LS-NW-CCIS-LIC	77.81	77.81
12	670856	1	AS SV8300 SYSTEM DOCUMENTATION	5.84	5.84
13			***TERMINAL ITEMS***		
14	680004	8	DTL-24D-1 (BK) TEL	884.52	110.57
15	680012	1	DCL-60-1 (BK) CONSOLE	102.38	102.38
16			**30 Minute Backup Battery**		
17	PRO700E	1	700VA Line-Interactive UPS with 6 Outlets	240.45	240.45
18			**Software Assurance and Maintenance**		
19	670011081	3	MNT SV8300 PREMIUM SW 64-PORT (3 Years)	819.00	273.00
20	99999	1	Nexus Hardware Maintenance Year 2	0.00	0.00
21	99999	1	Nexus Hardware Maintenance Year 3	748.89	748.89
22			**Miscellaneous Installation Hardware**		
23	NEX-25PX25180DEC	5	25PX25-180 Amphenol Cables	165.17	33.03
24	SIE-S66M1-50	3	Siemons - 66M150 Connecting Blocks	22.24	7.41
25	SIE-S89B	3	Siemons - 89-B Brackets	4.41	1.47
26					

Equipment Total	7,433.61
Sales Tax 8.25%	613.27
Labor/Services Total	1,993.32
Total Investment	**10,040.20**

This price includes material, installation labor, 8.25% sales tax, and a one year warranty.
This quote is valid until Monday, December 29, 2008

Authorized Customer Signature

Authorized Nexus IS Entity Signature

Payment Term1 50% / $5020.1
Payment Term2 40% / $4016.08
Payment Term3 10% / $1004.02
Payment Term4 0% / $0

The Customer's signature acknowledges that the Customer has read and accepted the terms and conditions of the above referenced contract, the customer authorizes Nexus IS to obtain credit information prior to accepting this order.

System Line Item List
for
City of Torrance: Skate Park
SCHEDULE A - ORDER SUMMARY - UNIVERGE SV8300 System

LINE #	PART #	QTY	DESCRIPTION	$/Total	Unit Pre Order
1	670011	1	SV8300 SIP BASIC PLUS PKG	3,034.40	3,034.40
2	670107	1	CD-8DLCA	112.82	112.82
3	670110	1	CD-4COTB	83.64	83.64
4	670501	1	CHS2U JOINT BRACKET KIT.	19.45	19.45
5	670502	1	CHS1U RACK MOUNT KIT	31.12	31.12
6	670508	1	CHS2U RACK MOUNT KIT.	19.45	19.45
7	670516	1	RS CONSOLE CA-A	42.79	42.79
8	670535	1	INSTALLATION CABLE (MOD8 - 25	23.34	23.34
9	670756	1	LS-SYS-R1-LIC	583.54	583.54
10	670765	8	LS-TRK-P2PCCIS-LIC	311.22	38.90
11	670766	1	LS-NW-CCIS-LIC	77.81	77.81
12	670856	1	AS SV8300 SYSTEM DOCUMENTATION	5.84	5.84
13			***TERMINAL ITEMS***		
14	680002	5	DTL-12D-1 (BK) TEL	481.16	96.23
15	680012	1	DCL-60-1 (BK) CONSOLE	102.38	102.38
16			**30 Minute Backup Battery**		
17	PRO700E	1	700VA Line-Interactive UPS with 6 Outlets	240.45	240.45
18			**Software Assurance and Maintenance**		
19	670011081	3	MNT SV8300 PREMIUM SW 64-PORT (3 Years)	819.00	273.00
20	99999	1	Nexus Hardware Maintenance Year 2	0.00	0.00
21	99999	1	Nexus Hardware Maintenance Year 3	731.86	731.86
22			**Miscellaneous Installation Hardware**		
23	NEX-25PX25180DEC	5	25PX25-180 Amphenol Cables	165.17	33.03
24	SIE-S66M1-50	3	Siemons - 66M150 Connecting Blocks	22.24	7.41
25	SIE-S89B	3	Siemons - 89-B Brackets	4.41	1.47
26					

Equipment Total	6,912.07
Sales Tax 8.25%	570.25
Labor/Services Total	1,689.18
Total Investment	**9,171.50**

This price includes material, installation labor, 8.25% sales tax, and a one year warranty.
This quote is valid until Monday, December 29, 2008

Authorized Customer Signature

Authorized Nexus IS Entity Signature

Payment Term1 50% / $4585.75
Payment Term2 40% / $3668.6
Payment Term3 10% / $917.15
Payment Term4 0% / $0

The Customer's signature acknowledges that the Customer has read and accepted the terms and conditions of the above referenced contract, the customer authorizes Nexus IS to obtain credit information prior to accepting this order.

NEXUS»

System Line Item List
for
City of Torrance: Southeast Branch Library
SCHEDULE A - ORDER SUMMARY - UNIVERGE SV8300 System

LINE #	PART #	QTY	DESCRIPTION	$/Total	Unit Pre Order
1	670011	1	SV8300 SIP BASIC PLUS PKG	3,034.40	3,034.40
2	670107	1	CD-8DLCA	112.82	112.82
3	670110	1	CD-4COTB	83.64	83.64
4	670501	1	CHS2U JOINT BRACKET KIT.	19.45	19.45
5	670502	1	CHS1U RACK MOUNT KIT	31.12	31.12
6	670508	1	CHS2U RACK MOUNT KIT.	19.45	19.45
7	670516	1	RS CONSOLE CA-A	42.79	42.79
8	670535	1	INSTALLATION CABLE (MOD8 - 25	23.34	23.34
9	670756	1	LS-SYS-R1-LIC	583.54	583.54
10	670765	8	LS-TRK-P2PCCIS-LIC	311.22	38.90
11	670766	1	LS-NW-CCIS-LIC	77.81	77.81
12	670856	1	AS SV8300 SYSTEM DOCUMENTATION	5.84	5.84
13			***TERMINAL ITEMS***		
14	680002	6	DTL-12D-1 (BK) TEL	577.40	96.23
15	680012	1	DCL-60-1 (BK) CONSOLE	102.38	102.38
16			**30 Minute Backup Battery**		
17	PRO700E	1	700VA Line-Interactive UPS with 6 Outlets	240.45	240.45
18			**Software Assurance and Maintenance**		
19	670011081	3	MNT SV8300 PREMIUM SW 64-PORT (3 Years)	819.00	273.00
20	99999	1	Nexus Hardware Maintenance Year 2	0.00	0.00
21	99999	1	Nexus Hardware Maintenance Year 3	731.86	731.86
22			**Miscellaneous Installation Hardware**		
23	NEX-25PX25180DEC	5	25PX25-180 Amphenol Cables	165.17	33.03
24	SIE-S66M1-50	3	Siemons - 66M150 Connecting Blocks	22.24	7.41
25	SIE-S89B	3	Siemons - 89-B Brackets	4.41	1.47
26					

Equipment Total	7,008.30
Sales Tax 8.25%	578.18
Labor/Services Total	1,718.62
Total Investment	**9,305.10**

This price includes material, installation labor, 8.25% sales tax, and a one year warranty.
This quote is valid until Monday, December 29, 2008

Authorized Customer Signature

Authorized Nexus IS Entity Signature

Payment Term1 50% / $4652.55
Payment Term2 40% / $3722.04
Payment Term3 10% / $930.51
Payment Term4 0% / $0

The Customer's signature acknowledges that the Customer has read and accepted the terms and conditions of the above referenced contract, the customer authorizes Nexus IS to obtain credit information prior to accepting this order.

System Line Item List
for
City of Torrance: Sports Center
SCHEDULE A - ORDER SUMMARY - UNIVERGE SV8300 System

LINE #	PART #	QTY	DESCRIPTION	$/Total	Unit Pre Order
1	670011	1	SV8300 SIP BASIC PLUS PKG	3,034.40	3,034.40
2	670107	1	CD-8DLCA	112.82	112.82
3	670110	1	CD-4COTB	83.64	83.64
4	670501	1	CHS2U JOINT BRACKET KIT.	19.45	19.45
5	670502	1	CHS1U RACK MOUNT KIT	31.12	31.12
6	670508	1	CHS2U RACK MOUNT KIT.	19.45	19.45
7	670516	1	RS CONSOLE CA-A	42.79	42.79
8	670535	1	INSTALLATION CABLE (MOD8 - 25	23.34	23.34
9	670756	1	LS-SYS-R1-LIC	583.54	583.54
10	670765	8	LS-TRK-P2PCCIS-LIC	311.22	38.90
11	670766	1	LS-NW-CCIS-LIC	77.81	77.81
12	670856	1	AS SV8300 SYSTEM DOCUMENTATION	5.84	5.84
13			***TERMINAL ITEMS***		
14	680002	5	DTL-12D-1 (BK) TEL	481.16	96.23
15	680012	1	DCL-60-1 (BK) CONSOLE	102.38	102.38
16			**30 Minute Backup Battery**		
17	PRO700E	1	700VA Line-Interactive UPS with 6 Outlets	240.45	240.45
18			**Software Assurance and Maintenance**		
19	670011081	3	MNT SV8300 PREMIUM SW 64-PORT (3 Years)	819.00	273.00
20	99999	1	Nexus Hardware Maintenance Year 2	0.00	0.00
21	99999	1	Nexus Hardware Maintenance Year 3	731.86	731.86
22			**Miscellaneous Installation Hardware**		
23	NEX-25PX25180DEC	5	25PX25-180 Amphenol Cables	165.17	33.03
24	SIE-S66M1-50	3	Siemons - 66M150 Connecting Blocks	22.24	7.41
25	SIE-S89B	3	Siemons - 89-B Brackets	4.41	1.47
26					

Equipment Total	6,912.07
Sales Tax 8.25%	570.25
Labor/Services Total	1,689.18
Total Investment	**9,171.50**

This price includes material, installation labor, 8.25% sales tax, and a one year warranty.
This quote is valid until Monday, December 29, 2008

Authorized Customer Signature

Authorized Nexus IS Entity Signature

Payment Term1 50% / $4585.75
Payment Term2 40% / $3668.6
Payment Term3 10% / $917.15
Payment Term4 0% / $0

The Customer's signature acknowledges that the Customer has read and accepted the terms and conditions of the above referenced contract, the customer authorizes Nexus IS to obtain credit information prior to accepting this order.

System Line Item List
for
City of Torrance: Teen Center
SCHEDULE A - ORDER SUMMARY - UNIVERGE SV8300 System

LINE #	PART #	QTY	DESCRIPTION	$/Total	Unit Pre Order
1	670011	1	SV8300 SIP BASIC PLUS PKG	3,034.40	3,034.40
2	670109	1	CD-16DLCA	213.96	213.96
3	670110	1	CD-4COTB	83.64	83.64
4	670501	1	CHS2U JOINT BRACKET KIT.	19.45	19.45
5	670502	1	CHS1U RACK MOUNT KIT	31.12	31.12
6	670508	1	CHS2U RACK MOUNT KIT.	19.45	19.45
7	670516	1	RS CONSOLE CA-A	42.79	42.79
8	670535	1	INSTALLATION CABLE (MOD8 - 25	23.34	23.34
9	670756	1	LS-SYS-R1-LIC	583.54	583.54
10	670765	8	LS-TRK-P2PCCIS-LIC	311.22	38.90
11	670766	1	LS-NW-CCIS-LIC	77.81	77.81
12	670856	1	AS SV8300 SYSTEM DOCUMENTATION	5.84	5.84
13			***TERMINAL ITEMS***		
14	680004	8	DTL-24D-1 (BK) TEL	884.52	110.57
15	680012	1	DCL-60-1 (BK) CONSOLE	102.38	102.38
16			**30 Minute Backup Battery**		
17	PRO700E	1	700VA Line-Interactive UPS with 6 Outlets	240.45	240.45
18			**Software Assurance and Maintenance**		
19	670011081	3	MNT SV8300 PREMIUM SW 64-PORT (3 Years)	819.00	273.00
20	99999	1	Nexus Hardware Maintenance Year 2	0.00	0.00
21	99999	1	Nexus Hardware Maintenance Year 3	748.89	748.89
22			**Miscellaneous Installation Hardware**		
23	NEX-25PX25180DEC	5	25PX25-180 Amphenol Cables	165.17	33.03
24	SIE-S66M1-50	3	Siemons - 66M150 Connecting Blocks	22.24	7.41
25	SIE-S89B	3	Siemons - 89-B Brackets	4.41	1.47
26					

Equipment Total	7,433.61
Sales Tax 8.25%	613.27
Labor/Services Total	1,993.32
Total Investment	**10,040.20**

This price includes material, installation labor, 8.25% sales tax, and a one year warranty.
This quote is valid until Monday, December 29, 2008

Authorized Customer Signature

Authorized Nexus IS Entity Signature

Payment Term1 50% / $5020.1
Payment Term2 40% / $4016.08
Payment Term3 10% / $1004.02
Payment Term4 0% / $0

The Customer's signature acknowledges that the Customer has read and accepted the terms and conditions of the above referenced contract, the customer authorizes Nexus IS to obtain credit information prior to accepting this order.

NEXUS»

System Line Item List
for
City of Torrance: Walteria Branch Library
SCHEDULE A - ORDER SUMMARY - UNIVERGE SV8300 System

LINE #	PART #	QTY	DESCRIPTION	$/Total	Unit Pre Order
1	670011	1	SV8300 SIP BASIC PLUS PKG	3,034.40	3,034.40
2	670110	1	CD-4COTB	83.64	83.64
3	670501	1	CHS2U JOINT BRACKET KIT.	19.45	19.45
4	670502	1	CHS1U RACK MOUNT KIT	31.12	31.12
5	670508	1	CHS2U RACK MOUNT KIT.	19.45	19.45
6	670516	1	RS CONSOLE CA-A	42.79	42.79
7	670535	1	INSTALLATION CABLE (MOD8 - 25	23.34	23.34
8	670756	1	LS-SYS-R1-LIC	583.54	583.54
9	670765	8	LS-TRK-P2PCCIS-LIC	311.22	38.90
10	670766	1	LS-NW-CCIS-LIC	77.81	77.81
11	670856	1	AS SV8300 SYSTEM DOCUMENTATION	5.84	5.84
12			***TERMINAL ITEMS***		
13	680012	1	DCL-60-1 (BK) CONSOLE	102.38	102.38
14	690002	6	ITL-12D-1 (BK) TEL	884.52	147.42
15			**Software Assurance and Maintenance**		
16	670011081	3	MNT SV8300 PREMIUM SW 64-PORT (3 Years)	819.00	273.00
17	99999	1	Nexus Hardware Maintenance Year 2	0.00	0.00
18	99999	1	Nexus Hardware Maintenance Year 3	712.86	712.86
19			**Miscellaneous Installation Hardware**		
20	NEX-25PX25180DEC	5	25PX25-180 Amphenol Cables	165.17	33.03
21	SIE-S66M1-50	3	Siemons - 66M150 Connecting Blocks	22.24	7.41
22	SIE-S89B	3	Siemons - 89-B Brackets	4.41	1.47
23			**30 Minute Battery Backup**		
24	PRO700E	1	700VA Line-Interactive UPS with 6 Outlets	240.45	240.45
25					

Equipment Total	7,183.61
Sales Tax 8.25%	592.65
Labor/Services Total	1,730.38
Total Investment	**9,506.64**

This price includes material, installation labor, 8.25% sales tax, and a one year warranty.
This quote is valid until Monday, December 29, 2008

Authorized Customer Signature

Authorized Nexus IS Entity Signature

Payment Term1 50% / $4753.32
Payment Term2 40% / $3802.65
Payment Term3 10% / $950.66
Payment Term4 0% / $0

The Customer's signature acknowledges that the Customer has read and accepted the terms and conditions of the above referenced contract, the customer authorizes Nexus IS to obtain credit information prior to accepting this order.

NEXUS

System Line Item List
for
City of Torrance: El Retiro
SCHEDULE A - ORDER SUMMARY - UNIVERGE SV8300 System

LINE #	PART #	QTY	DESCRIPTION	$/Total	Unit Pre Order
1	670011	1	SV8300 SIP BASIC PLUS PKG	3,034.40	3,034.40
2	670107	1	CD-8DLCA	112.82	112.82
3	670110	1	CD-4COTB	83.64	83.64
4	670501	1	CHS2U JOINT BRACKET KIT.	19.45	19.45
5	670502	1	CHS1U RACK MOUNT KIT	31.12	31.12
6	670508	1	CHS2U RACK MOUNT KIT.	19.45	19.45
7	670516	1	RS CONSOLE CA-A	42.79	42.79
8	670535	1	INSTALLATION CABLE (MOD8 - 25	23.34	23.34
9	670756	1	LS-SYS-R1-LIC	583.54	583.54
10	670765	8	LS-TRK-P2PCCIS-LIC	311.22	38.90
11	670766	1	LS-NW-CCIS-LIC	77.81	77.81
12	670856	1	AS SV8300 SYSTEM DOCUMENTATION	5.84	5.84
13			***TERMINAL ITEMS***		
14	680002	6	DTL-12D-1 (BK) TEL	577.40	96.23
15	680012	1	DCL-60-1 (BK) CONSOLE	102.38	102.38
16			**30 Minute Backup Battery**		
17	PRO700E	1	700VA Line-Interactive UPS with 6 Outlets	240.45	240.45
18			**Software Assurance and Maintenance**		
19	670011081	3	MNT SV8300 PREMIUM SW 64-PORT (3 Years)	819.00	273.00
20	99999	1	Nexus Hardware Maintenance Year 2	0.00	0.00
21	99999	1	Nexus Hardware Maintenance Year 3	731.86	731.86
22			**Miscellaneous Installation Hardware**		
23	NEX-25PX25180DEC	5	25PX25-180 Amphenol Cables	165.17	33.03
24	SIE-S66M1-50	3	Siemons - 66M150 Connecting Blocks	22.24	7.41
25	SIE-S89B	3	Siemons - 89-B Brackets	4.41	1.47
26					

Equipment Total	7,008.30
Sales Tax 8.25%	578.18
Labor/Services Total	1,718.62
Total Investment	**9,305.10**

This price includes material, installation labor, 8.25% sales tax, and a one year warranty.
This quote is valid until Monday, December 29, 2008

Authorized Customer Signature

Authorized Nexus IS Entity Signature

Payment Term1 50% / $4652.55
Payment Term2 40% / $3722.04
Payment Term3 10% / $930.51
Payment Term4 0% / $0

The Customer's signature acknowledges that the Customer has read and accepted the terms and conditions of the above referenced contract, the customer authorizes Nexus IS to obtain credit information prior to accepting this order.

NEXUS »
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System Line Item List
for
City of Torrance

SCHEDULE A - ORDER SUMMARY - NEC Certification Training

SV8500 and SV8300 Certification Training for 3 City of Torrance Staff Members

LINE #	PART #	QTY	DESCRIPTION	$/Total	Unit Pre Order
1			***NEC Training Center Courses (Dallas, TX)***		
2	341-0101	3	Univerge SV8500 Foundation (Certification Training)	3,960.00	1,320.00
3	331-0200	3	Univerge SV8300 Foundation (Certification Training)	1,485.00	495.00
4			***Notes:***		
5			*Includes course fees only. Travel, accomodations, and*		
6			*per diem are the responsibility of City of Torrance.*		
7					

Equipment Total	5,445.00
Sales Tax 0%	-
Labor/Services Total	-
Total Investment	**5,445.00**

This price includes material, installation labor, 0% sales tax, and a one year warranty.
This quote is valid until Sunday, December 28, 2008

Authorized Customer Signature

Authorized Nexus IS Entity Signature

The Customer's signature acknowledges that the Customer has read and accepted the terms and conditions of the above referenced contract, the customer authorizes Nexus IS to obtain credit information prior to accepting this order.

NEC Certification Training

SV8500 Training Description:

This is the required basic Univerge SV8500 course for all Associate/Resolve technicians who will be installing/maintaining the SV8500 system. This certification is needed for technicians to contact NEC NTAC for support. This course will provide the individual who possesses basic telephony and IP knowledge with the understanding to install and maintain the Univerge SV8500 Single and Multi-stack systems. Key topics: configuration of the Univerge SV8500, modules, packages and switch settings, cabling, RAM vs ROM processing, processor types, station, trunk, and feature programming (IP and TDM), ISDN (PRI), and troubleshooting. Certification on this system automatically includes certification on the NEAX2400 IPX.

Course length – 2 weeks
Location – NEC Unified Solutions Headquarters - Irving, TX

SV8300 Training Description:

This class is designed for the technician who will be installing and maintaining the SV8300 in an IP Network environment. The following topics will be covered in the class: IP, Remote PIM, IP-CCIS, SIP, DECT, Advanced LCR Routing, and IP-Trunking.

Course length – 1 week
Location - NEC Unified Solutions Headquarters - Irving, TX

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System Line Item List
for
City of Torrance

SCHEDULE A - ORDER SUMMARY - Non NEC System System

Costs for RISC Voice Network Assessment (Included in Proposal)

LINE #	PART #	QTY	DESCRIPTION	$/Total	Unit Pre Order
1			***Network Assessments***		
2	RISC-NetAssess	1	RISC Voice/Video Network Readiness Assessment	4,387.50	4,387.50
3					
			Equipment Total	4,387.50	
			Sales Tax 8.25%	-	
			Labor/Services Total	-	
			Total Investment	**4,387.50**	

This price includes material, installation labor, 8.25% sales tax, and a one year warranty.
This quote is valid until Monday, December 29, 2008

Authorized Customer Signature

Authorized Nexus IS Entity Signature

Payment Term1 50% / $2193.75
Payment Term2 40% / $1755
Payment Term3 10% / $438.75
Payment Term4 0% / $0

The Customer's signature acknowledges that the Customer has read and accepted the terms and conditions of the above referenced contract, the customer authorizes Nexus IS to obtain credit information prior to accepting this order.

City of Torrance Terminal Piece Part Pricing (Optional)

Part #	Part Name	Description	Sell Price
680000	DTL-2E-1 (BK) TEL	2-button, 300 series TDM Handset	$60.84
680001	DTL-6DE-1 (BK) TEL	6-button 300 series TDM Handset	$93.60
680010	DTL-8LD-1 (BK) TEL	8-button DESI-less 300 series TDM Handset	$152.10
690000	ITL-2E-1 (BK) TEL	2-button, 700 series IP handset	$107.64
690001	ITL-6DE-1 (BK) TEL	6-button, 700 series IP handset	$128.70
690012	ITL-320C-1 (BK) TEL.	8-button DESI-less LCD touch-screen, IP Handset	$411.84
680014	8LK-L (BK)	8-line key module	$37.44
	Not available	DESI-Less Console	
690013	8LKI(LD)-L (BK) UNIT	DESI-Less Line Key Module	$84.24
680605	BCH-L (BK)	Bluetooth Wireless Handset Module	$421.20
690604	BS(ACD)-L (BK) KIT	ACD Layout Line Key Option	$11.23
690608	BS(RETRO)-L (BK) KIT	Retro Keypad Line Key Option	$11.23

NEXUS »
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System Line Item List
for
City of Torrance

SCHEDULE A - ORDER SUMMARY - Non NEC System System

Monthly Cost for On-Site Sr. Network Engineer w/ VoIP Specialization

LINE #	PART #	QTY	DESCRIPTION	$/Total	Unit Pre Order
1			***Professional Services - On Site***		
2	999999	160	Monthly Cost for on-site Sr. Network Engineer following Cutover	26,400.00	165.00
3					

Equipment Total	-
Sales Tax 8.25%	-
Labor/Services Total	26,400.00
Total Investment	**26,400.00**

This price includes material, installation labor, 8.25% sales tax, and a one year warranty.
This quote is valid until Monday, December 29, 2008

Authorized Customer Signature

Authorized Nexus IS Entity Signature

Payment Term1 50% / $13200
Payment Term2 40% / $10560
Payment Term3 10% / $2640
Payment Term4 0% / $0

The Customer's signature acknowledges that the Customer has read and accepted the terms and conditions of the above referenced contract, the customer authorizes Nexus IS to obtain credit information prior to accepting this order.

2007-03-06 - BCSD Office Upgrade Project Plan Rev01.mpp

Estimated Completion Date: Thu 7/5/07

ID	% Complete	Task Name	Duration	Start	Finish
1	**0%**	**BCSD Office Upgrade Project**	**106.88 days**	**Thu 2/8/07**	**Thu 7/5/07**
2	**0%**	**Project Planning and Design**	**96.75 days**	**Thu 2/8/07**	**Thu 6/21/07**
3	**11%**	**Weekly Project Status Meetings**	**86.75 days**	**Thu 2/22/07**	**Thu 6/21/07**
4	100%	Weekly Project Status Meeting 1 - Review Requirements Gathered To Date	1 hr	Thu 2/22/07	Thu 2/22/07
5	100%	Weekly Project Status Meeting 2 - Prepare for NEC2400 System Upgrade	1 hr	Thu 3/1/07	Thu 3/1/07
6	0%	Weekly Project Status Meeting 3 - Finalize Implementation Plan	1 hr	Thu 3/8/07	Thu 3/8/07
7	0%	Weekly Project Status Meeting 4	1 hr	Thu 3/15/07	Thu 3/15/07
8	0%	Weekly Project Status Meeting 5	1 hr	Thu 3/22/07	Thu 3/22/07
9	0%	Weekly Project Status Meeting 6	1 hr	Thu 3/29/07	Thu 3/29/07
10	0%	Weekly Project Status Meeting 7	1 hr	Thu 4/5/07	Thu 4/5/07
11	0%	Weekly Project Status Meeting 8	1 hr	Thu 4/12/07	Thu 4/12/07
12	0%	Weekly Project Status Meeting 9	1 hr	Thu 4/19/07	Thu 4/19/07
13	0%	Weekly Project Status Meeting 10	1 hr	Thu 4/26/07	Thu 4/26/07
14	0%	Weekly Project Status Meeting 11	1 hr	Thu 5/3/07	Thu 5/3/07
15	0%	Weekly Project Status Meeting 12	1 hr	Thu 5/10/07	Thu 5/10/07
16	0%	Weekly Project Status Meeting 13	1 hr	Thu 5/17/07	Thu 5/17/07
17	0%	Weekly Project Status Meeting 14	1 hr	Thu 5/24/07	Thu 5/24/07
18	0%	Weekly Project Status Meeting 15	1 hr	Thu 5/31/07	Thu 5/31/07
19	0%	Weekly Project Status Meeting 16	1 hr	Thu 6/7/07	Thu 6/7/07
20	0%	Weekly Project Status Meeting 17	1 hr	Thu 6/14/07	Thu 6/14/07
21	0%	Weekly Project Status Meeting 18	1 hr	Thu 6/21/07	Thu 6/21/07
22	**0%**	**Requirements Design Workshop**	**0.38 days**	**Thu 2/8/07**	**Thu 2/8/07**
23	**0%**	**Telephony Requirements**	**0.38 days**	**Thu 2/8/07**	**Thu 2/8/07**
24	**0%**	**NEC 2400 System Requirements**	**0.38 days**	**Thu 2/8/07**	**Thu 2/8/07**
25	0%	Switch Provisioning for Dual TDM and VoIP Support	3 hrs	Thu 2/8/07	Thu 2/8/07
26	0%	Define Database Conversion Requirements	3 hrs	Thu 2/8/07	Thu 2/8/07

Project: 2007-03-06 - BCSD Office Up
Date: Thu 3/8/07

Task		Milestone		External Tasks	
Split		Summary		External Milestone	
Progress		Project Summary		Deadline	

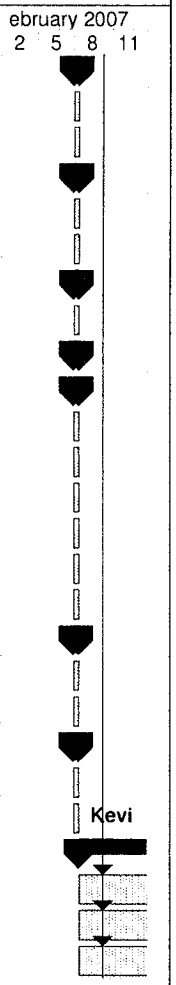
NOTE: Items in **BLUE** are customer deliverables

Last Modified: Thu 3/8/07

2007-03-06 - BCSD Office Upgrade Project Plan Rev01.mpp

Estimated Completion Date: Thu 7/5/07

ID	% Complete	Task Name	Duration	Start	Finish
27	**0%**	**Voicemail Requirements**	**0.38 days**	**Thu 2/8/07**	**Thu 2/8/07**
28	0%	Define AD40 to AD64 Upgrade Requirements	3 hrs	Thu 2/8/07	Thu 2/8/07
29	0%	AD64 System Backup Requirements	3 hrs	Thu 2/8/07	Thu 2/8/07
30	**0%**	**NEC 2000 Satellite System Requirements**	**0.38 days**	**Thu 2/8/07**	**Thu 2/8/07**
31	0%	Discuss Initial Re-Grade Schedule	3 hrs	Thu 2/8/07	Thu 2/8/07
32	0%	Discuss Initial TDM to IP Conversion Schedule	3 hrs	Thu 2/8/07	Thu 2/8/07
33	**0%**	**911 Requirements**	**0.38 days**	**Thu 2/8/07**	**Thu 2/8/07**
34	0%	Identify Analog Line per Site	3 hrs	Thu 2/8/07	Thu 2/8/07
35	**0%**	**LAN/WAN Requirements**	**0.38 days**	**Thu 2/8/07**	**Thu 2/8/07**
36	**0%**	**6509 Core Router Requirements**	**0.38 days**	**Thu 2/8/07**	**Thu 2/8/07**
37	0%	Uplink / Cabling Requirements	3 hrs	Thu 2/8/07	Thu 2/8/07
38	0%	Power and Rack space Requirements	3 hrs	Thu 2/8/07	Thu 2/8/07
39	0%	DS3 Channel Requirements	3 hrs	Thu 2/8/07	Thu 2/8/07
40	0%	Obtain copies of existing configs	3 hrs	Thu 2/8/07	Thu 2/8/07
41	0%	Additional discussion with customer regarding QoS	3 hrs	Thu 2/8/07	Thu 2/8/07
42	0%	Define Implementation Strategy	3 hrs	Thu 2/8/07	Thu 2/8/07
43	**0%**	**3725 Remote Router Requirements**	**0.38 days**	**Thu 2/8/07**	**Thu 2/8/07**
44	0%	Define PPP MultiLink Requirements	3 hrs	Thu 2/8/07	Thu 2/8/07
45	0%	Define PPP MultiLink Implementation Strategy per Site	3 hrs	Thu 2/8/07	Thu 2/8/07
46	**0%**	**WAN Circuit Requirements**	**0.38 days**	**Thu 2/8/07**	**Thu 2/8/07**
47	0%	Gather Pertinent Circuit Related Information by Location	3 hrs	Thu 2/8/07	Thu 2/8/07
48	0%	Contact telco carriers and discuss the changes being made to confirm their i	3 hrs	Thu 2/8/07	Thu 2/8/07
49	**0%**	**Finalize Project Requirements and Design**	**27 days**	**Thu 2/8/07**	**Mon 3/19/07**
50	0%	Customize Data Collection Sheets for Deployment	1 wk	Thu 2/8/07	Thu 2/15/07
51	0%	Finalize TDM to IP Conversion Schedule	3 wks	Thu 2/8/07	Thu 3/1/07
52	0%	Finalize Network LAN/WAN Design and Implementation Schedule	3 wks	Thu 2/8/07	Thu 3/1/07



Project: 2007-03-06 - BCSD Office Up
Date: Thu 3/8/07

Task		Milestone		External Tasks	
Split		Summary		External Milestone	
Progress		Project Summary		Deadline	

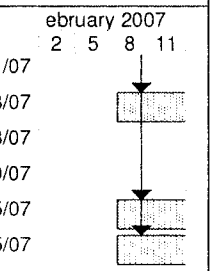
NOTE: Items in **BLUE** are customer deliverables

Last Modified: Thu 3/8/07

2007-03-06 - BCSD Office Upgrade Project Plan Rev01.mpp

Estimated Completion Date: Thu 7/5/07

ID	% Complete	Task Name	Duration	Start	Finish
53	0%	Draft Preliminary Project Plan	2 wks	Thu 2/15/07	Thu 3/1/07
54	0%	Draft Statement of Work	4 wks	Thu 2/8/07	Thu 3/8/07
55	0%	Define and Finalize Nexus Customer Care Support Procedures	5 days	Thu 3/1/07	Thu 3/8/07
56	0%	Perform Site Surveys	1 wk	Mon 3/12/07	Mon 3/19/07
57	0%	Identify Unified Messaging Recipients	5 wks	Thu 2/8/07	Thu 3/15/07
58	0%	Define and Finalize Change Mgmt Procedures	5 wks	Thu 2/8/07	Thu 3/15/07
59	**0%**	**Staging**	**19.63 days**	**Thu 2/15/07**	**Wed 3/14/07**
60	**0%**	**AD64 Voicemail Upgrade Staging**	**1 day**	**Wed 3/14/07**	**Wed 3/14/07**
61	0%	Server Burn-In	1 day	Wed 3/14/07	Wed 3/14/07
62	**0%**	**LAN/WAN Staging**	**10.75 days**	**Thu 2/15/07**	**Fri 3/2/07**
63	**0%**	**Configure 6509 Core at Nexus Lab**	**10.75 days**	**Thu 2/15/07**	**Fri 3/2/07**
64	0%	Configure 90 Serial Interfaces and IP Addresses	1 wk	Thu 2/15/07	Thu 2/22/07
65	0%	Enable Routing Protocol	1 day	Thu 2/22/07	Fri 2/23/07
66	0%	Enable QoS for VOIP	1 day	Thu 3/1/07	Fri 3/2/07
67	**0%**	**Installation**	**72.38 days**	**Fri 3/2/07**	**Fri 6/8/07**
68	**0%**	**District Office: Core Systems Installation**	**24.38 days**	**Fri 3/2/07**	**Tue 4/3/07**
69	**0%**	**NEC 2400 System Installation**	**2.92 days**	**Fri 3/2/07**	**Tue 3/6/07**
70	0%	Database Freeze Date: Track All Changes	0 days	Fri 3/2/07	Fri 3/2/07
71	0%	Backup Existing Database	1 day	Fri 3/2/07	Fri 3/2/07
72	0%	Convert Database at Nexus Lab	1 day	Mon 3/5/07	Mon 3/5/07
73	0%	NEC 2400 Re-Grade:Add Pim / 10 Pad Cards / IP CCIS / IMX to IPX Upgrade	1 hr	Tue 3/6/07	Tue 3/6/07
74	0%	Load Converted Database	4 hrs	Tue 3/6/07	Tue 3/6/07
75	0%	Connect to Network	20 mins	Tue 3/6/07	Tue 3/6/07
76	0%	Perform Nexus Acceptance Testing	1 hr	Tue 3/6/07	Tue 3/6/07
77	0%	Perform Customer System Acceptance Testing	1 hr	Tue 3/6/07	Tue 3/6/07
78	**0%**	**AD40 to AD64 Voicemail Upgrade**	**1 day**	**Thu 3/15/07**	**Thu 3/15/07**



Project: 2007-03-06 - BCSD Office Up
Date: Thu 3/8/07

Task | Split | Progress | Milestone | Summary | Project Summary | External Tasks | External Milestone | Deadline

ID	% Complete	Task Name	Duration	Start	Finish
79	0%	Back up database on AD40	1 hr	Thu 3/15/07	Thu 3/15/07
80	0%	Capture Auto Attendant Menus	1 hr	Thu 3/15/07	Thu 3/15/07
81	0%	Run utility to check database for errors	0.25 hrs	Thu 3/15/07	Thu 3/15/07
82	0%	Clean Database	0.25 hrs	Thu 3/15/07	Thu 3/15/07
83	0%	Create backup of clean database	1 hr	Thu 3/15/07	Thu 3/15/07
84	0%	Move clean database to the new voicemail system	1 hr	Thu 3/15/07	Thu 3/15/07
85	0%	Run conversion process to convert the AD40 files to the new format on the AD64	1 hr	Thu 3/15/07	Thu 3/15/07
86	0%	Integration to NEC 2400	0.5 hrs	Thu 3/15/07	Thu 3/15/07
87	0%	Perform Nexus System Acceptance Testing	1 hr	Thu 3/15/07	Thu 3/15/07
88	0%	Perform Customer System Acceptance Testing	1 hr	Thu 3/15/07	Thu 3/15/07
89	0%	Upgrade workstations with the latest release of ViewMail	1 day	Thu 3/15/07	Thu 3/15/07
90	0%	Day 1: In Service Support	1 day	Fri 3/16/07	Fri 3/16/07
91	**0%**	**Core Data Network Installation**	**1.75 days**	**Mon 4/2/07**	**Tue 4/3/07**
92	0%	Open Observation trouble tickets with telco carrier before changes are applied to	2 hrs	Mon 4/2/07	Mon 4/2/07
93	0%	Un-install 7507	2 hrs	Mon 4/2/07	Mon 4/2/07
94	0%	Rack and install 6509	1 hr	Mon 4/2/07	Mon 4/2/07
95	0%	Test and verify connectivity	3 hrs	Mon 4/2/07	Mon 4/2/07
96	0%	Configure PPP Multi-link for each site and the core	3 hrs	Tue 4/3/07	Tue 4/3/07
97	0%	Test- Ping every remote site	1 hr	Tue 4/3/07	Tue 4/3/07
98	0%	Configure QoS for remote sites	5 hrs	Mon 4/2/07	Tue 4/3/07
99	0%	Test and verify QoS requirements	3 hrs	Tue 4/3/07	Tue 4/3/07
100	**0%**	**Remote Sites: VoIP Conversion Schedule**	**51.38 days**	**Fri 3/30/07**	**Fri 6/8/07**
101	**0%**	**Group 1: VoIP Conversion**	**5.5 days**	**Fri 3/30/07**	**Thu 4/5/07**
102	0%	Announce Database Freeze Date / Implement Change Mgmt Procedures	0 days	Fri 3/30/07	Fri 3/30/07
103	**0%**	**Rafer CD**	**3.75 days**	**Fri 3/30/07**	**Wed 4/4/07**
104	0%	Backup Existing Database	1 hr	Fri 3/30/07	Fri 3/30/07

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Project: 2007-03-06 - BCSD Office Up
Date: Thu 3/8/07

Task		Milestone		External Tasks	
Split		Summary		External Milestone	
Progress		Project Summary		Deadline	

NOTE: Items in **BLUE** are customer deliverables

Last Modified: Thu 3/8/07

ID	% Complete	Task Name	Duration	Start	Finish
105	0%	NEC 2000 Re-Grade: 2nd Pim addition / Reposition lower existing pim from	6 hrs	Fri 3/30/07	Fri 3/30/07
106	0%	Convert Database at Nexus Lab	2 days	Fri 3/30/07	Tue 4/3/07
107	0%	Install new CPU Onsite	2 hrs	Tue 4/3/07	Tue 4/3/07
108	0%	Connect to Network	1 hr	Tue 4/3/07	Tue 4/3/07
109	0%	Modify Call Routing Tables	1 hr	Tue 4/3/07	Tue 4/3/07
110	0%	Perform Nexus Acceptance Testing	2 hrs	Tue 4/3/07	Tue 4/3/07
111	0%	Perform Customer System Acceptance Testing	2 hrs	Tue 4/3/07	Wed 4/4/07
112	**0%**	**Casa Loma**	**3.88 days**	**Fri 3/30/07**	**Wed 4/4/07**
113	0%	Backup Existing Database	1 hr	Fri 3/30/07	Fri 3/30/07
114	0%	Convert Database in Nexus Lab	2 days	Fri 3/30/07	Tue 4/3/07
115	0%	Install New CPU / Restore Database	2 hrs	Wed 4/4/07	Wed 4/4/07
116	0%	Modify Call Routing Tables	1 hr	Wed 4/4/07	Wed 4/4/07
117	0%	Perform Nexus System Acceptance Testing	2 hrs	Wed 4/4/07	Wed 4/4/07
118	0%	Perform Customer Acceptance Testing	2 hrs	Wed 4/4/07	Wed 4/4/07
119	**0%**	**Chavez**	**4.75 days**	**Fri 3/30/07**	**Thu 4/5/07**
120	0%	Backup Existing Database	1 hr	Fri 3/30/07	Fri 3/30/07
121	0%	Convert Database in Nexus Lab	2 days	Fri 3/30/07	Tue 4/3/07
122	0%	Install New CPU / Restore Database	2 hrs	Thu 4/5/07	Thu 4/5/07
123	0%	Modify Call Routing Tables	1 hr	Thu 4/5/07	Thu 4/5/07
124	0%	Perform Nexus System Acceptance Testing	2 hrs	Thu 4/5/07	Thu 4/5/07
125	0%	Perform Customer Acceptance Testing	2 hrs	Thu 4/5/07	Thu 4/5/07
126	0%	Group 1: VoIP Conversion Review / Follow-Up	6 days	Thu 4/5/07	Fri 4/13/07
127	**0%**	**Group 2: VoIP Conversion**	**4.75 days**	**Fri 4/13/07**	**Fri 4/20/07**
128	0%	Announce Database Freeze Date / Implement Change Mgmt Procedures	0 days	Fri 4/13/07	Fri 4/13/07
129	**0%**	**Fremont Elementary**	**4.13 days**	**Fri 4/13/07**	**Thu 4/19/07**
130	0%	Backup Existing Database	1 hr	Fri 4/13/07	Fri 4/13/07

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Project: 2007-03-06 - BCSD Office Up
Date: Thu 3/8/07

Task		Milestone		External Tasks	
Split		Summary		External Milestone	
Progress		Project Summary		Deadline	

NOTE: Items in **BLUE** are customer deliverables

Last Modified: Thu 3/8/07

ID	% Complete	Task Name	Duration	Start	Finish
131	0%	NEC 2000 Re-Grade:Regrade 2 Cards Pim O Slot 4	4 hrs	Mon 4/16/07	Mon 4/16/07
132	0%	Convert Database at Nexus Lab	2 days	Tue 4/17/07	Wed 4/18/07
133	0%	Install new CPU Onsite	2 hrs	Thu 4/19/07	Thu 4/19/07
134	0%	Connect to Network	1 hr	Thu 4/19/07	Thu 4/19/07
135	0%	Modify Call Routing Tables	1 hr	Thu 4/19/07	Thu 4/19/07
136	0%	Perform Nexus Acceptance Testing	2 hrs	Thu 4/19/07	Thu 4/19/07
137	0%	Perform Customer System Acceptance Testing	2 hrs	Thu 4/19/07	Thu 4/19/07
138	**0%**	**Compton**	**2.94 days**	**Mon 4/16/07**	**Thu 4/19/07**
139	0%	Backup Existing Database	1 hr	Mon 4/16/07	Mon 4/16/07
140	0%	Convert Database in Nexus Lab	2 days	Tue 4/17/07	Wed 4/18/07
141	0%	Install New CPU / Restore Database	2 hrs	Thu 4/19/07	Thu 4/19/07
142	0%	Modify Call Routing Tables	1 hr	Thu 4/19/07	Thu 4/19/07
143	0%	Perform Nexus System Acceptance Testing	1 hr	Thu 4/19/07	Thu 4/19/07
144	0%	Perform Customer Acceptance Testing	1 hr	Thu 4/19/07	Thu 4/19/07
145	**0%**	**Harding**	**3.13 days**	**Mon 4/16/07**	**Thu 4/19/07**
146	0%	Backup Existing Database	1 hr	Mon 4/16/07	Mon 4/16/07
147	0%	Convert Database in Nexus Lab	2 days	Tue 4/17/07	Wed 4/18/07
148	0%	Install New CPU / Restore Database	2 hrs	Thu 4/19/07	Thu 4/19/07
149	0%	Perform Nexus System Acceptance Testing	1 hr	Thu 4/19/07	Thu 4/19/07
150	0%	Perform Customer Acceptance Testing	1 hr	Thu 4/19/07	Thu 4/19/07
151	**0%**	**Harris**	**3.31 days**	**Mon 4/16/07**	**Fri 4/20/07**
152	0%	Backup Existing Database	1 hr	Mon 4/16/07	Tue 4/17/07
153	0%	Convert Database in Nexus Lab	2 days	Tue 4/17/07	Wed 4/18/07
154	0%	Install New CPU / Restore Database	2 hrs	Thu 4/19/07	Fri 4/20/07
155	0%	Perform Nexus System Acceptance Testing	1 hr	Fri 4/20/07	Fri 4/20/07
156	0%	Perform Customer Acceptance Testing	1 hr	Fri 4/20/07	Fri 4/20/07

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Project: 2007-03-06 - BCSD Office Up
Date: Thu 3/8/07

Task		Milestone		External Tasks	
Split		Summary		External Milestone	
Progress		Project Summary		Deadline	

2007-03-06 - BCSD Office Upgrade Project Plan Rev01.mpp

Estimated Completion Date: Thu 7/5/07

ID	% Complete	Task Name	Duration	Start	Finish
157	**0%**	**Jefferson**	**3.63 days**	**Tue 4/17/07**	**Fri 4/20/07**
158	0%	Backup Existing Database	1 hr	Tue 4/17/07	Tue 4/17/07
159	0%	Convert Database in Nexus Lab	2 days	Tue 4/17/07	Wed 4/18/07
160	0%	Install New CPU / Restore Database	2 hrs	Fri 4/20/07	Fri 4/20/07
161	0%	Perform Nexus System Acceptance Testing	1 hr	Fri 4/20/07	Fri 4/20/07
162	0%	Perform Customer Acceptance Testing	1 hr	Fri 4/20/07	Fri 4/20/07
163	**0%**	**Group 3: VoIP Conversion**	**5.5 days**	**Fri 4/20/07**	**Mon 4/30/07**
164	0%	Announce Database Freeze Date / Implement Change Mgmt Procedures	0 days	Fri 4/20/07	Fri 4/20/07
165	**0%**	**Eissler Elementary**	**3.63 days**	**Mon 4/23/07**	**Thu 4/26/07**
166	0%	Backup Existing Database	1 hr	Mon 4/23/07	Mon 4/23/07
167	0%	NEC 2000 Re-Grade:Regrade 2 Cards Pim O Slot 4	4 hrs	Mon 4/23/07	Mon 4/23/07
168	0%	Convert Database at Nexus Lab	2 days	Tue 4/24/07	Wed 4/25/07
169	0%	Install new CPU Onsite	2 hrs	Thu 4/26/07	Thu 4/26/07
170	0%	Connect to Network	1 hr	Thu 4/26/07	Thu 4/26/07
171	0%	Modify Call Routing Tables	1 hr	Thu 4/26/07	Thu 4/26/07
172	0%	Perform Nexus Acceptance Testing	1 hr	Thu 4/26/07	Thu 4/26/07
173	0%	Perform Customer System Acceptance Testing	1 hr	Thu 4/26/07	Thu 4/26/07
174	**0%**	**Johnson Raft CC**	**3.25 days**	**Mon 4/23/07**	**Thu 4/26/07**
175	0%	Backup Existing Database	1 hr	Mon 4/23/07	Mon 4/23/07
176	0%	Convert Database in Nexus Lab	2 days	Tue 4/24/07	Wed 4/25/07
177	0%	Install New CPU / Restore Database	2 hrs	Thu 4/26/07	Thu 4/26/07
178	0%	Perform Nexus System Acceptance Testing	1 hr	Thu 4/26/07	Thu 4/26/07
179	0%	Perform Customer Acceptance Testing	1 hr	Thu 4/26/07	Thu 4/26/07
180	**0%**	**Munsey**	**3.5 days**	**Mon 4/23/07**	**Fri 4/27/07**
181	0%	Backup Existing Database	1 hr	Mon 4/23/07	Mon 4/23/07
182	0%	Convert Database in Nexus Lab	2 days	Tue 4/24/07	Wed 4/25/07

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Project: 2007-03-06 - BCSD Office Up
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Task		Milestone		External Tasks	
Split		Summary		External Milestone	
Progress		Project Summary		Deadline	

NOTE: Items in **BLUE** are customer deliverables

Last Modified: Thu 3/8/07

ID	% Complete	Task Name	Duration	Start	Finish
183	0%	Install New CPU / Restore Database	2 hrs	Fri 4/27/07	Fri 4/27/07
184	0%	Perform Nexus System Acceptance Testing	1 hr	Fri 4/27/07	Fri 4/27/07
185	0%	Perform Customer Acceptance Testing	1 hr	Fri 4/27/07	Fri 4/27/07
186	**0%**	**Nicols**	**3.75 days**	**Tue 4/24/07**	**Fri 4/27/07**
187	0%	Backup Existing Database	1 hr	Tue 4/24/07	Tue 4/24/07
188	0%	Convert Database in Nexus Lab	2 days	Tue 4/24/07	Wed 4/25/07
189	0%	Install New CPU / Restore Database	2 hrs	Fri 4/27/07	Fri 4/27/07
190	0%	Perform Nexus System Acceptance Testing	1 hr	Fri 4/27/07	Fri 4/27/07
191	0%	Perform Customer Acceptance Testing	1 hr	Fri 4/27/07	Fri 4/27/07
192	**0%**	**Noble**	**4.13 days**	**Tue 4/24/07**	**Mon 4/30/07**
193	0%	Backup Existing Database	1 hr	Tue 4/24/07	Tue 4/24/07
194	0%	Convert Database in Nexus Lab	2 days	Tue 4/24/07	Wed 4/25/07
195	0%	Install New CPU / Restore Database	2 hrs	Fri 4/27/07	Fri 4/27/07
196	0%	Perform Nexus System Acceptance Testing	1 hr	Mon 4/30/07	Mon 4/30/07
197	0%	Perform Customer Acceptance Testing	1 hr	Mon 4/30/07	Mon 4/30/07
198	**0%**	**Group 4: VoIP Conversion**	**5.5 days**	**Fri 4/27/07**	**Fri 5/4/07**
199	0%	Announce Database Freeze Date / Implement Change Mgmt Procedures	0 days	Fri 4/27/07	Fri 4/27/07
200	**0%**	**Mt Vernon Elementary**	**3.5 days**	**Mon 4/30/07**	**Thu 5/3/07**
201	0%	Backup Existing Database	1 hr	Mon 4/30/07	Mon 4/30/07
202	0%	NEC 2000 Re-Grade:Regrade 3 Circuit Cards	6 hrs	Mon 4/30/07	Mon 4/30/07
203	0%	Convert Database at Nexus Lab	2 days	Tue 5/1/07	Wed 5/2/07
204	0%	Install new CPU Onsite	2 hrs	Thu 5/3/07	Thu 5/3/07
205	0%	Connect to Network	1 hr	Thu 5/3/07	Thu 5/3/07
206	0%	Modify Call Routing Tables	1 hr	Thu 5/3/07	Thu 5/3/07
207	0%	Perform Nexus Acceptance Testing	1 hr	Thu 5/3/07	Thu 5/3/07
208	0%	Perform Customer System Acceptance Testing	1 hr	Thu 5/3/07	Thu 5/3/07

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Task		Milestone		External Tasks	
Split		Summary		External Milestone	
Progress		Project Summary		Deadline	

NOTE: Items in **BLUE** are customer deliverables

2007-03-06 - BCSD Office Upgrade Project Plan Rev01.mpp

Estimated Completion Date: Thu 7/5/07

ID	% Complete	Task Name	Duration	Start	Finish	ebruary 2007 2 5 8 11
209	**0%**	**Pauly**	**2.38 days**	**Tue 5/1/07**	**Thu 5/3/07**	
210	0%	Backup Existing Database	1 hr	Tue 5/1/07	Tue 5/1/07	
211	0%	Convert Database in Nexus Lab	2 days	Tue 5/1/07	Wed 5/2/07	
212	0%	Install New CPU / Restore Database	2 hrs	Thu 5/3/07	Thu 5/3/07	
213	0%	Perform Nexus System Acceptance Testing	1 hr	Thu 5/3/07	Thu 5/3/07	
214	0%	Perform Customer Acceptance Testing	1 hr	Thu 5/3/07	Thu 5/3/07	
215	**0%**	**Penn**	**2.88 days**	**Tue 5/1/07**	**Thu 5/3/07**	
216	0%	Backup Existing Database	1 hr	Tue 5/1/07	Tue 5/1/07	
217	0%	Convert Database in Nexus Lab	2 days	Tue 5/1/07	Wed 5/2/07	
218	0%	Install New CPU / Restore Database	2 hrs	Thu 5/3/07	Thu 5/3/07	
219	0%	Perform Nexus System Acceptance Testing	1 hr	Thu 5/3/07	Thu 5/3/07	
220	0%	Perform Customer Acceptance Testing	2 hrs	Thu 5/3/07	Thu 5/3/07	
221	**0%**	**Pioneer Drive**	**3.25 days**	**Tue 5/1/07**	**Fri 5/4/07**	
222	0%	Backup Existing Database	1 hr	Tue 5/1/07	Tue 5/1/07	
223	0%	Convert Database in Nexus Lab	2 days	Tue 5/1/07	Wed 5/2/07	
224	0%	Install New CPU / Restore Database	2 hrs	Thu 5/3/07	Fri 5/4/07	
225	0%	Perform Nexus System Acceptance Testing	1 hr	Fri 5/4/07	Fri 5/4/07	
226	0%	Perform Customer Acceptance Testing	1 hr	Fri 5/4/07	Fri 5/4/07	
227	**0%**	**Roosevelt**	**3.63 days**	**Tue 5/1/07**	**Fri 5/4/07**	
228	0%	Backup Existing Database	1 hr	Tue 5/1/07	Tue 5/1/07	
229	0%	Convert Database in Nexus Lab	2 days	Tue 5/1/07	Wed 5/2/07	
230	0%	Install New CPU / Restore Database	2 hrs	Fri 5/4/07	Fri 5/4/07	
231	0%	Perform Nexus System Acceptance Testing	1 hr	Fri 5/4/07	Fri 5/4/07	
232	0%	Perform Customer Acceptance Testing	1 hr	Fri 5/4/07	Fri 5/4/07	
233	**0%**	**Group 5: VoIP Conversion**	**5.13 days**	**Fri 5/4/07**	**Fri 5/11/07**	
234	0%	Announce Database Freeze Date / Implement Change Mgmt Procedures	0 days	Fri 5/4/07	Fri 5/4/07	

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Task		Milestone		External Tasks	
Split		Summary		External Milestone	
Progress		Project Summary		Deadline	

NOTE: Items in **BLUE** are customer deliverables

Last Modified: Thu 3/8/07

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Estimated Completion Date: Thu 7/5/07

ID	% Complete	Task Name	Duration	Start	Finish
235	**0%**	**Stiern Middle School**	**3.25 days**	**Mon 5/7/07**	**Thu 5/10/07**
236	0%	Backup Existing Database	1 hr	Mon 5/7/07	Mon 5/7/07
237	0%	NEC 2000 Re-Grade:PIM Addition	4 hrs	Mon 5/7/07	Mon 5/7/07
238	0%	Convert Database at Nexus Lab	2 days	Mon 5/7/07	Wed 5/9/07
239	0%	Install new CPU Onsite	2 hrs	Wed 5/9/07	Wed 5/9/07
240	0%	Connect to Network	1 hr	Wed 5/9/07	Wed 5/9/07
241	0%	Modify Call Routing Tables	1 hr	Thu 5/10/07	Thu 5/10/07
242	0%	Perform Nexus Acceptance Testing	1 hr	Thu 5/10/07	Thu 5/10/07
243	0%	Perform Customer System Acceptance Testing	1 hr	Thu 5/10/07	Thu 5/10/07
244	**0%**	**Washington**	**3 days**	**Mon 5/7/07**	**Thu 5/10/07**
245	0%	Backup Existing Database	1 hr	Mon 5/7/07	Mon 5/7/07
246	0%	Convert Database in Nexus Lab	2 days	Mon 5/7/07	Wed 5/9/07
247	0%	Install New CPU / Restore Database	2 hrs	Thu 5/10/07	Thu 5/10/07
248	0%	Perform Nexus System Acceptance Testing	1 hr	Thu 5/10/07	Thu 5/10/07
249	0%	Perform Customer Acceptance Testing	1 hr	Thu 5/10/07	Thu 5/10/07
250	**0%**	**Wayside**	**3.38 days**	**Mon 5/7/07**	**Thu 5/10/07**
251	0%	Backup Existing Database	1 hr	Mon 5/7/07	Mon 5/7/07
252	0%	Convert Database in Nexus Lab	2 days	Mon 5/7/07	Wed 5/9/07
253	0%	Install New CPU / Restore Database	2 hrs	Thu 5/10/07	Thu 5/10/07
254	0%	Perform Nexus System Acceptance Testing	1 hr	Thu 5/10/07	Thu 5/10/07
255	0%	Perform Customer Acceptance Testing	1 hr	Thu 5/10/07	Thu 5/10/07
256	**0%**	**West**	**3.75 days**	**Mon 5/7/07**	**Fri 5/11/07**
257	0%	Backup Existing Database	1 hr	Mon 5/7/07	Mon 5/7/07
258	0%	Convert Database in Nexus Lab	2 days	Mon 5/7/07	Wed 5/9/07
259	0%	Install New CPU / Restore Database	2 hrs	Fri 5/11/07	Fri 5/11/07
260	0%	Perform Nexus System Acceptance Testing	1 hr	Fri 5/11/07	Fri 5/11/07

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Task	Milestone	External Tasks	
Split	Summary	External Milestone	
Progress	Project Summary	Deadline	

NOTE: Items in **BLUE** are customer deliverables

Last Modified: Thu 3/8/07

ID	% Complete	Task Name	Duration	Start	Finish
261	0%	Perform Customer Acceptance Testing	1 hr	Fri 5/11/07	Fri 5/11/07
262	**0%**	**Williams**	**4.13 days**	**Mon 5/7/07**	**Fri 5/11/07**
263	0%	Backup Existing Database	1 hr	Mon 5/7/07	Mon 5/7/07
264	0%	Convert Database in Nexus Lab	3 days	Mon 5/7/07	Thu 5/10/07
265	0%	Install New CPU / Restore Database	2 hrs	Fri 5/11/07	Fri 5/11/07
266	0%	Perform Nexus System Acceptance Testing	1 hr	Fri 5/11/07	Fri 5/11/07
267	0%	Perform Customer Acceptance Testing	1 hr	Fri 5/11/07	Fri 5/11/07
268	**0%**	**Group 6: VoIP Conversion**	**5.25 days**	**Fri 5/11/07**	**Fri 5/18/07**
269	0%	Announce Database Freeze Date / Implement Change Mgmt Procedures	0 days	Fri 5/11/07	Fri 5/11/07
270	**0%**	**3R's Acheivement Academy**	**3.25 days**	**Mon 5/14/07**	**Thu 5/17/07**
271	0%	Backup Existing Database	1 hr	Mon 5/14/07	Mon 5/14/07
272	0%	Convert Database in Nexus Lab	2 days	Mon 5/14/07	Wed 5/16/07
273	0%	Install New CPU / Restore Database	2 hrs	Wed 5/16/07	Thu 5/17/07
274	0%	Perform Nexus System Acceptance Testing	1 hr	Thu 5/17/07	Thu 5/17/07
275	0%	Perform Customer Acceptance Testing	1 hr	Thu 5/17/07	Thu 5/17/07
276	**0%**	**Garza Elementary**	**3.75 days**	**Mon 5/14/07**	**Thu 5/17/07**
277	0%	Backup Existing Database	1 hr	Mon 5/14/07	Mon 5/14/07
278	0%	NEC 2000 Re-Grade:Regrade 2 Cards Pim O Slot 4	6 hrs	Mon 5/14/07	Mon 5/14/07
279	0%	Convert Database at Nexus Lab	2 days	Mon 5/14/07	Wed 5/16/07
280	0%	Install new CPU Onsite	2 hrs	Thu 5/17/07	Thu 5/17/07
281	0%	Connect to Network	1 hr	Thu 5/17/07	Thu 5/17/07
282	0%	Modify Call Routing Tables	1 hr	Thu 5/17/07	Thu 5/17/07
283	0%	Perform Nexus Acceptance Testing	1 hr	Thu 5/17/07	Thu 5/17/07
284	0%	Perform Customer System Acceptance Testing	1 hr	Thu 5/17/07	Thu 5/17/07
285	**0%**	**Longfellow Elementary**	**4.38 days**	**Mon 5/14/07**	**Fri 5/18/07**
286	0%	Backup Existing Database	1 hr	Mon 5/14/07	Mon 5/14/07

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Project: 2007-03-06 - BCSD Office Up
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Task		Milestone		External Tasks	
Split		Summary		External Milestone	
Progress		Project Summary		Deadline	

ID	% Complete	Task Name	Duration	Start	Finish
287	0%	NEC 2000 Re-Grade:Regrade 2 Cards Pim O Slot 4	6 hrs	Mon 5/14/07	Mon 5/14/07
288	0%	Convert Database at Nexus Lab	2 days	Mon 5/14/07	Wed 5/16/07
289	0%	Install new CPU Onsite	2 hrs	Thu 5/17/07	Fri 5/18/07
290	0%	Connect to Network	1 hr	Fri 5/18/07	Fri 5/18/07
291	0%	Modify Call Routing Tables	1 hr	Fri 5/18/07	Fri 5/18/07
292	0%	Perform Nexus Acceptance Testing	1 hr	Fri 5/18/07	Fri 5/18/07
293	0%	Perform Customer System Acceptance Testing	1 hr	Fri 5/18/07	Fri 5/18/07
294	**0%**	**McKinley Elementary**	**4.75 days**	**Mon 5/14/07**	**Fri 5/18/07**
295	0%	Backup Existing Database	1 hr	Mon 5/14/07	Mon 5/14/07
296	0%	NEC 2000 Re-Grade:Regrade 2 Cards Pim O Slot 4	6 hrs	Tue 5/15/07	Tue 5/15/07
297	0%	Convert Database at Nexus Lab	2 days	Mon 5/14/07	Wed 5/16/07
298	0%	Install new CPU Onsite	2 hrs	Fri 5/18/07	Fri 5/18/07
299	0%	Connect to Network	1 hr	Fri 5/18/07	Fri 5/18/07
300	0%	Modify Call Routing Tables	1 hr	Fri 5/18/07	Fri 5/18/07
301	0%	Perform Nexus Acceptance Testing	1 hr	Fri 5/18/07	Fri 5/18/07
302	0%	Perform Customer System Acceptance Testing	1 hr	Fri 5/18/07	Fri 5/18/07
303	**0%**	**Group 7: VoIP Conversion**	**4 days**	**Fri 5/18/07**	**Thu 5/24/07**
304	0%	Announce Database Freeze Date / Implement Change Mgmt Procedures	0 days	Fri 5/18/07	Fri 5/18/07
305	**0%**	**Thorner Elementary**	**3.25 days**	**Mon 5/21/07**	**Thu 5/24/07**
306	0%	Backup Existing Database	1 hr	Mon 5/21/07	Mon 5/21/07
307	0%	NEC 2000 Re-Grade:Regrade 2 Cards Pim O Slot 4	4 hrs	Mon 5/21/07	Mon 5/21/07
308	0%	Convert Database at Nexus Lab	2 days	Mon 5/21/07	Wed 5/23/07
309	0%	Install new CPU Onsite	2 hrs	Wed 5/23/07	Wed 5/23/07
310	0%	Connect to Network	1 hr	Wed 5/23/07	Wed 5/23/07
311	0%	Modify Call Routing Tables	1 hr	Thu 5/24/07	Thu 5/24/07
312	0%	Perform Nexus Acceptance Testing	1 hr	Thu 5/24/07	Thu 5/24/07

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Task		Milestone		External Tasks	
Split		Summary		External Milestone	
Progress		Project Summary		Deadline	

ID	% Complete	Task Name	Duration	Start	Finish
313	0%	Perform Customer System Acceptance Testing	1 hr	Thu 5/24/07	Thu 5/24/07
314	**0%**	**Sierra Middle School**	**3.38 days**	**Mon 5/21/07**	**Thu 5/24/07**
315	0%	Backup Existing Database	1 hr	Mon 5/21/07	Mon 5/21/07
316	0%	NEC 2000 Re-Grade:Regrade 3 Circuit Cards	4 hrs	Mon 5/21/07	Tue 5/22/07
317	0%	Convert Database at Nexus Lab	2 days	Mon 5/21/07	Wed 5/23/07
318	0%	Install new CPU Onsite	2 hrs	Thu 5/24/07	Thu 5/24/07
319	0%	Connect to Network	1 hr	Thu 5/24/07	Thu 5/24/07
320	0%	Modify Call Routing Tables	1 hr	Thu 5/24/07	Thu 5/24/07
321	0%	Perform Nexus Acceptance Testing	2 hrs	Thu 5/24/07	Thu 5/24/07
322	0%	Perform Customer System Acceptance Testing	2 hrs	Thu 5/24/07	Thu 5/24/07
323	**0%**	**Curran**	**3.25 days**	**Mon 5/21/07**	**Thu 5/24/07**
324	0%	Backup Existing Database	1 hr	Mon 5/21/07	Mon 5/21/07
325	0%	NEC 2000 Re-Grade:Regrade 2 Cards Pim O Slot 4	4 hrs	Mon 5/21/07	Mon 5/21/07
326	0%	Convert Database at Nexus Lab	2 days	Mon 5/21/07	Wed 5/23/07
327	0%	Install new CPU Onsite	2 hrs	Wed 5/23/07	Wed 5/23/07
328	0%	Connect to Network	1 hr	Wed 5/23/07	Wed 5/23/07
329	0%	Modify Call Routing Tables	1 hr	Thu 5/24/07	Thu 5/24/07
330	0%	Perform Nexus Acceptance Testing	1 hr	Thu 5/24/07	Thu 5/24/07
331	0%	Perform Customer System Acceptance Testing	1 hr	Thu 5/24/07	Thu 5/24/07
332	**0%**	**Owens Primary**	**3.25 days**	**Mon 5/21/07**	**Thu 5/24/07**
333	0%	Backup Existing Database	1 hr	Mon 5/21/07	Mon 5/21/07
334	0%	NEC 2000 Re-Grade:Re-position and Lower 2 Pim PBX for 3rd Pim addition	4 hrs	Mon 5/21/07	Tue 5/22/07
335	0%	Convert Database at Nexus Lab	2 days	Mon 5/21/07	Wed 5/23/07
336	0%	Install new CPU Onsite	2 hrs	Thu 5/24/07	Thu 5/24/07
337	0%	Connect to Network	1 hr	Thu 5/24/07	Thu 5/24/07
338	0%	Modify Call Routing Tables	1 hr	Thu 5/24/07	Thu 5/24/07

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Task	Milestone	External Tasks	
Split	Summary	External Milestone	
Progress	Project Summary	Deadline	

NOTE: Items in **BLUE** are customer deliverables

Last Modified: Thu 3/8/07

ID	% Complete	Task Name	Duration	Start	Finish
339	0%	Perform Nexus Acceptance Testing	1 hr	Thu 5/24/07	Thu 5/24/07
340	0%	Perform Customer System Acceptance Testing	1 hr	Thu 5/24/07	Thu 5/24/07
341	**0%**	**Group 8: VoIP Conversion**	**4.38 days**	**Fri 5/25/07**	**Fri 6/1/07**
342	0%	Announce Database Freeze Date / Implement Change Mgmt Procedures	0 days	Fri 5/25/07	Fri 5/25/07
343	**0%**	**Hort**	**3.5 days**	**Mon 5/28/07**	**Thu 5/31/07**
344	0%	Backup Existing Database	1 hr	Mon 5/28/07	Mon 5/28/07
345	0%	NEC 2000 Re-Grade:Single Card Pim O Slot 4	6 hrs	Mon 5/28/07	Mon 5/28/07
346	0%	Convert Database at Nexus Lab	2 days	Mon 5/28/07	Wed 5/30/07
347	0%	Install new CPU Onsite	2 hrs	Wed 5/30/07	Thu 5/31/07
348	0%	Connect to Network	1 hr	Thu 5/31/07	Thu 5/31/07
349	0%	Modify Call Routing Tables	1 hr	Thu 5/31/07	Thu 5/31/07
350	0%	Perform Nexus Acceptance Testing	1 hr	Thu 5/31/07	Thu 5/31/07
351	0%	Perform Customer System Acceptance Testing	1 hr	Thu 5/31/07	Thu 5/31/07
352	**0%**	**Horace Mann**	**3.63 days**	**Mon 5/28/07**	**Thu 5/31/07**
353	0%	Backup Existing Database	1 hr	Mon 5/28/07	Mon 5/28/07
354	0%	NEC 2000 Re-Grade:Single Card Pim O Slot 4	6 hrs	Mon 5/28/07	Mon 5/28/07
355	0%	Convert Database at Nexus Lab	2 days	Mon 5/28/07	Wed 5/30/07
356	0%	Install new CPU Onsite	2 hrs	Wed 5/30/07	Thu 5/31/07
357	0%	Connect to Network	1 hr	Thu 5/31/07	Thu 5/31/07
358	0%	Modify Call Routing Tables	1 hr	Thu 5/31/07	Thu 5/31/07
359	0%	Perform Nexus Acceptance Testing	1 hr	Thu 5/31/07	Thu 5/31/07
360	0%	Perform Customer System Acceptance Testing	2 hrs	Thu 5/31/07	Thu 5/31/07
361	**0%**	**Owens Intermediate**	**3.5 days**	**Mon 5/28/07**	**Fri 6/1/07**
362	0%	Backup Existing Database	1 hr	Mon 5/28/07	Mon 5/28/07
363	0%	NEC 2000 Re-Grade:Single Card Pim O Slot 4	6 hrs	Tue 5/29/07	Tue 5/29/07
364	0%	Convert Database at Nexus Lab	2 days	Tue 5/29/07	Thu 5/31/07

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Task	Milestone	External Tasks	
Split	Summary	External Milestone	
Progress	Project Summary	Deadline	

ID	% Complete	Task Name	Duration	Start	Finish	ebruary 2007 2 5 8 11
365	0%	Install new CPU Onsite	2 hrs	Thu 5/31/07	Thu 5/31/07	
366	0%	Connect to Network	1 hr	Fri 6/1/07	Fri 6/1/07	
367	0%	Modify Call Routing Tables	1 hr	Fri 6/1/07	Fri 6/1/07	
368	0%	Perform Nexus Acceptance Testing	1 hr	Fri 6/1/07	Fri 6/1/07	
369	0%	Perform Customer System Acceptance Testing	1 hr	Fri 6/1/07	Fri 6/1/07	
370	**0%**	**Sequoia Middle School**	**3.5 days**	**Mon 5/28/07**	**Fri 6/1/07**	
371	0%	Backup Existing Database	1 hr	Mon 5/28/07	Mon 5/28/07	
372	0%	NEC 2000 Re-Grade:Single Card Pim O Slot 4	6 hrs	Tue 5/29/07	Tue 5/29/07	
373	0%	Convert Database at Nexus Lab	2 days	Tue 5/29/07	Thu 5/31/07	
374	0%	Install new CPU Onsite	2 hrs	Thu 5/31/07	Thu 5/31/07	
375	0%	Connect to Network	1 hr	Fri 6/1/07	Fri 6/1/07	
376	0%	Modify Call Routing Tables	1 hr	Fri 6/1/07	Fri 6/1/07	
377	0%	Perform Nexus Acceptance Testing	1 hr	Fri 6/1/07	Fri 6/1/07	
378	0%	Perform Customer System Acceptance Testing	1 hr	Fri 6/1/07	Fri 6/1/07	
379	**0%**	**Group 9: VoIP Conversion**	**5.38 days**	**Fri 6/1/07**	**Fri 6/8/07**	
380	0%	Announce Database Freeze Date / Implement Change Mgmt Procedures	0 days	Fri 6/1/07	Fri 6/1/07	
381	**0%**	**Emerson Middle**	**3.5 days**	**Mon 6/4/07**	**Thu 6/7/07**	
382	0%	Backup Existing Database	1 hr	Mon 6/4/07	Mon 6/4/07	
383	0%	NEC 2000 Re-Grade:Regrade 2 Cards Pim O Slot 4	6 hrs	Mon 6/4/07	Tue 6/5/07	
384	0%	Convert Database at Nexus Lab	2 days	Tue 6/5/07	Thu 6/7/07	
385	0%	Install new CPU Onsite	2 hrs	Thu 6/7/07	Thu 6/7/07	
386	0%	Connect to Network	1 hr	Thu 6/7/07	Thu 6/7/07	
387	0%	Modify Call Routing Tables	1 hr	Thu 6/7/07	Thu 6/7/07	
388	0%	Perform Nexus Acceptance Testing	1 hr	Thu 6/7/07	Thu 6/7/07	
389	0%	Perform Customer System Acceptance Testing	1 hr	Thu 6/7/07	Thu 6/7/07	
390	**0%**	**Hills Elementary**	**3.63 days**	**Mon 6/4/07**	**Thu 6/7/07**	

Project: 2007-03-06 - BCSD Office Up
Date: Thu 3/8/07

Task	Milestone	External Tasks	
Split	Summary	External Milestone	
Progress	Project Summary	Deadline	

ID	% Complete	Task Name	Duration	Start	Finish
391	0%	Backup Existing Database	1 hr	Mon 6/4/07	Mon 6/4/07
392	0%	NEC 2000 Re-Grade:Regrade 2 Cards Pim O Slot 4	6 hrs	Mon 6/4/07	Tue 6/5/07
393	0%	Convert Database at Nexus Lab	2 days	Tue 6/5/07	Thu 6/7/07
394	0%	Install new CPU Onsite	2 hrs	Thu 6/7/07	Thu 6/7/07
395	0%	Connect to Network	1 hr	Thu 6/7/07	Thu 6/7/07
396	0%	Modify Call Routing Tables	1 hr	Thu 6/7/07	Thu 6/7/07
397	0%	Perform Nexus Acceptance Testing	2 hrs	Thu 6/7/07	Thu 6/7/07
398	0%	Perform Customer System Acceptance Testing	2 hrs	Thu 6/7/07	Thu 6/7/07
399	**0%**	**Voorhies Elementary**	**3.5 days**	**Tue 6/5/07**	**Fri 6/8/07**
400	0%	Backup Existing Database	1 hr	Tue 6/5/07	Tue 6/5/07
401	0%	NEC 2000 Re-Grade:Regrade 2 Cards Pim O Slot 4	6 hrs	Tue 6/5/07	Wed 6/6/07
402	0%	Convert Database at Nexus Lab	2 days	Wed 6/6/07	Fri 6/8/07
403	0%	Install new CPU Onsite	2 hrs	Fri 6/8/07	Fri 6/8/07
404	0%	Connect to Network	1 hr	Fri 6/8/07	Fri 6/8/07
405	0%	Modify Call Routing Tables	1 hr	Fri 6/8/07	Fri 6/8/07
406	0%	Perform Nexus Acceptance Testing	1 hr	Fri 6/8/07	Fri 6/8/07
407	0%	Perform Customer System Acceptance Testing	1 hr	Fri 6/8/07	Fri 6/8/07
408	**0%**	**College Heights Elementary**	**3.5 days**	**Tue 6/5/07**	**Fri 6/8/07**
409	0%	Backup Existing Database	1 hr	Tue 6/5/07	Tue 6/5/07
410	0%	NEC 2000 Re-Grade:Regrade 3 Circuit Cards	6 hrs	Tue 6/5/07	Wed 6/6/07
411	0%	Convert Database at Nexus Lab	2 days	Wed 6/6/07	Fri 6/8/07
412	0%	Install new CPU Onsite	2 hrs	Fri 6/8/07	Fri 6/8/07
413	0%	Connect to Network	1 hr	Fri 6/8/07	Fri 6/8/07
414	0%	Modify Call Routing Tables	1 hr	Fri 6/8/07	Fri 6/8/07
415	0%	Perform Nexus Acceptance Testing	1 hr	Fri 6/8/07	Fri 6/8/07
416	0%	Perform Customer System Acceptance Testing	1 hr	Fri 6/8/07	Fri 6/8/07

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2 5 8 11

Project: 2007-03-06 - BCSD Office Up
Date: Thu 3/8/07

Task | Split | Progress | Milestone | Summary | Project Summary | External Tasks | External Milestone | Deadline

NOTE: Items in **BLUE** are customer deliverables

Last Modified: Thu 3/8/07

ID	% Complete	Task Name	Duration	Start	Finish
417	**0%**	**Project Completion**	**14.5 days**	**Thu 6/14/07**	**Thu 7/5/07**
418	0%	Initial Post Implementation Review Meeting	2 hrs	Thu 6/14/07	Thu 6/14/07
419	0%	Draft Systems Delivery and Acceptance Form with Final Action Items	1 hr	Fri 6/15/07	Fri 6/15/07
420	0%	Schedule SDA Action Items	1 day	Fri 6/15/07	Mon 6/18/07
421	0%	Complete System Delivery and Acceptance Action Items	1 hr	Mon 6/18/07	Mon 6/18/07
422	0%	Complete Customer Project Book / Documentation	2 wks	Thu 6/14/07	Thu 6/28/07
423	0%	Complete SDA Action Items	2 wks	Mon 6/18/07	Mon 7/2/07
424	0%	Complete Nexus Customer Implementation Surveys	0 hrs	Mon 7/2/07	Mon 7/2/07
425	0%	Final Post Implementation Review Meeting	1 hr	Thu 7/5/07	Thu 7/5/07
426	***0%***	***Project Complete***	***0 days***	***Thu 7/5/07***	***Thu 7/5/07***

ebruary 2007
2 5 8 11

Project: 2007-03-06 - BCSD Office Up
Date: Thu 3/8/07

Task		Milestone		External Tasks	
Split		Summary		External Milestone	
Progress		Project Summary		Deadline	

NOTE: Items in **BLUE** are customer deliverables

Last Modified: Thu 3/8/07

RISC NETWORKS

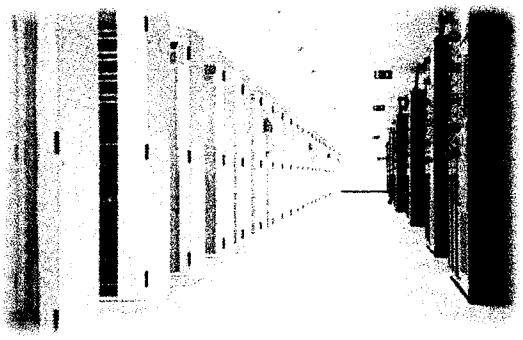
NetAssess

Baseline Network Assessment

NetAssess helps you understand what equipment and software your IT department is using. Hardware and Software lifecycle analysis as well as detailed inventory help you plan your IT budget more effectively.

NetAssess tracks every Network Interface and Windows Server so that you can have a full picture of how your network is performing. Common issues are highlighted and explained so that you can immediately begin to fix performance bottlenecks.

NetAssess provides the most comprehensive network assessment available while only averaging 15 minutes to deploy. There is no software to install or servers to purchase. Our RN100 Appliance and certified NAC do all the work for you.



- Rely on Proven Methodology – Not Guesswork!
- Get the results you need faster and easier – from an Independent Assessment service provider
- Identify and fix issues before they cause outages in your network.

Successful businesses know that information is the key to performing well. IT is no different. Understanding your IT Infrastructure is the most critical step to maximizing the Return on Investment that your business achieves through IT. Whether you have Regulatory concerns surrounding software versions, want to take control of your budget planning and spending, or are experiencing network performance issues that are impacting your business, RISC Networks NetAssess service engagement will empower you to seize control of your IT operations. NetAssess is a network assessment engagement designed to target the most critical IT needs for corporations of all sizes. Rather than adding additional software and hardware to your IT environment, RISC Networks NetAssess allows you to leverage the expertise of RISC Networks' certified technicians, our exclusive, proprietary Assessment technology, and our proven methodology to drive immediate business value through IT in as little as 15 minutes!

Visit us on the Web at:
www.riscnetworks.com

RISC Networks Inc.
Chicago, IL 60660
Phone 866.808.1227
Fax 866.839.3586

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RISC Networks services are designed around an established methodology that helps customers identify and correct issues, successfully plan their IT lifecycle, ensure the success of critical projects, and provides comprehensive documentation of advanced systems.

RISC Networks does not sell any hardware or software, so you know that the Assessment you receive is based on real-world experience and not driven by the latest product releases . Our programs are designed and administered by experienced systems engineers and managed from RISC Networks' Secure Network Analysis Center (NAC).

RISC Networks utilizes its certified experience in IT to deliver immediate impact for your business by filtering out data that is not critical to your environment. In addition, our proprietary and exclusive technology correlates information to give you a comprehensive analysis of your network with a minimum amount of time invested on your part.

Highlights

Performance Analysis
Every RISC Assessment summarizes devices with performance concerns so you can quickly identify problem areas.

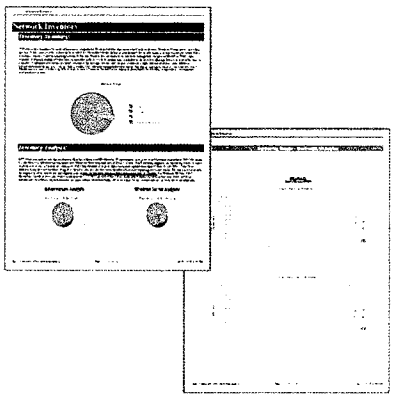
Network Map
The starting point of any assessment is an understanding of what makes up a network. RISC builds a Network map in Microsoft Visio for every assessment.

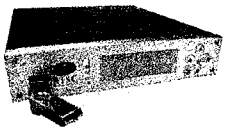
Timeframe
RISC NetAssess engagements take 3 days. Comprehensive reports are delivered at the end of 3 days.

Report Deliverables
NetAssess reports are focused around a core report that summarizes problem areas, life cycle analysis and detailed inventory analysis. The inventory is also provided in Excel format for easy warranty review by serial number and ongoing record keeping.

Feature Comparison

		NetAssess	Voice and Video Readiness	Cisco Unified Communications
Inventory	**Comprehensive Windows Inventory**	✓	✓	✓
	Comprehensive Infrastructure Equipment Inventory	✓	✓	✓
	Network Diagram in Microsoft Visio Format	✓	✓	✓
	Complete Windows Application Inventory	✓	✓	✓
	Cisco Quality of Service Documentation		✓	✓
	Comprehensive Cisco Callmanager Documentation			✓
	Cisco Unity Documentation			✓
Performance	**Network Infrastructure Performance Report**	✓	✓	✓
	Windows Sever Performance Report	✓	✓	✓
	Network Issue Report	✓	✓	✓
	Active Quality of Service (QoS) and Service Level Agreement (SLA) Testing		✓	
	Cisco Callmanager Performance Report			✓
Analysis	**Network Performance Alarm Analysis**	✓	✓	✓
	Quality of Service Root Cause Analysis		✓	
	Voice and Video over IP Analysis		✓	
	Hardware Lifecycle Analysis	✓	✓	✓
	Software Lifecycle Analysis	✓	✓	✓
	Cisco Callmanager Best Practice Analysis			✓





For more information on any of our services or assessments please visit us on the Web at:
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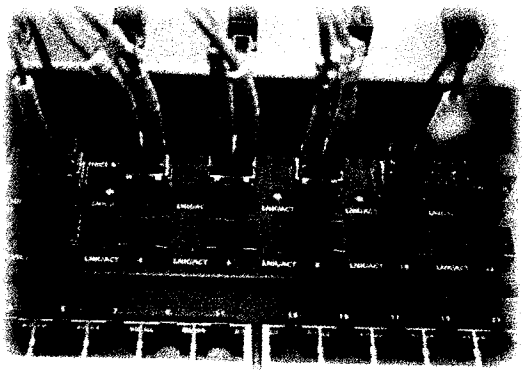
Voice and Video Readiness Assessment

Pre-Deployment Voice & Video Network Readiness Assessment

Think you're ready for VOIP? Know with RISC



- Don't take chances. Know the facts about your network's performance
- Make sure that Quality of Service is configured and functioning in your devices.
- Rely on Proven Methodology - Not Guesswork!

You have made the decision to deploy advanced technologies like Voice and Video over IP. Now make the decision to ensure that your project is a success. RISC Networks' Voice and Video Readiness Assessment uses our proven methodology and advanced technology to ensure that your network is ready for VoIP. RISC Networks uses your existing Cisco Infrastructure to simulate VoIP traffic across your network and measures the quality of the calls. RISC also checks the Quality of Service configurations in your Cisco network equipment as well as measuring the performance of every system on your network. If you experience poor simulated calls, our advanced correlation engines help pinpoint the exact device and interface that is causing the issue. Our services are based on years of experience deploying and troubleshooting Enterprise VoIP Systems. Let our experience work for you.

Know Your Value

Our Voice and Video Readiness Assessment helps you understand what equipment and software your IT department is using. Hardware and Software
lifecycle analysis as well as detailed inventory help you plan your IT budget more effectively.

Ensure Your Success

Know how your network will perform BEFORE you deploy VoIP. There is too much on the line to take chances. Our proven methodology and technology means you will be have all the information you need before you go live.

Use What You Already Have

RISC Networks simulates Voice and Video calls using your existing Cisco network. You don't need to install any new software on PCs or purchase expensive probes.

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What makes RISC Networks unique?

RISC Networks services are designed around an established methodology that helps customers identify and correct issues, successfully plan their IT lifecycle, ensure the success of critical projects, and provides comprehensive documentation of advanced systems.

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Highlights

Performance Analysis
Every RISC Assessment summarizes devices with performance concerns so you can quickly identify problem areas.

Network Map
The starting point of any assessment is an understanding of what makes up a network. RISC builds a Network map in Microsoft Visio for every assessment.

Timeframe
RISC Networks' Voice and Video Readiness Assessment take 5 days. Comprehensive reports are delivered at the end of 5 days.

Report Deliverables
Assessment reports are focused around a core report that summarizes problem areas, life cycle analysis and detailed inventory analysis. The inventory is also provided in Excel format for easy warranty review by serial number and ongoing record keeping.

Feature Comparison

		NetAssess	Voice and Video Readiness	Cisco Unified Communciations
Inventory	**Comprehensive Windows Inventory**	✓	✓	✓
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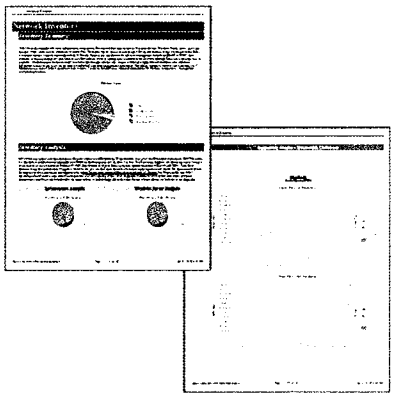
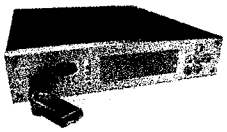
	Cisco Callmanager Best Practice Analysis			✓





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Uptime and Availability

Understanding and Setting Corporate Availability Goals

Defining Network Availability

Network *uptime* and *availability* are critical for today's business customers. In many cases, due to regulatory and compliance issues, network availability is a key factor in judging corporate health. Below, we will discuss metrics for establishing reasonable uptime goals, measuring those goals, and reporting on the availability of IT networks.

Network availability is often confused with network reliability. In fact, many Managed Service Providers and network management software developers use the two terms interchangeably. However, the two are actually quite different. In its most simple terms, the *availability* of a device refers to its condition of being ready for immediate use. It is "there" and waiting for you to ask it to do something. The *reliability* of a device refers to its ability to actually perform the task you request of it.

An example of the relationship between *availability* and *reliability* is a public subway system. The subway train is expected to be *reliable* while you are on it. You don't want it to stop moving and be stuck on it for two hours, but it is not expected to be at every stop whenever someone wants to get on. Its availability is limited. Of course depending on the city you live in, the train may be neither *available* nor *reliable.*

Availability is measured with the Mean Time Between Failure (MTBF) metric. Most network devices, for example Cisco routers and switches, are rated for at least 100,000 hours of MTBF. This is the measurement of time that the equipment is expected to function properly between failures. There are several types of availability, inherent and operational. Here we are discussing inherent availability. The equipment that you purchase and the design that you have in place will dictate to a large extent the MTBF.

The measurement for *reliability* is Mean Time to Repair (MTTR). If you ask the network to perform a task and it can not do it, the mean time to repair is the lapsed duration until operational ability is restored. The MTTR measurement is one that you can directly impact with your IT planning and operations.

The overall inherent availability metric of a network is measured as follows:

MTBF/(MTBF + MTTR)

For example, consider your hardware appliances such as a router, a switch, or an OC3 line card. If your network has a MTBF of 365 days or 8760 hours and your average yearly outage is 4 hours long, your availability is 8760/(8760 + 4) or 99.954%. If your MTBF is 100,000 and your MTTR is 4 hours then you get 99.996% availability. As you can see from this example, 99.999% availability is an elusive goal. Hardware appliance, though, is not the only feature relevant to network availability.

Real World Availability

Consider the following example: Company X, who sells gas grills, provides a web-based portal to a database that stores information input by Internet users. Company X then takes that information and uses its internal application to parse it and provide a call list for its call center agents. The call center application accesses this list and dials the Internet user at the number that was provided so that the agent can set an appointment. The agent puts the appointment into a calendar for a service technician to go onsite and set up an in-ground gas grill.

Company X sells gas grills, but look at how much of their business involves the IP network. What would happen to their business if the main database server just stopped processing the call list because it had run out of disk space? This is a good time to talk about one of the most important concepts in Network Availability. Network availability is not a technical issue. It is a business process issue. The fact that the main database server fails to process the call list because it ran out of disk space is merely a technical issue. Of much greater significance is that the customers who have input their data on the website and are waiting for their phone to ring at home are not going to get the call from Company X. As a direct result of the database server's hard drive over-utilization, Company X is losing business and customer goodwill. IT managers who think of network availability only in terms of applications, servers, and devices overlook the business process context that aligns IT with the business' main goals.

In order to ensure maximum uptime and business performance, Company X should look at its business processes and identify the key IT components necessary to make its business available to customers. From our short example above, we can see that there are several interlocking and mutually dependent items:

- Company X's Internet connection
- The internal IP network that facilitates the order processing
- The applications and servers that participate in that processing
- The Call Center server
- The IP network that caries the Voice (if it is VoIP)
- The Voice Circuit that the agents use to call the customer
- The scheduling application
- The interface that the installers use to access their schedules
- The email server that will be expected to send an update on the appointment

All of these devices and applications play a role in determining if Company X's network is available.

Company X must also decide what level of performance is required to consider the network *available*. RISC Networks considers this level of performance a Quality of Service threshold. Quality of Service is not merely a measure of how quickly the network moves IP packets, but how well all of the interlocking business systems operate. Company X needs to know when this threshold is approached if it wants to maintain its network availability for customers and employees.

RISC Networks considers the following elements when measuring or quantifying Quality of Service: Is the server CPU at a good level? Is the Internet bandwidth sufficient for the needed business tasks? How many calls are active on the PRI? Measuring and monitoring these metrics, along with many others, is fundamentally important to delivering the Quality of Service Company X requires

Setting Availability Goals.

Determining needed IT components and maintaining Quality of Service depends on the availability goal set by a business.

Company X must consider carefully its availability goal. Should they assume that business service will be available 99.999% of the time? As shown earlier, that is a difficult number to reach. Companies setting such a goal based on what they are told by software and hardware vendors soon find

that the vendors cannot deliver such promised performance. Vendors may say that the Internet outage was out of their control or they may not even answer the phone when most needed.

Best business practices show that companies should set realistic goals for availability of IT dependent services based on a variety of factors:

- The specific type of business pursued;
- The budget of the IT department in the business; and
- The indispensability of the system to the delivery of the business services.

Look back to set your goals

Setting an availability goal requires accurate and skillfully interpreted historical data, such as that provided by RISC Networks.

In spite of the importance of historical data when setting an availability goal, many companies do not track this type of information. Even if they do collect it, often it is kept in each application's management center and is not correlated across all the different components of the system necessary to the business processes. Router monitoring software has Internet usage information, but not the information on the status of the PRI or the server CPU. The services performed by RISC Networks assist organizational IT departments in collecting this information in a central repository. It can then be used to set both an attainable and adjustable availability goal based on measurable and actionable metrics.

Once the company availability goal is set, IT departments need to communicate it to employees and company planners. This aids on several fronts, but most notably in the budget cycle. If the availability goal is clearly defined and communicated, the attainment of the necessary tools and/or services to accomplish that goal is easier. "Network Upgrades" become strategic improvements that are targeted at specific areas of the overall network and their relevance to the company availability goal is made clear. Companies using RISC Networks' services can also provide empirical evidence of the result of those improvements and will know how to evolve their network to better serve the business.

Setting an availability goal also allows IT departments to design their networks appropriately. For example, if the goal is to have the Internet facing infrastructure available 99.95% of the time, then a business may need to dual home its ISPs and use BGP to do its Internet failover routing. In addition the business should deploy redundant firewalls and employ the appropriate power and environmental controls. If a business has a lower availability goal, then it may only require a cable modem backup for general web surfing, etc. These important decisions depend on realistic company availability goals supported by hard data metrics such as those provided by RISC Networks.

Once a business develops a network that is strategically aligned with delivering quality service, and it is accountable to the availability goals set by the company, three crucial steps remain – monitoring, reporting, and supporting the network.

Monitor

Network monitoring is essential to identifying issues before they become failures. Networks rarely just stop working. Normally the issue is one that has been building for some time. By utilizing a monitoring service, and through the network visibility that is gained through monitoring, business managers can avoid failures altogether. However, in the event of a truly random network failure, you have a 66% chance that the failure will happen during non-business hours, if you work a standard 8 hour day. So if you know about it at 7 p.m., you can get it fixed before it impacts business the next day. Relying on end users to report problems to the IT department is a formula for disaster. Knowing what to monitor and what the signs of impending failure are requires broad experience, the type that the RISC Networks team of support engineers offers to its customers.

Monitoring helps you to reduce your MTTR to the lowest number possible. This will improve your availability rating and in turn your business performance. There are going to be problems in all IP networks. To reduce MTTR, the IT staff must have hard data on the key metrics and respond in a manner that will allow them to restore service quickly. The staff must also posses a troubleshooting skill set that maximizes their efficiency in repairing or correcting issues. Utilizing RISC Networks' Advanced Services team allows a business to access this high level of expertise in advanced technologies.

Monitoring is not simple. It requires skilled professional identification and interpretation, such as that provided by RISC Networks. There are several things that IT managers should consider when approaching monitoring:

PING makes golf clubs, NOT networks

The commonly used "Ping"ing of a server or device actually yields little information about the health of an IT system necessary to the delivery of business services. An ICMP echo request is sufficient to determine if an IP address is in use; however, an analyst needs to know much more than whether a server or router is answering pings. Technically useful measures of the availability of network services require much more specific inquiry into the functioning of the necessary interlocking network components.

Businesses use applications, not IP

IT departments charged with the responsibility of maintaining the delivery of business services often think of the network in terms of IP availability. However, RISC engineers understand that availability is much more complicated. Services use local resources and the analysis of the functioning of a system must move past the inclination to look simply at the IP availability of the network. Simply being able to route to a site does not mean that users at that site are able to perform their jobs. Perhaps the traffic on the line is saturated or there are serial errors on the router interface. Both of these can cause serious degradation of service without affecting the IP routing. RISC Networks helps customers understand and correct network issues that go beyond the basic IP network.

Applications provide services to Users

This is perhaps the most important concept to keep in mind when monitoring. RISC Networks monitors from the end user perspective. Users of Web Servers want to be able to download web pages. FTP users depend on the FTP server they are using to deliver their files. VoIP users do not tolerate delay in receiving dialtone. RISC Networks monitors these services from the end user perspective to ensure that they are not only available, but are delivering the desired service.

Bring it all together

When monitoring, consolidating systems is an important goal. Businesses that can afford to consolidate into a single platform for monitoring and reporting get better results. RISC Networks provides a unified platform for this purpose. Otherwise employees must still analyze different monitoring applications and try to correlate information. Alarms may fire from several systems at once and knowing which one to address first is difficult. Having one application gives you a single place to run reports, access historical data, and see active issues on the network.

Be comprehensive when you monitor

The most successful businesses monitor all aspects of the network through which they deliver business services in order to determine its availability. For example, if a client can connect to your mail server on its SMTP port, does that mean the client can send you email? Not really. They also need to be able to resolve your DNS MX record in order to find your SMTP server. In addition, they must connect through your firewall in order to reach the mail server. If you access that email via POP3, then you must be able to authenticate properly in order to retrieve the email. RISC Networks uses custom applications to monitor all aspects of your network's messaging infrastructure to

ensure that your systems are functioning, even when they aren't all on your network!

Test your monitoring to ensure accuracy

RISC engineers test your systems in many ways such as by planning an outage during non-business hours. This enables the engineers to make sure that the monitoring system properly reports the outage and that internal business functions, such as getting the correct help desk reaction, operate properly.

Report

The goal of your IT organization should be to develop your network to deliver business services and then monitor, analyze, and continually improve the system by reviewing performance reports. These are the types of reports that RISC Networks services provide.

An analysis of these reports enables the business to baseline its network. The first two weeks of any monitoring program should be treated as a baseline period. Any alarms should be responded to, but during this time the business is still learning how its network REALLY behaves under normal circumstances.

Schedule your network performance and analysis reports to come to you automatically. Everyone gets busy and you won't be able to check the reports as regularly as you should if you have to manually run each one. Create your reports so that they are business focused. Determine how much money it costs your company to not be able to deliver services for 1 hour and then assign that cost to any downtime for all the components that make up those services. That way everyone will know what the financial impact of any downtime is.

Support

Support is where your business can truly make gains in MTTR. As previously discussed, networks rarely just stop working. Normally, the issue is one that has been developing for some time or in the very least showed some signs of being a problem earlier. Businesses can prevent these issues by identifying and addressing their symptoms, such as bandwidth utilization, server hard drive space, router CPU, etc. RISC Networks engineers monitor the heartbeat of business networks in order to identify symptoms before they become issues and take corrective action to prevent any downtime.

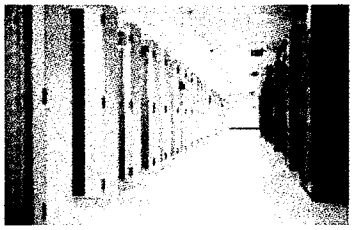
Network availability is a complex subject. Defining a network availability goal is a process that must be backed by specific performance data and focused on delivering business results. Business planners should not set arbitrary goals based on vendor promises but should instead take time to understand the full spectrum of delivering services to their customers and employees. Availability goals must be service oriented. If individual components fail but the overall service delivery structure remains intact, then availability has been maintained and should be reported as such. Network monitoring, proactive support, and regular reporting are critical components for companies to deliver availability to their employees and customers.

Jeremy Littlejohn, CCIE #14788, MCSE, CCSP, CCNP, INFOSec, is the Service Delivery Manger at RISC Networks in Chicago, IL. He has over 9 years of experience designing, deploying, and supporting advanced IP infrastructures.

RISC Networks provides remote monitoring, support, and reporting for advanced IP networks. RISC Networks provides world class technical support for converged networks. You can learn more about RISC Networks programs at www.riscnetworks.com

RISC Architecture

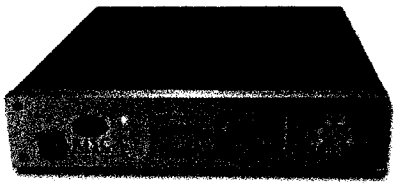
Network Analysis Center (NAC)



RISC Networks' Network Analysis Center is a state of the art Level 3 facility located in Chicago, Illinois. Our NAC is protected by multiple layers of physical and technological security that protect the integrity, accuracy and confidentiality of our customers' information. Delivering Assessments through our NAC allows us to centralize our world class knowledge base and provide our customers with the latest in assessment analysis. RISC Networks' exclusive and proprietary normalization, correlation, and analysis of information allows our Advanced Services Team to provide customers with a view of their network unmatched by any individual software component. In addition, our NAC is staffed by Cisco and Microsoft certified technicians with years of experience in Unified Communications and advanced IP Networks.

RISC Networks Appliances

RISC Networks uses an appliance based model to provide customers with maximum security, flexibility, and performance. Our appliances can be deployed anywhere in the world and are hardened to ensure their protection against network threats. All RISC Networks' programs can be run from an RN100 Appliance and they can be used over and over again without worrying about transporting problems or information from one customer to another.



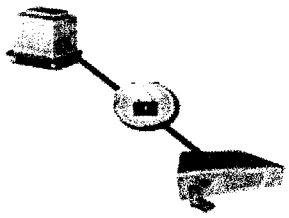
The secret to RISC Networks' Secure Appliances are their read-only operating systems. Each appliance ships from our factory built with all the tools that it needs. Everything on the appliance runs in memory and nothing is allowed to write to the appliance permanently. This protects the appliance from viruses, worms, and intrusion attempts. Once the power is turned off, the image returns to the factory defaults and all customer and deployment specific information is erased.

During a deployment, the RN100 Appliance launches processes that interact with the onsite Windows Domain and network infrastructure. These processes

authenticate with Domains using Administrative privileges in order to remotely access WMI information on Windows machines and use SNMP to access information on network devices. At the end of the engagement, when the appliance is powered off, these processes are destroyed. They are not saved on the Appliance and all information associated with them is deleted from the Appliance.

Communication Protocols

RISC Networks Appliances use only secure protocols to communicate information back to the NAC. Appliances rely on open standards such as OpenSSH and SSL in order to effectively and security negotiate key material to ensure the integrity of their communication. Customer passwords and sensitive information are never transmitted back to the NAC. These remain in the appliance and are erased when power is removed. RISC Networks SSL infrastructure ensures that customers data is protected. In addition, RISC Appliances do not require any firewall adjustments other than to allow outbound SSL (TCP port 443) communication to our NAC.



Statement of Work

City of Torrance

Nexus

Voice and Video Readiness Network Assessment

Network Performance Assurance

Prepared By:

Nexus

7350 Opportunity Road

San Diego

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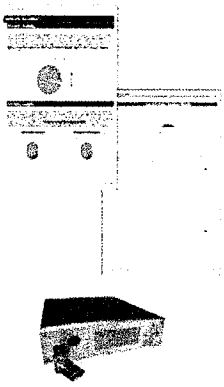
Executive Summary

Network Assessments are critical components of a successful IT lifecycle approach. Assessments empower customers and partners to deliver better solutions and be more effective at driving business value through IT. RISC Networks focuses solely on providing these high-value assessments through its Assessment Partner, Nexus. Nexus and RISC Networks feel that City of Torrance will benefit greatly from a Voice and Video Readiness Assessment that will test the capacity and performance of City of Torrance's existing network.

RISC Networks uses a proven service delivery model to deliver highly valuable network Assessments for its partners. The details of this model and the scope of the Network Assessment for City of Torrance are defined in this document. RISC Networks and Nexus share the goal of providing world class service to City of Torrance throughout the duration of this engagment.

Assessment Goals

At the end of this engagment, City of Torrance will have the information that it needs to make informed, targeted descisions regarding its IT environment. This Voice and Video Readiness Assessment is designed to provide City of Torrance with a several results. First is a complete Inventory of all devices attached to the network . Whether City of Torrance has regulatory or security concerns, or wants to better plan budget cycles regarding IT upgrades and replacements, a comprehensive Inventory is crucial to their success. This Voice and Video Readiness Assessment will provide complete hardware and software details on all network devices and Microsoft Windows servers in the network. This includes hardware component versions, software Operating System versions, and a complete Windows Applications Inventory. In addition, it will perform analysis to highlight those Hardware and Software components that are at or nearing their end of life so that City of Torrance can use this information to plan for future equipment and software purchases.



After performing the complete inventory of City of Torrance's network, the Assessment will collect performance information on all network devices and Microsoft Windows servers. Nexus' Voice and Video Readiness Assessment watches Key Performance Indicators (KPI) on servers and network equipment to help identify IT performance bottlenecks. City of Torrance can then use this information to evaluate IT enhancements and mitigations for performance issues. Nexus will discuss the performance KPI with City of Torrance and explain possible solutions that not only resolve the existing issues, but add additional business value through IT. In addition, Nexus' Voice and Video Readiness Assessment will simulate Voice and Video traffic across City of Torrance's network and measure the performance of this traffic so that City of Torrance will know how its network is going to perform before it ever deploys its production voice or video traffic. Nexuswill then be able to make recommendations to City of Torrancein order to correct any issues and ensure the success of any rollout.

Why RISC Networks and Nexus

RISC Networks and Nexus are partnering in order to deliver maximum value to City of Torrance by focusing on those services that each one delivers best. RISC Networks provides network assessments to customers and partners throughout the world and focuses on continually enhancing its offerings and analysis. Nexus utilizes RISC Networks to gather and analyze information so that Nexus"s world class technical staff can review the information and provide solutions to City of Torrance that target the exact areas needed. Through this partnership, City of Torrance is able to access world class service from each organization at a lower cost and in a shorter timeframe.

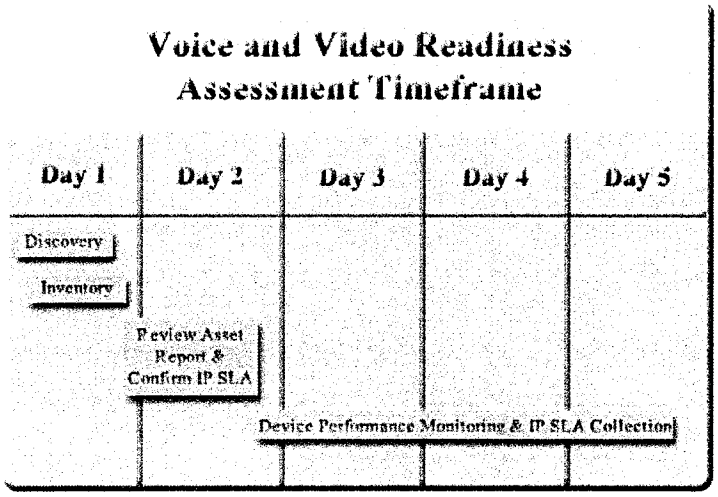
NEXUS»
Connect Collaborate Create

RISC
NETWORKS

1. Project Abstract

1.1 Project Summary

The scope of this service engagment is to provide RISC Networks' exclusive Voice and Video Readiness Assessment for City of Torrance. RISC Networks Voice and Video Readiness Assessment will be delivered by Nexus and may or may not be part of a larger Network project engagement from Nexus to City of Torrance. The scope of the Voice and Video Readiness Assessment however, is limited to those items covered and discussed in this document. RISC Networks' Voice and Video Readiness Assessment service engagment takes place over 5 business days and involves multiple stages as shown in the graphic below, in order to maximize the benefit to City of Torrance. Nexus will deploy an RN100 Secure Appliance at a single location within City of Torrance's network selected by City of Torrance and Nexus. Either Nexus or City of Torrance will be responsible for bootstraping the RN100 Appliance based on the RN100 Secure Deployment Guide available at www.riscnetworks.com in the Resources section. At any time, either City of Torrance or Nexus may call RISC Networks in order to assist at no additional charge. After 5 days, RISC Networks will deliver the final reports to Nexus and Nexuswill review the final reports with City of Torrance



1.2 Project Deliverables

Voice and Video Readiness Service Engagements include Network Discovery, Inventory, and Performance Analysis. RISC Networks will deliver the following reports to Nexus and City of Torrance once the Assessment is complete (5 business days).

- Asset Summary - Microsoft Excel document that classifies and details all devices detected during the NetAssess Discovery and Inventory.
- Network Drawing - Microsoft Visio document that outlines the network connectivity for City of Torrance based upon the Network Discovery and Inventory
- Voice and Video Readiness Assessment Final Report - Executive Summary that provides hardware and software Inventory analysis , network performance analysis, and detailed Voice and Video traffic performance analysis.
- Windows Server Details Report - Detailed report that provides performance and advanced inventory analysis for all Microsoft Windows Servers found in the Discovery and Inventory phases.
- Network Details Report - Detailed report that outlines performance for every network device and interface found in the Discovery and Inventory phases.

1. Project Abstract (cont.)

1.3 Assessment Architecture

RISC Networks utilizes its Chicago, IL Network Analysis Center (NAC) to perform network assessments for Nexus. RISC Networks' RN100 Secure Appliances are placed onsite in the customer's network and are then managed from our secure NAC. This allows RISC Networks to perform our advanced assessments without requiring the customer to install or purchase any hardware or software. Nexus engineers work closely with RISC Networks to ensure that the Assessment targets the specific areas that need to be addressed for Nexus' customers. RISC Networks uses standards based protocols (WMI, SNMP, TCP, ICMP, UDP) to perform its Assessments and does not engage in any type of OS fingerprinting or other potentially harmful Discovery techniques. RISC Networks' Assessments require certain network credentials and access as outlined in the section of this Statement of Work titled "City of Torrance Responsibilities". For more information on RISC Networks' service delivery architecture, please visit us at www.riscnetworks.com.

1.4 Schedule

Nexus will work with City of Torrance in order to schedule a date for deployment of the RN100 Secure Appliance and the beginning of the Network Assessment. At the selected date and time, RISC Networks will make a Service Delivery resource available to Nexus and City of Torrance via phone and email to assist with deploying the RN100 or answering any questions, if needed. Due to this commitment a minimum of twenty-four (24) hours notice is required for cancellation or postponement of any activity scheduled by Nexus and City of Torrance. Failure to adhere to the required notice may result in a charge equal to one 1 additional day of RISC Networks' Voice and Video Readiness Assessment service (USD $500).

1.5 Indemnification

City of Torrance agrees to indemnify, hold harmless and defend RISC Networks, Nexusand their respective affiliates, directors, officers, employees and agents (the Indemnitees) from and against all liens, claims, demands, charges, suits, proceedings, causes of action of any type in law or equity, liabilities, damages, penalties, losses and expenses, including but not limited to interest, penalties, reasonable attorneys fees and costs of suit to the extent caused by or arising out of or in connection with, or contributed to, in whole or in part, directly or indirectly by the performance of RISC Networks, its agents, or employees, or conditions created thereby,; provided, however, that the Indemnitees shall not have the right to indemnification as set forth above in the case of gross negligence or willful misconduct by the Indemnitees.

2. Assessment Responsibilities

RISC Networks and Nexus are committed to providing City of Torrance with the most valuable and efficient Network Assessment possible. In order to ensure that Assessments are successful, each participating party will have responsibilities as outlined below:

2.1 City of Torrance Responsibilities

In order to facilitate the timely and successful delivery of the Network Assessment, City of Torrance's responsibilities include:

- Provide appropriate, continuous power requirements for RISC RN100 Secure Appliance.
- Provide 2 ethernet network connections for the RN100 Secure Appliance.
- Provide SNMP Read-Only community strings (v1 or v2) to Nexusin order to bootstrap the RN100 Appliance
- Provide Windows Domain Administrator credentials to Nexus for each Windows Domain and Workgroup that City of Torrance would like to have assessed.
- Make City of Torrance personnel available to Nexus in order to review and confirm RISC Networks' inital Inventory reports.
- Provide outbound Internet access without proxy server intervention for RISC Networks RN100 Secure Appliance's Eth0 or "Appliance" interface. This access can be restricted to only SSL (HTTPS port 443) if needed. Optional deployment topologies are outlined in the RN100 Secure Appliance Deployment Guide available at www.riscnetworks.com.
- Provide SNMP Read-Write community strings and NTP synchronization for requested devices if participating

in RISC Networks Voice and Video Readiness assessment.
- Provide AXL Username and Password for Cisco CallManager if participating in RISC Networks' Cisco Unified Communications Assessment

2.3 RISC Networks' Responsibilities

- Provide working and updated RN100 Secure Appliance for delivery of the NetAssess engagement.
- Provide technical support via phone during all stages of the NetAssess engagement for questions or issues related to the NetAssess engagement.
- Provide initial inventory documentaton and visio within 24 hours of successful deployment of RN100 Secure Appliance.
- Provide unlimited rescans of network with additional SNMP strings and/or Windows Credentials, limited only by the5 business day time scope of the engagment.
- Deploy Cisco IP SLA configuration using SNMP to devices selected to participate in RTP simulation.
- Monitor security of RN100 Secure Appliance 24 hours a day.
- Provide final report deliverables to Nexuswithin 24 hours of completing the 5 business day Assessment.
- (optional - at additional charge) Provide web-based review of final reports for City of Torrance and Nexus.
- (optional - at additional cost) Provide additional days of monitoring and data collection.

2.4 Nexus Responsibilities

As City of Torrance's partner of choice, Nexus will the following services to City of Torrance as part of the Voice and Video Readiness service engagement:

- Nexus will deploy the RN100 Secure Appliance onsite at City of Torrance's site unless otherwise agreed upon in advance
- Schedule theVoice and Video Readiness Assessment engagement for City of Torrance.
- Review initial inventory reports from RISC Networks to ensure that the proper devices and sites have been discovered.
- Provide technical review of final reports for City of Torrance.

In addition, Nexus will provide the following services that are outside the scope of the RISC Networks Voice and Video Readiness Assessment service engagment, but which Nexus feels are critical to the success of the overall engagement for City of Torrance. These services may or may not be completed in the NetAssess 5 business day time frame and the Voice and Video Readiness Assessment service engagement will be considered completed at the end of 5 days, regardless of the status of items listed below. Inquiries regarding these items should be directed to City of Torrance's Nexus account team.

Approval and Acceptance Contract

Accepted By:

City of Torrance	**Nexus**
Name:	Name:
Title:	Title:
Date:	Date:
Signature:	Signature

Voice and Video Readiness Assessment for Sample Customer

Prepared and Presented

by

RISC Networks Inc.

Introduction

Program Description

The following report details the results of RISC Networks' NetAssess engagement. NetAssess consists of several discrete steps and objectives, as outlined below. This Network Assessment was limited in scope as detailed in the Assessment summary to the right. The report is divided into the sections noted in the table of contents.

Assessment Statistics Summary

Start Date/Time	Aug 26, 2008 8:27 PM
End Date/Time	Aug 31, 2008 6:15 AM
Interfaces Monitored	162
Devices Monitored	7
Records Analyzed	193,504

The purpose of NetAssess is to provide a comprehensive analysis of current network performance and network stability. RISC Networks uses its proven 7-2-7 methodology to perform all of its Assessments, providing consistent and reliable results. NetAssess begins with Network Discovery. During this phase of the Assessment, RISC Networks probes the network in order to determine what devices are of interest and the roles that they play in the IT Infrastructure. Once all devices are identified, RISC begins the Inventory phase of the Assessment. During this phase, RISC collects and analyzes information regarding hardware and software on both Network Infrastructure equipment and Windows Servers. This Inventory provides the IT department with crucial details regarding equipment lifecycle, potential security vulnerabilities, and compliance issues.

After the Inventory phase is complete, RISC Networks creates a Visio drawing of the network that serves as the reference diagram for the remainder of the Assessment. This Visio diagram is delivered in electronic form and is part of the comprehensive report package you should have received. RISC Networks provisions its NetAssess program to collect vital performance information from the network based upon this visio topology. Performance information is detailed in the sections that follow below. RISC then performs analysis of this information in order to present the findings in this report.

Assessment Tools

RISC Networks utilizes several different tools in order to complete its Assessments. All of these tools are industry standard technologies for gathering information from network devices. They include:

SNMP The Simple Network Management Protocol (SNMP) is an application layer protocol that facilitates the exchange of management information between network devices. It is part of the Transmission Control Protocol/Internet Protocol (TCP/IP) protocol suite. SNMP enables network administrators to manage network performance, find and solve network problems, and plan for network growth.

WMI Windows Management Instrumentation (WMI) is a set of extensions to the Windows Driver Model that provides an operating system interface through which instrumented components provide information and notification. WMI is Microsoft's implementation of the Web-Based Enterprise Management (WBEM) and Common Information Model (CIM) standards from the Distributed Management Task Force (DMTF).

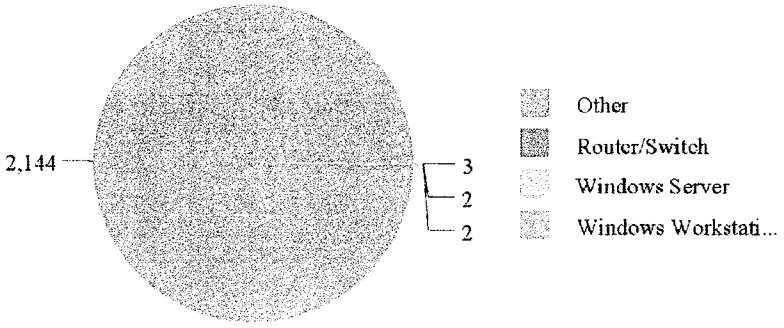
TCP and UDP TCP and UDP Transport Layer protocols are used by RISC Networks during Network Discovery and also during the performance of its Active QoS analysis module.

Network Inventory

Inventory Summary:

RISC Networks identifies Network Infrastructure components: Routers and Switches, as well as Windows Servers, Windows Workstations, and Other devices. "Other" devices refer to devices for which RISC Networks was not able to collect detailed device information, or that are not part of the RISC database of devices. Other devices may include IP Phones, Printers, and any devices for which no management credentials (SNMP or WMI) were available. A high percentage of Other devices can often indicate a lack of management capability in the network, although this is not always the case. In particular, if Infrastructure devices are small in number (percentage) and the total amount of devices is high, this indicates that some additional Infrastructure devices may exist and yet have no method of collecting management information. The ability to properly monitor and maintain your IT Infrastructure is critical to the long term success of your IT projects and should be addressed immediately by working to implement a management configuration baseline.

Device Type

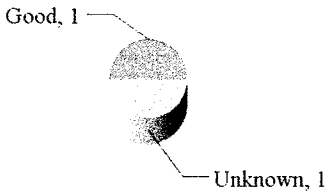


Inventory Analysis:

RISC Networks understands that equipment lifecycles often pose difficulties for IT departments. As part of your NetAssess Assessment, RISC Networks has checked your Infrastructure equipment and Windows Servers against its LifeCycle database. There are many stages to the lifecycle process for major vendors such as Cisco Systems and Microsoft. RISC has checked all of your Cisco equipment against the status of End-Of-Life (EOL) from Cisco Systems. If any devices have been flagged as End-Of-Life, you can find more detailed information regarding your exact model, the dates associated with the stages of product retirement, and upgrade paths at http://www.cisco.com/en/US/products/prod_end_of_life.html For Windows Servers, RISC Networks tracks Hardware LifeCycles based upon the total CPU capacity of the server. Appendix B details all devices that were evaluated (both Infrastructure and Windows) and describes the exact criteria for determining LifeCycle status. Details of each device can be found in the Appendix.

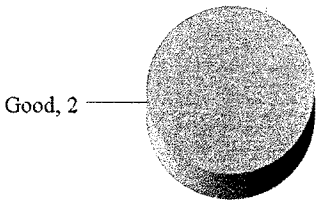
Infrastructure Analysis

Hardware Life Status

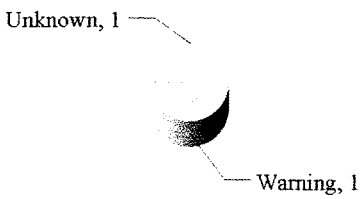


Windows Server Analysis

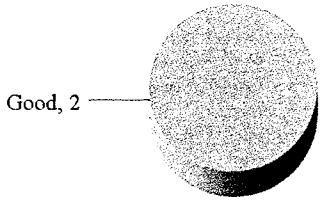
Hardware Life Status



Software Life Status



Software Life Status



Inventory Details:

Below is the list of devices that were evaluated as part of the UC1 Assessment.

Network Infrastructure Devices			
Device IP	**Description**	**Model**	**Serial #**
172.26.239.138	Cisco IOS Software, 2801 Software (C2801-ADVENTERPRISEK9-M), Version 12.3(14)T7, RELEASE SOFTWARE (fc2) Technical Support: http://www.cisco.com/techsupport Copyright (c) 1986-2006 by Cisco Systems, Inc. Compiled Wed 22-Mar-06 20:12 by pwade	c2801	SN383C108
172.29.249.73	Cisco Aironet 1200 Series (IEEE 802.11a/b) Access Point Cisco Internetwork Operating System Software IOS (tm) C1200 Software (C1200-K9W7-M), Version 12.3(2)JA2, RELEASE SOFTWARE (fc1) Technical Support: http://www.cisco.com/techsupport Copyright (c)	Unknown	SN638C447

Windows Servers				
Device IP	**Netbios Name**	**Manufacturer**	**Software Version**	**Service Pack**
172.19.8.102	CompName996A97	Dell Computer Corporation	Microsoft(R) Windows(R) Server 2003, Standard Edition	Service Pack 1
172.25.186.189	CompName943A75	Dell Computer Corporation	Microsoft(R) Windows(R) Server 2003, Standard Edition	Service Pack 2

Network Performance

RISC Networks evaluated the **Key Performance Indicators (KPI)** for the network between the Start Date and End Date shown in the adjacent table. Industry standard KPI were monitored for threshold violations that can cause network performance issues. The types and classifications of these KPI are detailed below. RISC Networks classifies network issues into two main classes, Root Errors and Derivative Errors. Root Errors are network issues that require no further investigation in order to determine their cause. For example, Serial Input errors are Root Errors. These errors (represented below as "Input Errors") should be resolved by contacting your service provider, changing your network cable or other direct action on the interface. Derivative Errors are network issues that may require you to further investigate the root cause. For example, Windows Server Memory issues may be caused by malfunctioning software or the machine may simply require more memory. RISC Networks identifies these Derivative Errors for you for two reasons. First, their existence indicates that some additional network anomaly is occurring. Second, the Errors themselves are impacting your network performance. Derivative Errors are both the symptom and the cause of network performance issues. Finally, RISC Networks analysis is tuned to capture Best Practices for network deployment. While there are numerous suggestions in the IT industry regarding the exact thresholds that should be used to track the health of the network, RISC Networks considers the existence of any Root or Derivative Errors to be indicative of poor network performance. RISC Networks believes that modern IT Networks should operate with a goal of 0% error and 0% loss rates.

Monitoring Statistics Summary

Start Date/Time	Aug 26, 2008 8:27 PM
End Date/Time	Aug 31, 2008 6:15 AM
Interfaces Monitored	162
Devices Monitored	7
Records Analyzed	193,504

The following KPI were evaluated:

Interface Errors (In and Out) - For packet-oriented interfaces, the number of inbound and/or packets that contained errors preventing them from being deliverable. Input and Output Errors are often caused by duplex mismatches in the LAN environment and Carrier Circuit timing/framing issues in the WAN environment. All LAN interfaces showing Input and Output errors should be adjusted to ensure that both sides agree on the same duplex setting. WAN Interfaces with errors should have cases opened with the Carrier to resolve the issues.

Interface Discards (In and Out) - The total number of frames whose transmission attempt is abandoned due to insufficient resources. This total includes frames of all destination types. The traffic load on the interface is excessive and causes the frames to be discarded. Reduce the traffic load on the interface if you see an increasing number of packets in this field.

Device Buffer Statistics - Buffer Misses refer to instances where the network device needed to allocate a memory space for processing of a packet. There are several pools of memory space for buffers, each tied to the specific packet size as outlined below:

Small - 104 bytes buffers

Middle - 600 byte buffers

Big - 1524 byte buffers

VeryBig - 4520 byte buffers

Large - 5024 byte buffers

Huge - 18024 byte buffers

When a device needs to allocate memory based on the packet size, if there are no more buffers available for that packet size, it records a miss. It will then attempt to allocate a buffer from the next larger buffer pool. If no pools are available, the packet is dropped. This is recorded as a buffer_fail. In

addition, buffer_no_mem refers to the device's lack of memory to create additional buffers. Buffer Misses are indicative of traffic flooding and are often a cause of packet loss and performance degradation. After receive and transmit errors have been corrected, monitor buffers to ensure the buffer pools are not failing. There is no exact value to set buffer memory pools. It is more of a trial and error exercise. Start by increasing the small buffer memory pool by 5-10%. Monitor all buffers to ensure this adjustment has not increased failures in other pools. If buffers continue, increase it by another 5% and repeat monitoring. Adjustments can be made until all buffers are running with minimal misses. Once the small buffer misses have been correct, repeat the above for medium misses and so on. Buffer misses and buffer allocation failures should be monitored as a business practice to ensure they do not reoccur as traffic loads increase.

Interface (Circuit) Utilization - Network Interface (Circuit) Utilization is a constant concern for most Enterprises. Best Practice recommends no more than 75% peak bandwidth utilization at any time. As circuits approach 60% utilization, they should be monitored closely for over-utilization. When circuits are saturated continuously, there is a risk of packets dropping, retransmissions and further network congestion. Network errors should be cleaned up to minimize over utilization of links (retransmissions).

Specific Observations

Summary of Observations:

KPI Summary

Assessment results indicate that the following issues exist in the network. In addition, the count of devices experiencing these issues is included below. For more details regarding the individual statistics, please see the KPI details section that follows.

Infrastructure Devices

Error Classification	*Error Type*	*Count of Devices*
Root Errors	Receive Errors	0
	Transmit Errors	1
Error Classification	***Error Type***	***Count of Devices***
Derivative Errors	Receive Discards	0
	Transmit Discards	1
	Buffer Errors	2
	Bandwith/Utilization Issues	0
	CPU Utilization Issues	0
	Memory Utilization Issues	0

Windows Servers

Error Classification	*Error Type*	*Count of Devices*
Root Errors	Hard Drive Utilization	2
Error Classification	***Error Type***	***Count of Devices***
Derivative Errors	CPU Utilization	0
	Memory Utilization	1

Details and Supporting Graphs:

Detail - Receive Errors

Device IP Address	*Device Vendor*	*Device Family*

Supporting Graphs - Receive Errors

Detail - Transmit Errors

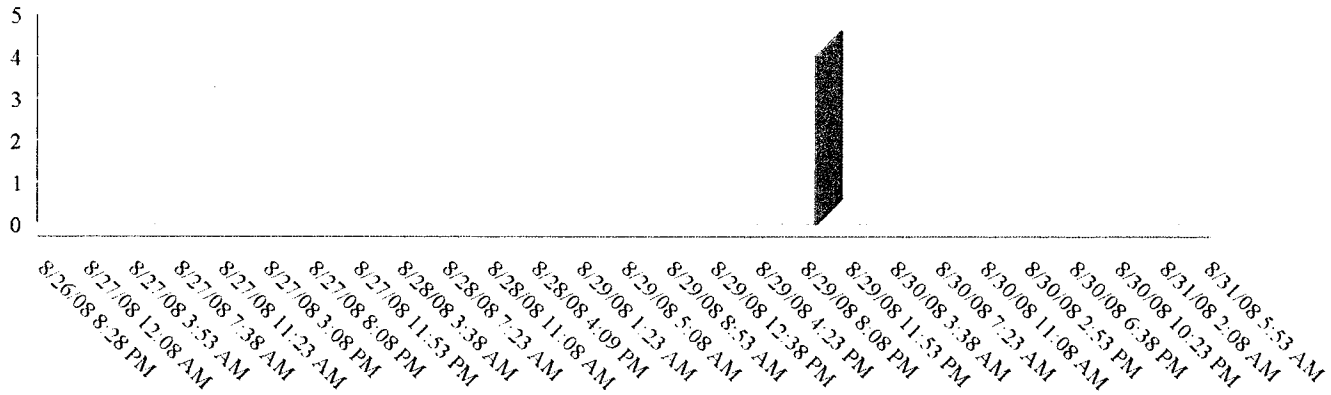
Device IP Address	*Device Vendor*	*Device Family*
172.29.249.73	cisco	

Interface:

Dot11Radio0

Supporting Graphs - Transmit Errors

Output Errors / Time
172.29.249.73 -- Dot11Radio0



Detail - Receive Discards

Device IP Address	Device Vendor	Device Family

Supporting Graphs - Receive Discards

Detail - Transmit Discards

Device IP Address	Device Vendor	Device Family
172.26.239.138	cisco	CW_FAMILY$C2801$

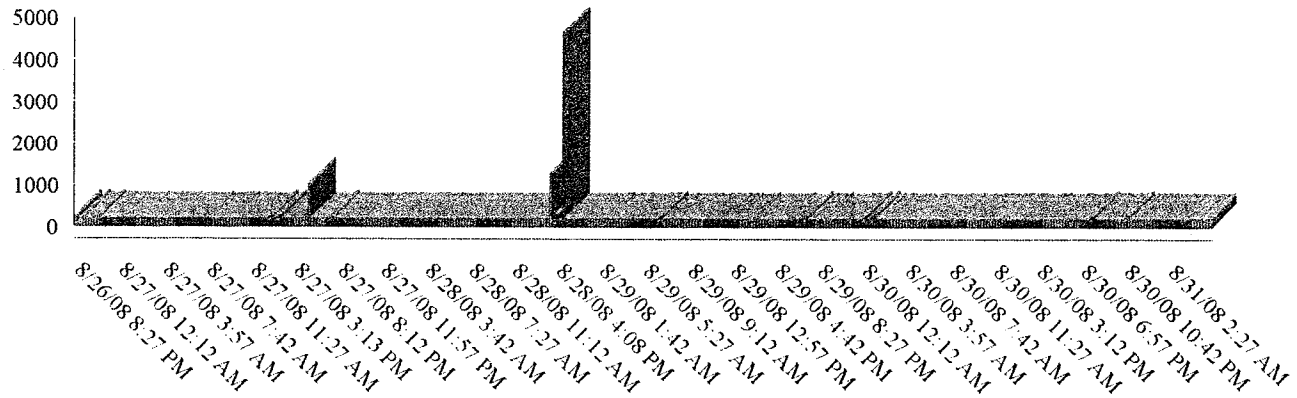
Interface:

Tunnel110

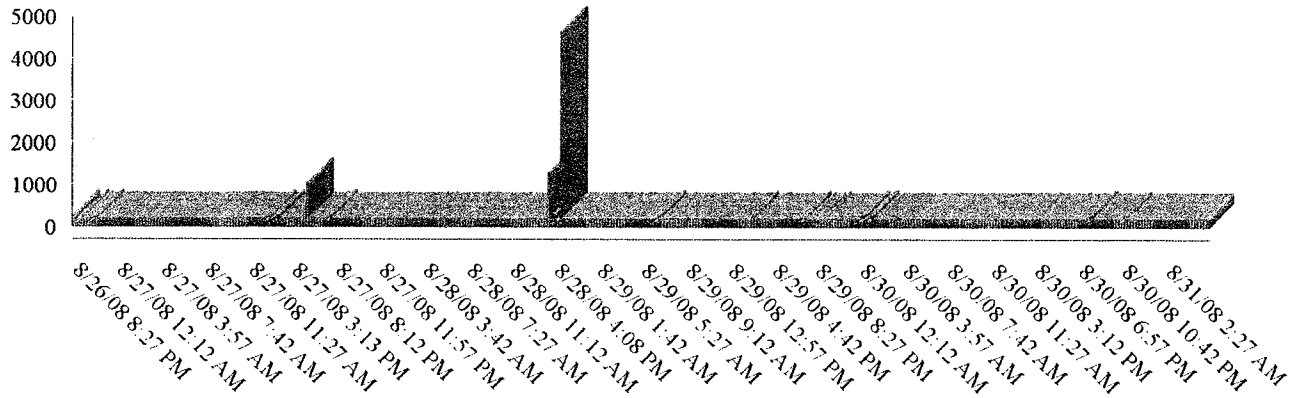
Tunnel120

Supporting Graphs - Transmit Discards

Output Discards / Time
172.26.239.138 -- Tunnel110



Output Discards / Time
172.26.239.138 -- Tunnel120

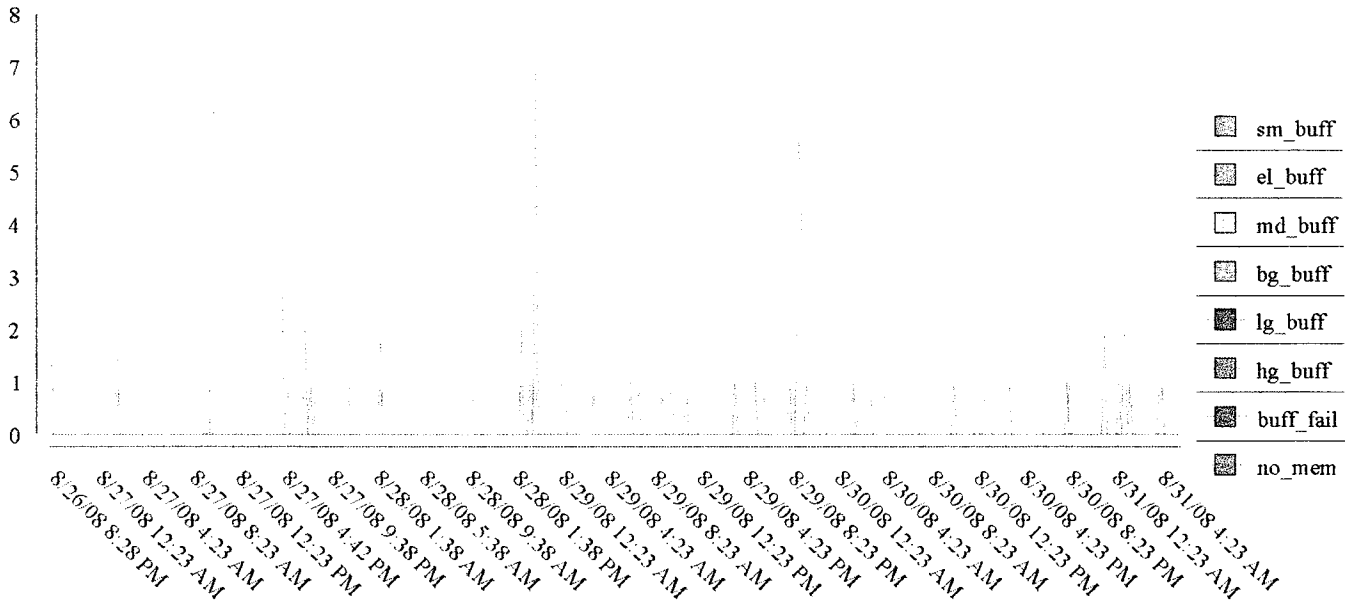


Detail - Buffer Errors

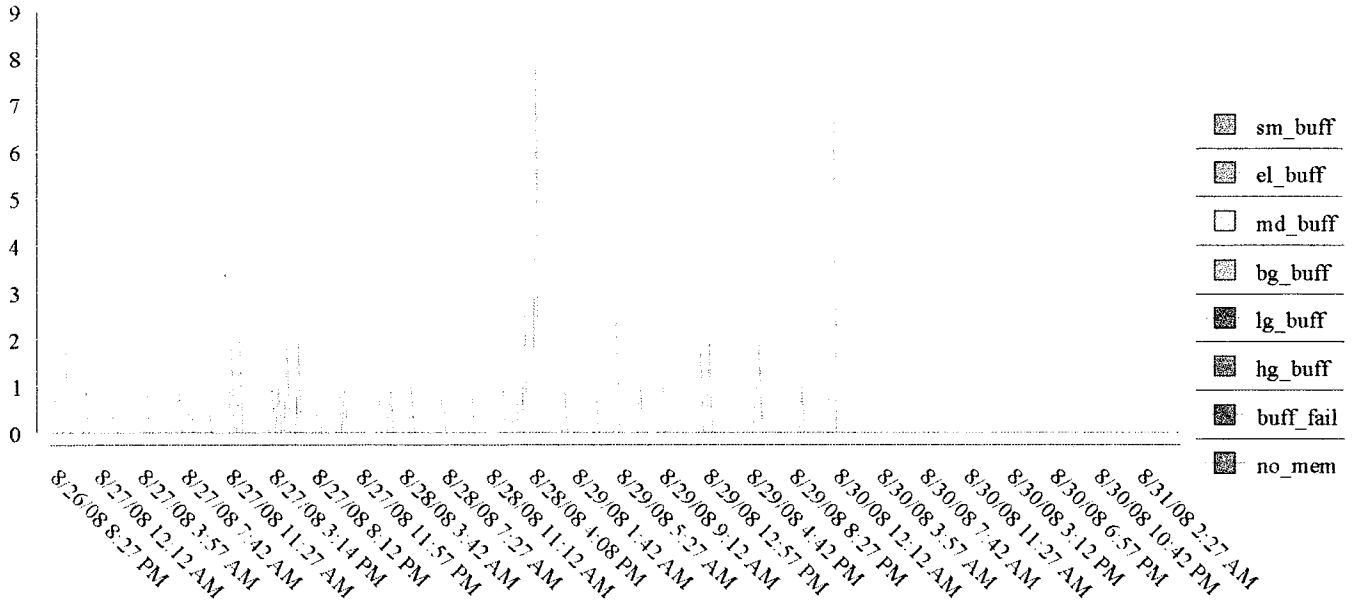
Device IP Address	Device Vendor	Device Family
172.29.249.73	cisco	
172.26.239.138	cisco	CW_FAMILY$C2801$

Supporting Graphs - Buffer Errors

Buffer Misses/Failures
172.29.249.73



Buffer Misses/Failures
172.26.239.138



Detail - Bandwidth Utilization

Device IP Address	Device Vendor	Device Family

Supporting Graphs - Bandwidth Utilization

Detail - CPU Utilization

Device IP Address	Device Vendor	Device Family

Supporting Graphs - CPU Utilization

Detail - Memory Utilization

Device IP Address	Device Vendor	Device Family

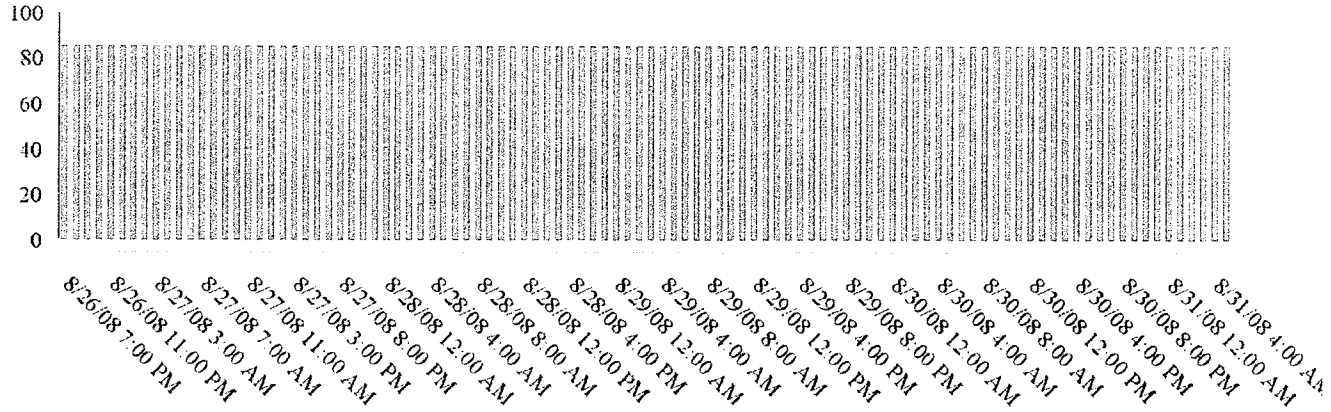
Supporting Graphs - Memory Utilization

Windows Server Hard Drive

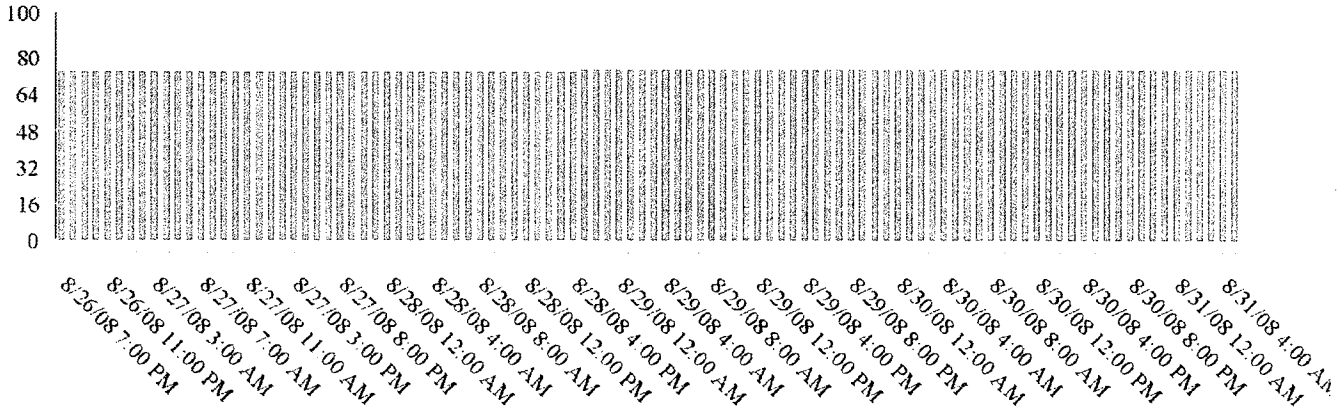
NetBIOS Name	*Server Model*	*Disk Volume Name*
CompName996A97	PowerEdge 2650	C:
CompName943A75	PowerEdge 2650	C:

Supporting Graphs - Hard Drive Utilization

Disk Utilization Percentage
CompName996A97 -- C:



Disk Utilization Percentage
CompName943A75 -- C:



Windows Server CPU Issues

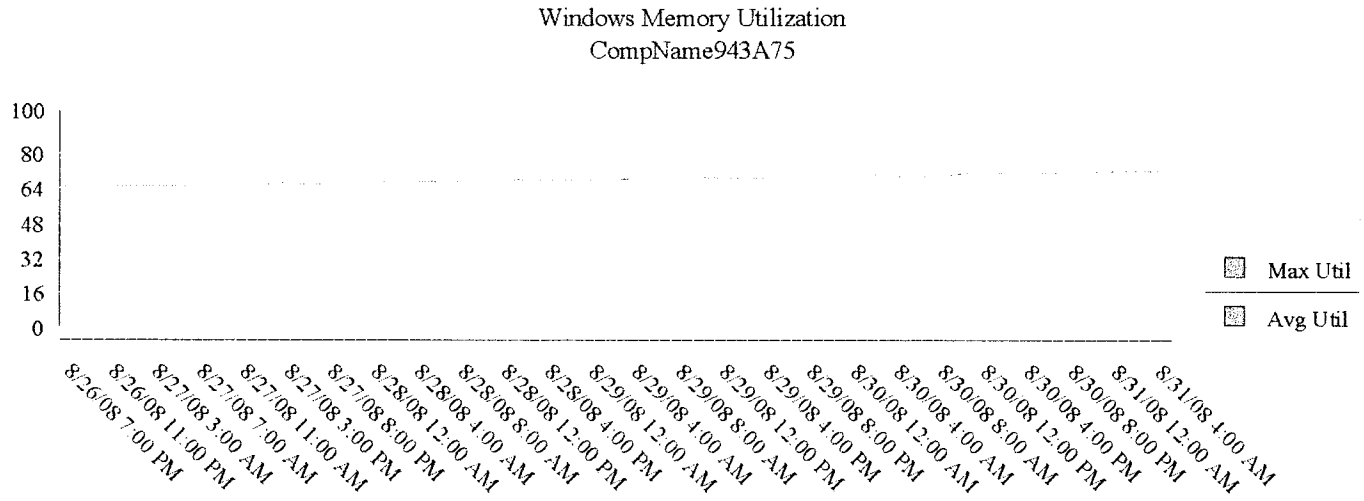
NetBIOS Name	Server Model	Max CPU Utilization

Supporting Graphs - Windows CPU Utilization

Windows Server Memory Issues

NetBIOS Name	Server Model	Max Memory Utilization
CompName943A75	PowerEdge 2650	72

Supporting Graphs - Windows Memory Utilization



ctive QoS Analysis - Are you ready for VoIP?

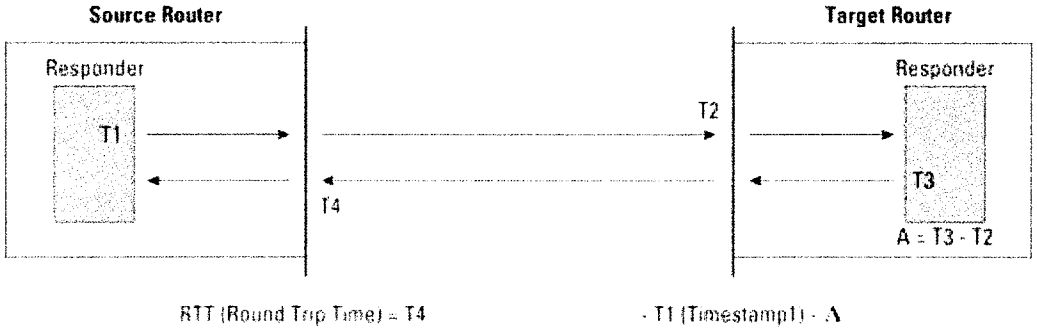
RISC Networks utilizes Cisco Systems IP Service Level Agreement (SLA) technology to perform its active QoS assessments. Proper network performance is essential for business critical applications such as VoIP, Video over IP, and VPNs. These applications are extremely sensitive to network performance degradation and must be actively monitored to ensure that they are performing properly.

Cisco IOS IP SLAs collects statistics regarding delay, packet loss, jitter, packet sequence, connectivity, path, and download time. The packets have configurable IP and application layer options, including source and destination IP address, UDP/TCP port numbers, ToS byte (includes Differentiated Services Code Point (DSCP) and IP Prefix bits), VRF, and URL. As it is Layer 2 transport independent, Cisco IOS IP SLAs can be configured end-to-end over disparate networks to best reflect the metrics that an end user is likely to experience.

Cisco IOS IP SLAs has a unique subset of the following performance metrics:

- Delay (both round-trip and one-way)
- Jitter (directional)
- Packet Loss (directional)
- Packet Sequencing (packet ordering)
- Path (per hop)
- Connectivity (directional)
- Server or Website download time
- Voice Quality Scores

Measurement Accuracy Leveraging Cisco IOS IP SLAs Responder A primary benefit of Cisco IOS IP SLAs is accuracy, embedded flexibility, and cost-saving, a key component of which is the Cisco IOS IP SLAs responder enabled on the target device. When the responder is enabled, it allows the target device to take two timestamps: when the packet arrives on the interface at interrupt level and again just as it leaves. This eliminates processing time. This timestamping is made with a granularity of sub-millisecond (ms). The responder timestamping is very important because all routers and switches in the industry will prioritize switching traffic destined for other locations over packets destined for its local IP address (this includes Cisco IOS IP SLAs and ping test packets). Therefore, at times of high network activity, ping tests can reveal an inaccurately large response time; conversely, timestamping on the responder allows a Cisco IOS IP SLAs test to accurately represent the response time due. Figure 5 demonstrates how responder works. Figure 5.



Cisco IOS IP SLAs Responder

Four timestamps are taken to make the calculation for round-trip time. At the target router, with the responder functionality enabled, Timestamp 2 is subtracted from Timestamp 3 to produce the time spent processing the test packet. This is represented by delta (Δ). This delta value is then subtracted from the overall round-trip time. Notice that also the same principle is applied by Cisco IOS IP SLAs on the Source Router where the incoming Timestamp 4 is also taken at the interrupt level to allow for greater accuracy.

For information about the superior timestamping and accuracy of Cisco IOS IP SLAs, review Accurate Network Performance Monitoring Using Cisco

IOS IP SLAs: http://www.cisco.com/go/ipsla/

An additional benefit of two timestamps at the Target Router is the ability to track one-way delay, jitter, and directional packet loss. These statistics are critical because a great deal of network behavior is asynchronous. However, to capture one-way delay measurements, the configuration of both Source Router and Target Router with Network Time Protocol (NTP) is required. Both the source and target need to be synchronized to the same clock source.

In summary, the Cisco IOS IP SLAs responder provides enhanced accuracy for measurements, without the need for dedicated third-party external probe devices. It also provides additional statistics, which are not otherwise available via standard ICMP based measurements.

RISC Networks utilizes Cisco's UDP Jitter operation in combination with Cisco IPSLA resonder and NTP to test your network readiness for VoIP. The Jitter operation provides measurement of :

o Round-trip delay

o One-way delay

o One-way jitter

o One-way packet loss

o VoIP codec simulation for G.711ulaw, G.711alaw, and G.729a

o MOS and ICPIF voice quality scoring

RISC Networks provisioned IP SLA on your network in accordance with the attached Visio diagram and the details of all operations are outlined below. RISC Networks typically configures operations to run for 30 seconds and to repeat themselves every 5 minutes. Operations are also configured for TOS 184 which is the Type of Service equivalent to DSCP (Differentiated Services Code Point) EF (46). This is the default setting for most VoIP Devices, although some may utilize DSCP CS5 and thus TOS 160.

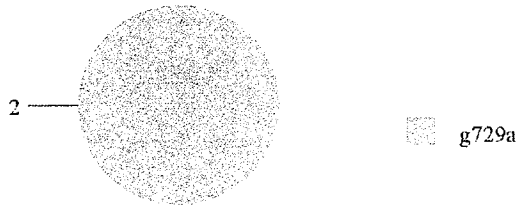
QOS Operation Summary

Total Operations 2

Codecs

Codecs were chosen based on industry accepted standards for LAN and WAN traffic optimization. Operations that represent local LAN connections are set to run at G.711ulaw or G.711alaw. Operations that represent Voice and Video calls that must traverse WAN lengths are typically set at G.729a. G.729a is optimized for low bandwidth lengths with little noticable difference for human speech.

Codec Distribution



Operation ID	Source IP	Source Port	Destination IP	Destination Port
1000	172.24.198.70	56000	172.16.10.42	56000
	Operation TOS	Operation Codec	Operation Bits/Sec	Oper Length /Secs
	184	g729a	24000	30

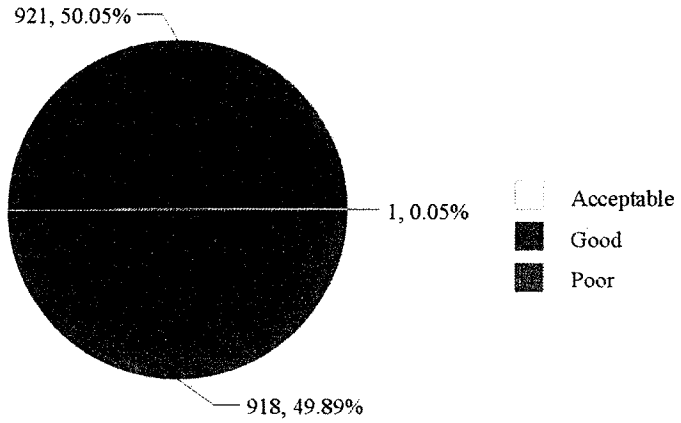
Operation ID	Source IP	Source Port	Destination IP	Destination Port
1700	172.19.153.86	56700	172.19.84.234	56700
	Operation TOS	Operation Codec	Operation Bits/Sec	Oper Length /Secs
	184	g729a	24000	30

Performance Summary

Voip Call Scores are based on Quality of Service metrics that are documented in industry recommended best practices. RISC also uses industry standard QoS parameters to classify each call. In addition, RISC Networks applies its very stringent QoS call parameters for evaluation during this assessment. Good calls have less than 2 lost packets per call leg, and jitter values are less than 30 milliseconds for each leg of the call. Acceptible calls have Jitter that is less than 70 milliseconds per call leg and less than 5 lost packets per call leg. Poor quality calls have either a call leg that has over 70 milliseconds of Jitter or a call leg that has lost over 5 packets. RISC considers any call with one of these readings to have had poor treatment in the network.

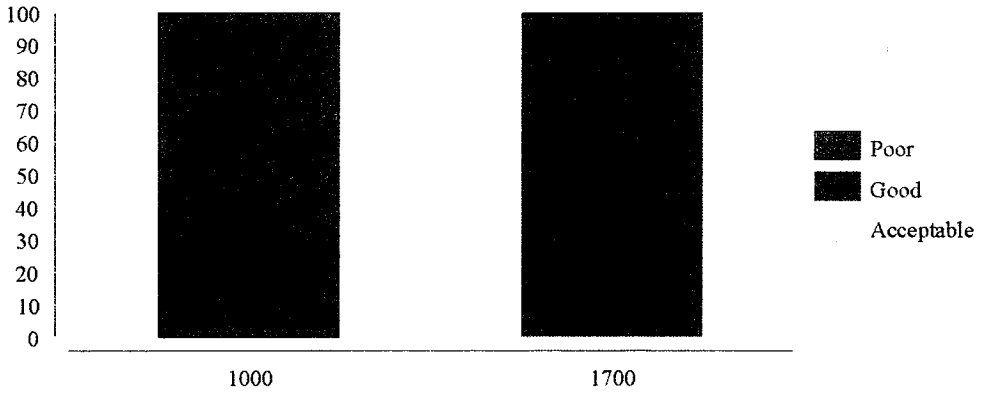
	Lost Packets	***Jitter***	***Delay***
Good Calls	<2 Packets Lost	<30ms Max Jitter	<150ms Max Delay
Acceptable Calls	<5 Packets Lost	<70ms Max Jitter	<200ms Max Delay
Poor Calls	5 Or More Packets Lost	70ms Or More Max Jitter	200ms Or More Max Delay

Call Quality Analysis

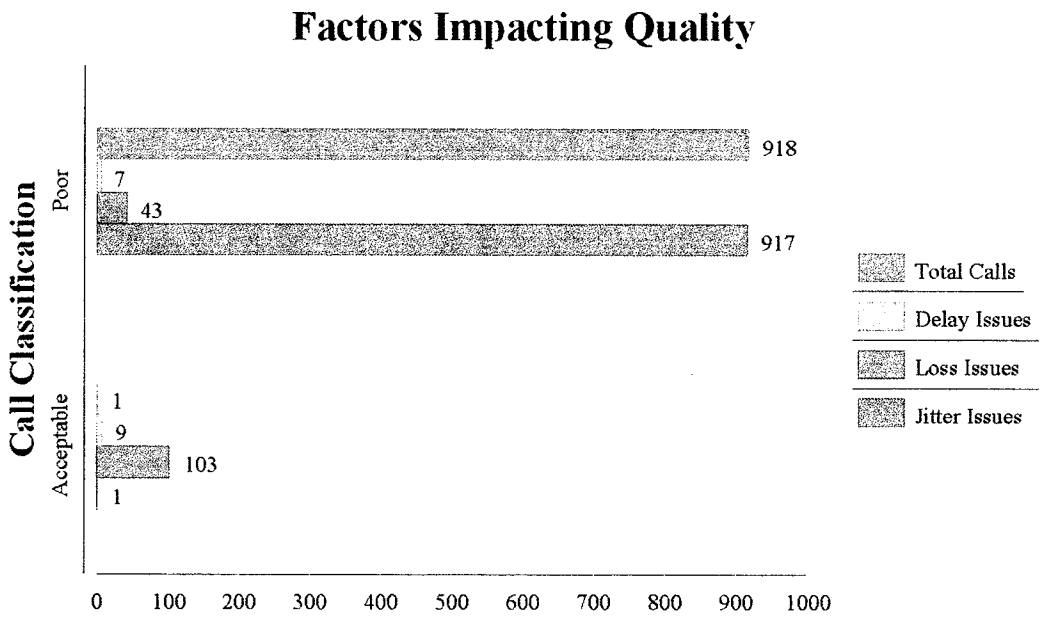


All VoIP Operations are scored for quality. The chart below details the quality breakdown of all Operations by Operation ID and Call Classification. Please reference the charts above for details on the Operation ID and the criteria used to score each call.

Call Quality % / Operation



Many factors can impact the quality of Voice and Video over IP calls. Specifically, jitter, latency and loss. The chart below details which issues impacted the quality of your test calls the most.



Below is information regarding the worst 10 calls across all VoIP operations based upon Jitter and Loss readings. Jitter and Loss are directly impacted by Interface Errors and Buffer issues as well as high interface utilization. The details below each call outline any device interfaces that had errors within a 5 minutes of the VoIP operation. In addition, any devices that experienced buffer losses or high CPU and/or Memory utilization are outlined. All statistics within the chart are specific to the 10 minute span (5 before and 5 after) the actual call. Therefore, they accurately reflect network anomolies that can impact VoIP and Video over IP traffic. Any interface that is connected to another network device (router/switch) is additionally indicated with an exclamation (!) icon to identify critical issues.

10 Worst Calls Experiencing Jitter

Time	Operation ID	Max Jitter Event	S->D Max Jitter	D->S Max Jitter	MOS
Aug 29, 2008 6:35 PM	1000	428	105	428	4.06

Possible Errors Affecting Performance

Device IP Addr	Interface	Neighbor	Input Errors	Output Errors	In Discards	Out Discards	Max. Int Util %
172.26.239.138	Tunnel110		0	0	0	194	0
172.26.239.138	Tunnel120		0	0	0	195	0

Possible Device Issues Affecting Performance

Device Information/Performance			Buffer Drops							
IP	CPU	Memory	SM	EL	MD	BG	LG	HG	Fail	No Mem

Time	Operation ID	Max Jitter Event	S->D Max Jitter	D->S Max Jitter	MOS
Aug 29, 2008 11:35 PM	1000	414	78	414	4.06

Possible Errors Affecting Performance

Device IP Addr	Interface	Neighbor	Input Errors	Output Errors	In Discards	Out Discards	Max. Int Util %
172.26.239.138	Tunnel110		0	0	0	196	0
172.26.239.138	Tunnel120		0	0	0	194	0

Possible Device Issues Affecting Performance

Device Information/Performance			Buffer Drops							
IP	CPU	Memory	SM	EL	MD	BG	LG	HG	Fail	No Mem
172.29.249.73	unknown	47	0	0	0	1	0	0	0	0

Time	Operation ID	Max Jitter Event	S->D Max Jitter	D->S Max Jitter	MOS
Aug 28, 2008 3:10 PM	1000	392	311	392	4.06

Possible Errors Affecting Performance

Device IP Addr	Interface	Neighbor	Input Errors	Output Errors	In Discards	Out Discards	Max. Int Util %

Possible Device Issues Affecting Performance

Device Information/Performance							Buffer Drops			
IP	CPU	Memory	SM	EL	MD	BG	LG	HG	Fail	No Mem

Time	Operation ID	Max Jitter Event	S->D Max Jitter	D->S Max Jitter	MOS
Aug 26, 2008 9:55 PM	1000	386	282	386	4.06

Possible Errors Affecting Performance

Device IP Addr	Interface	Neighbor	Input Errors	Output Errors	In Discards	Out Discards	Max. Int Util %
172.26.239.138	Tunnel110		0	0	0	198	0
172.26.239.138	Tunnel120		0	0	0	199	0

Possible Device Issues Affecting Performance

Device Information/Performance			Buffer Drops							
IP	CPU	Memory	SM	EL	MD	BG	LG	HG	Fail	No Mem
172.29.249.73	unknown	46	0	0	0	0	0	0	0	0
172.26.239.138	8	19	2	0	0	0	0	0	0	0

Time	Operation ID	Max Jitter Event	S->D Max Jitter	D->S Max Jitter	MOS
Aug 27, 2008 5:55 PM	1000	373	373	263	4.06

Possible Errors Affecting Performance

Device IP Addr	Interface	Neighbor	Input Errors	Output Errors	In Discards	Out Discards	Max. Int Util %
172.26.239.138	Tunnel110		0	0	0	65	0
172.26.239.138	Tunnel120		0	0	0	65	0

Possible Device Issues Affecting Performance

Device Information/Performance			Buffer Drops							
IP	CPU	Memory	SM	EL	MD	BG	LG	HG	Fail	No Mem
172.29.249.73	unknown	46	0	0	0	0	0	0	0	0

Time	Operation ID	Max Jitter Event	S->D Max Jitter	D->S Max Jitter	MOS
Aug 29, 2008 3:30 PM	1000	359	38	359	4.06

Possible Errors Affecting Performance

Device IP Addr	Interface	Neighbor	Input Errors	Output Errors	In Discards	Out Discards	Max. Int Util %
172.26.239.138	Tunnel110		0	0	0	192	0
172.26.239.138	Tunnel120		0	0	0	192	0

Possible Device Issues Affecting Performance

Device Information/Performance			Buffer Drops							
IP	CPU	Memory	SM	EL	MD	BG	LG	HG	Fail	No Mem
172.29.249.73	unknown	46	0	0	0	1	0	0	0	0

Time	Operation ID	Max Jitter Event	S->D Max Jitter	D->S Max Jitter	MOS
Aug 27, 2008 8:10 PM	1000	350	42	350	4.06

Possible Errors Affecting Performance

Device IP Addr	Interface	Neighbor	Input Errors	Output Errors	In Discards	Out Discards	Max. Int Util %
172.26.239.138	Tunnel110		0	0	0	194	0
172.26.239.138	Tunnel120		0	0	0	194	0

Possible Device Issues Affecting Performance

Device Information/Performance			Buffer Drops							
IP	CPU	Memory	SM	EL	MD	BG	LG	HG	Fail	No Mem
172.29.249.73	unknown	46	0	0	0	0	0	0	0	0

Time	Operation ID	Max Jitter Event	S->D Max Jitter	D->S Max Jitter	MOS
Aug 27, 2008 8:45 PM	1000	349	59	349	4.06

Possible Errors Affecting Performance

Device IP Addr	Interface	Neighbor	Input Errors	Output Errors	In Discards	Out Discards	Max. Int Util %
172.26.239.138	Tunnel110		0	0	0	195	0
172.26.239.138	Tunnel120		0	0	0	194	0

Possible Device Issues Affecting Performance

Device Information/Performance			Buffer Drops							
IP	CPU	Memory	SM	EL	MD	BG	LG	HG	Fail	No Mem
172.29.249.73	unknown	46	0	0	0	1	0	0	0	0
172.26.239.138	13	19	1	0	0	0	0	0	0	0

Time	Operation ID	Max Jitter Event	S->D Max Jitter	D->S Max Jitter	MOS
Aug 29, 2008 10:10 PM	1000	345	175	345	4.06

Possible Errors Affecting Performance

Device IP Addr	Interface	Neighbor	Input Errors	Output Errors	In Discards	Out Discards	Max. Int Util %
172.26.239.138	Tunnel110		0	0	0	192	0
172.26.239.138	Tunnel120		0	0	0	190	0

Possible Device Issues Affecting Performance

Device Information/Performance			Buffer Drops							
IP	CPU	Memory	SM	EL	MD	BG	LG	HG	Fail	No Mem
172.26.239.138	10	19	0	0	1	0	0	0	0	0

Time	Operation ID	Max Jitter Event	S->D Max Jitter	D->S Max Jitter	MOS
Aug 26, 2008 11:00 PM	1000	340	46	340	4.06

Possible Errors Affecting Performance

Device IP Addr	Interface	Neighbor	Input Errors	Output Errors	In Discards	Out Discards	Max. Int Util %
172.26.239.138	Tunnel110		0	0	0	190	0
172.26.239.138	Tunnel120		0	0	0	192	0

Possible Device Issues Affecting Performance

Device Information/Performance			Buffer Drops							
IP	CPU	Memory	SM	EL	MD	BG	LG	HG	Fail	No Mem
172.29.249.73	unknown	46	0	0	0	0	0	0	0	0

10 Worst Calls Experiencing Loss

Time	Operation ID	Max Loss Event	S->D Loss	D->S Loss	MOS
Aug 28, 2008 4:20 AM	1000	47	0	47	3.6

Possible Errors Affecting Performance

Device IP Addr	Interface	Neighbor	Input Errors	Output Errors	In Discards	Out Discards	Max. Int Util %
172.26.239.138	Tunnel110		0	0	0	195	0
172.26.239.138	Tunnel120		0	0	0	194	0

Possible Device Issues Affecting Performance

Device Information/Performance			Buffer Drops							
IP	CPU	Memory	SM	EL	MD	BG	LG	HG	Fail	No Mem
172.29.249.73	unknown	46	0	0	0	0	0	0	0	0

Time	Operation ID	Max Loss Event	S->D Loss	D->S Loss	MOS
Aug 26, 2008 10:10 PM	1000	42	0	42	3.76

Possible Errors Affecting Performance

Device IP Addr	Interface	Neighbor	Input Errors	Output Errors	In Discards	Out Discards	Max. Int Util %
172.26.239.138	Tunnel110		0	0	0	190	0
172.26.239.138	Tunnel120		0	0	0	191	0

Possible Device Issues Affecting Performance

Device Information/Performance							Buffer Drops			
IP	CPU	Memory	SM	EL	MD	BG	LG	HG	Fail	No Mem

Time	Operation ID	Max Loss Event	S->D Loss	D->S Loss	MOS
Aug 28, 2008 3:10 PM	1700	31	0	31	3.76

Possible Errors Affecting Performance

Device IP Addr	Interface	Neighbor	Input Errors	Output Errors	In Discards	Out Discards	Max. Int Util %

Possible Device Issues Affecting Performance

Device Information/Performance							Buffer Drops			
IP	CPU	Memory	SM	EL	MD	BG	LG	HG	Fail	No Mem

Time	Operation ID	Max Loss Event	S->D Loss	D->S Loss	MOS
Aug 27, 2008 2:20 AM	1000	24	1	23	3.92

Possible Errors Affecting Performance

Device IP Addr	Interface	Neighbor	Input Errors	Output Errors	In Discards	Out Discards	Max. Int Util %
172.26.239.138	Tunnel110		0	0	0	130	0
172.26.239.138	Tunnel120		0	0	0	129	0

Possible Device Issues Affecting Performance

Device Information/Performance							Buffer Drops			
IP	CPU	Memory	SM	EL	MD	BG	LG	HG	Fail	No Mem

Time	Operation ID	Max Loss Event	S->D Loss	D->S Loss	MOS
Aug 29, 2008 3:40 PM	1000	15	9	6	3.92

Possible Errors Affecting Performance

Device IP Addr	Interface	Neighbor	Input Errors	Output Errors	In Discards	Out Discards	Max. Int Util %
172.26.239.138	Tunnel110		0	0	0	193	0
172.26.239.138	Tunnel120		0	0	0	194	0

Possible Device Issues Affecting Performance

Device Information/Performance			Buffer Drops							
IP	CPU	Memory	SM	EL	MD	BG	LG	HG	Fail	No Mem
172.29.249.73	unknown	46	0	0	0	0	0	0	0	0

Time	Operation ID	Max Loss Event	S->D Loss	D->S Loss	MOS
Aug 28, 2008 3:10 PM	1000	14	0	14	4.06

Possible Errors Affecting Performance

Device IP Addr	Interface	Neighbor	Input Errors	Output Errors	In Discards	Out Discards	Max. Int Util %

Possible Device Issues Affecting Performance

Device Information/Performance						Buffer Drops				
IP	CPU	Memory	SM	EL	MD	BG	LG	HG	Fail	No Mem

Time	Operation ID	Max Loss Event	S->D Loss	D->S Loss	MOS
Aug 27, 2008 10:15 PM	1000	13	0	13	4.06

Possible Errors Affecting Performance

Device IP Addr	Interface	Neighbor	Input Errors	Output Errors	In Discards	Out Discards	Max. Int Util %
172.26.239.138	Tunnel110		0	0	0	194	0
172.26.239.138	Tunnel120		0	0	0	194	0

Possible Device Issues Affecting Performance

Device Information/Performance							Buffer Drops			
IP	CPU	Memory	SM	EL	MD	BG	LG	HG	Fail	No Mem

Time	Operation ID	Max Loss Event	S->D Loss	D->S Loss	MOS
Aug 29, 2008 2:10 PM	1000	11	0	11	4.06

Possible Errors Affecting Performance

Device IP Addr	Interface	Neighbor	Input Errors	Output Errors	In Discards	Out Discards	Max. Int Util %
172.26.239.138	Tunnel110		0	0	0	130	0
172.26.239.138	Tunnel120		0	0	0	131	0

Possible Device Issues Affecting Performance

Device Information/Performance			Buffer Drops							
IP	CPU	Memory	SM	EL	MD	BG	LG	HG	Fail	No Mem
172.26.239.138	10	19	0	0	3	0	0	0	0	0

Time	Operation ID	Max Loss Event	S->D Loss	D->S Loss	MOS
Aug 28, 2008 12:20 AM	1000	9	9	0	4.06

Possible Errors Affecting Performance

Device IP Addr	Interface	Neighbor	Input Errors	Output Errors	In Discards	Out Discards	Max. Int Util %
172.26.239.138	Tunnel110		0	0	0	194	0
172.26.239.138	Tunnel120		0	0	0	196	0

Possible Device Issues Affecting Performance

Device Information/Performance			Buffer Drops							
IP	CPU	Memory	SM	EL	MD	BG	LG	HG	Fail	No Mem
172.29.249.73	unknown	46	0	0	0	0	0	0	0	0

Time	Operation ID	Max Loss Event	S->D Loss	D->S Loss	MOS
Aug 28, 2008 9:30 AM	1000	8	7	1	4.06

Possible Errors Affecting Performance

Device IP Addr	Interface	Neighbor	Input Errors	Output Errors	In Discards	Out Discards	Max. Int Util %
172.26.239.138	Tunnel110		0	0	0	195	0
172.26.239.138	Tunnel120		0	0	0	194	0

Possible Device Issues Affecting Performance

Device Information/Performance			Buffer Drops							
IP	CPU	Memory	SM	EL	MD	BG	LG	HG	Fail	No Mem
172.29.249.73	unknown	46	0	0	0	0	0	0	0	0

Appendix A - Detailed Asset Information

Network Infrastructure Devices

Device IP	Description	Model	Serial #	Version	Cards/Modules	
172.26.239.13	Cisco IOS Software, 2801 Software (C2801-ADVENTERPRISEK9-M), Version 12.3(14)T7, RELEASE SOFTWARE (fc2) Technical Support: http://www.cisco.com/techsupport Copyright (c) 1986-2006 by Cisco Systems, Inc. Compiled Wed 22-Mar-06 20:12 by pwade	c2801	SN383C108	CW_VERSION $12.3(14)T7$	C2801 Motherboard with 2 Fast Ethernet	C2801 Motherboard with 2 Fast Ethernet
					PVDMII DSP SIMM with one DSP with half channe	Daughter card slot:4
					PVDMII DSP SIMM with Two DSPs	Daughter card slot:5
					2nd generation two port FXS voice interface d	VIC 0
					2nd generation two port FXO voice interface d	WIC/VIC 2
					VWIC2-1MFT-T1/E1 - 1-Port RJ-48 Multiflex Tru	WIC/VIC/HWIC 3
172.29.249.73	Cisco Aironet 1200 Series (IEEE 802.11a/b) Access Point Cisco Internetwork Operating System Software IOS (tm) C1200 Software (C1200-K9W7-M), Version 12.3(2)JA2, RELEASE SOFTWARE (fc1) Technical Support: http://www.cisco.com/techsupport Copyright (c)	Unknown	SN638C447	$ $		

Windows Servers

Device IP	Netbios Name	Model	Manufacture	RAM	Processor	CPU Count	Serial Number	Software Version	Service Pack
172.19.8.102	CompName996A9	PowerEdge 2650	Dell Computer Corporation	3,220,582,400	3052	4	SN172C923	Microsoft(R) Windows(R) Server 2003, Standard Edition	Service Pack 1
172.25.186.18	CompName943A7	PowerEdge 2650	Dell Computer Corporation	3,220,582,400	3056	4	SN106C757	Microsoft(R) Windows(R) Server 2003, Standard Edition	Service Pack 2

Appendix B - Device Performance & Life Cycle Status

Infrastructure Devices - Key Performance Indicators

The follow table is used to summarize performance and capabilities of the respective network devices. Please reference the glossary at the end of this report to obtain details on how each rating is obtained.

Device IP	*Model*	*Hardware*	*Software*	*Memory*	*CPU*	*Bandwidth*	*Errors*
172.26.239.138	c2801	✓	!	✓	✓	✓	✓
172.29.249.73	Unknown	?	?	✓	✓	✓	✓

Windows Servers - Key Performance Indicators

The following table outlines key performance indicators for each of the Windows servers discovered and monitored. For more details on how each KPI is evaluated please reference the glossary.

Server Name	*Model*	*Hardware*	*Software*	*Memory*	*CPU*	*HardDrive*
CompName943A75	PowerEdge 2650					
CompName996A97	PowerEdge 2650					

Glossary

Switch and Router KPI:

Hardware:

- Device model is still in production and is not 'End of Sale' or 'End of Life'.
- Device model is 'End of Sale' or should be considered for a possible replacement.
- Device model is 'End of Life' or should be replaced to be on a supported platform.
- The device model age and/or support is unknown.

Software:

- The software on the device was created within approximately the last year.
- The software on the device was created approximately 1 to 2 years ago.
- The software on the device was created more than 3 years ago.
- Software age or support is unknown.

Memory:

- During the performance analysis memory usage of the device did not exceed 70% of total.
- During the performance analysis memory usage of the device reached between 70-85% of total.
- During the performance analysis memory usage of the device exceeded 85% of total.
- Memory usage on this device is unknown.

CPU:

- During the performance analysis CPU usage of the device did not exceed 70% of total.
- During the performance analysis CPU usage of the device reached between 70-85% of total.
- During the performance analysis CPU usage of the device exceeded 85% of total.
- CPU usage on this device is unknown.

Bandwidth:

- During the performance analysis no interface exceeded 70% of maximum utilization.
- During the performance analysis at least 1 interface reached 70-85% of maximum utilization.
- During the performance analysis at least 1 interface reached at least 85% of maximum utilization.
- Interface bandwidth usage on this device is unknown.

Errors (Interface Errors):

- During the performance analysis no interfaces had any errors.
- During the performance analysis there were interface errors recorded for the device.
- Interface errors are unknown for this device.

Windows Server KPI:

Hardware:

- The sum of devices CPU speeds totaled 2.5Ghz or more.
- The sum of devices CPU speeds totaled between 1.5Ghz and 2.5Ghz.
- The sum of devices CPU speeds totaled less than 1.5Ghz.
- The CPU speed of the device in unknown.

Software:

- The device is running Windows 2003 or later.
- The device is running a Windows 2000 or older.
- Software age or support is unknown.

Memory:

- During the performance analysis memory usage of the device did not exceed 70% of total.
- During the performance analysis memory usage of the device reached between 70-85% of total.
- During the performance analysis memory usage of the device exceeded 85% of total.
- The memory usage of the device is unknown.

CPU:

- During the performance analysis CPU usage of the device did not exceed 70% of total.
- During the performance analysis CPU usage of the device reached between 70-85% of total.
- During the performance analysis CPU usage of the device exceeded 85% of total.
- The CPU usage of the device is unknown.

Hard Drive:

- During the performance analysis no hard drive usage of the device exceeded 70% of total usage.
- During the performance analysis at least 1 hard drive within the device reached between 70-85% of total usage.
- During the performance analysis at least 1 hard drive within the device reached between 85% of total usage.
- The hard drive utilization of the device is unknown.

Appendix C - Detailed Device Performance

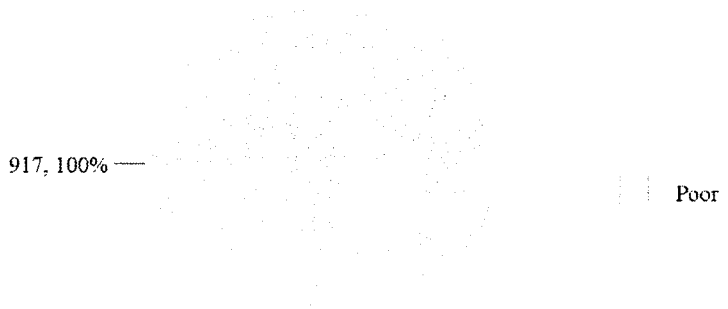
Due to Space requirements, the Detailed Device Performance section is now included separately . Please reference this additional report for more details.

Appendix D - Quality of Service Operations

QOS Operation Details

Operation ID	1000		
Operation Target Address	172.16.10.42	Operation Bandwidth (bps)	24000
Operation Source Address	172.24.198.70	Operation Duration (per call)	30
Operation Codec (if available)	g729a	Operation TOS	184

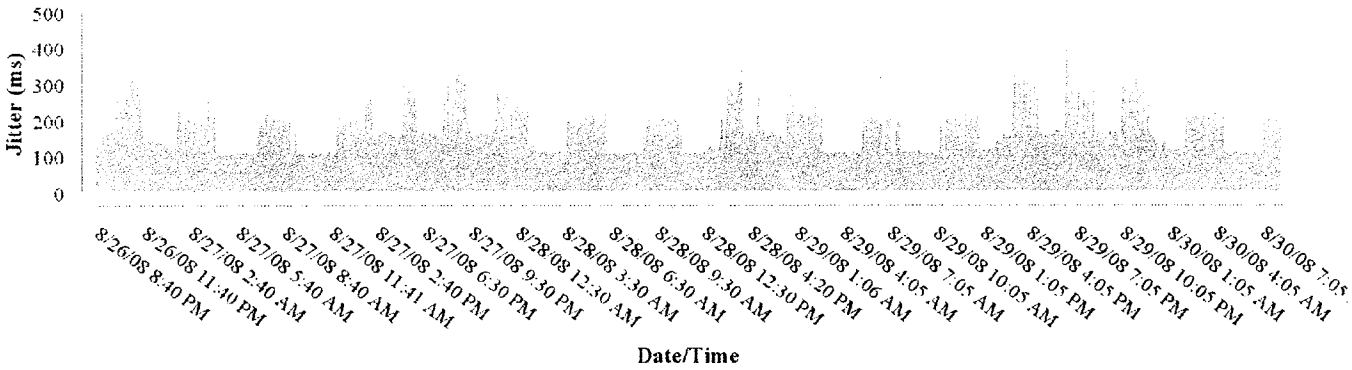
Call Quality



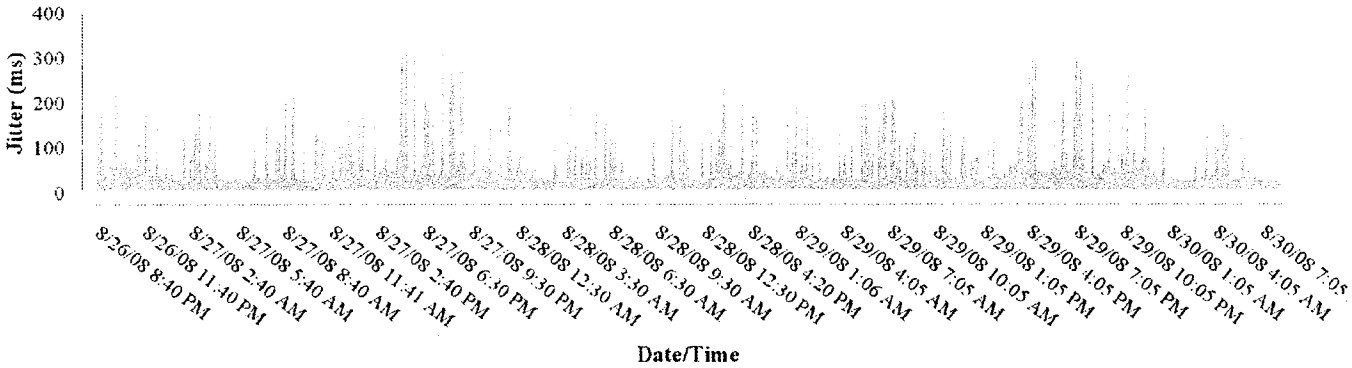
Call Classification	Poor				
Total Operations	917	Avg. MOS Score	4.058866	Avg. Total RTT	32.8
Avg. S->D Loss	0.1	MaxAvg. S->D Delay	1258	AvgMax S->D Jitter	61.1
Avg. D->S Loss	0.4	MaxAvg. D->S Delay	226	AvgMax D->S Jitter	169.7
Avg. Packets MIA	0	Avg. Packets OOS	0	Avg ICPIF Score	11.0305

QoS Operation - Detailed Jitter Analysis

Max Jitter (Destination to Source)



Max Jitter (Source to Destination)

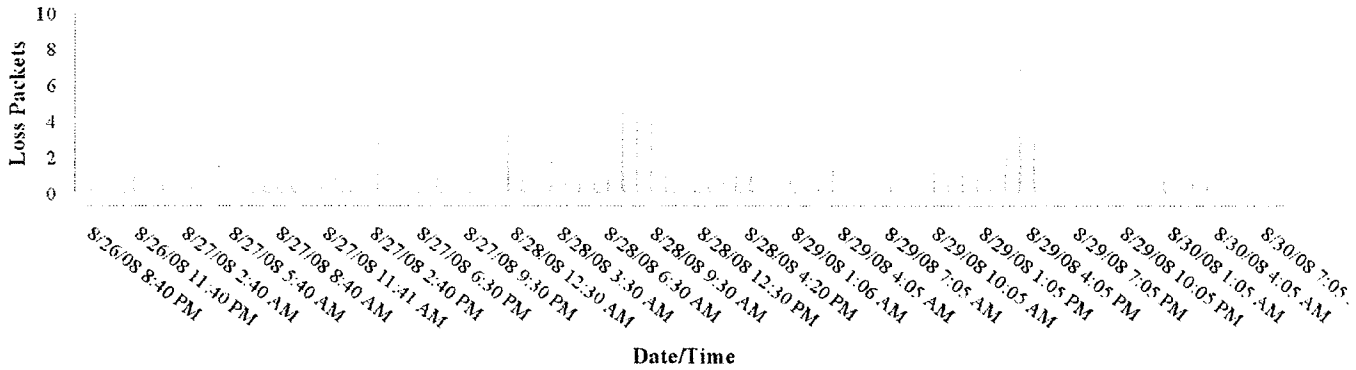


Worst 10 Calls Due to Jitter

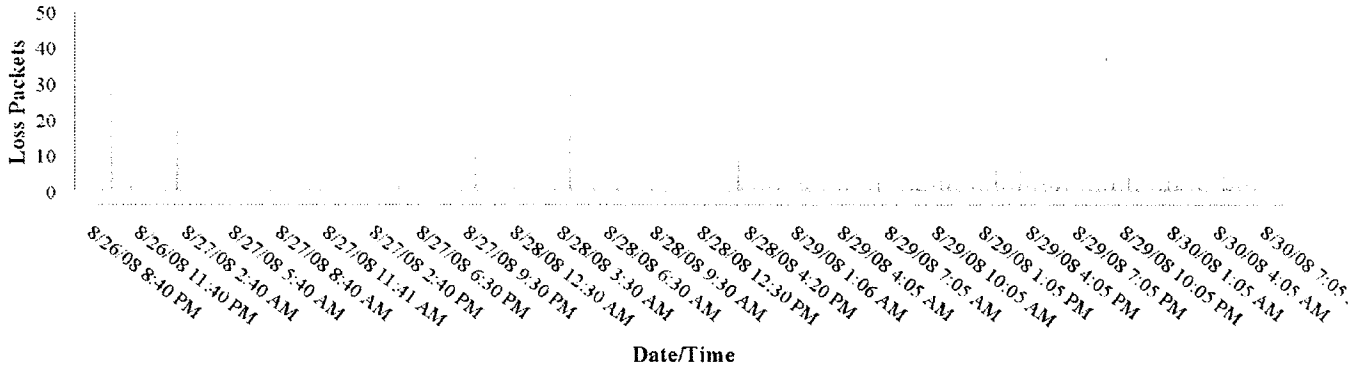
Call Time	Max Jitter Event	Source to Destination Jitter	Destination to Source Jitter
Aug 29, 2008 6:35 PM	428	105	428
Aug 29, 2008 11:35 PM	414	78	414
Aug 28, 2008 3:10 PM	392	311	392
Aug 26, 2008 9:55 PM	386	282	386
Aug 27, 2008 5:55 PM	373	373	263
Aug 29, 2008 3:30 PM	359	38	359
Aug 27, 2008 8:10 PM	350	42	350
Aug 27, 2008 8:45 PM	349	59	349
Aug 29, 2008 10:10 PM	345	175	345
Aug 26, 2008 11:00 PM	340	46	340

QoS Operation - Detailed Packet Loss Analysis

Packet Loss (Source to Destination)



Packet Loss (Destination to Source)

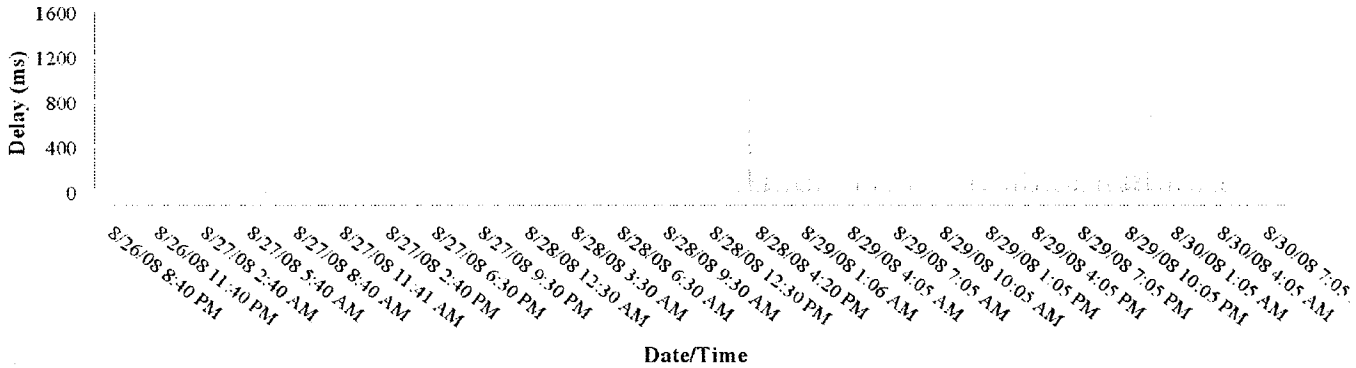


Worst 10 Calls Due to Loss

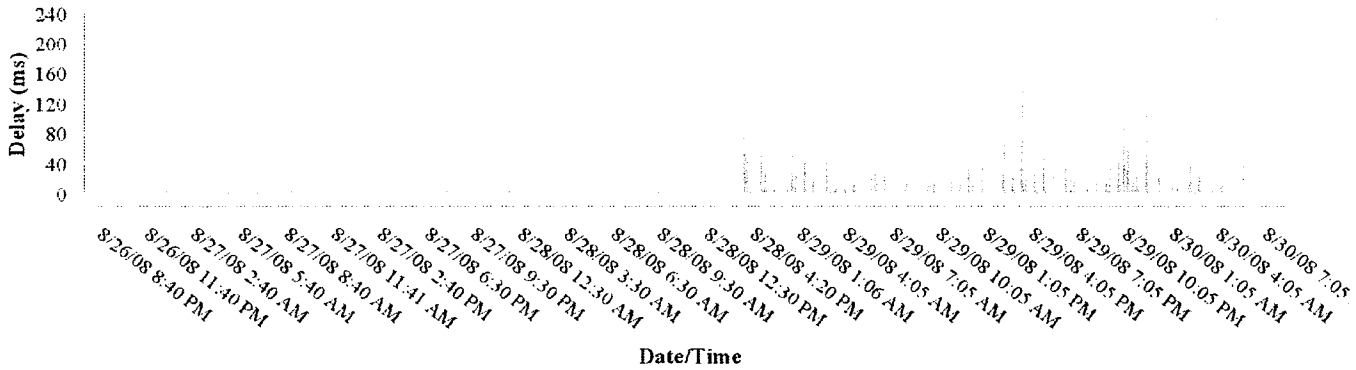
Call Time	Total Packets Lost	Source to Destination Loss	Destination to Source Loss
Aug 28, 2008 4:20 AM	47	0	47
Aug 26, 2008 10:10 PM	42	0	42
Aug 27, 2008 2:20 AM	24	1	23
Aug 29, 2008 3:40 PM	15	9	6
Aug 28, 2008 3:10 PM	14	0	14
Aug 27, 2008 10:15 PM	13	0	13
Aug 29, 2008 2:10 PM	11	0	11
Aug 28, 2008 12:20 AM	9	9	0
Aug 28, 2008 9:30 AM	8	7	1
Aug 29, 2008 6:41 AM	8	0	8

QoS Operation - Detailed Delay Analysis

Average Delay (Source to Destination)



Average Delay (Destination to Source)

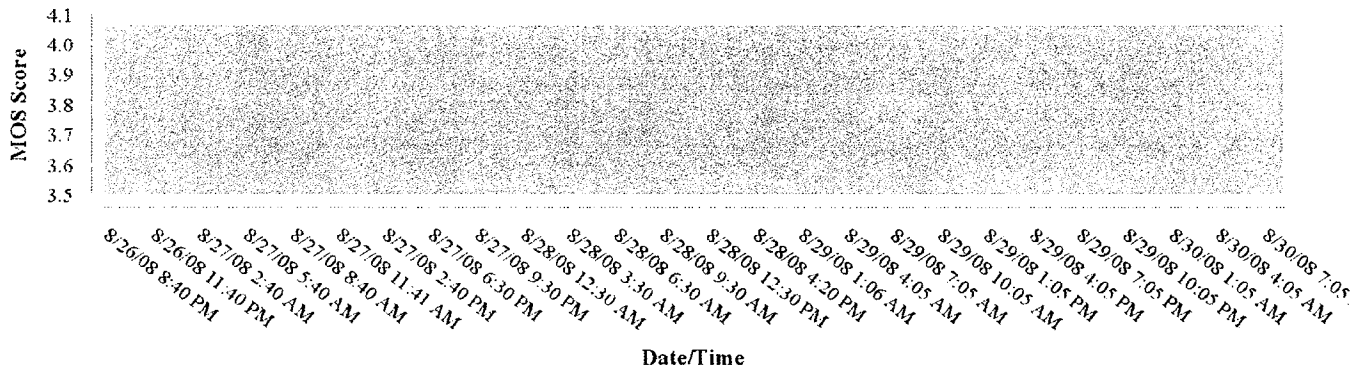


Worst 10 Calls Due to Delay

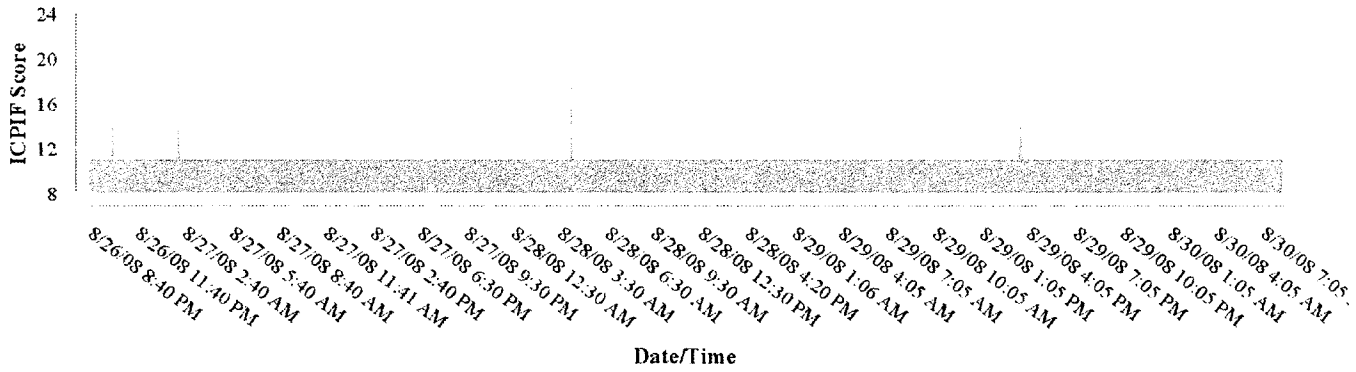
Call Time	Top Avg Delay (ms)	Source to Destination Delay (ms)	Destination to Source Delay (ms)
Aug 28, 2008 3:10 PM	1258	1258	164
Aug 29, 2008 10:45 PM	273	273	15
Aug 29, 2008 6:45 PM	267	267	52
Aug 28, 2008 10:45 PM	244	244	65
Aug 29, 2008 12:45 AM	243	243	55
Aug 29, 2008 11:35 PM	226	220	226
Aug 29, 2008 3:35 PM	205	205	148
Aug 29, 2008 10:10 PM	200	200	170
Aug 29, 2008 5:55 AM	187	187	35
Aug 29, 2008 12:11 PM	186	186	43

QoS Operation - Detailed MOS/ICPIF Scores

Operation MOS Score



Operation ICPIF Score

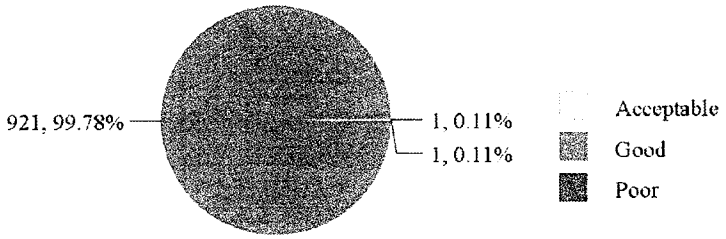


Worst 10 Calls With MOS Score

Call Time	MOS Score	ICPIF Score	RISC Networks Score
Aug 26, 2008 9:05 PM	4.00	11	5
Aug 26, 2008 9:05 PM	4.00	11	5
Aug 26, 2008 8:40 PM	4.00	11	5
Aug 26, 2008 8:45 PM	4.00	11	5
Aug 26, 2008 8:50 PM	4.00	11	5
Aug 26, 2008 8:55 PM	4.00	11	5
Aug 26, 2008 10:10 PM	3.00	19	5
Aug 27, 2008 2:20 AM	3.00	15	5
Aug 28, 2008 4:20 AM	3.00	23	5
Aug 29, 2008 3:40 PM	3.00	15	5

Operation ID	1700		
Operation Target Address	172.19.84.234	Operation Bandwidth (bps)	24000
Operation Source Address	172.19.153.86	Operation Duration (per call)	30
Operation Codec (if available)	g729a	Operation TOS	184

Call Quality



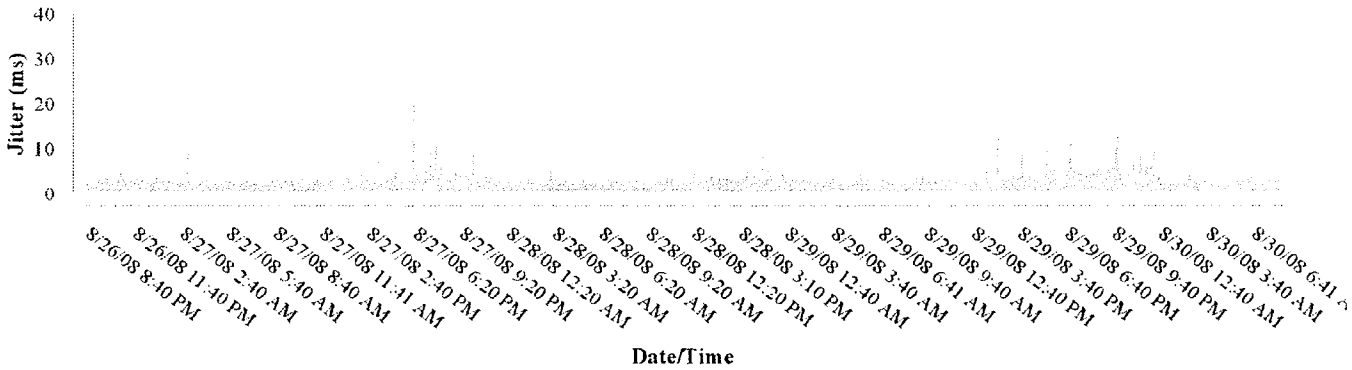
Call Classification	Acceptable				
Total Operations	1	Avg. MOS Score	4.06	Avg. Total RTT	29
Avg. S->D Loss	0	MaxAvg. S->D Delay	9	AvgMax S->D Jitter	3
Avg. D->S Loss	0	MaxAvg. D->S Delay	19	AvgMax D->S Jitter	34
Avg. Packets MIA	0	Avg. Packets OOS	0	Avg ICPIF Score	11

Call Classification	Good				
Total Operations	921	Avg. MOS Score	4.06	Avg. Total RTT	19.1
Avg. S->D Loss	0	MaxAvg. S->D Delay	25	AvgMax S->D Jitter	4.9
Avg. D->S Loss	0	MaxAvg. D->S Delay	25	AvgMax D->S Jitter	3.1
Avg. Packets MIA	0	Avg. Packets OOS	0	Avg ICPIF Score	11

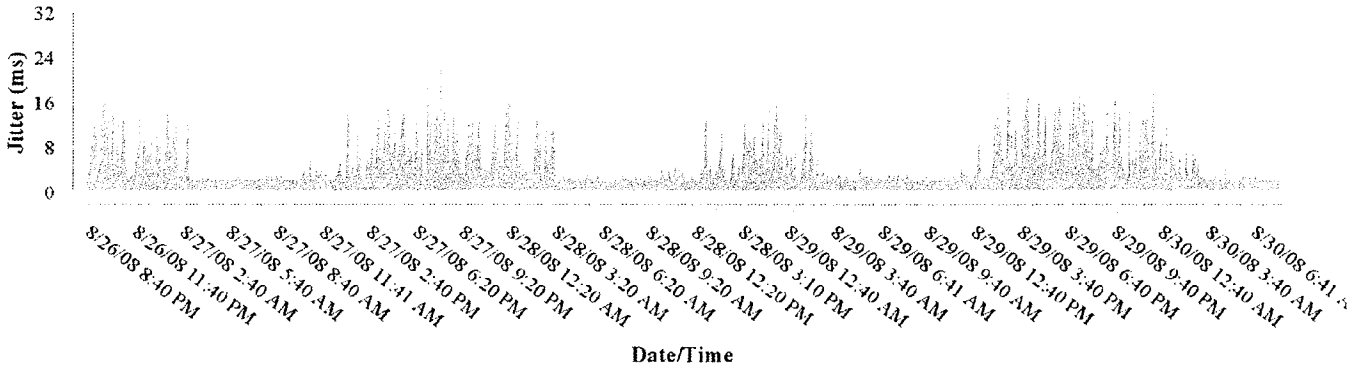
Call Classification	Poor				
Total Operations	1	Avg. MOS Score	3.76	Avg. Total RTT	19
Avg. S->D Loss	0	MaxAvg. S->D Delay	9	AvgMax S->D Jitter	5
Avg. D->S Loss	31	MaxAvg. D->S Delay	9	AvgMax D->S Jitter	2
Avg. Packets MIA	0	Avg. Packets OOS	0	Avg ICPIF Score	19

QoS Operation – Detailed Jitter Analysis

Max Jitter (Destination to Source)



Max Jitter (Source to Destination)

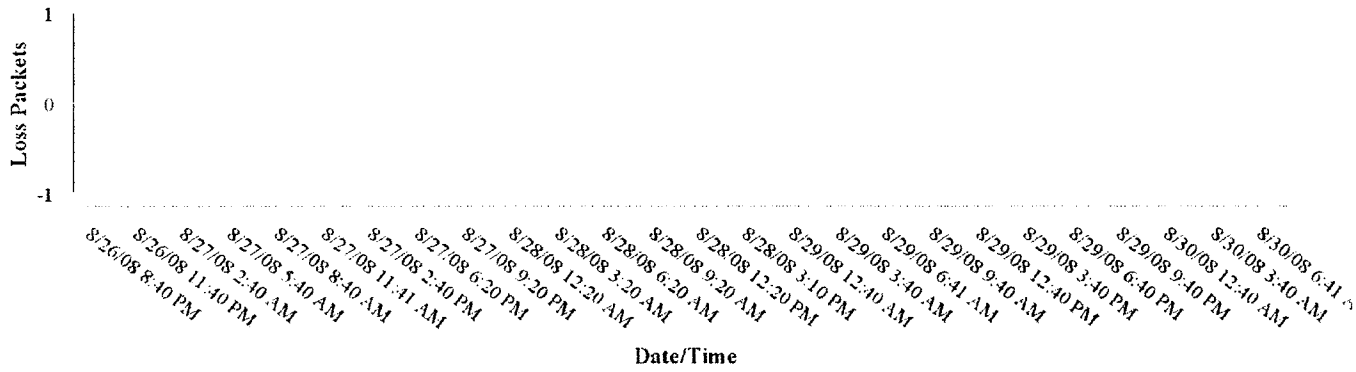


Worst 10 Calls Due to Jitter

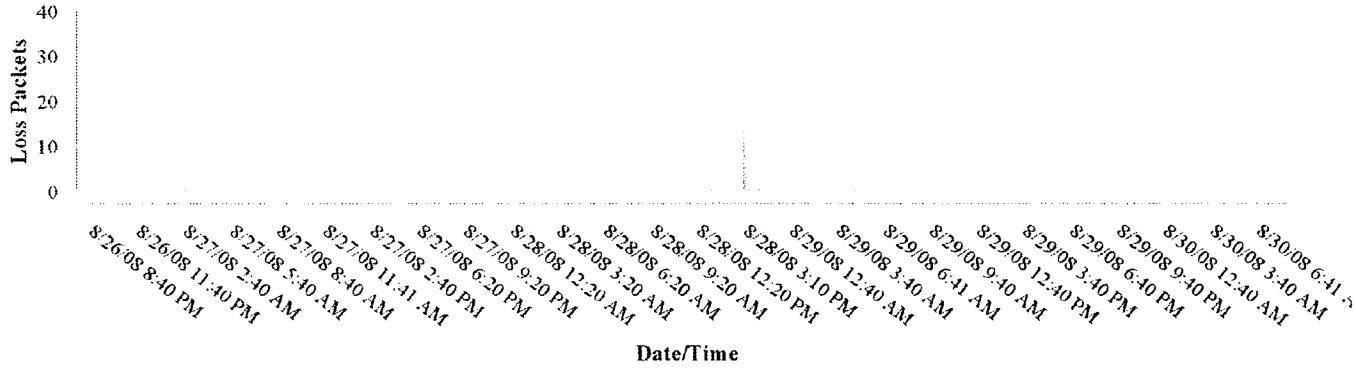
Call Time	Max Jitter Event	Source to Destination Jitter	Destination to Source Jitter
Aug 27, 2008 6:20 PM	34	3	34
Aug 29, 2008 10:00 PM	28	7	28
Aug 27, 2008 8:05 PM	24	24	6
Aug 29, 2008 2:20 PM	23	15	23
Aug 29, 2008 7:00 PM	23	11	23
Aug 29, 2008 5:30 PM	21	7	21
Aug 27, 2008 7:15 PM	20	20	3
Aug 29, 2008 3:02 PM	20	20	3
Aug 29, 2008 7:35 PM	20	20	4
Aug 30, 2008 12:15 AM	20	20	6

QoS Operation - Detailed Packet Loss Analysis

Packet Loss (Source to Destination)



Packet Loss (Destination to Source)

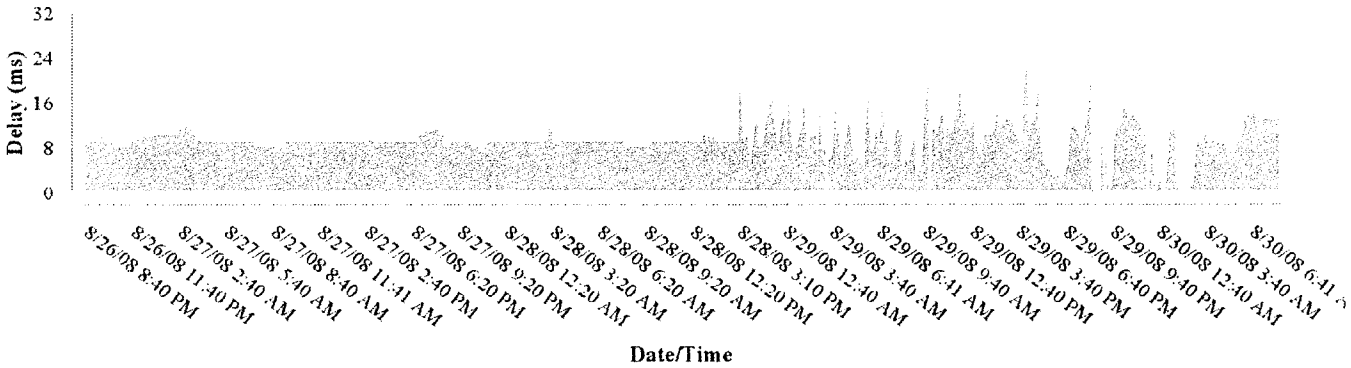


Worst 10 Calls Due to Loss

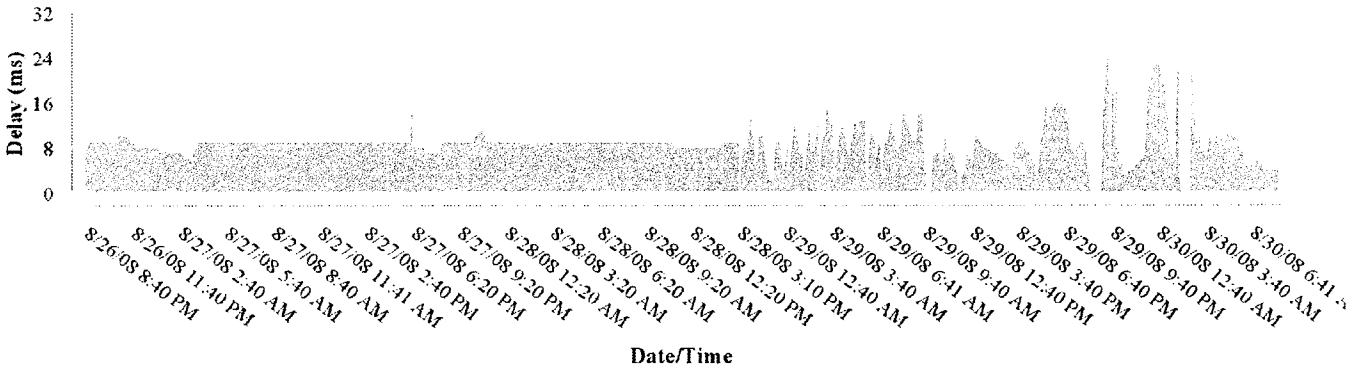
Call Time	Total Packets Lost	Source to Destination Loss	Destination to Source Loss
Aug 28, 2008 3:10 PM	31	0	31
Aug 26, 2008 8:40 PM	0	0	0
Aug 26, 2008 8:45 PM	0	0	0
Aug 26, 2008 8:50 PM	0	0	0
Aug 26, 2008 8:55 PM	0	0	0
Aug 26, 2008 9:05 PM	0	0	0
Aug 26, 2008 9:05 PM	0	0	0
Aug 26, 2008 9:10 PM	0	0	0
Aug 26, 2008 9:15 PM	0	0	0
Aug 26, 2008 9:21 PM	0	0	0

QoS Operation - Detailed Delay Analysis

Average Delay (Source to Destination)



Average Delay (Destination to Source)

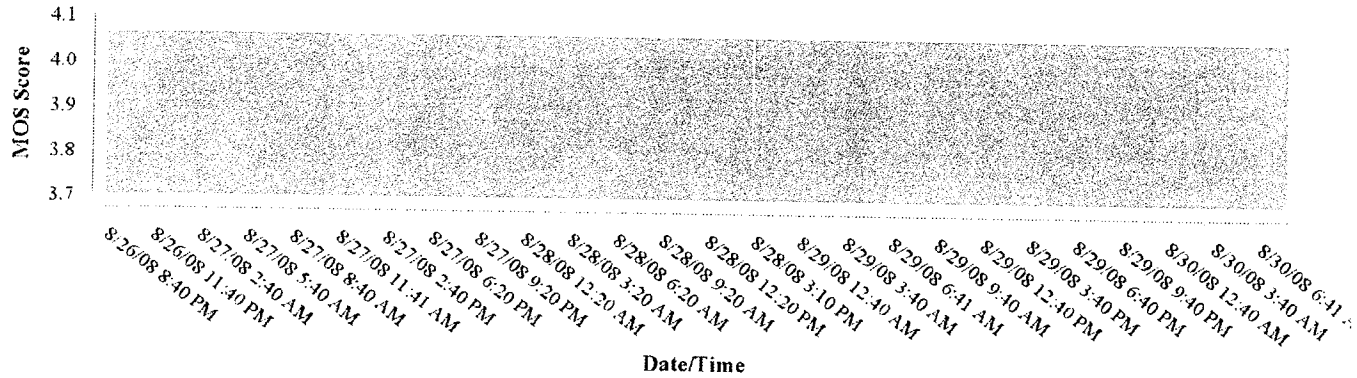


Worst 10 Calls Due to Delay

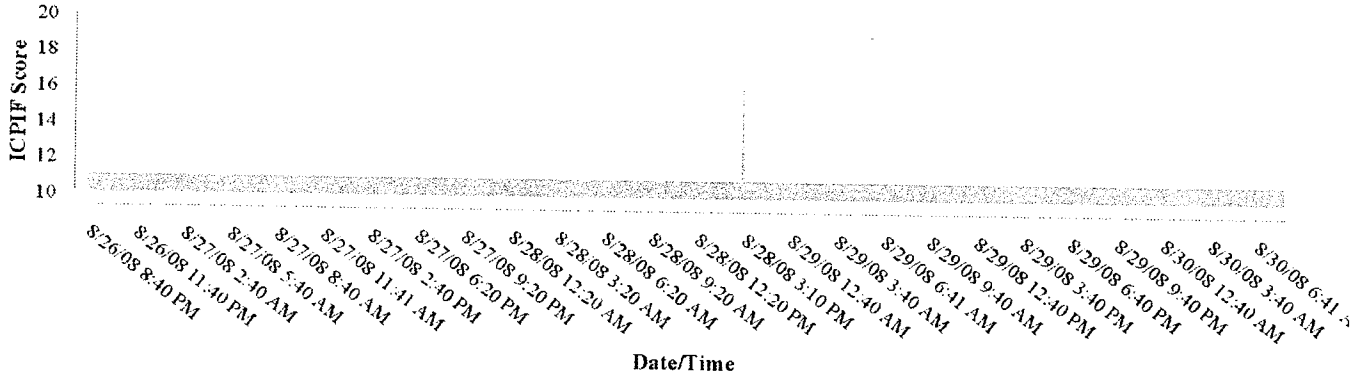
Call Time	Top Avg Delay (ms)	Source to Destination Delay (ms)	Destination to Source Delay (ms)
Aug 29, 2008 4:15 PM	25	25	7
Aug 29, 2008 9:30 PM	25	0	25
Aug 30, 2008 2:00 AM	25	1	25
Aug 29, 2008 9:25 PM	24	2	24
Aug 30, 2008 2:50 AM	24	1	24
Aug 30, 2008 12:35 AM	23	0	23
Aug 30, 2008 12:45 AM	23	1	23
Aug 29, 2008 9:20 PM	22	5	22
Aug 30, 2008 12:25 AM	22	2	22
Aug 30, 2008 12:30 AM	22	1	22

QoS Operation - Detailed MOS/ICPIF Scores

Operation MOS Score



Operation ICPIF Score



Worst 10 Calls With MOS Score

Call Time	MOS Score	ICPIF Score	RISC Networks Score
Aug 26, 2008 8:40 PM	4.00	11	0
Aug 26, 2008 8:45 PM	4.00	11	0
Aug 26, 2008 8:50 PM	4.00	11	0
Aug 26, 2008 8:55 PM	4.00	11	0
Aug 26, 2008 9:05 PM	4.00	11	0
Aug 26, 2008 9:05 PM	4.00	11	0
Aug 26, 2008 9:10 PM	4.00	11	0
Aug 26, 2008 9:15 PM	4.00	11	0
Aug 26, 2008 9:21 PM	4.00	11	0
Aug 28, 2008 3:10 PM	3.00	19	5

Appendix E - Quality of Service Configuration

Summary of Devices with Classed Based QoS:

Device IP Address	QoS Status
172.26.239.138	QoS Configured
172.29.249.73	No QoS Configured

Devices Configured with QoS: 1

Routers that may Support QoS: 1

Detailed Class Based QoS Configuration

172.26.239.138

Interface	Policy Map	Service Policy Direction
FastEthernet0/0.1-802.1Q vLAN subif	MARK	output

```
classmap: VoiceBearer - matchAny
        matchStatement: Match ip dscp ef (46)
classmap: VoiceSignal - matchAny
        matchStatement: Match ip dscp cs3 (24)
        matchStatement: Match ip dscp af31 (26)
classmap: VideoBearer - matchAny
        matchStatement: Match ip dscp af21 (18)
classmap: VideoSignal - matchAny
        matchStatement: Match ip dscp af11 (10)
classmap: class-default - matchAny
        matchStatement: Match any
```

NEXUS
Connect Collaborate Create

NEC MAINTENANCE PROGRAM

FOR

City of Torrance

Presented To:

Ernest Gallo

Prepared by: _____

Name
Title

27202 WEST TURNBERRY LANE. SUITE 100. VALENCIA CA 91355
WWW.NEXUSIS.COM | 800 536 2400 | INFO@NEXUSIS.COM

NEXUS
Connect Collaborate Create

1. INTRODUCTION

This booklet contains samples of the forms used by Nexus IS, describes their use, and explains how to read them. It also informs you where to call and what information is required when requesting service (moves, adds and changes), or maintenance.

If you have any questions, please feel free to contact our office at any time.

Calls of a general nature should be placed to:	**(661) 257-1500**
Calls for service or maintenance should be placed to:	**(661) 257-2066** **(800) 266-2003**

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Nexus IS
North and South Los Angeles
Who to Call

24 hour Customer Service Number
800-266-2003
661-257-2066
661-775-2434 Fax Order
CAservice@nexusis.com

Standard Service

All service requests should be directed to Customer Service
8:00 AM to 5:00 PM Monday through Friday

Service "tickets" will be activated at the time of your call which allows our Service Department to track your requests and ensure the highest level of responsiveness.

After Hours

Calls are answered by a 24-hour assistance line. If it is a routine call, your request will be "ticketed" the following business day.

Emergency

The 24-hour assistance line operator will page our On-Call manager and your request will be responded to immediately. We have a back up system of engineers and technicians to ensure prompt service.

Moves, Adds Changes

Call the Service number during business hours and a Customer Service Rep will handle your request.

Billing Inquiries

Call our (661) 257-1500 during business hours and ask for Accounts Receivables.

For Your Continued Assistance or Problem Escalation

(661) 257-1500

Customer Care Manager	Joe Ponce	661-775-2406
Field Service Manager	Mike Trivisonno	661-775-2877
Field Operations Manager	Mark McGrath	661-775-2452
Vice President Operations	Tom Lyon	661-775-2494
Asst. Controller	Padi Lesourd	661-775-2435
Chief Financial Officeer	Dan Dougherty	661-775-2407

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2. SERVICE GUIDELINES

Service Time and Costs

- During the period of your contract, routine service will be provided during regular business hours (8:00 a.m. to 5:00 p.m.), Monday through Friday, except Nexus IS observed holidays:

  * New Year's Day
  * Memorial Day
  * Day Before Independence Day
  * Independence Day
  * Labor Day
  * Thanksgiving Day
  * Day After Thanksgiving Day
  * Christmas Day

- After hours service requests will be billed at prevailing premium rates (time and one-half standard rates, three hour minimum, portal to portal).

- Remote Maintenance (R-MAT) will be billed at Nexus IS' prevailing labor rates in 1/2-hour increments.

Response Schedule

- Emergency Service will be responded to within four (4) hours.

- Non-Emergency Service will be provided within twenty-four (24) hours.

- Moves, Adds or Change (MAC) orders will normally be filled within three to five business days.

- Remote Maintenance will be administered within twenty-four hours of notification.

Assigned Account Personnel

- All work performed on the customer site will be provided by trained technicians.

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EMERGENCY ESCALATION PLAN

Nexus IS has developed a series of activities and procedures to restore service to its customers in the event of system failure, or any malfunction that would require emergency attention. Upon notification by a customer representative, a technician will immediately remotely access your systems' diagnostics (if possible) to its resolve or isolate the problem. If the problem cannot be solved remotely, if appropriate, the faulty network carrier will be contacted and/or a technician will then be dispatched to survey and evaluate the failure or damage. They will advise Nexus IS management of the extent of the problem. In the event that an immediate resolution of the failure cannot be accomplished, escalation notification will be as follows:

Customer Care Manager	**Joe Ponce**
Field Service Manager	**Mike Trivisonno**
Field Operations Manager	**Mark McGrath**
Vice President Operations	**Tom Lyon**
President/COO	**Deron Pearson**

Equipment Availability:

Truck stock maintained by the Nexus IS field technicians is immediately available for replacement of defective parts. Our warehouses store a large inventory of parts and materials for extensive system maintenance and repair. In addition, we have 24-hour manufacturer emergency support.

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EMERGENCY ESCALATION PROCEDURES

Major or Emergency Service

Defined as affecting more than fifty percent of call processing and users are unable to receive or place calls. Customer can deem any service call an emergency.

Elapsed Time	Action
Less than 4 hours	Customer Service Manager notified Service Operations Manager notified Qualified technician dispatched
More than 4 hours	Director of Account Services notified Manufacturer's technical support center notified
More than 6 hours	Vice President of Operations notified Manufacturer support continues until resolution

Minor/Non-Emergency Service

Defined as affecting less than fifty percent of call processing and users are able to receive and place calls.

Elapsed Time	Action
Not Later Than 24 Hours	Remote diagnosis is initiated to identify problem. Equipment is ordered as needed. A service technician scheduled for dispatch if necessary.
After 24 Hours (If Applicable)	Service Operations Manager is notified. Director of Service Operations is notified and appropriate action is taken.

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DISASTER RECOVERY PLAN

Disasters can take many forms, including natural and man-made. Natural disasters include flooding, lightning and fire. Man-made disasters include damage caused by accidents, sprinklers shorting out electrical devices and human error. Regardless of the cause, an organization may no longer be able to effectively function which adversely impacts anyone that relies upon it.

Although no organization expects to face a disaster, most agree it is prudent to plan for that contingency. Insurance policies and programs are utilized to help finance the restoration, but do not help minimize the impact on the services the organization delivers to its stakeholders. Telecommunications is critical to minimizing the adverse impact of these circumstances by facilitating coordination of the restoration and supporting essential communications needed for ongoing operations.

Nexus IS provides its customers with a form of "disaster insurance" with the following Disaster Recovery Plan:

1. Nexus IS maintains emergency telephone systems that are fully operational. The minimum level of the emergency inventory is three (3) NEC hybrid and three (3) NEC PBX systems ready for deployment.

2. Nexus IS will reestablish critical communications within six (6) hours provided that suitable electrical power and network access is available.

3. Nexus IS will provide operational replacement systems at a level that the customer facilities reasonably permit or deployment of an operational system at an alternate customer designated premise within twenty-four (24) hours.

The Plan described above is designed to support disasters that impact isolated or limited numbers of customer situations. During widespread disasters, such as major earthquakes or floods, Nexus IS will use its best efforts to support its customers. Under these conditions, support will be prioritized based upon the significance of the facility to the community as a whole, utility and transportation availability and direction from public officials.

We are prepared and committed to meeting this Disaster Recovery Plan. As a result, Nexus IS has a long track record of successfully supporting its customers under difficult circumstances.

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PREVENTIVE MAINTENANCE

Factory trained on your equipment, our team members have the expertise and dedicate the time to conduct the routine tests to minimize system problems and downtime. Our technicians are able to evaluate the telecommunications environment, and advise the system manager about changing conditions or issues that might effect their operations.

Scheduled preventative maintenance tasks include:

Description	Frequency	Notes
Battery Testing	Annually	
Voicemail Backup*	Varied	• PC-based: Monthly • Octel: Quarterly
Switch Back up	Quarterly	
Bayface layout	Annually	• Switch and/or voicemail system
Voltage Testing	Quarterly	
Telco Trunk List	Annually	• Route & Trunk • LENS# • Jack & Pin • End Location
Switchroom Environmentals**	Annually	• Cleanliness • Temperature • Storage issues

* Voicemail Backup will require the capability within the system.

** The PBX Room will be visited annually by a Nexus IS Operations Manager. The purpose of the visit will be to verify adherence to the Customer's as well as Nexus IS standards.

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3. REQUESTS FOR SERVICE

- **To request any moves, additions or changes (MAC) for your system, please call (800) 266-2003 or (661) 257-2066. For your convenience, service orders can also be requested by fax. Our Customer Service fax number is (661) 775-2434.**

- Normal service requests are taken Monday through Friday, between 8.00am and 5.00pm.

- Our Representative will be asking you for the following information when you call:
  - A. Company name and address.
  - B. Address where work is to be performed.
  - C. Requesting party's name.
  - D. Purchase order number (if required).
  - E. Contact name and telephone number.
  - F. Nature of request (please include telephone user names, extension numbers, locations, equipment type and any other information that will help identify work to be performed).
  - G. Request date on which work should commence. (Large requests and telephone company-related orders may require additional lead time.)

- When planning telephone system moves, adds or changes please bear in mind that Nexus IS' standard lead-time is 3-5 working days from receipt of request. However, should the MAC require the ordering of materials, the lead time may be extended.

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MOVES, ADDS & CHANGES

Relocating Phones

1. Type of phone being moved; Single-line, Multi-line, <Specify Series E, Series I, II & III>.
2. Area phone is moving from.
3. Area phone is moving to.
4. If multi-line, will it pick up same extension numbers?
5. Person to contact for questions.

Adding Phones

1. Type of phone being added, Single-line, Multi-line, <Specify>.
2. Area where phone is to be added.
3. If multi-line, what extensions are to be picked up and which ones are to ring.
4. On multi-line phones, are the numbers which will appear already existing on another multi-line phone or are they currently on single lines only?
5. Person to contact for questions.

Program Changes For Telephone System

1. What restriction mode and class of service is desired when adding new lines.
2. Should new extension be added to a dial call pick-up group or rotary hunt group.
3. Turning ringing on or off.
4. Adding line appearances.

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Program Changes For Voice Mail Systems

1. Mailboxes - Creating, deleting, resetting, password changes.
2. Pages - Adding and testing.
3. New network locations.
4. Modifying network locations (i.e., new area codes).
5. Distribution lists.
6. Single digit menus (auto attendants).
7. Holiday Schedules (modify, yearly, monthly, i.e. Christmas).

System Additions For Voice Mail Systems

1. Mailboxes, sets of twenty-five.
2. Voice mail ports.
3. Add Memory.

4. REQUEST FOR MAINTENANCE

- To request repair or maintenance (including any suspected Bell, or other common carrier problem), please call (800) 266-2003 or (661) 257-2066. These numbers are answered 24 hours a day, 7 days a week.

- Nexus IS will respond to your request in accordance with your maintenance contract. **See master agreement for terms and conditions of covered equipment and services.**

- Please have the following information available when requesting maintenance:

  A. Company name and address.
  B. Address where work is to be performed.
  C. Name of party making request.
  D. Purchase order number (if required).
  E. Contact name and telephone number; (insure that telephone number is not affected by trouble being reported).
  F. Nature of trouble being reported; (include telephone or extension numbers, user names, and any other information that will assist in locating the trouble).
  G. After hours access if necessary.

SAMPLE MAINTENANCE LOG

- Nexus IS maintains a Maintenance Request Log for each one of its customers.

- For your convenience we have provided a Maintenance Repair Log for your records.

5. BILLING INFORMATION

- For all billable items, Nexus IS will send you an invoice such as the one in Exhibit B.

- An Invoice Number and Date is provided in the upper right-hand corner.

- Calls regarding billing questions should be directed to our Accounts Receivable Department at (661) 257-1500.

- A copy of all Service Orders for that billing period (billable and non-billable) will be attached to the invoices for your review. The invoice amount will be the total of all billable service orders. Material cost, labor and sales tax will be calculated on each service order.

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EXHIBIT B

Nexus IS
27202 West Turnberry Ln
Valencia, CA 91355
(661) 257-1500

INVOICE **046172**
DATE 01/01/00
ORDER No. 053217

ABC Company
Accounts Payable
1234 Elm Street
Anywhere, CA 90000

Ship Address

Accounts Payable
ABC Company
1234 Elm Street
Anywhere, CA 90000

CUSTOMER NO.	INVOICE DESCRIPTION	SHIP VIA	CUST ORDER NO.	SERVICE REQUEST	TERMS
33	See Attached Service Request			93768	Net 30 Days

INVENTORY ITEM NO	QTY	UNIT	ITEM DESCRIPTION	UNIT PRICE	EXT PRICE
99999999100	3	HOUR	LABOR	88.000	264.00
99999999300	1	EACH	TRIP CHARGE	44.000	44.00
99999999400	1	HOUR	NON-BILLABLE LABOR	0.000	0.00

ADDITIONAL INFORMATION:

Sales Total	**308.00**
Tax Total	**0.00**
Total	**$308.00**

6. CUSTOMER CARE PROGRAM

Customer Care Visitation Program

A Nexus IS Representative will conduct periodic visits to all accounts in an effort to augment two-way communication between the customer and Nexus IS. A Nexus IS form such as the one shown in Exhibit C will be completed by both the Representative and customer contact and signed by them as validation of such a visit. All such forms are then forwarded to Director of Service Operations for review and follow-up.

Customer Satisfaction Audit Form

Every quarter our corporate office selects 25% of the customer base and mails a survey form. We ask that this form be completed by the identified customer contact and returned as soon as possible. Our Corporate staff uses the collected information to evaluate our response to you and measure your level of satisfaction with our service over the past year.

Operation Service Team

The Operation Service/Sales Team is available to assist in answering your questions regarding system capabilities and enhancements. These personnel will be active participants in the Customer Care Program. Please feel free to call and ask for a Service/Sales Representative.

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TRAINING

Operator Training

Nexus IS training personnel will conduct operator training. It will include operational instruction and provide each operator with the technical skills and knowledge required to be proficient in all applicable features of the equipment.

The actual training period shall be prior to and immediately following cutover. Additional training may be requested at our standard training rates.

Personnel Training

Nexus IS will provide group training for all system personnel. Training sessions will be approximately one hour in length, and will be scheduled to accommodate shift coverage as required. Training sessions will include a hands-on session followed by a question and answer period. Each person will be provided with a station operation guide for the equipment.

Specialized training is available at our standard training rates. This training may include special one-on-one training or training for select groups of individuals to serve as "in-house" experts, etc.

In addition to the on-site training listed above, Nexus IS personnel are available for telephone support during the cutover period.

Administrative Training

Administrative Training is available for your System Administrator(s) from either Nexus IS personnel or the equipment manufacturer. Training fees vary with the product, the length and level of the course, and the course location.

To Obtain Training

- Please call (800) 266-2003 or (661) 257-2066 and ask for your Customer Service Representative.
- Please provide at least ten (10) working day's notice to enable us to schedule our training time efficiently.

7. REFURBISHING PROGRAM

IMPLEMENTATION PROCEDURES FOR REFURBISHED D-TERM TELEPHONES

Nexus IS operates a very high quality refurbishing operation from our Headquarters in Valencia, California. We currently refurbish Series I, II, III and E D-Term telephones and consoles. The process for equipment to be refurbished is to have customers ship their old equipment to our office. We will totally refurbish the equipment and ship it back to you as quickly as possible. Our refurbishment program is as follows:

- All D-Terms are disassembled and all plastic parts are sent out to be repainted (i.e. Body of phone, handset, etc.).
- All sets receive new display strips.
- All sets receive new keypads.
- Each set has the circuit board tested and replaced if necessary.
- All sets receive new line cords.
- All sets receive new handset cords.

This process results in a virtually new D-Term for a fraction of the cost. However, shipping charges are the customer's responsibility.

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8. ORGANIZATION

The enclosed Organization Chart is included to assist you in determining which of the Nexus IS personnel might best be able to help you with any given telephone-related situation. The descriptions below provide further clarification.

Dave Elsner **Vice President of Sales**	Directly accountable for Sales & Marketing within the Greater Los Angeles area, Orange County, Inland Empire, Kern County, San Bernardino, Riverside, Santa Barbara and Ventura County.
Tom Lyon **Vice President of Operations**	Responsible for all Operations and Engineering within the Greater Los Angeles area, Orange County, Inland Empire, Kern County, San Bernardino, Riverside, Santa Barbara, and Ventura County.
Mark McGrath **Field Operations Manager**	Responsible for all service, maintenance and warranties for customers with the Greater Los Angeles area, Orange County, Inland Empire, Kern County, San Bernardino, Riverside, Santa Barbara and Ventura County.
Account Managers	Responsible for managing customer relations. This would include any major system additions or changes.
Joe Ponce **Customer Service Manager**	Responsible for managing the Customer Service Center which provides customer point of contact for all maintenance and MAC calls.
Mike Trivisonno **Field Service Manager**	Responsible for Customer Satisfaction and managing the Field Services Technicians in the Los Angeles and Orange County Regions.
Field Service Technicians	Installs, maintains and services telecom equipment. Responsible for Customer Satisfaction.

Nexus Care Overview

Nexus has been providing business communications planning, design, implementation services for 25 years. For the last 10 years, the Nexus Technical Assistance Center (NTAC) has been custom built to provide post-implementation technical support and monitoring services with respect to our largest technology partners; Cisco Systems and NEC.

The Nexus Technical Assistance Center invests in highly technical and experience personnel to support our clients. Over many years, the NTAC has also developed many tools and processes to streamline our equipment remediation programs so our customer's can avoid the expense of this investment internally. The NTAC leverages this expense over the many customers we support thereby reducing the individual customer expense while simultaneously proving a better service level.

Nexus structures its services pricing in multiple ways.

Below is a brief summary of our pricing models;

For **Cisco Solutions**, Nexus offers fixed-bid contracts for term length. These contracts are designed to support break/fix situations with unlimited diagnosis and remediation time. Optionally, Nexus can include MAC hours to pay for customer-requested Moves, Adds or Changes to their systems they might otherwise do themselves.

Contract types are:

Nexus Care Prime Tech Support

- Designed to cover break/fix remediation on fixed number of devices
- Term based (12,24..60 Months)
- Nexus Care "Connect" SSL/VPN is deployed
- Customer-elected MAC work now become separate and billable (via BoH)
- Required UC App. Server and OS Service patch upgrades included
- **Basic Up/down monitoring included**
- Monthly, Quarterly or Pre-paid contracts
- Monthly Stewardship meetings
- 24X7 Support within NTAC
- NTAC Support Desk Ticket Tracking Available

Nexus Care Pro Monitoring and Tech Support

- Designed to cover break/fix remediation on fixed number of devices
- Term based (12,24..60 Months)
- Nexus Care "Connect" SSL/VPN is deployed
- Customer-elected MAC work is separate and billable (via BoH)
- Required UC App. Server and OS Service maintenance and patch upgrades included
- **Robust network monitoring IS included**
- Monthly, Quarterly or Pre-paid contracts

- Monthly Stewardship meetings
- 24X7 Support within NTAC
- NTAC Support Desk Ticket Tracking Available

For **NEC voice systems** that are IP based, Nexus offers a custom VPN solution designed to connect to IP based PBX's and key systems that provides for basic up/down monitoring of the device. This solution also provides for a pre-paid block of hours that provide for non-specific work objectives such as break/fix situations as well as MAC situations. Any work requested will be deducted from the City's pre-paid account at actual rates consumed.

Nexus Care Connect

Work effort is paid for exactly like Block of Hours

- Nexus Care Connect VPN is added
- Nexus Care Connect has two functions:
    - Nexus Care "Connect" SSL/VPN is deployed, provides device access
    - Monitors up/down status of a device.
- If device fails, Nexus IS can proactively contact customer to initiate remediation services or stand by pending customer investigation.
- Nexus Care Connect can only connect to devices it's licensed to connect to – no "roaming" on network.
- Must always include Block of Hours to enable support from NTAC
- Client must agree to equipment on their site
- If sold as stand alone service, VPN is rented and entire contract is pre-paid only.
- If sold as bundled service, VPN is amortized over life of term and billing available monthly, quarterly or pre-paid.
- NTAC Support Desk Ticket Tracking Available

The entitlements for the combined NEC and Cisco systems and devices are bundled into the same service contract and are eligible for participation in the Service Outage Priority Definitions (P1, P2, etc) in addition to the NTAC escalation program.

Additional information described is this section of the response has a mirrored and detailed Service Description that provides much more detail on each service discussed. Please ask for a copy of these documents from your Nexus Account Manager should additional details be required.

NexusCare Managed Service

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Would your organization benefit if you had a partner that serves as a single-point-of-contact and offers the expertise to assist you in the event your communications system encounters problems?

The NexusCare Managed Service is a support solution set that is designed to provide technical assistance for trouble escalation and resolution when an organization's in-house staff needs assistance for Service Incident management. The service is not intended as a day-to-day administration or Service Change (Moves/Adds/Change/Patches/Upgrades) service. The organization is still responsible for the day-to-day operations, system administration, and system back-up.

NexusCare Offerings

The following are the various types of services provided by the NexusCare Managed Service:

- *Service and Support – Block of Hours:* This solution is designed to provide technical assistance for trouble remediation, escalation and resolution when Client's in-house staff needs assistance for Service Incident management. This service can also be intended as a day-to-day administration or Service Change (Moves/Adds/Change/Deletes/Upgrades) service. This service emphasizes non specific work objectives.
- *NexusCare Connect:* Combines the flexibility of a pre-paid block of hours with a newly invented and highly secure SSL/VPN technology for rapid connections, reduced remediation times and basic up/down monitoring of specific servers and infrastructure.
- *NexusCare Connect Prime:* This service ensures maximum device up-time and availability by providing remediation services independent of block of hours account balance. NexusCare Connect Prime provides remediation services based on time length of contract. This service also offers flexible billing terms, discounts based on volume contracts and SSL/VPN based up/down monitoring.
- *NexusCare PRO Monitoring:* Based on NexusCare Connect PRIME, this service provides significantly enhanced proactive monitoring services for LAN/WAN and Unified Communications Platforms. 24X7 proactive monitoring and incident remediation allow customers to focus on core business objectives.

(Continued)

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NexusCare Managed Service

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Common to all NexusCare Services are the following features:

- 24x7 Major Service Incident event ticket reporting and ticket creation
- 8x5 Minor Service Incident event ticket reporting and ticket creation
- Level 1, 2 & 3 Remote Troubleshooting, Diagnosis and Resolution services
- Onsite field dispatch for Troubleshooting, Diagnosis, and Resolution within Nexus Primary Service Areas
- Escalation to Cisco TAC for Level 3 & 4 support services
- Parts Replacement subject to underlying OEM/manufacturer warranty, service agreement, or other Nexus provided hardware maintenance agreement
- Preferential pricing and scheduling for uncovered events or Service Change requests

The Nexus Technical Assistance Center (NTAC)

The NTAC provides complete network and systems support services and is operational 7 days a week, 24 hours a day, to support critical customer networks. Nexus' NTAC helps businesses worldwide better manage their data and multimedia communications applications and networks. Support teams offer remote, around-the-clock diagnosis and troubleshooting.

Nexus specialists located in the NTAC have access to a large on-site equipment laboratory which allows them to re-create customer configurations when required and investigate the root cause of problems. Once the problem has been verified, the Nexus specialists can fix the error independently or dispatch designated vendors for resolution.

Why Choose NexusCare Managed Service?

NexusCare assists in significantly accelerating your return on investment by providing you:

- *Proactive Monitoring:* conducted in-house or is not a service requirement
- *Configuration Management:* from archiving to active configuration, NTAC has all the tools and experience needed to maintain a stable and predictable networking environment.
- *Service Changes:* Routine Moves, Adds, Changes, Deletions and Upgrades can be implemented quickly and efficiently via built-in contract pricing.
- *24x7 Incident Support (Remote NTAC and Onsite Engineer):* NTAC engineers know your network which will save you time and effort. NTAC supports the network solution, not just the device. NTAC experts manage escalations to Cisco TAC or 3rd party manufacturers on behalf of customer. The incident is handled from ticketing to resolution via NTAC regardless of technology.

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Nexus Care Support

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Service Introduction

Nexus Care is a Managed Service offering by Nexus IS. Nexus Care is an umbrella marketing name that describes multiple technical support contract types.

Nexus offers seven unique support offers than can be combined with each other. The offers are structured into three groups:

1. Managed Services that support Cisco Converged Network Applications and infrastructure
2. Managed Services that support Cisco Telepresence Systems
3. Block of Hours pre-paid service and support

Cisco Converged Network Applications and infrastructure is defined as:

- Cisco Unified Communications Manager (formerly, CallManager)
- Cisco Unified Messaging (formerly, Cisco Unity)
- Cisco Unified Meeting Place
- Cisco Unified Contact Center (formerly, IPCC solutions)
- Cisco LAN, WAN, Wireless and Security Solutions

All support is provided by the Nexus Technical Assistance Center (NTAC) which is headquartered in Valencia, CA and is operational 24 hours a day, 365 days per year.

Nexus Care Connect

- All labor effort is paid for exactly like Block of Hours
- Includes a VPN
  - SSL/VPN connection solution
  - Basic Up/down monitoring of device interface is included
- If device fails, Nexus IS can proactively contact customer to initiate remediation services or stand by pending customer investigation
- Nexus Care Connect can only connect to devices it's licensed to connect to – no "roaming" on network
- Must always include Block of Hours to enable support from Nexus Technical Assistance Center
- Client must agree to equipment on their site. Equipment is rented per year
- Pre-Paid contracts only with annual rental of VPN equipment
- NTAC Support Desk Ticket Tracking Available

Nexus Care Prime

- Designed to cover break/fix remediation on fixed number of devices, regardless of duration of repair
- Customer-driven Moves, Adds, and Changes are optional
- Basic Up/down monitoring of device interface is included
- Term based (12,24,...60 Months)
- Uses Nexus Care Connect SSL/VPN
- Monthly, Quarterly, or Pre-paid contracts
- 24x7 Support within NTAC
- NTAC Support Desk Ticket Tracking Available

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Nexus Care Support

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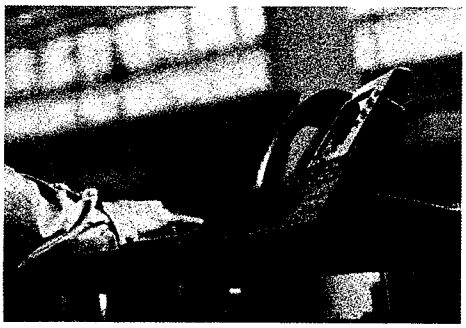
Nexus Care Pro



- Designed to cover break/fix remediation on fixed number of devices, regardless of duration of repair
- Customer-driven Moves, Adds, and Changes are optional
- Advanced Network monitoring IS included
- Term based (12,24,...60 Months)
- Uses Nexus Care Connect SSL/VPN Monthly, Quarterly or Pre-paid contracts
- 24x7 Support within NTAC
- NTAC Support Desk Ticket Tracking Available

Nexus Care for TelePresence

Offer #1: Concierge Service

- Assistance with setting up calls
- Troubleshooting conference related issues
- Requires VPN to key components of technology
- In-service issues troubleshooting
- Available 5am to 5pm PT, Monday through Friday

Offer #2: Quarterly On-site Tune Up Service

- Replicates TelePresence Certification and Acceptance Testing
- Maintain same experience as day one
- Check cameras (alignment and color balance)
- Sound
- Lighting
- Update Codecs
- Test Calls

Offer #3: Emergency On-Site Engineering Service

- Onsite incident response
- Next day response (provided calls are received by noon pacific time)
- International Response via custom bid only
- Provides a TelePresence team engineering resource at Client premise if needed
- Custom pricing based on Client needs
- Prepaid as block of hours

Nexus Care for MeetingPlace

- Technical Support 24x7x365
- Ongoing Consulting
- Software Release Assessment and Planning
- Software Upgrades
- Verification Testing
- Monthly, Quarterly, or Pre-paid contracts
- Term based (12,24,...60 Months)

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Nexus Care Support

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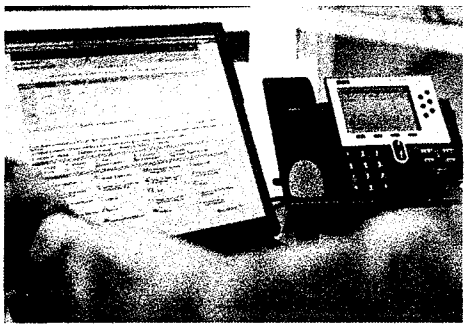
Who Needs Managed Services?



Organizations that want to maximize the benefits of their converged network

- Need their communications network running 24/7
- Want comprehensive support and management services
- Have in-house skills, but have never managed a converged network
- Recognize the true cost of the people, processes and tools required to manage Unified Communications and TelePresense systems
- Wish to reduce staffing complexities and increase productivity of IT team
- Want to reduce and/or control operating expenses
- Want to enhance network security and accountability
- Want to maximize return on their investment in UC and TelePresence technologies
- Want to focus on their own customers and business goals

Why Choose Nexus Care Managed Service?

Managing today's powerful converged networks has many common challenges

- High level of experience required
- Ability to troubleshoot across a distributed architecture
- IT staff availability and capacity
- 24x7x365 support requirements
- Monitoring and managing multiple servers and applications
- Ensuring a secure environment

Additional Information

For additional information on Nexus Care Managed Services, please contact Nexus at:

Nexus IS Corporate Headquarters & Los Angeles County Regional Office
27202 West Turnberry Lane
Suite 100
Valencia, CA 91355
connect@nexusis.com

Telephone:
800-536-2400
661-257-1500 (local)

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NEXUS CARE MANAGED SERVICES VALUE PROPOSITION

WHITE PAPER

THE CURRENT ENVIRONMENT

The current economic environment has caused companies of all sizes to re-evaluate how they do business, with an eye toward finding – and exploiting - areas for cost-savings and productivity gains. Often, there is a call to return to the "basics" and core competencies of the business. In addition, companies must do more with less. One potential way of accomplishing these objectives is through outsourcing the functions that enable, but aren't directly related to, their strategy.

Many companies outsource functions like payroll and accounting, recruitment, facilities management. Many also outsource part, or all, of their information technology (IT) function.

According to the Global Outsourcing Report published in March 2005, "Three-quarters of U.S. companies outsourced some or all of their information technology activities in 2004, and that percentage is likely to increase this year..."

These kinds of statistics often raise concerns about the impact of outsourcing on the U.S. job market. In fact, the "2004 Enterprise Systems Outsourcing Survey" noted that "Even though the term 'outsourcing' has become synonymous with the practice of sending jobs overseas, the bulk of outsourcing activities – 70.2% - occur on the domestic front."

There are a number of questions that both business executives and internal IT groups have when considering outsourcing: Is it right for our organization? Won't we lose control by outsourcing? Will outsourcing affect the performance of systems and applications? Is there really a stronger return on our investment through outsourcing?

A recent study by Geller & Company and Michael F. Corbett & Associates, Ltd. found that 93% of CFOs in mid-sized companies "...are under pressure to become more strategic [and] that one way for CFOs to become more strategic is through outsourcing finance and accounting." The study examined CFO involvement in key strategic activities and found that 43% participate in the management of business investments in technology (including outsourcing), and another 33% take the lead in these activities. 60% said that the importance of outsourcing in the finance and accounting function had increased over the past two years.

This White Paper discusses recent changes in IT outsourcing, and examines how service offerings have evolved in response to changing business drivers and technology advances. It describes areas to consider i determining the ROI of outsourcing for your company. It also describes how Nexus's managed service offerings and delivery models, designed specifically for mid-sized and large companies, can yield significant return on investment, while helping companies leverage their IT-based initiatives for competitive advantage.

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OUTSOURCING OF OLD

Large enterprises have long sought to reduce expenses and focus on their core through IT outsourcing arrangements, often outsourcing "everything" and going as far as having the outsourcer re-badge some of the enterprise's IT employees. Outsourcing arrangements in "the good old days" were often custom contracts with large monolithic outsourcing organizations. In return for cost savings, the enterprise typically ceded flexibility and control. The outsourcer provided operational efficiencies through strict procedural controls, drowning their client organizations with change request paperwork. This made managing the agreement a function unto itself, and made changes time-consuming and difficult to implement. In the "big IT" outsourcing world, this model continues to prevail.

For a variety of reasons, these types of outsourcing agreements were neither available, nor attractive, to mid-sized enterprises, leaving these companies with few choices in terms of outsourcing providers, except for project implementation work. This all changed with the rise of managed service providers which have focused on delivering services in specific functional areas, allowing organizations to "selectively outsource" functions that are not core to their business. With selective outsourcing, a wide range of options is available. Companies can choose to outsource some or all of their applications, perhaps outsourcing only those that require 24/7 support. Companies can opt for "simple" management of their networks and servers, their security systems, and/or their hardware devices. They can move up to database monitoring and management, as well as monitoring and management of the application itself. Even within the application layer, companies can choose to have outsourcers provide first level maintenance, while maintaining full control over the customized layer. Remote management capabilities enable managed services providers to offer services not only in their own data centers, but in a customer's own premises.

Now, selective outsourcing provides mid-sized and large enterprises with choices about how much or how little control they want third parties to exercise over their application environments and IT infrastructure, while new information portal technology enables all parties involved to work collaboratively, keeping everyone in the know on what's going on with all aspects of their system. Collaboration can extend to Systems Integrators and software providers as well. This new model allows the mid-tier and large enterprises to reap the cost benefits of leveraging the expertise and scale of service providers, while maintaining overall responsibility, oversight, and control of their own IT world. It provides access to the diverse skill sets needed to manage today's complex distributed application environments and enables internal IT organizations to focus on delivering technology solutions that directly address core strategic functions.

Nexus is a leading provider of managed services for UC and Customer Interaction applications, infrastructure, and messaging. By specializing in specific technologies and functions, Nexus has been able to achieve economies of scale that previously were the exclusive realm of global IT services companies. Nexus leverages a management framework to deliver tailored solutions, using standard platforms, tools, and processes to manage all layers of the technology stack, from the network through the application, often partnering integrated third party solutions who service the mid-sized and large enterprises to provide a complete suite of application services. Nexus is able to maximize skill sets across multiple client environments,

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thereby enabling enterprises to have access to a diverse set of skill sets without the cost burden of hiring all of them.

In essence, Nexus becomes an extension of the IT department, not a replacement. Its combination of focused service delivery, standard tools and processes, and the maximization of remote resources results in a more cost-effective operations environment than with in-house, or with the full-service outsourcing provided by the major IT service providers. Nexus has made an extensive investment in people, processes, and tools for event management and problem resolution. This "operational efficiency" investment – well beyond the investment level most IT departments could afford to make – drives costs out and quality in to Nexus's services.

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WHAT ARE THE BENEFITS OF OUTSOURCING?

With the growing trend toward partially outsourced solutions, organizations have greater flexibility in meeting their needs. Outsourcing permits the company to focus on its core competencies and lets IT focus on core competencies that are unique or of special interest to the business. Specific advantages include:

COST/RISK REDUCTION

Nexus can reduce the costs and risks associated with IT project in several ways. First, we leverage buying for multiple customers to establish scale that cannot be matched by mid-sized organizations. This buying clout often gives us more influence with network providers and technology providers than individual mid-sized companies would have. This yields higher levels of responsiveness and quality.

Second, this also allows us to share the costs of major infrastructure components such as data centers, back-up generators, shared infrastructure, network connectivity, personnel, etc. across a number of customers to gain even greater efficiencies.

Third, by dealing with multiple instances of the same software and hardware, Nexus operations staff develops specific experience and efficiencies. This experience is increasing becoming more important as the complexity of e-Business applications grows and the demands for rapid development remain high. The cost of failure has never been higher, especially in light of ever tightening budgets.

COST AVOIDANCE

Cost benefits grow especially apparent as companies move business-critical applications to the web, as web enabling an application brings with it the understanding that it will be available 24/7. Mid-sized companies that provided support 9/5 are now looking at maintaining a round-the-clock IT staff. That means doubling and even tripling up on many highly specialized functions including database administrators, middle-ware experts, networking gurus, security experts, not to mention technical and customer support representatives to assist users. Avoiding the costs of staffing for this level of support are significant.

Other costs that can be avoided by outsourcing are the full costs of infrastructure – data center, networking, security and high availability devices, software, etc. – and of licensing or developing a range of tools for monitoring, event management, reporting, and testing. With outsourcing, the greater proportion of costs is avoided because, as with personnel costs, the resources are shared among many customers.

FOCUS ON CORE BUSINESS AND CORE COMPETENCIES

Companies may not have general IT expertise available and may not wish to develop and manage these skills since they are not related to the company's general business focus. For companies that have strong IT departments, focusing on critical software or unique skills makes it preferable to outsource general IT processes. In both cases, IT can focus on

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developing new systems and processes that support their company's strategy, rather than on the operational "care and feeding" of existing applications.

Improved Time to Market

Building a support infrastructure takes time, and this option may not be available for companies introducing new products and services. Outsourcing provides the ability to make rapid moves, speeding time to market and enhancing your company's ability to react to competitive threats, and to innovate.

Implementing new management systems and processes yourself can take several months or more, taking time and resources away from core IT activities and delaying the realization of the cost and performance benefits of more effective operations. Moreover, many in-house IT teams lack the experience and expertise required to effectively implement and integrate today's IT management systems — as evidenced by the amount of enterprise software owned but never implemented by enterprise buyers. Managing systems in-house also requires dedicated staff to monitor and track network, server, and application problems, creating an operational burden that many enterprises find too costly to maintain.

Compensate for Shortage of IT Staff

Global IT staffing shortages will continue to always be an issue. This is likely to continue, especially in specialized areas, which can be more efficiently provided through outsourcing. In addition, companies that maintain skills in-house often find that they pay a significant "training tax" when they have staff turnover. This includes not only the absolute costs of recruiting or retraining staff, but also the delays that these cause on strategic projects.

The flip side of this issue is the opportunity costs associated with trying to do everything in-house. If your IT people weren't managing your web site, what other things might they be doing? More than likely they would be working on areas that would derive more value and differentiation for the company.

A recent study by CTG entitled "Application Outsourcing: A Competitive Advantage Tool" determined "that basic maintenance and support of the existing application portfolio consumes up to 50% to 80% of a typical IT department's resources - posing a serious roadblock to the new initiatives and improved services that can enhance an organization's competitive position."

Reduced Capital Expenditures / Improved Access to Equipment

Investment in IT equipment, software, and infrastructure can be staggering. Startups and mid-sized companies may find that they have to delay strategic projects, due to restricted availability of capital to support them. Nexus can offer a viable alternative in that our support contracts are built on flexible billing options, freeing capital for other purposes while accelerating the ability to deploy new initiatives.

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Higher Availability

Another important consideration of any IT project is the cost of downtime. While downtime does not always perfectly equate to loss of revenue, it can hurt a company in a number of ways. First, if an enterprises Unified Communication Applications fail (Voice, Video, Contact Center, etc), it is assumed that all revenue-generating activities would cease. Prospective clients could simply call a competitor instead or existing clients would become frustrated at the in-ability to place orders. This can result in "un-seen" long term consequences of reduced revenues.

Nexus has built the infrastructure to support mission-critical, revenue-producing converged network applications. This frees your IT staff to focus on optimizing the use of the infrastructure and functionality of the site, which yields increased satisfaction across all your user constituencies – customers, partners, suppliers, employees.

Buffer from Changing Environment

Nexus also protects companies from technological obsolescence, further reducing capital investment demands while staying current with technology. We develop expertise with new technologies and, more importantly, with migrating from one environment to another, reducing the potential issues that arise from these transitions. We even have staff who specialize in migration and maintenance functions that could not be justified in an IT department because the skills are used infrequently.

In addition, by using the Nexus support, companies often gain significant flexibility to modify their environment to take advantage of shifts in technology.

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Is Outsourcing Right for Your Company?

Whether your pain is cost considerations, difficulty in finding and retaining skilled staff, the need to rapidly deploy strategic initiatives, or the need for higher levels of quality, the realities of the business climate put outsourcing on the map as an option to evaluate. But is it right for your company?

Gartner has conducted exhaustive studies on outsourcing adoption rates by industry. The high-level survey results presented at the Gartner Outsourcing Summit in April 2005 concluded:

- Adoption rates vary by vertical market
- Outsourcing drivers and inhibitors vary by vertical market

The highest adoption rate for IT and business process outsourcing was found among financial services companies ($57 million) with manufacturing running a close second ($45 million), and government a near third ($37 million). Approximately 61% of this global spending is for IT outsourcing (ITO) and the remaining 39% is for the newer concept of business process outsourcing (BPO).

The outsourcing drivers varied by industry, which can be seen by looking at the top reason executives in different vertical markets cited for their current and future planned use of outsourcing:

- Healthcare – Reduce costs
- Manufacturing – Enable internal IT staff to focus on strategic projects
- Retail – Operational efficiency
- Transportation – Standardize technology across company
- Utilities – Enable internal IT staff to focus on strategic projects
- Communications – Enable internal IT staff to focus on strategic projects
- Energy – Reduce costs
- Financial Services – Standardize technology across company
- Government – Enable internal IT staff to focus on strategic projects

Gartner's overall recommendation is to outsource the most inefficient processes and IT solutions, be they generic or industry-specific.

The choice of whether to outsource or not can only be made at the individual company level. It depends on a lot of factors, but a couple of key areas for consideration include:

Delays in Strategic Projects

If access to capital and expense resources has hampered efforts to launch new service initiatives or improve the functions of existing systems, outsourcing may offer a way of accelerating these projects.

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Outsourcing can also help in cases where it is difficult to adequately maintain the staff needed to deliver projects under tight timeframes. Here, IT staff is allowed to focus on the areas of greatest differentiation and value, rather than with managing the infrastructure.

Issues with System Performance or Scalability

Perhaps you have experienced an outage or performance issues that impacted customers or partners. Or you may be approaching a level of network demand that requires additional capital investments just to keep up it. Outsourcing can help address these concerns offering increased levels of availability, performance, security, and scalability, typically at costs significantly lower than a enterprises can achieve on their own.

Looking to Get Greater Return on Your IT Investment

Converged Network Unified Applications are becoming more critical to companies of all sizes. But just keeping up with all the technological advances can quickly devour IT budgets with little visible return. Outsourcing infrastructure and UC application management components can greatly improve the return a company gets on its investment through cost-savings of the leveraged infrastructure of a managed service provider as well as having their team focused on innovations in the applications that help differentiate the company.

In the next section, return on investment is examined in more detail.

Do the Math—Performing the Financial Analysis

The fundamental outsourcing value proposition is based on reduced total cost of ownership, or TCO. This is not to say that cost is the only factor driving outsourcing decisions. Enterprises also look to outsourcing to create predictable cost structures and refocus internal resources on core competencies. However, in the current economic environment, cost issues have a way of influencing other factors that drive outsourcing decisions. For example, the growth of distributed computing through client-server and Internet technologies has made application environments increasingly complex and difficult to manage cost-effectively in-house.

When determining the worthiness of an outsourcing decision, it is important to put a comprehensive set of financial figures – covering both obvious costs (such as physical equipment and infrastructure, and direct personnel) and hidden costs (management overhead, space allocation) - into a model for financial analysis, ensuring that the sourcing option with the highest value to the firm will be selected.

Comparing current budgets to proposed budgets, helps determine if the outsourcing decision is financially sound. The items used in the comparison are operating budget, overhead budget, and capital budget. By comparing these budgets we can determine the budgetary cost savings associated with outsourcing.

Additional costs, both tangible and intangible must also be calculated to determine any savings. Items to consider when creating a current cost budget include off-budget costs such as occupancy, training, and benefits. Support services such as management, human resources, and finance and administration should also be measured as well as capital costs, such as useful life, depreciation, and market value. Lastly, paying attention to assumptions,

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such as future volumes, service level requirements, technologies, and costs will play a large role in calculating and comparing the budgetary implications of current and proposed sourcing. Also, when considering proposed budget implications for the outsourcing initiative, it is helpful to bear in mind the providers' start-up cost, changes in volume and scope of services, changes in indexes or cost drivers, pass-through expenses, and retained costs.

Other budgetary costs, including planning costs, transition costs, oversight costs, actual and opportunity cost analysis, and additional costs and risks should be taken into account. Considering additional costs such as one-time costs, ongoing costs, and tangible and intangible costs is crucial. The calculation of current and proposed additional benefits may greatly impact the worthiness of an outsourcing proposal.

These additional benefit considerations include one-time benefits, ongoing benefits, tangible and intangible benefits, quality capacity, capital, opportunity benefits, and additional benefits and rewards such as organizational change, employee morale, breakthroughs, unexpected synergies, and new revenue opportunities.

ROI analysis is also a powerful tool when calculating whether an outsourcing initiative is beneficial to an organization. Cash flow, cumulative cash flow, payback, net present value, and internal rate of return are all factors that shape an organization's return on investment.

According to the Geller & Company study cited above, "...few organizations truly understand the total costs of their current financial and accounting operations. This often makes outsourcing appear more expensive than it actually is." Companies that conduct a thorough cost analysis generally find that outsourcing is profitable. A major Los Angeles hospital center reported that outsourcing the management of their business and clinical information systems resulted in a monthly drop in IS operation costs of 10 to 12 percent ($2 million annually) and an overall improvement in service quality.

By conducting a thorough financial analysis of both current and proposed budgets, an organization can be ensured that all costs are measured and the sourcing option with the greatest overall value to the firm will selected for sourcing.

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How Should an Organization Select an Outsource Partner?

Selecting an outsourcer requires careful consideration. Important things to look for include:

- Demonstrated expertise in the areas of interest, including past work for similar firms.
- Reasonable cost structure and a clear definition of services offered.
- Compatible infrastructure, including hardware, software, management tools, and network facilities.
- Good references from clients with similar needs.
- Organizational strength, including size, time in the business, and reputation.
- Adequate staffing and management structure to handle normal operations and well as emergencies.
- Service Level Agreements
- Work Style/Process– Extension of IT Staff.
- Experience with and commitment to the mid-sized and large enterprise.
- The ability to provide full suite of services (including incident response and on-going application maintenance), either on their own or through partnerships with Systems Integrators and/or OEM manufacturers.
- Technology that provides full visibility to the customer's IT group, and supports multiple groups working in collaboration.

Traditional full-service outsourcing delivery models developed for large enterprises with IT investments do not translate well to the needs of mid-sized companies. Outsourcers and service providers need to operate as a partner with the customer, rather than just a vendor. This means finding ways of managing changes without requiring voluminous processes or paperwork and finding ways of fostering uncompromising cooperation.

Outsourcing – Your Solution for Regulatory Compliance

Compliance today means adherence to at least a score of governmental regulations at various levels,

Including but not limited to Sarbanes-Oxley, Gramm-Leach-Bliley Act, HIPAA, California Security Breach Information Act, European Union Data Protection Act / Safe Harbor, and SEC Rule 17a-4. Most of these regulations, from an information technology perspective, pertain to

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the security of data, data that needs to be protected at the application and/or infrastructure layer.

For many companies, compliance is not only a costly and time-consuming effort; it is also a distraction, a function that diverts resources from the company's main business objectives. By outsourcing compliance, companies can therefore save time, save money, and focus on their core businesses.

Still, it's not always an easy decision. If you're responsible for compliance and the security of your company's and your customers' most private data does it make sense to entrust someone else with that job? In many if not most cases, the answer is yes. And the reason is simple. Security is not your area of expertise. There are, however, firms that do specialize in just that, and have made a significant investment in the tools required to provide for data security and regulatory compliance.

CONCLUSION

Mission-critical converged network applications are increasingly pervasive. This increases demands for 24/7 support, high availability, quick performance, and complete security. At the same time, complex and often contradictory pressures to deliver faster yet with fewer people and lower costs are forcing companies to consider new ways of doing business. Traditional full-service outsourcing delivery models developed for large enterprises with IT investments measuring in the tens of millions typically do not translate well to mid- sized companies.

Fortunately, there are alternatives, including service providers like Nexus, which have developed custom infrastructure and services based on client needs. We operate as a partner with the customer, rather than just a vendor. This creates not only operational efficiencies, but also significant cost- savings in a number of areas.

Outsourcing can build long-term, sustainable competitive advantage. It does this by changing the rules and extending the organization's reach. Companies can focus on areas that are core to their business and that derive true business value and differentiation. Outsourcing, new technology, and new processes are an amazingly powerful combination and can be enjoyed by companies of all sizes. It enables companies to cost-effectively operate in Internet time and space, without sacrificing the availability, security, and reliability that mission-critical applications demand.

ABOUT NEXUS

Nexus, Inc. deploys, manages and enables Unified Communications and Contact Center software applications and infrastructure for middle-market to large organizations, which include mid-sized companies, large multi-national companies and government agencies.

The Company offers a full range of business communications services including design, implementation, optimization, upgrade, Microsoft application deployment, remote UC application management, and managed network infrastructure support services.

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The Company offers vertical expertise in the manufacturing/distribution, financial services, healthcare/pharmaceutical, services, publishing/media & communications, and public sector industries.

Nexus was founded in 1983 and is headquartered in Valencia, California, with 13 offices in 4 western US States as well as Global Partnerships. For more information, please visit **www.NexusIS.com** or call **800-536-2400**.

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Nexus Care Managed Services

Chris DesRosiers

Managed Services Practice Manager

Challenges

- Prospective Customers often…
  - Need to monitor each critical component of their network but determine that the costs of hiring, developing processes, purchasing tools and maintenance contracts were just to high?
  - Feel like outsourcing means losing control of their network?
  - Have been unable to justify a 24/7 staff?
  - Have trouble developing and retaining knowledgeable staff with experience in converged networks?
  - Spend too much time in help desk activities as opposed to strategic projects?
  - Have difficulty projecting support costs over extending period to time?
  - Feel bound by in-flexible support contracts?

Value of Nexus Care Managed Services

- The ability to provide full suite of services (including incident response and on-going application maintenance), either on their own or through partnerships with Systems Integrators and/or OEM manufacturers.
- Demonstrated expertise in the areas of interest, including past work for similar firms.
- Reasonable cost structure and a clear definition of services offered.
- Lower Total Cost of Ownership vs. In-house support build out
- Organizational strength, including size, time in the business, and reputation.
- Adequate staffing and management structure to handle normal operations and well as emergencies. Able to scale quickly
- Experience with and commitment to the mid-sized and large enterprise.
- Technology that provides full visibility to the customer's IT group, and supports multiple groups working in collaboration.

Why Nexus?

Experience

- 10 years of Nexus Technical Assistance Center in a 26 year old company
- NTAC, Nexus IS Technical Assistance Center provides remote support for products by Cisco, NEC, Microsoft, many 3rd party applications.

Expertise

- **in All Disciplines and defined career paths / skill sets**
  - **WAN / LAN**
  - **Security**
  - **Call Manager**
  - **Unity Messaging**
  - **IPCC Enterprise**
  - **IPCC Express**
  - **Cisco Collaboration**
    - **Telepresence**
    - **Meeting Place**

Why Nexus?

Execution

- Formalized Stewardship Meetings
- Monthly Reporting
  - All Call Activity
  - Open and Closed Activities
  - Response Times
  - Repair Times
  - Service Survey Support
  - Dedicated Primary Engineers
  - Customer Support Knowledgebase

- NTAC Support Desk
  - Live Date August 1, 2006
  - Complete Case History
  - Full Support Knowledgebase
  - SLA Alert System
    - Engineers
    - NTAC Management
    - Nexus Management / Executive Team
  - Reporting
  - Statistics and Trend Analysis
  - Call Escalation & Notification
  - Webserver for Customers to Open Cases and Check Status of Cases
  - Customer Feedback Survey

Nexus vs. other solutions

Service Features	SMARTnet	Nexus Care Connect	Nexus Care Prime	Nexus Care Pro
Single Point of contact for Cisco and Other Technologies		X	X	X
VPN up/down monitoring		X	X	X
Flexible, pay as you go, Block of Hours		X	Optional	Optional
24 Hour Configuration, Diagnostic and Troubleshooting	X		X	X
Priority Escalation for Case Assignments	X		X	X
OS Software Patch and Maintenance Releases	X		X	X
Formal Monthly Stewardship meetings			X	X
Adv. Monitoring on UC Applications				X

Customer owns the issue!

NEXUS™

Nexus Care "Connect"

A Block of Hours with a VPN

- Work effort is paid for exactly like Block of Hours
- Adds the following features:
  - Nexus Care Connect VPN is added
  - Nexus Care Connect has two functions:
    - SSL/VPN connection solution.
    - monitors up/down status of a device.
  - If device fails, Nexus IS can proactively contact customer to initiate remediation services or stand by pending customer investigation.
  - Nexus Care Connect can only connect to devices it's licensed to connect to – no "roaming" on network.
  - Must always include Block of Hours to enable support from NTAC
  - Client must agree to equipment on their site
  - Pre-Paid contracts only with annual rental of VPN equip.
- NTAC Support Desk Ticket Tracking Available

Nexus Care "Prime" Tech Support

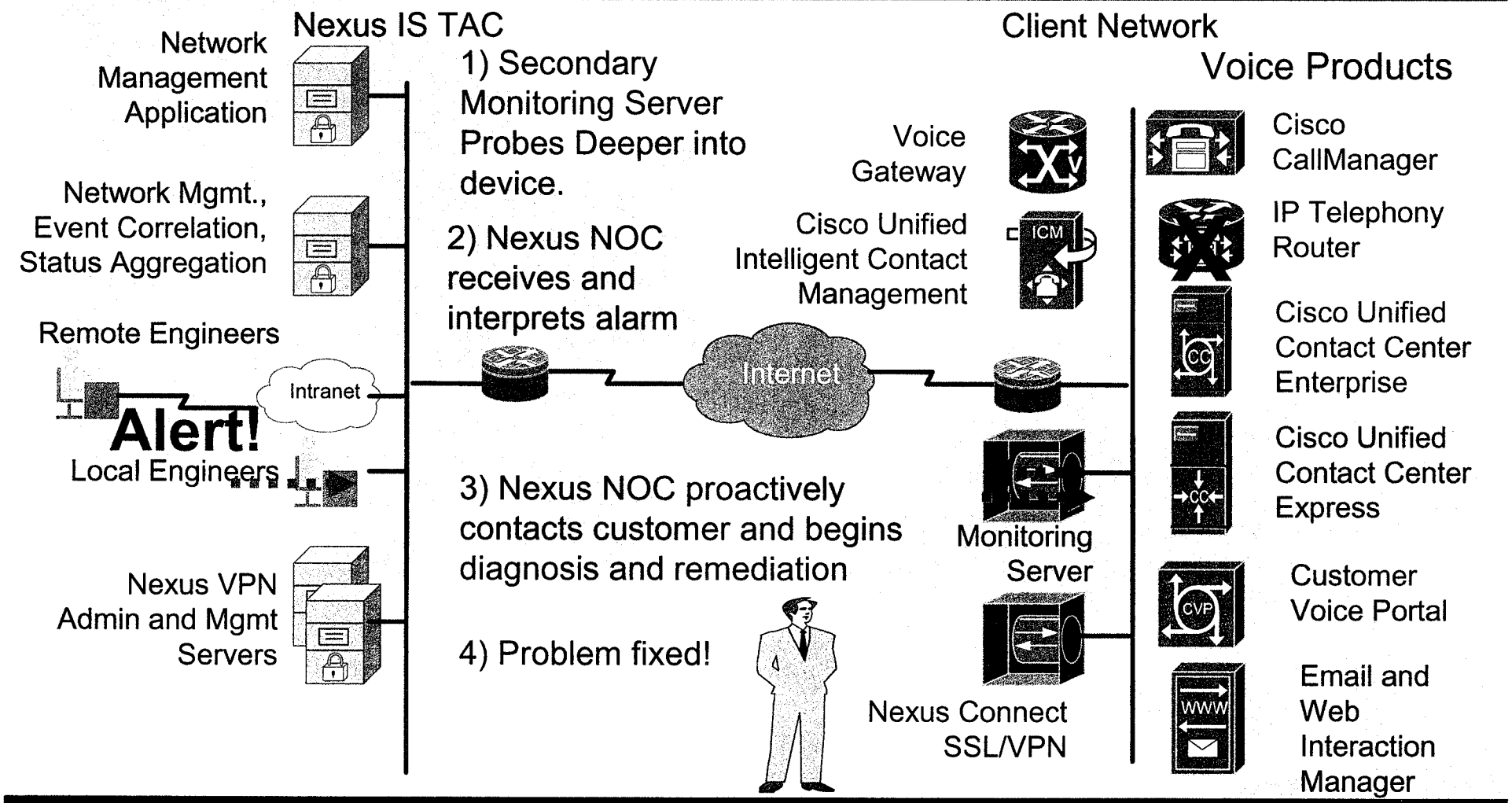
- Designed to cover break/fix remediation on fixed number of devices
- Term based (12,24..60 Months)
- Uses same Nexus Care SSL/VPN
- Customer-elected MAC work now become separate and billable (via BoH)
- Required UC App. Server and OS Service patch upgrades included
- Basic Up/down monitoring included
- Monthly, Quarterly or Pre-paid contracts
- Monthly Stewardship meetings
- 24X7 Technical Support within NTAC
- Support for select 3rd Party Applications
- NTAC Support Desk Ticket Tracking Available

Nexus Care Pro Monitoring and Tech Support

- Designed to cover break/fix remediation on fixed number of devices
- Term based (12,24..60 Months)
- Uses same Nexus Care SSL/VPN
- Customer-elected MAC work is separate and billable (via BoH)
- Required UC App. Server and OS Service maintenance and patch upgrades included
- Robust network monitoring IS included
- Monthly, Quarterly or Pre-paid contracts
- Monthly Stewardship meetings
- 24X7 Technical Support within NTAC
- Support for select 3rd Party Applications
- NTAC Support Desk Ticket Tracking Available

NEXUS

Nexus Care Pro Deep Monitoring in Action**



**Applies to Nexus Care Pro with VPN in place

NEXUS

Nexus Care for Cisco Telepresence

Concierge Service

- Supplements customer internal helpdesk for TP users
- Real-Time Troubleshooting Service before, during, after Video Conference
- Available 5 AM to 5 PM, Monday to Friday

Quarterly On-Site Tune Up Service

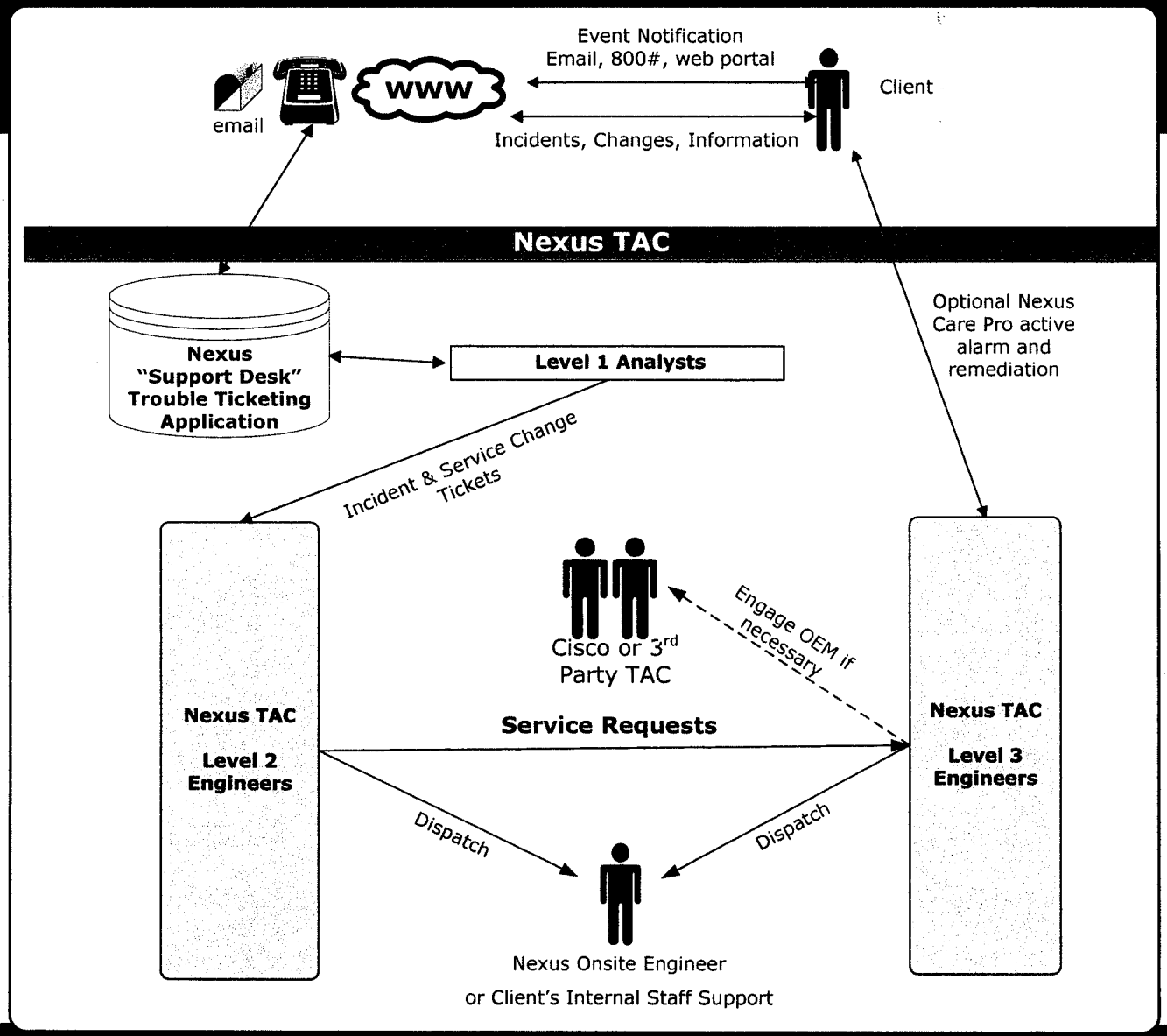
- Replicates TelePresence Certification and Acceptance Testing
- Maintain same experience as day one

Emergency On-Site Engineering

- Onsite incident response
- Provides a TelePresence team engineering resource at Client premise if needed

Nexus Care for Cisco Meetingplace

- Technical Support 24 x 7 x 365
- Ongoing Consulting
- Software Release Assessment and Planning
- **Major** and Minor Software Upgrades
- Verification Testing
- Monthly, Quarterly or Pre-paid contracts
- Term based (12,24..60 Months)
- MAC's available via Block of Hours for custom work


Event Notification
Email, 800#, web portal
email
www
Client
Incidents, Changes, Information
Nexus TAC
Nexus "Support Desk" Trouble Ticketing Application
Level 1 Analysts
Optional Nexus Care Pro active alarm and remediation
Incident & Service Change Tickets
Cisco or 3rd Party TAC
Engage OEM if necessary
Nexus TAC
Level 2 Engineers
Service Requests
Nexus TAC
Level 3 Engineers
Dispatch
Dispatch
Nexus Onsite Engineer
or Client's Internal Staff Support

NEXUS

New Features for August 2008

Nexus Care Prime and Pro –

•Regularly Scheduled MONTHLY Stewardship Meetings for Prime and Pro

•NO CHARGE for Vulnerability Patches and Bugs added for Prime and Pro

•NO CHARGE for Maintenance Release Upgrades for Pro (Prime is billable)

Nexus Care for Meeting Place –

•Regularly Scheduled QUARTERLY Stewardship Meetings

	Included with Nexus Care Prime	Included with Nexus Care Pro
Cisco IOS based products		
Bug Fixes and Features		
Maintenance Release Upgrades i.e.12.4(7) to 12.5(2)T	Not included, Billable	Yes
Mandtory Bug and Security Fixes		
Patch Release Upgrades i.e. 12.4(7) to 12.4(7b)	Yes	Yes
Cisco Unified Communications Manager (Call Manager)*		
Bug Fixes and Features		
Maintenance Release Upgrades	Not included, Billable	Yes
Mandtory Bug and Security Fixes		
Patch Release Upgrades	Yes	Yes
Cisco Unified Messaging (Unity)*		
Bug Fixes and Features		
Maintenance Release Upgrades	Not included, Billable	Yes
Mandtory Bug and Security Fixes		
Patch Release Upgrades	Yes	Yes
Cisco Unified Customer Contact Solutions*		
Bug Fixes and Features		
Maintenance Release Upgrades	Not included, Billable	Yes
Mandtory Bug and Security Fixes		
Patch Release Upgrades	Yes	Yes
*** Applies to both underlying OS and Application as necessary**		

Server Specifications

MA4000:

- 1.6 GHz Dual Core Intel Xeon Processor (one)
- 2GB RAM
- 73GB Hard Drive (one)
- DVD-ROM drive
- 4 USB 2.0 Ports
- Microsoft Windows 2003 Server Operating System

UCB:

- Windows 2000, Windows Server 2003 SP1, Windows 2003 R2
- .NET Framework v2.0
- Base Configuration: Pentium 3 GHz or higher
- High Traffic Configuration: Dual Processor 3.0 GHz

Notes:

- If there is an increase in extensions (implicit in BHCC) dual Pentium
- should be considered.
- If the system is to be utilized 24 hours a day, seven days a week, then Dual Processor is required (as for high traffic configuration above).
- If the Call Centre is not operational when you run system backups then a single CPU server is sufficient, however, a dual processor is recommended.
- Super VGA (800 x 600), or higher resolution, video adapter and monitor
- CD-ROM drive
- 3.5" Floppy Disk drive
- USB Port
- Mouse or other pointing device
- Keyboard
- PCI slots (64 and/or 32 bit slots to support voice cards as required)

MTS:

- 1.6 GHz Dual Core Intel Xeon Processor (one)
- 2GB RAM
- 73GB Hard Drive (one)
- DVD-ROM drive
- 4 USB 2.0 Ports
- Microsoft Windows 2003 Server Operating System

AVST:

Number of Voice Ports	0 - 16 Voice Ports	17 - 24 Voice Ports	25 - 48 Voice Ports	49 - 64 Voice Ports	65 - 96 Voice Ports	97 - 144 Voice Ports	145-192 Voice Ports
Onboard Fax Ports (see notes 1 and 2)	Up to 4	0	0	0	0	0	0
Text-to-Speech Channels	Up to 4	Up to 8	Up to 16	Up to 16	Up to 16	Up to 24	Up to 24
TUI-based E-mail	Yes	Yes	Yes*	Yes*	Yes*	Yes*	Yes*†

Access							
Unified Messaging/ Unified Communications	Yes	Yes	Yes*	Yes*	Yes*	Yes*	Yes*†
Integrations:							
Inband (Single)	Yes	Yes	Yes	Yes	Yes*	Yes*	No
Serial Outband (including NTDIU-based integrations; single; see note 3)	Yes	Yes	Yes	Yes	Yes*	Yes*	No
Dialogic D/82 (single)	Yes	Yes	Yes	Yes	Yes	No	No
T1 Based (single)	Yes*	Yes*	Yes*	Yes*	Yes*	Yes*	Yes**
E1 Based (single)	Yes*	Yes*	Yes*	Yes*	Yes*	Yes*	Yes*‡
Cisco CallManager SCCP IP	Yes	Yes	Yes	Yes*	Yes*	Yes*	No
Cisco CallManager Express IP	Yes	No	No	No	No	No	No
Nortel CS1000 IP	Yes	Yes	Yes	Yes	Yes	No	No
Other IP Based (single) (see note 5)	Yes	Yes	Yes	No	No	No	No
Multiple-Switch	Yes*	Yes*	Yes*	Yes*	Yes*	Yes*	Yes*
Processor Group	A	A	B	C	C	D	D
RAM	512 MB	512 MB	512 MB	512 MB	1 GB	2 GB	2 GB

AVST RightFax:

- Microsoft Windows Server 2003 (Standard or Enterprise) SP2; Windows 2000 Server (Standard and Advanced) SP4
- Microsoft SQL Server 2005 Express Edition, SQL Server 2005 (Standard or Enterprise Editions), SQL 2000 Server (Standard or Enterprise)
- Microsoft XP Professional SP2, Windows 2000 Professional SP4
- Microsoft Internet Explorer 6.0 SP2
- 2.4 Gigahertz (GHz) or higher Pentium IV compatible CPU
- 1 Gigabyte (GB) memory
- Installed programs require 1.2 GB* hard disk
- Supports single and dual Central Processing Unit (CPU) systems
- CD-ROM or DVD drive; SVGA (800x600) or higher resolution monitor; keyboard

<u>Client Specifications:</u>

AVST Client:

- Microsoft Outlook XP, 2003, and 2007
- IBM Lotus Notes R6.5, R7.0, R8.0

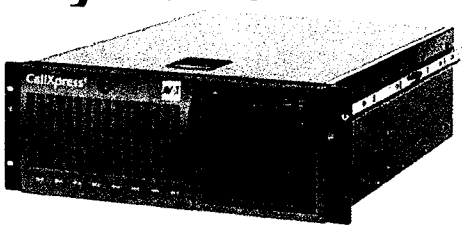
UCB Agent Desktop/Executive Desktop Client/PC Attendant

- Windows 2000, Windows XP SP2, Windows Vista

- Pentium II 266 or greater with 256MB RAM (Windows XP: PII 800 and minimum 512MB RAM)
- Screen resolution 1024x768 (minimum)
- Sound Card
- Mouse
- Ethernet Connection to a local area network (LAN)
- Network to which CTI Application Server is also attached

CallXpress®
I-4000 Telephony Server

DATASHEET



Performance, Scalability, and Investment Protection All In One Server

The CallXpress I-4000 delivers the best combination of dual-processing performance, high availability, and telephony card integration in a cost-competitive system. This next-generation platform delivers the features required to deploy medium density telephony applications not available from other vendors, in a scalable pedestal or 4U rack-mount form factor.

High Performance

Featuring the power of dual Intel® Xeon® 3.2 GHz processors with 800 MHz Front Side Bus in a compact 4U platform, the CallXpress I-4000 is a top of the line server that delivers high performance, system reliability, and configuration flexibility in an open-standards based platform. Extended 64-bit Memory Technology (EM64T) and Hyper-Threading Technology is supported in processor, memory, and chipset for maximum performance throughout the system.

Telephony Support

The CallXpress I-4000 delivers telephony specific features that enable rapid delivery of communications applications. With five PCI-X slots, the I-4000 supports five full-length, full-height telephony cards providing up to 5 T1 or 4 E1 spans. Since telephony cards require more processing, power, and cooling, you can be assured that the I-4000 will hold up to demanding requirements.

Availability and Redundancy

To satisfy the most rigorous application requirements for demanding 24x7 environments, the CallXpress I-4000 provides non-stop operation with redundancy of critical components including hot-swap N+1 redundant power supplies, hot-swap hard drives, and hot-swap cooling fans. Tool-free, front access to key components, including drives and power supplies reduces Mean-Time-To-Repair (MTTR). Designed to increase uptime and maximize productivity, the I-4000 features RAID via a SCSI RAID controller and dual Gigabit Ethernet.

CallXpress I-4000 Specifications

Processor	Dual Intel Xeon 3.2 GHz standard with 2 MB L2 Integrated Advanced Transfer Cache, 800 MHz Front Side Bus and Hyper-Threading Technology
Memory	Up to 16 GB DDR 333 MHz buffered ECC SDRAM (2.5 V); Dual-channel memory bus
Chipset	Intel E7520 chipset
Expansion	(2) 64-bit 133/100 MHz PCI-X (3.3V) slots for 2 full-length full-height telephony boards; (4) 64-bit 100 MHz PCI-X (3.3V) slots for 4 full-length full-height telephony boards
Peripherals	1.44 MB floppy drive; DVD-RW
Storage	(1) 73 GB or (3) 73GB (RAID 1) SCA Ultra320 SCSI, 8 hot-swap 1-inch drive bays for supporting 8 hot-swap drives:
RAID Controllers	Zero-Channel RAID with Adaptec 2010S ZCR card (uses 1 PCI-X slot)

Network	Embedded Dual Broadcom BCM5721 Gigabit Ethernet controller supports 10/100/1000 BASE-T with two RJ45 jacks
Video	ATI Rage XL SVGA PCI video controller with 8 MB of video memory
Input/Output	4 USB 2.0 ports (2 front, 2 rear; 1 extra internal); PS/2 keyboard and mouse ports; 2 Fast UART 16550 serial ports
Power Supply	(3) 380W AC redundant hot-swap ATX PSUs providing 760W of N+1 power
Cooling	(4) 5000 RPM hot-swap cooling fans; (2) 5000 RPM rear exhaust fans
OS Support	Microsoft® Windows 2003 Server
Management	BIOS event logging; Super Doctor III supports local & remote web-based system and component management
Security	System BIOS and operating system password, locking bezel, and chassis intrusion detection, SDDC support
Front Panel	On/Off power button and system reset button; 6 LED indicators: power, hard drive activity, power fail, 2 for network activity, and system overheat
Form Factor	Pedestal or 4U rack-mount
Dimensions	Height 7.0 inches (177 mm), Width 17.1 inches (434 mm), Depth 25.5 inches (647 mm), Gross Weight 65.5 lbs (29.71 kg)
Compliance	ACPI compliant BIOS; SAF-TE compliant SCSI backplane; PCI-X and PCI-Express compliant; IMPI v2.0 compliant; USB v2.0 compliant; Extended ATX motherboard and ATX PSUs
Regulatory Approval	System certified with 6 telephony boards: UL/CUL/CSA; CE Mark, CE Safety; FCC Part 15, Class A; ISTA Certified; VCCI (Japan)
Environment	Operating temperature 10 to 40C; 50° to 104° F; Non-operating temperature -40 to +70C; -40° to 158° F; Humidity 8 - 90% non-condensing; Non-operating humidity 5 - 95% non-condensing
Warranty	Covered by a one-year warranty with optional extended warranties

I-4000 Power Supply

760W AC Total	Triple-Redundant 760W AC power supply with PFC: (3) 380W AC redundant hot-swap ATX PSUs providing 760W of N+1 power; 24-pin, (8-pin, 4-pin) = 12V
AC Voltage	100V - 240V, 50-60 Hz, 14A Max
DC Output	5V + 3.3V = 200W; +5V: 36.0A; +5V standby: 3.5A; +12V: 50.0A (combined); -12V: 1.0A; +3.3V: 36.0A

For More Information

Applied Voice & Speech Technologies, Inc. ("AVST") is a leader in the unified communications ("UC") marketplace uniquely combining the strengths of its world-class messaging platform, CallXpress®, with its speech-enabled call management module, Seneca®, to create a powerful, next-generation unified communications solution. The Company's products are designed to scale and support organizations of all sizes. For more information please contact: www.avst.com or +1.949.699.2300.

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UNIVERGE® SV8500 Communications Server

The Premier IP Communications Server

The UNIVERGE SV8500 is a powerful enterprise communications solution capable of supporting up to 16,000 endpoints in a single system. Reliable, scalable and energy-efficient, it is an advanced application server that supports voice, unified communications and mobility solutions for tens of thousands of users. Designed to easily and efficiently scale, the SV8500 meets the needs of the largest enterprises, supporting up to 192,000 ports in a networked environment.

At a Glance

- Increase customer satisfaction and lower expenses
- Supports open standards for simplified business process integration
- Provides advanced applications and reliable business continuity support
- Complies with green standards

As a part of NEC's UNIVERGE®360 commitment to putting people in the center of communications, the SV8500 unifies the enterprise through the high-efficiency technology that large enterprises require. The SV8500 is the premier IP communications server for regional and global expansion, worker mobility and environmental responsibility. It offers an extensive IP feature set in a flexible, scalable, secure package.

Increase Customer Satisfaction and Lower Expenses

Enable your customers to reach workers wherever they are. The SV8500 extends communications to branch and international offices simply and cost-effectively. It supports a number of NEC's mobility-enhancing tools that empower users to be productive whether they are at their desks or have stepped away. Individuals, departments and locations can work more efficiently by communicating seamlessly in real time.

Provide Business Continuity

The SV8500 ensures business continuity through component redundancy. It also provides IP fail-over for stations and trunking, clustered survivability, power failure transfer and call routing for self-healing networks. Its architecture is ideal for mission-critical situations. Advanced fault diagnosis, error-correcting memory, and component redundancy all ensure high availability and operational continuity.

Simplify Business Process Integration

The SV8500 provides support for open-standards for integrating communications into business process applications. This facilitates process simplification. Standards and devices supported by the SV8500 include:

- SIP-enabled devices
- LDAP-compliant databases
- Java™ and XML
- Managed data network infrastructure
- The UNIVERGE OW5000, an integration platform for UC solutions such as Microsoft® Office Communications Server and IBM® Lotus® Sametime®

Delivers Advanced Applications

The SV8500 provides cutting-edge features that optimize the customer experience and maximize enterprise resources. Some of the applications supported are:

- NEC's UC for Enterprise client and mobility applications include UM8500 Unified Messaging, the UC700 Desktop Client and UC Collaboration Module and the MC530 Mobile Client. This offers unified communications, fixed mobile convergence and advanced collaboration tools.
- UNIVERGE DT700/DT300 Series desktop phones raise the standard with an extensive feature set, XML application support, and a revolutionary modular design.
- NEC's softphone, which integrates communications into the computing environment to eliminate the need for a physical phone and extend the desktop around the world.
- UNIVERGE MA4000 Management System is a web-based management application that enables users to access the system remotely through a personalized portal to configure their communications options. Additionally, the MA4000 Expense Manager offers call accounting, asset management, mobile management, and billing and invoice reconciliation.

Support Green Initiatives

The SV8500 is an ecologically sound, compact system that uses 23% less power than previous generations of IP communication servers. NEC provided special attention to its environmental impact and delivered a RoHS compliant system that includes:

- Reduced air conditioning requirements for the server
- Recyclable materials and components that use environmentally safe chemicals
- Elimination of lead and mercury in circuit boards
- Documentation provided in electronic format rather than paper booklets

Networking

The SV8500 can be incorporated into networks that contain SV7000 and/or NEAX2400 systems to provide a path to IP. The SV8500's interoperability enables it to protect your investment in previous products such as the NEAX 2400 ICS, IMX and IPX.

Using both FCCS (Fusion) and CCIS networking for seamless integration, the SV8500 can also be networked with other NEC products, including the NEAX 2000, the SV8100 and the SV8300. This provides the customer with a broad range of server options to address needs at the edge of the network as well as the core.

UNIVERGE360 is NEC's approach to unifying business communications. It places people at the center of communications and delivers on an organization's needs by uniting infrastructure, communications and business.

UNIVERGE 360

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For more information, visit www.necunified.com

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UNIVERGE® SV8500 Communications Server

The Next Generation Server for Pure IP

At a Glance

- Offers secure end-to-end communication
- Uses open standards to provide an advanced communication platform
- Integrates with current IT infrastructure
- Complies with green initiatives

With the UNIVERGE SV8500 Communications Server, NEC has realized the promised potential of IP telephony through a forward-looking, highly efficient system that provides the investment protection required by today's enterprise. It embodies NEC's UNIVERGE®360 commitment to unifying communications by providing a flexible, scalable solution that uses open standards, a large pool of compatible applications, and mobility options to meet each user's needs.

The SV8500 is also the premier IP communications server for regional and global expansion, worker mobility and environmental responsibility. It offers an extensive IP feature set in a flexible, scalable, secure package that ensures business continuity and provides the means to simplify business processes.

pecifications

Dimensions	3 Rack Units high, 19 inches wide
System voltage	100-240V AC or -48 VDC
Processors	Intel Dual Core Duo 2.16GHz
Slots	10
Number of Ports	25-24,576
Trunks	
Analog Trunks (COT):*	20,000+
T1/PRI Channels:*	20,000+
IP Trunks (SIP):*	16,000+
Stations	
Digital Terminals:*	20,000+
Analog Terminals:*	20,000+
IP Terminals (hard/soft):	16,000
Networking	
FCCS networking (IP):	64 nodes
CCIS networking (T1/IP):	64 nodes
Ports:	up to 192,000
Standards	
Devices:	SIP-enabled
Databases:	LDAP-compliant
Languages:	Java and XML
Wireless LAN:	802.11 a/b/g
Other:	802.3af
Applications	
Internal ACD:	Max 1000 stations
OAI support:	UNIVERGE 3rd party apps
Conference Bridge:	Max 32 ports/card; Max 255 cards
Regulatory Compliance	• FCC part 15, Class A & part 68 • UL 1459 • Section 508 compliant • CSA standard C 22.2 No. 225 • CE Mark • Industry Canada (IC) CS-03

* Based upon system configuration

Available Options

Optional 1 RU MPC Chassis Cards	
6COT MG	6 analog trunks
4LC2COT	4 analog & 2 trunks
PRI MG	1 PRI trunk
8LC	8 analog stations
VS-32 Conf. Module	32 conference ports
T1 MG	1 T1 trunk
MGSIP	16 SIP trunks

Optional Features	• 2 redundant Ethernet ports • High Speed internal communication bus • Redundant power supply options • Encryption • Mobile Client • UNIVERGE IP & Digital Terminals (Desktop & DECT)

Optional Gateway Chassis	
Height:	8 RU high
Availability:	For high-density TDM digital and analog interface cards
Universal Card Slots:	17

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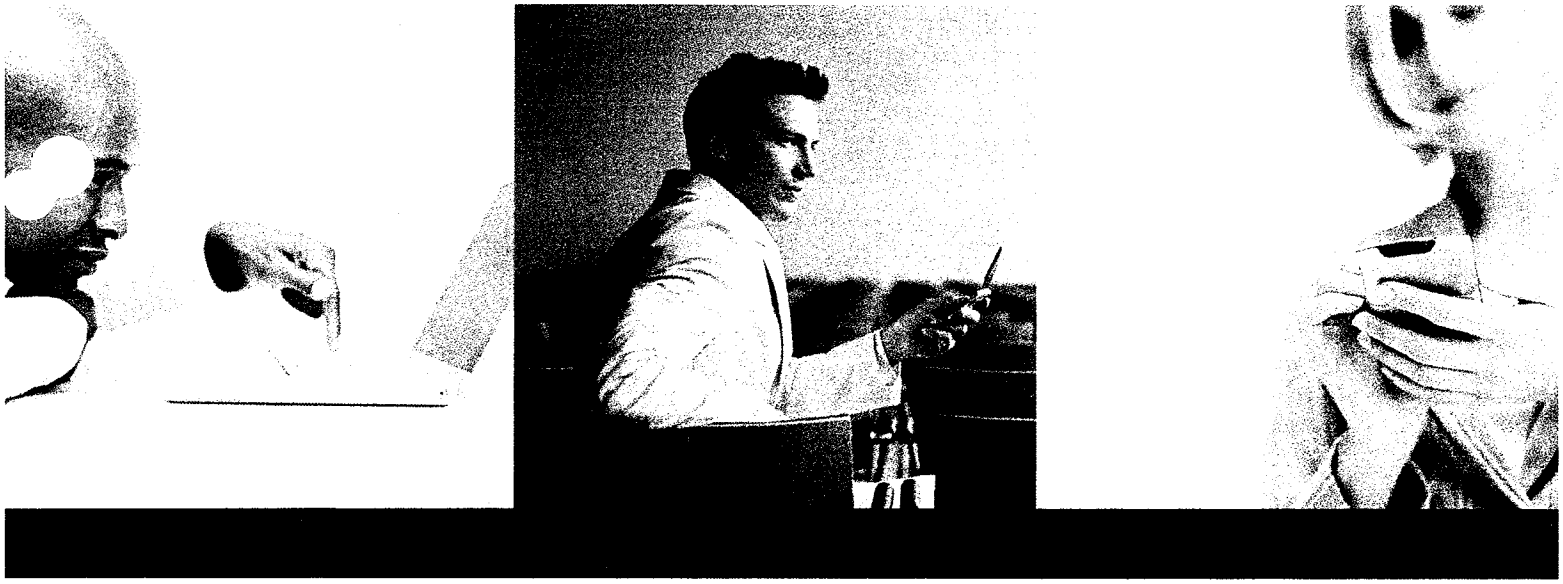

UNIVERGE® SV8300 Communications Server

Fulfilling the promise of UNIVERGE®360

The speed of business today demands efficient, seamless communications to enable rapid decision-making and customer responsiveness. To succeed at this accelerated 'evel, medium-sized businesses must have the right communication tools. NEC provides those businesses with the communications and networking solutions that enable them to succeed.

At a Glance

- Scalability for the growing business
- Support for VoIP and traditional voice
- Enhanced centralized management
- Increased productivity
- Diverse features
- Seamless networking

The UNIVERGE® SV8300 Communications Server is a robust, feature-rich solution that is completely scalable and can be expanded to meet a medium-sized business's communications needs now and in the future.

Scalability for the Growing Business

The SV8300 functions alone or in a network and can expand to meet all of your business communication needs, including mission-critical data applications.

Support for VoIP and Traditional Voice

You can deploy a pure IP solution or any combination of IP and traditional circuit-switched technology on a single SV8300. It provides the ability to customize the best communications solution for your business.

Enhanced Centralized Management

The SV8300 offers centralized management of phone system, data system and enterprise platforms; moves, adds and changes of SV8300 phones are quick and easy. Simply plug any phone into any jack wherever it's needed. It's ready to go!

Investment Protection

Protect your technology investment while providing a migration path to pure IP. The SV8300 has the flexibility to support your existing traditional circuit-switched technology and can be fully utilized to run in a pure IP environment.

Increased Productivity

The SV8300 delivers a full suite of advanced applications and a high-powered feature set that helps businesses run smoothly. Workers can manage their calls more easily, and the mobility that the SV8300 provides to staff helps customers access your employees even while they are away from their desks.

No other solution provides medium-sized businesses with more versatility than the SV8300. Designed to be both versatile and scalable, the SV8300 meets a growing business's needs. All communication methods are supported – whether IP, video or Wi-Fi. Its resources and features can be transparently shared between branches or remote locations by networking SV8300s, which provides a lower total cost of ownership.

Any medium-sized business can benefit from the advanced, enterprise-grade applications supported by the SV8300. The SV8000 Series Hospitality Management Solution is even embedded in the SV8300 for simplified license activation. Additionally, the SV8300 offers a full range of advanced features to select from.

UNIVERGE360 is NEC's approach to unifying business communications. It places people at the center of communications and delivers on an organization's needs by uniting infrastructure, communications and business.

Diverse Features

The SV8300 streamlines communications for the entire organization with its diverse suite of features and applications. It enables individuals, departments and locations to work more efficiently by ensuring seamless internal and external communications.

Support is provided for a wide range of tools and features that enhance productivity. Features including Calling Number and Name Display, Conferencing, Soft Keys, Voicemail, Unified Messaging and Speed Dialing are all supported. Cordless and wireless handsets and softphones provide cost-effective mobility and convenience.

Windows®-based PC Pro provides centralized online HTML-based programming access. With this intuitive browser software and its easy-to-follow wizards, programming is simplified and the time needed to complete it is reduced.

Seamless Networking

The SV8300 provides IP communications, such as data, multimedia and voice, over one network. There is no need to run two sets of wires for voice and data; one wire does it all.

Branch or remote locations can be seamlessly linked to share resources and features through peer-to-peer connectivity; the SV8300 easily links to other NEC communication servers such as the SV8100 and the SV7000. A geographically distributed unified system with a single image can be produced by using NEC's UNIVERGE MA4000 Management System to ensure application integration, feature transparency and survivability in the even of network failures.

For medium-sized businesses that want the communication capabilities of a large enterprise, NEC's SV8300 Communications Server provides the scalability and flexibility to meet all of your communication needs.

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UNIVERGE® SV8300 Communications Server

Fulfilling the promise of UNIVERGE®360

At a Glance

- 19" stackable chassis architecture
- Support of up to 1152 IP stations and 512 trunks
- Open standards and Open Application Interface, including SIP and XML
- Enables Unified Communications integration

The speed of business today demands efficient, seamless communications to enable rapid decision-making and customer responsiveness. To succeed at this accelerated level, medium-sized businesses must have the right communication tools. NEC provides businesses with the communications and networking solutions that enable them to succeed.

The UNIVERGE SV8300 Communications Server is a robust, feature-rich solution that is completely scalable and can be expanded to meet a medium-sized business's communications needs now and in the future. Benefits of the SV8300 include:

- **Rack-stackable architecture**- The SV8300's stackable chassis supports server functions, media gateways and media converters in a single unit.
- **Support for both VoIP and traditional voice**- Deployment of a pure IP solution or any combination of IP and traditional circuit-switched technology is supported on a single SV8300 system.
- **Application integration**- Applications are easily accessed through simple license activation.
- **Scalability**- As your business grows, so do its communication needs. The SV8300 seamlessly scales to 2048 ports in a single system network image.

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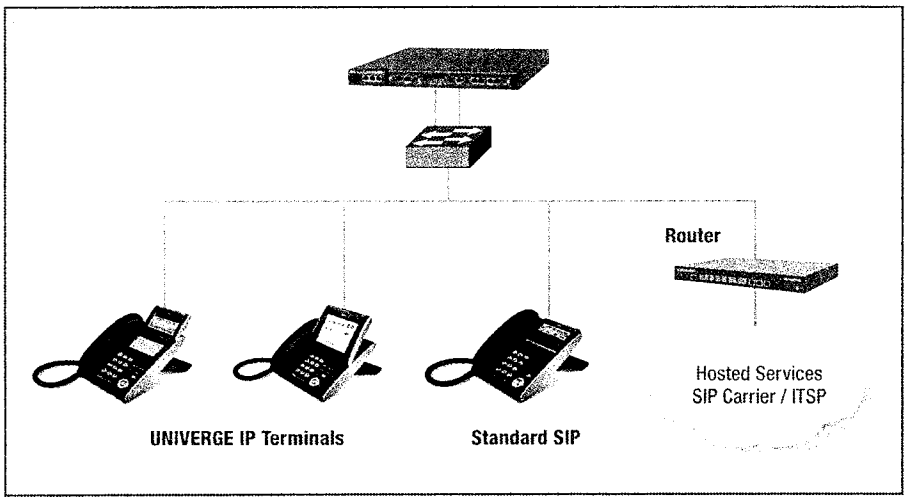
Specifications

Number of SV8300 Units and Chassis	1 Unit			2 Units	3 Units	4 Units	System Max Stand Alone		System Max Remote Link	
	1	2	3							
Number of Ports	96	192	288	576	864	1152	1152		2048	
Outside Lines										
IP Lines										
• IP Trunks (SIP) Channels	256						256	512	256	512
• IP Trunks (P2P) Channels	512						512		512	
Analog/ Digital Trunks										
• Analog Trunks (COT)	48	96	144	288	432	512	512	512	512	512
• T1/PRI Channels	96	192	288	512	512	512	512		512	
• BRI Channels	48	96	144	256	256	256	256		256	
Terminals										
IP Terminals										
• UNIVERGE DT700 Series	1152						1152	1152	1152	1500
• Dterm IP Terminals										
• Dterm SIP/WLAN										
• Softphone										
Digital Telephones										
• UNIVERGE DT300 Series	80	160	240	480	720	960	960	1152	1500	1500
• Dterm Series i Terminals										
Analog Telephones										
• SLT (-24V)	96	192	288	576	864	1152	1152	1152	1500	1500
• SLT (-48V)	24	48	72	144	216	288	288			

Pure IP/SIP System

SV8300 Processor Supports IP & SIP



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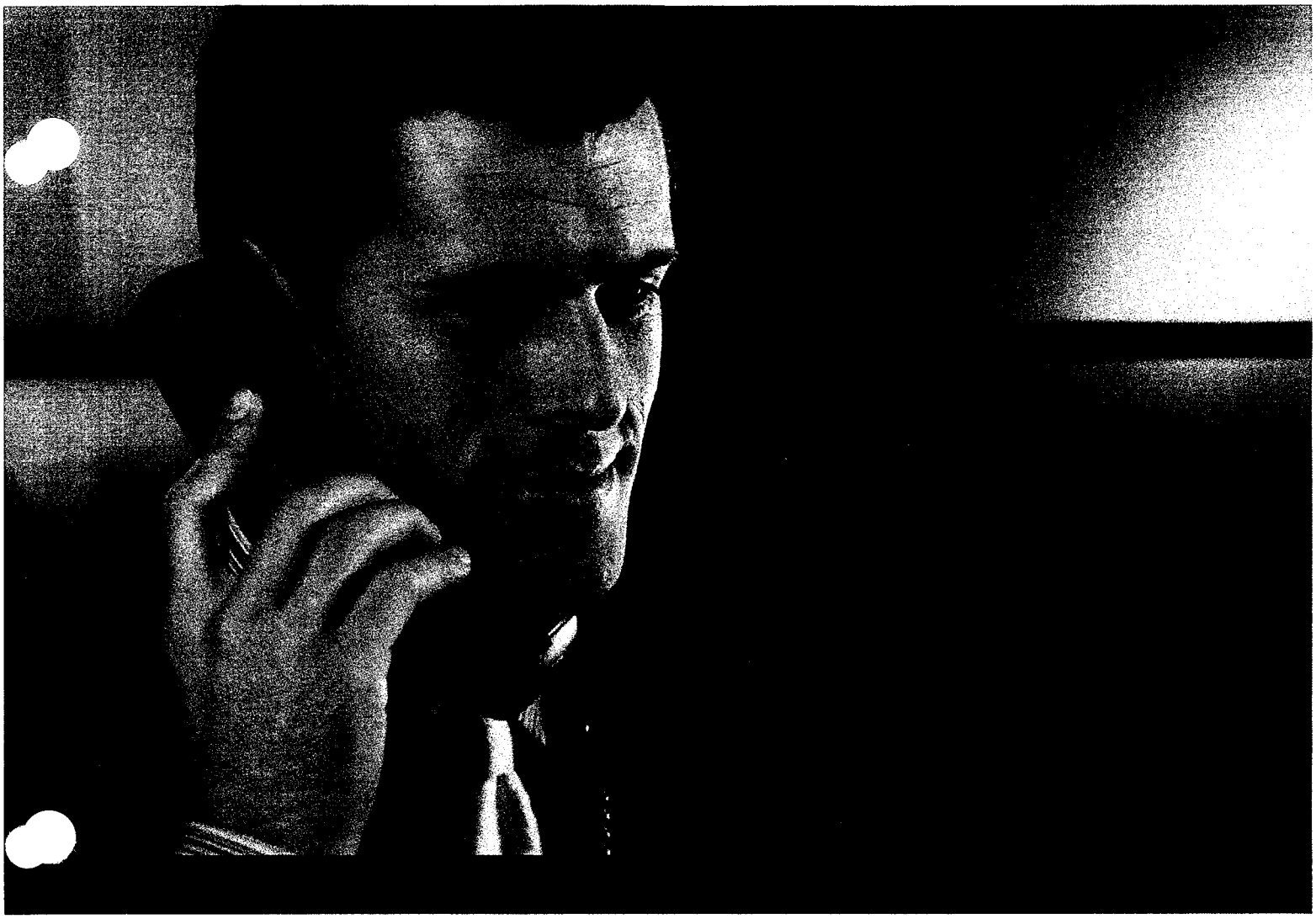
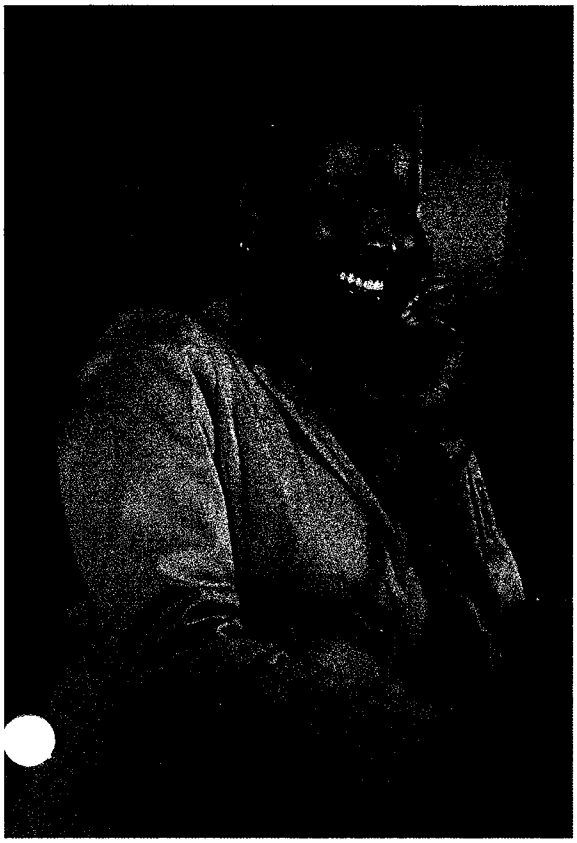


UNIVERGE® Desktop IP and Digital Terminals

Fulfilling the promise of UNIVERGE®360

Empowered by Innovation NEC



No matter your business size, NEC's UNIVERGE family of IP and digital terminals provides you with the right solution to meet your needs, now and in the future.

Taking Business Communications to the Next Level

With the speed of business today, the importance of the desktop phone has never been greater. Today's employee requires an accessible communication tool at any location in order to be as efficient and productive as possible. But, many businesses and employees have not taken advantage of the enhanced capabilities offered by today's next-generation phones. NEC's UNIVERGE Desktop IP and Digital Terminals are the answer.

The NEC UNIVERGE family of IP and digital terminals moves the standard desktop phone to the next level through its large feature set and modular design, and are built to the highest environmental standards. By delivering a wide range of customizable features, this terminal can help meet the communications needs and "green" initiatives of any workplace. And thanks to its modular design, businesses have the option to quickly and easily customize the terminals to meet employees' specific communications needs. Because these terminals support a wide range of applications, the Desktop IP and Digital Terminals can also help improve overall employee efficiency and productivity.

Freedom of Choice

UNIVERGE Terminals give you the freedom to tailor your platform and telephony applications to meet your business's evolving needs. Whether your business is just getting started or is already rapidly growing, NEC provides the right solutions.

UNIVERGE Terminals provide:

- Scalability and customization through modularity
- Investment protection
- Both VoIP and traditional voice support
- XML open interface support
- Advanced applications to improve staff productivity & efficiency
- Intuitive interfaces

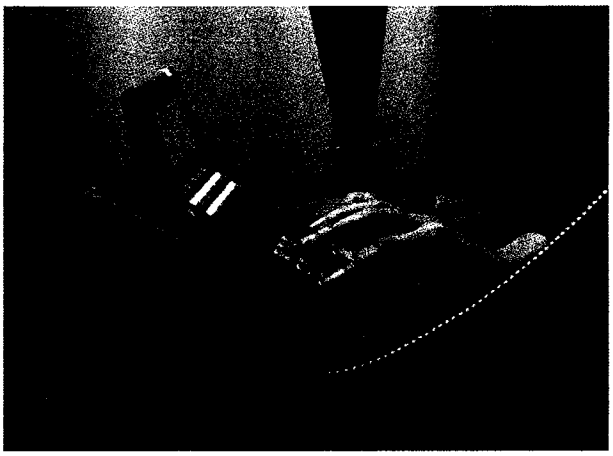
Personalized Terminals to Meet Your Specific Requirements

NEC's innovative terminal design is intended to deliver maximum deployment flexibility. Modularity allows for multiple combinations to fit any business niche or personalization requirement. From the front desk, to the conference room, to knowledge workers who spend all day on the phone, to remote workers, to executives, NEC offers options for all your business needs. These options include:

- Add-on line key modules
- Customizable faceplates or a choice of integrated LCDs
- A selection of keypads
- Wired or wireless handsets
- A Bluetooth® interface for peripheral equipment (mobile phones, PDAs, headsets, conference units or keyboards)
- Custom color accent panels
- Custom function keys
- Options for the visually impaired such as audio key action feedback and large character display

Modify and Customize Terminals to Match Your Growing Business Needs

As your business expands, so do your communication needs. Your terminals should be able to grow with your business. And, with NEC's next generation terminals, you will have the capability to increase feature functionality through applications support and personalization of the phone. There is no need to replace the entire terminal if you need new features. Instead, your initial investment is protected, and the terminal can be upgraded at minimal cost.



DT330 Digital Terminal - 12 Line Keys

Choice of Either IP or Digital Terminals

Whether your business communications are pure IP or any combination of IP and traditional circuit-switched technology, NEC provides a full line of terminals that will meet your needs. The user interface and the terminal functionality remain the same for IP or digital versions. So, employees can easily transition between models and will not need training to use a new system.

XML Open Interface Support on IP Terminals

XML open interface support enables developers to create displayable and accessible applications via NEC's IP terminals. This feature provides you the ability to tailor applications specifically for your business.

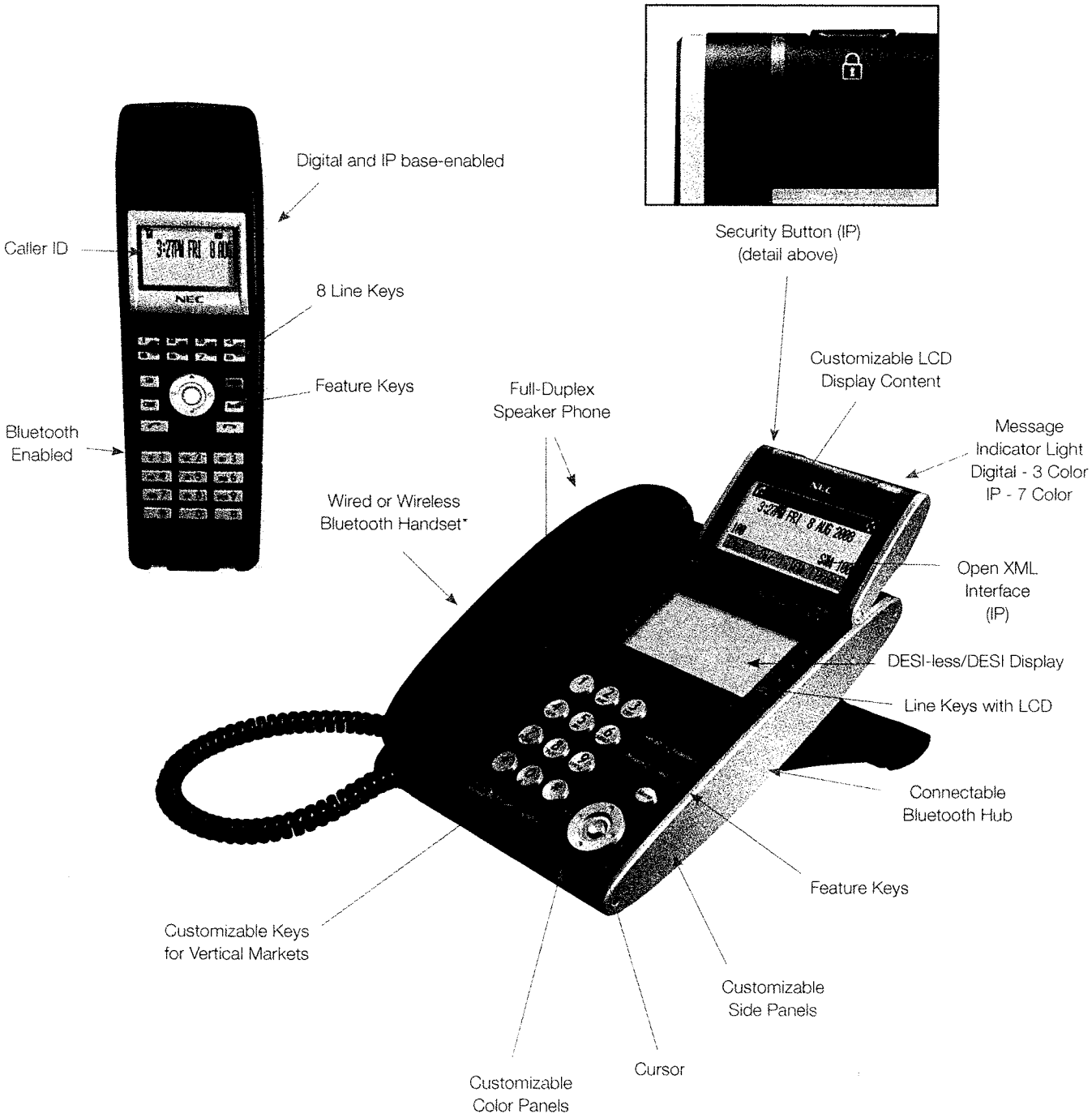
The XML interface provides the user a way to integrate additional productivity tools on the desktop and improve efficiency. Applications such as calendar links, wallboard functionality, call directories and countless others can be displayed through a terminal's LCD through the Open XML interface.

Access to Advanced Applications Increases Staff Productivity and Efficiency

Advanced applications delivered directly to the desktop terminal enable staff to work more efficiently and improve customer service. The integration of voicemail, ACD and customer information applications helps minimize operator and other overhead costs.

Users can log on to any IP terminal anywhere on the business's NEC network. Upon logon, the user's profile and quality of service settings are immediately available to him or her. There is no need for extra programming.

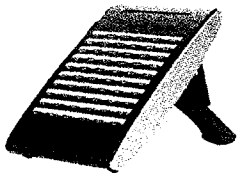
DT750 IP Terminal with Color Touch Screen LCD



** Wireless Bluetooth Handset option currently only available on the DT330 Digital Terminals supported by the UNIVERGE® SV8100 Communications Server.*

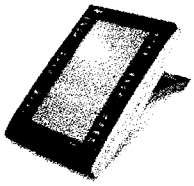
Add-on Options

60 DSS Console



8 Line Key Module

DESI-less Console (Future)

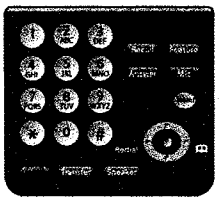


DESI-less Line Key Module

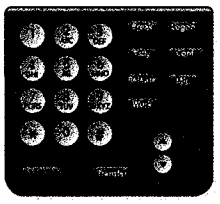
Bluetooth Wireless Handset Module*

Line Key Options

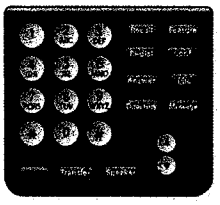
Business Layout (Standard)



ACD Layout



Retro Keypad



* Also available: Spanish, French, Icon, and Braille

Side Panel Color Options

Silver (Standard)

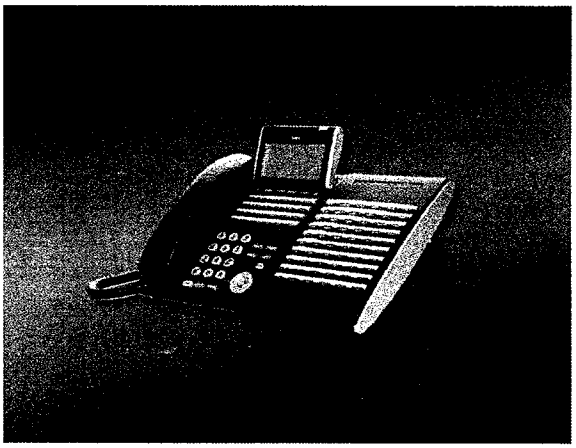
Blue

Red

Clear

Wood

** Wireless Bluetooth Handset option currently only available on the DT330 Digital Terminals supported by the UNIVERGE® SV8100 Communications Server.*



DT330 Digital Terminal - with 60 DSS Console

Easy-to-Use, Intuitive Interfaces

NEC's terminal interfaces are designed to improve the overall user experience. NEC believes telephone users should not need extensive training or manuals to utilize business telephones. The NEC terminal interfaces are designed to be intuitive, allowing for effortless business communications. Global icons indicate status at a glance including notification of new voice or instant messages, missed calls, the telephone user's current presence status, and the device's current data protection mode.

UNIVERGE Terminals Features

Existing and Future

NEC's UNIVERGE terminals and the full-feature set of applications that they support provide your business with the right communication tools and a premier multimedia user experience.

Personal, System and Corporate Directories

Users can quickly access directories to easily reach the people they need; no need to waste time looking up phone numbers. Each entry in the directory is searchable, and a call can be placed from the searched entry. When a call is received, the Caller-ID matches the registered phone number with the entry in the directory, and the name of the entry is displayed on the LCD.

Call History

Incoming, outgoing and missed calls are logged and are accessible to the user. Call history can be used to make call backs, and the numbers can be added to the directory.

Wideband CODEC

NEC's UNIVERGE terminals utilize wideband CODECs for the truest possible speech reproduction. The result is crystal clear audio.

Information Protection Mode

IP terminals offer multiple levels of protection allowing users to protect personal data, corporate directories and data, and even lock the device to keep calls from being placed to ensure privacy and security on each terminal.

Customizable Ring Tones

Different ring tones can be programmed and assigned to unique telephone numbers in the telephone's directory. When an incoming call arrives, an identifying distinctive ring tone can immediately identify who is calling. Additional ringtones can be downloaded from the web.

Bluetooth Interface

The optional Bluetooth cordless handset provides short distance mobility. Users can step away from their desks confident that no important calls will be missed. This feature keeps businesses running smoothly and enhances customer service.

The built-in Hub Adapter in the handset allows users to pair peripheral equipment such as mobile phones, PDAs, headsets, conference units or keyboards with the terminal. This option currently only available on the DT330 Digital Terminals supported by the UNIVERGE SV8100 Communications Server.

Network Management and Security

Centralized management provides a single point of administration for all terminals and makes real-time access available. IP telephony security is based on "UNIVERGE VoIP Security Best Practices" and provides NAT and firewall traversal, built-in VPN client access, and security enhancement through auto configuration.

Internal Zone Paging

Users have the option of getting a message out by paging either one person or an entire group through the terminal's speaker. It's a quick and easy method of grabbing someone's attention and ensuring that a message is heard immediately.

Internet Protocol Version 6 (IPv6)

NEC's IP terminal software is easily upgradeable to IPv6. IPv6 eliminates the shortage of IP addresses and enhances routing and network auto-configuration.

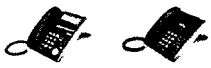
Presence

Tracking location status can help the entire organization stay better connected. The ability to instantly locate key personnel who are often away from their desks can significantly enhance everyone's productivity. Users can easily set or change their status by accessing the menu.

Top Row: DT730 IP Terminal - 32 Line Keys, DT330 Digital Terminal - with DSS Console, DT730 IP Terminal - 24 Line Keys
Bottom Row: DT730 IP Terminal - DESI-less, DT330 Digital Terminal - 12 Line Keys, DT750 IP Terminal - with Color Touch Screen LCD, DT330 Digital Terminal - DESI-less, DT330 Digital Terminal - 32 Line Keys

Instant Messaging

Users can quickly exchange instant messages (IMs) with other co-workers directly from their phones. Messages are input simply by pushing digit keys – just like on a mobile phone. Frequently used messages can be pre-programmed and stored, and they are easily accessed for use when needed.

	DT700 Series Desktop IP Terminals			DT300 Series Desktop Digital Terminals	
	DT750	**DT730**	**DT710**	**DT330**	**DT310**
					
Display	Color touch screen LCD	Gray scale LCD	Gray scale LCD (6 Line Key Model Only)	Gray scale LCD	Gray scale LCD (6 Line Key Model Only)
Line Keys on Base Terminal	DESI-less LCD	12, 24 DESI-less (32 Line Keys)	2, 6	12, 24 DESI-less (32 Line Keys)	2, 6
Line Key Extension Add-On Modules	8 Line Key, 60 DSS Console, DESI-less Console	8 Line Key, 60 DSS Console, DESI-less Console	NA	8 Line Key, 60 DSS Console, DESI-less Console	NA
Backlit LCD	Standard	Standard	NA	Standard on DESI-less version Option only available on other DT330s when supported on the SV8100	NA
Backlit Dialpad	Standard	Standard	NA	Standard	NA
Full Duplex Speakerphone	Standard	Standard	Standard	Standard	Half Duplex
XML Open Interface	Standard	Standard	6 Line Key - Standard 2 Line Key - NA	NA	NA
Bluetooth Handset Module w/ Hub Adapter	Future	Future	NA	Supported only on the SV8100	NA
Side Panel Color	Standard - Silver Option - Blue, Red, Clear, Wood	Standard - Silver Option - Blue, Red, Clear, Wood	Standard - Silver Option - Blue, Red, Clear, Wood	Standard - Silver Option - Blue, Red, Clear, Wood	Standard - Silver Option - Blue, Red, Clear, Wood

Note: Some features and functionality not immediately available.

UNIVERGE360 is NEC's approach to unifying business communications. It places people at the center of communications and delivers on an organization's needs by uniting infrastructure, communications and business.

UNIVERGE 360

Empowered by Innovation **NEC**

For more information, visit www.necunified.com

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About NEC Unified Solutions, Inc. NEC Unified Solutions helps companies unify their business through innovative software, applications, development tools, and services. NEC offers a complete portfolio for unified communications, wireless, voice, data and managed services, as well as systems integration and application development. NEC Unified Solutions, a wholly owned subsidiary of NEC Corporation of America, serves Fortune 1000, as well as small to mid-sized businesses across the globe in vertical markets such as hospitality, education, government and healthcare. For more information, visit www.necunified.com.

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UNIVERGE® Desktop IP Terminals

Fulfilling the promise of UNIVERGE360

At a Glance

- Scalability and customization through modularity
- XML open interface support
- Wideband CODEC speech quality
- Built-in VPN (IP-Sec) client

Maximizing Productivity

NEC's UNIVERGE Desktop IP Terminals provide all the features and functionality of traditional phones with the seamless integration of advanced IP applications. Integration of voice and data is no longer limited to the network or the PC desktop; it is now in the end-users' hands.

As an integral part of UNIVERGE360, Desktop IP Terminals connect people with the information, applications and tools that they need to drive business success. These intelligent terminals help your business take service and performance to newer, more profitable heights.

UNIVERGE Desktop IP Terminals are ergonomically designed for natural comfort and facilitate use through an array of menu-driven soft key functions and easy-access function keys. Together, these aspects of the terminal deliver power, versatility and programmability to all user stations, maximizing efficiency and productivity.

Because the entire desktop surface is crafted for user productivity and fosters better speed, service and performance, the UNIVERGE Desktop IP Terminal can help your business reach more profitable heights.

Features		DT750	DT730	DT710
Display	Display Size	Touch screen 320×240 dot TFT (65536 color) LCD backlit	224×96 dot matrix gray scale Optional LCD backlit Optional 2nd display	6D: 168×41dot matrix Grayscale LCD, not backlit
	Characters × Lines	Supports 2 proportional font sizes, 12 and 16 dot	Alphanumeric: 28×6 (7×16font) or 34×8 (6×12font) DESI-less line key display area: 12×1 & icon/line key	6D: 28×3 (6×12font)
	Tiltable	Yes	Yes	N/A
Keypad	Backlit Keypad	Yes	Yes	N/A
	Line Keys	LCD	12, 24, 32 DESI-less: 8 x 4 pages	2, 6
	Softkeys	4, help, exit	4, help, exit	4, help, exit
	Cursor Keys	Yes	Yes	No
Built In Applications	XML Open Interface	Yes	Yes	Yes (limited)
	Personal Directory	Yes	Yes	Yes (speed dial)
	System Directory	Yes	Yes	No
	Corporate Directory	Yes	Yes	No
	Call History	Yes	Yes	Yes (last number)
Sound	Full duplex hands-free	Yes	Yes	Yes
	Downloadable Ring Tone	Yes	Yes	N/A
	Hold Music	Yes	Yes	N/A
	CODEC	G.711, G.729A, G.722 (Wideband)		
Network	NAT Traversal Support	Yes	Yes	Yes
	VPN Access	Yes	Yes	Yes
	Power	802.3af or AC	802.3af or AC	802.3af or AC
Optional Adapters & Headsets	Bluetooth Handset w/ Hub Adapter	Future	Future	N/A
	Gigabit Ethernet	Yes	Yes	N/A
	Recording Adapter	Yes	Yes	N/A
	PSTN Survivable Adapter	Yes	Yes	N/A
	Wired Headset	Yes	Yes	N/A
Security	Authentication	Yes	Yes	Yes
	Encryption	Yes	Yes	Yes
Maintenance	Auto-Configuration	Yes	Yes	Yes
	Network Management:	Yes	Yes	Yes
Characteristics	Dimension (w"×d"×h")	8.94"×9.84"×4.41"	12D/24D: 7.05×10.16×4.41 32D (24D+8LK): 8.31×10.16×4.41 DESI-less: 7.05×10.71×4.41	2D: 7.05×8.86×4.41 6D: 7.05×8.86×4.41
	Weight (approx. lbs.)	2.65	12D/24D: 2.21 32D (24D+8LK): 2.65 DESI-less: 2.43	2D: 1.98 6D: 1.98
	Power (excl. options) (Ethernet IEEE802.3af)	6.49 W	12D/24D: 6.49 W DESI-less: 6.49 W	2D: 3.84 W 6D: 3.84 W
	AC Adapter (option)	27V 750mA	27V 750mA	27V 750mA

Note: Some features and functionality not immediately available.

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Dterm® SP30

IP Multimedia Softphone for the Real-Time Enterprise

Share real-time information and ideas from your PC with the versatile Dterm SP30, an IP multimedia softphone from NEC. The converged mobility tool meets the needs of the Real-Time Enterprise with an impressive array of high quality video, audio, voice and text features. When linked together across a NEAX® IP network, Dterm SP30 users can collaborate and interact with each other in an exciting variety of ways:

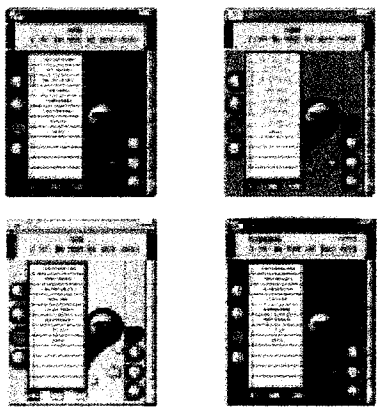
- Videoconferencing - Audio and videoconferencing lets you interact with other Dterm SP30 users.
- Whiteboard - Review, create and update graphic designs in real time with other Dterm SP30 users.
- Chat - Conduct real-time conversations via text with as many Dterm SP30 users as you like.
- File Transfer* - Send one or more files to distant Dterm SP30 users.
- Call Log - Store information about outgoing and incoming calls.

The Dterm SP30 offers four types of graphic user interface (GUI) displays that vary by color (red, black, gold and neon blue). You can also switch between three different operation modes (maximized, compact or task bar) depending on what needs to be accessed from your desktop. For example, all the features and collaboration tools can be activated when the Dterm SP30 is in maximized mode, but when it's in task bar mode, only call status is shown.

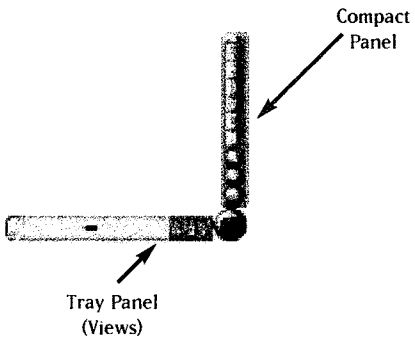
*This feature is only available on phase 2 and higher release.
Other features noted above are available currently.

Typical User Display with Dterm® SP30 Window Opened

4 Different GUIs (Maximized Mode)



Modes of Operation (Compact and Tray Panel View)



Empowered by Innovation NEC

Dterm SP30 IP Multimedia Softphone for the Real-Time Enterprise

Dterm SP30 Keeps You Connected Almost Anywhere

There are a number of VoIP deployment opportunities for the Dterm SP30. While on the road, the softphone uses a Virtual Private Network (VPN) Internet connection to handle calls as if you were in the office. And the Dterm SP30 is an ideal voice and data tool for anyone who needs to collaborate with others.

Remote Users – The softphone transports telephony office features to the remote site network when personnel are located miles from the servicing switch.

Traveling Users - Employees on the go can interact via voice, audio, video or text just by logging onto their PC.

Primary Telephony Device – Because it eliminates the need for a standard phone at the desktop, the Dterm SP30 is a space-saving device for organizations such as call centers that use integrated voice and data applications on a regular basis or for individuals who enjoy the efficiency of communicating via voice and data from their PC or laptop.

Dterm SP30 Enhanced Features

(Only available in a peer-to-peer Dterm SP30 to Dterm SP30 session)

Collaboration Integration

Phase 1	Phase 2
Video Conferencing	File Transfer
Application Sharing	Multipoint Application Sharing
White Boarding	OpenWorX Presence
Chatting	PHS/PCS Compatibility
Short Message	

(Available over a standard hardware-based IP terminal)

Compatibility with most VPN Configurations
Configurable Online Displays
Convenient Keyboard Shortcuts - for quick answer and disconnect
Fast Access Buttons
Drag and Drop Dialing
Call History and Chatting Logs
Keyboard or Screen Dial Pad
Built-in Voice Recording**
6/8 Party Audio/Data Conferencing**

Dterm SP30 Standard Features

Caller ID Display
Call Deflection
Call Transfer
Call Hold
Call Conferencing
Do Not Disturb
Last Number Redial
Voice-Mail Integration
32 Programmable Line Keys
Speed Dial/ DSS buttons
Headset Volume and Muting Controls
Ringer Volume Control
Multiple Audio Algorithms Supported (G.711 and G.729a)

**Phase 2 released features "ONLY"

System Requirements

Phase 1	Phase 2
NEAX 2400 IPX and IPX-DM (R14 software or higher)	NEAX 2400 IPX and IPX-DM (R16 software or higher)
NEAX 2000 IPS and IPS-DM (R8.0 software or higher)	NEAX 2000 IPS and IPS-DM (R9 software or higher)
UNIVERGE SV7000 (N/A)	UNIVERGE SV7000 (FP30=100R16)

Dterm Softphone SP30 Client PC Specification	
PC	IBM-PC/AT Compatible Machine
OS (Operational Specification)	Windows® XP/2000 with NetMeeting application software installed
Memory(Operational Specification)	300Mb or more
CPU(Operational Specification)	Pentium® III 900Mhz or more
Hard Drive(Operational Specification)	50Mb or more of empty capacity
LAN Interface	10/100Mb Ethernet

Operating System - Microsoft Windows 2000 / Microsoft Windows XP

Operational Considerations
Minimum hardware specifications for the Dterm SP30 ensure optimum levels of speed and video/sound quality. Additional memory and CPU speed are necessary if numerous applications are running on the workstation simultaneously with the Dterm SP30. Also, the use of VoIP and/or streaming video will add to network requirements. If the network, the workstation, applications on the workstation, or combinations of these cannot support the movement of voice packets in a timely fashion, or if the workstation is otherwise busy servicing other applications and cannot also service incoming voice packets in a timely fashion, then the quality of voice can be adversely affected by "choppy" or "broken up / missing words."

To find out more about the Dterm SP30 or to inquire about NEC's powerful and versatile IP products, visit our website at www.cng.nec.com

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Empowered by Innovation NEC

Solution Brief: CallXpress for Large and Multi-Site Enterprises

What should large and multi-site enterprises look for in a Unified Communication solution?

CallXpress®

UNIFYING COMMUNICATIONS

AVST

OVERVIEW

What should large and multi-site enterprises look for in a Unified Communication solution?

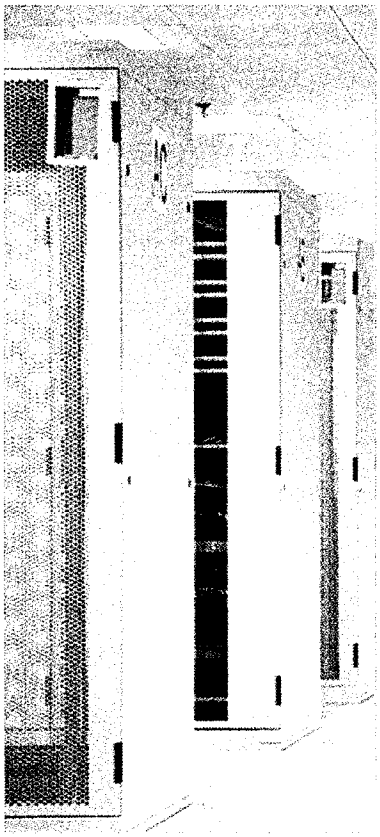
Challenge

It's a sign of the times: more and more companies are being joined together through mergers or acquisitions. Likewise, their diverse communications infrastructures are being blended together, creating complex and dynamic environments with multi-vendor PBX and groupware infrastructure.

Solution

This scenario is actually a perfect set of conditions for CallXpress® the Unified Communications Solution from AVST. The major strength of CallXpress lies in the solution's interoperability within complex environments. For more than 25 years, CallXpress has been a trusted platform. It delivers the features that large and multi-site enterprises like yours need most—advanced call processing, voice mail, unified messaging, fax, notification and a speech-enabled personal assistant. But don't take our word for it. Ask any of the more than 40,000 customers who trust CallXpress to stay connected—and competitive.

SUPERIOR RELIABILITY



When it comes to supporting your mission-critical applications, it's all about reliability.

CallXpress provides superior levels of reliability through:

Redundant Server Components

CallXpress high-performance servers provide non-stop operations with robust redundancy of components—including hot-swap N+1 redundant power supplies, hot-swap hard drives, and hot-swap cooling fans. These servers stand up to even the most challenging application requirements and the most demanding 24/7 environments. Perhaps even more importantly, our servers protect your capital investment too. Each one is subjected to rigorous validation testing that greatly exceeds industry standards. (Recommended Servers: I-4000 Level 6 or I-6000 Level 7).

Standby Servers

From a solution architecture standpoint, AVST delivers high levels of availability through the use of standby servers that support your company's emergency preparedness and business continuity initiatives. By employing twin servers, one actively handling calls while the other acts as a "warm standby" containing duplicate data, you can even survive complete server failures. If necessary, you can simply re-route phone lines to the standby server without missing a beat.

Built-in System Reliability

The architecture itself enhances system reliability. Whatever the implementation type—voice mail only, unified messaging only, or a combination of the two—CallXpress always maintains its own local directory and message database. And regardless of the status of the LAN or groupware server, CallXpress will always answer calls, take messages and allow the subscribers to access any new messages received.

A comprehensive set of server and processing monitoring tools helps keep tabs on the current health and status of the system, while a separate suite of tools, specially designed by AVST, tests and monitors all of the critical system processes.

Uncompromising Security

One of the biggest concerns with Unified Communications is preventing messages and information from being leaked outside of the company. CallXpress ensures the protection of your most sensitive business information through such features as secure unified messaging and user authentication by utilizing strong password policies and forced password reset.

With secure unified messaging, all voice and fax messages can be stored on the CallXpress server. Voice and fax messages are then accessed and managed from the Web PhoneManager application, rather than from within an e-mail client. For even greater security, access to voice messages can be made completely secure by requiring that the playback of messages be restricted to the telephone or streamed to a Windows based client. When configured in this manner, users never have possession of the actual voice and fax message, and therefore the messages cannot be forwarded outside the company. This way, system administrators have the assurance that voice messages are kept separate from e-mail messages, so that separate rules for confidentiality, discoverability and compliance can be applied. CallXpress offers the most flexible unified messaging architectures available enabling IT managers to choose between server-based, client-based, secure and simplified, or mix and match architectures based on individual user requirements.

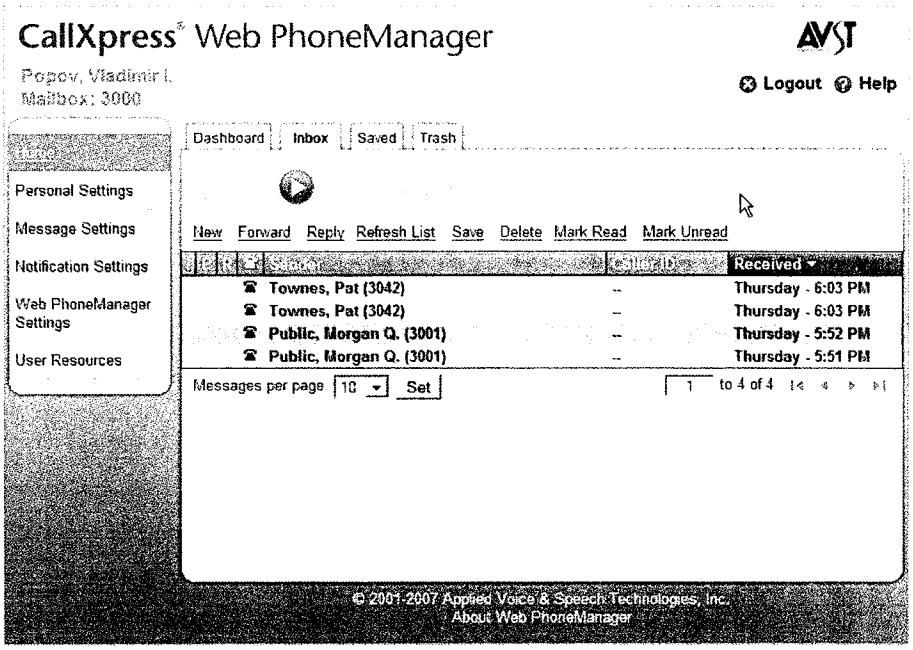
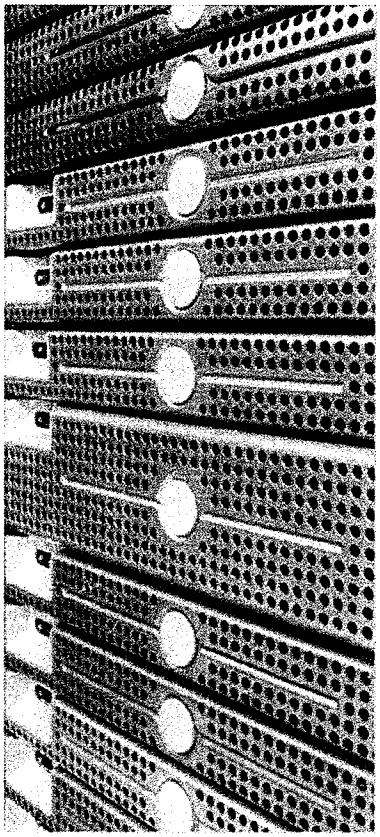


Figure A: Secure Unified Messaging

Ideal for organizations who need to keep voice messages secure by prohibiting forwarding capability of voice mails outside the company.

EXCEPTIONAL INTEROPERABILITY & SCALABILITY



Exceptional Interoperability & Scalability

Multi-PBX Integration Support

Depending on the size and geographic footprint of the enterprise, there will typically be multiple PBX makes and models and/or Centrex deployed throughout the organization. In this case, creating a single Unified Communications solution requires a high degree of interoperability.

CallXpress has the ability to support multiple PBX integration methods, including SIP/RTP, E1, T1, QSIG, CAS, DPNSS, Digital Station Emulation, Analog, inband signaling, and SMDI. It's also one of the few systems able to support multiple integrations—both traditional telephone systems and IP phone systems—on a single voice-mail server. This allows for greater flexibility when configuring systems to support a multi-site environment. CallXpress also supports the analog Dialogic® Media Gateway as part of its multiple integration support. This allows for a more economical method of centralizing small remote sites.

Multiple e-mail Environment Support

The e-mail clients and stores of most enterprises are typically extensive and quite varied—even within the same geographic footprint.

CallXpress, through its ability to integrate with virtually any e-mail environment such as Microsoft® Outlook®, IBM® Lotus® Notes®, Novell® GroupWise®, Mirapoint®, and any IMAP4 compliant e-mail system, can uniquely deliver Unified Communications capabilities to multi e-mail environments.

Scalability

The solutions you invest in need the ability to grow with you, rather than hold you back. Whether your organization is growing, is involved in a merger or you're looking to centralize your solutions for easier IT management, it's important to invest now in solutions that can scale with your changing requirements.

CallXpress scales to 192 voice ports per server, which can support approximately 20,000 voice mail users, depending on usage and call traffic. CallXpress also supports multiple locations with a network of CallXpress servers for larger user populations.

Comprehensive Administration

Networking

Today's complex environments require a communications system that is truly unified. CallXpress offers powerful networking capabilities that support proprietary high-performance protocols, as well as the standards-based protocols such as AMIS and VPIM. In addition, CallXpress supports Avaya® Message Networking servers, allowing it to participate in older, proprietary Avaya messaging system networks.

With CallXpress networking deployed, you can:

- Send and forward messages to remote users - Users will have the ability to send new messages and forward existing messages to users on the other systems.
- Utilize cross-system distribution lists - The systems will support distribution lists that contain members from the other systems.
- Reply to cross-site messages - Users will have the ability to reply to messages sent from other users at other sites.

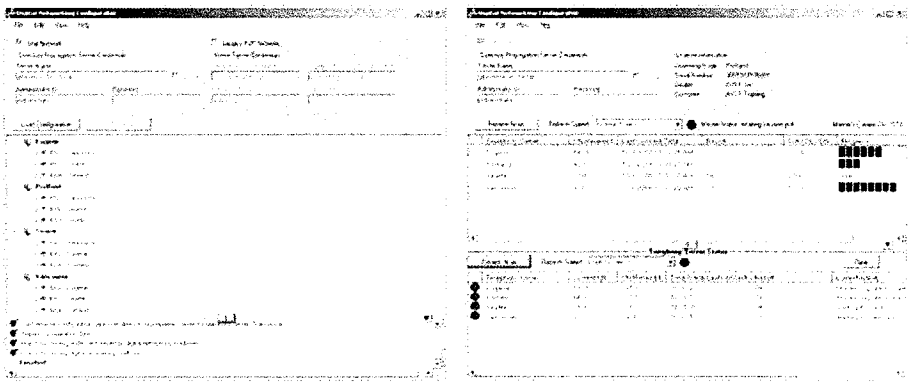


Figure B: Digital Networking

Digital Networking allows you to combine a number of CallXpress servers into a single, coordinated messaging system that serves an entire enterprise. Easy-to-view progress bars keep you updated when activity is underway between the master server and other nodes in the network.

Comprehensive Administration

Global User Administration

Ever-tightening budgets are creating an even greater demand for administrative tools that can increase productivity. These tools must have the capability to deliver exceptional service through the centralization of application administration, as well as to provision various levels of administrative access, depending on the criticality and nature of various administrative tasks.

CallXpress allows administrators the ability to administer multiple CallXpress systems in a single program window. This greatly simplifies administrator training and ongoing maintenance. With Global User Administration, an administrator can:

- View all the mailboxes from each individual server, one at a time
- View all the mailboxes from all of the servers simultaneously
- Make changes to single or multiple mailboxes on a single server
- Make changes that span mailboxes on multiple servers
- Move users from one server to another

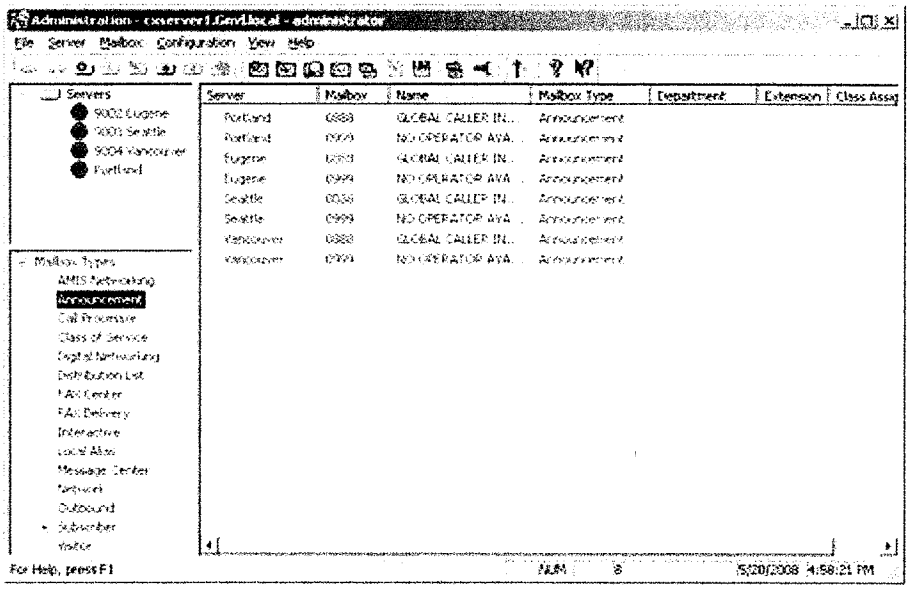


Figure C: Global User Administration

This example demonstrates the ability to manage multiple announcements from four servers simultaneously.

Comprehensive Administration

Reporting

No one knows your business better than you do. That's why CallXpress provides you with the flexibility to report on communication data in a format that will truly help you manage your business better. In addition to providing 20+ standard reports, CallXpress supports custom reports through the popular Crystal Reports package that can produce a final report, or export data to other popular reporting tools.

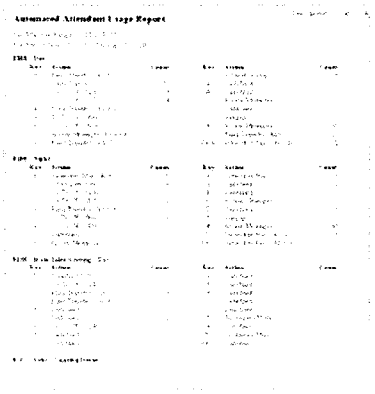


Figure E: Automated Attendant Usage Report

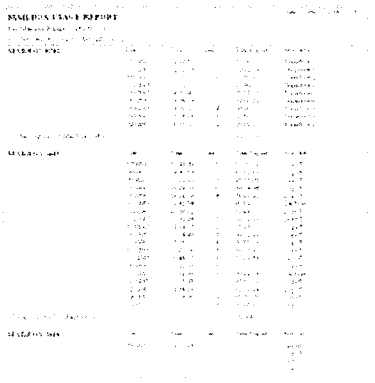
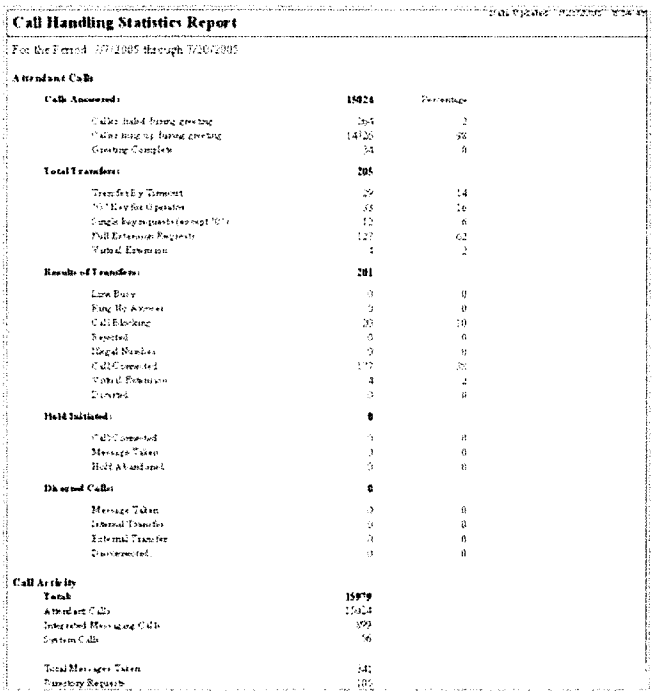


Figure D: Mailbox Usage Report



Call Handling Statistics Report

Attendant Calls

Calls Answered:	**15024**	Percentage
Calls hung up during greeting	364	2
Calls hung up during greeting	14426	96
Greeting Complete	34	0
Total Transfers:	**205**	
Transfer by Timeout	29	14
0/* Key for Operator	33	16
Single key or pound key except 0/*	12	6
Dial Extension Requests	127	62
Valid Extension	4	2
Results of Transfers:	**201**	
Line Busy	0	0
Ring No Answer	0	0
Call Blocking	20	10
Rejected	0	0
Illegal Number	0	0
Call Connected	177	88
Valid Extension	4	2
Disconnected	0	0
Hold Initiated:	**0**	
Call Connected	0	0
Message Taken	0	0
Hold Abandoned	0	0
Disconnect Calls:	**0**	
Message Taken	0	0
Internal Transfer	0	0
External Transfer	0	0
Disconnected	0	0
Call Activity		
Totals	**15979**	
Attendant Calls	15024	
Integrated Messaging Calls	899	
System Calls	56	
Total Messages Taken	341	
Directory Requests	185	

Figure F: Call Handling Statistics Report

CallXpress: The Ideal Unified Communication Solution for Large and Multi-site Enterprises.

In today's increasing complex IT environment, there is no margin for error when it comes to selecting the right Unified Communication solution for your enterprise. It must deliver reliability, provide security, promote interoperability and simplify administration—all without increasing costs. Clearly, CallXpress from AVST is up to the challenge.

For More Information

For over 25 years, AVST has been shaping the evolution of communications, with more than 40,000 installations worldwide. So as the world of communications advances, you can be assured that AVST's award winning products have your future covered. To learn more visit www.avst.com or contact us at +1.949.699.2300.

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WHITE PAPER

Unified Messaging in Today's Business Environment

A Guide to Voice, Fax and Email

Anytime, Anywhere

AVST CallXpress®

AVST

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INTRODUCTION

For today's employees, managing various types of communications has become something of a challenge. Telephone calls, voice messages, email messages, faxes, messages from the customer relationship management (CRM) system, messages arriving by post and the use of instant messaging can find employees spending far too much of their day processing and managing their communications with their customers and coworkers. Most people deal with more than two hundred messages during a single business day. This number includes telephone calls, voice messages, email messages, faxes and instant messaging sessions. To help manage their communications, many technology companies are developing tools and solutions that focus on simplifying this communications process. This set of applications is generally called Unified Communications and includes integrating the communications process with other enterprise applications (unified messaging, integrated document management, integrated CRM, etc.), new tools and protocols for extending the range of communications (mobile wireless, WI-FI, IP Telephony, etc.) and building special devices to enable access to communications from a wider range of devices (mobile wireless devices, tablet PC, smart phones with PDA capabilities, etc.).

This paper will focus on the messaging challenges companies face today, with some discussion of other communication solutions.

TRADITIONAL MESSAGING PROBLEMS AND COSTS

Most existing messaging systems were implemented over time by different companies and supplied and maintained by different vendors. Because different departments were responsible for their implementation, little concern was given to integration of functionality or intelligent managing of resources. As a result, most businesses find themselves facing a similar set of problems when it comes to dealing with their messaging systems.

TOO MANY MESSAGES AND MESSAGE TYPES

In a typical business, employees find themselves dealing with three basic message types; email, voice and fax messages. As each of these technologies has evolved, it has become easier to send messages to a business contact. This has added to the number of messages an average person receives and sends during the day. A few years ago, a user might have received ten or so messages a day-a few voice messages, faxes and several email messages - today it's not at all unusual for a business person to receive more than 200 messages or more in a single day. Unfortunately, as the number of messages someone receives increases, the expectation of a prompt reply from the sender does not decrease. This leads to spending more time processing and managing messages and less time performing more critical business functions.

MULTIPLE DEVICES REQUIRED TO ACCESS AND PROCESS DIFFERENT MESSAGE TYPES

As the various types of messaging originally evolved, each required the user to handle the message using a different format or device. Faxes were available only as hardcopy at the fax machine and voice messages were stored on a separate voice mail system and could only be accessed from the telephone. Further, users had multiple voice mailboxes for their business, mobile phone and home phone. Email messages were only available from the desktop computer. Not only were all message types accessed using different methods, there was also no way to store the various messages in a single location based on subject, projects or priority.

POOR MESSAGE NOTIFICATION

In order to respond to messages in a timely manner, the recipient has to first know the message has arrived. Originally, voice mail systems would light the message-waiting indicator on the user's telephone at their desk and later added the ability to call the user at a single telephone number or pager for notification. Email systems could show a new message icon or perhaps sound a beep at a user's computer to indicate the arrival of a new message, but lacked any means of notifying a user that was away from their desk. Faxes generally sat at the fax machine until someone noticed them, or were, at best, distributed once a day. Without effective message notification, it was almost impossible to be responsive to business needs.

EMPLOYEES ARE INCREASINGLY MORE MOBILE

In today's business environment, people are more mobile than ever. Being mobile may be as simple as being down the hall in a conference room or could involve traveling around the world. In many businesses, it has become financially beneficial for businesses to allow a certain portion of their employees to work from home on an occasional or regular basis. With the traditional messaging systems, they do not have an effective way to be notified of new messages.

COST OF MULTIPLE MESSAGING SYSTEMS

As businesses implemented additional messaging systems, the costs to deploy and maintain these systems grew out of proportion to their value. Companies ended up with additional expenses including telephone line resources (lines for fax machines, voice mail, lines for notification callouts, for dial-up to the network to access email, etc.). Since each system was separate and distinct, administering the systems was time consuming and involved training the administrators and users on multiple systems.

AN OVERVIEW OF UNIFIED MESSAGING

Unified Messaging, a subset of unified communications, focuses on enabling users to access and process their entire message types from virtually any location using a wide variety of convenient devices. Unified messaging ties

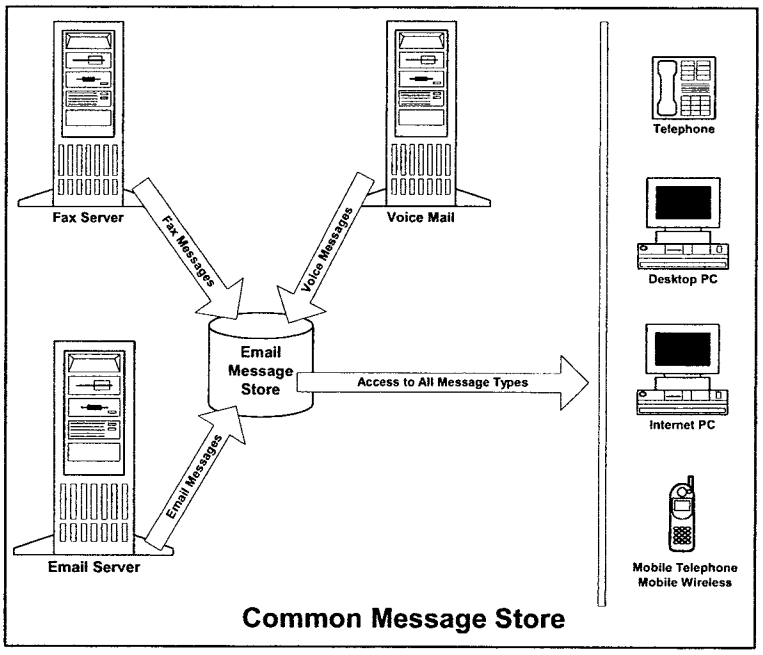
together the functionality of the enterprise email, voice mail, fax server and enterprise web server systems. As unified messaging has evolved, a common approach has been taken that involves using the enterprise groupware system as the common message store for unified messaging and supporting message processing for all message types from the email messaging clients.

MULTIPLE MESSAGING SERVERS CAPTURE INCOMING MESSAGES

The enterprise voice mail system and fax server are modified to serve primarily as front-end message capture devices for unified messaging. The voice mail system remains integrated to the telephone system and captures the voice messages generated from both internal and external callers. However, in unified messaging environments, voice messages are moved from the voice mail server to the respective user's email message store. As these messages are sent to the email server, they are marked with special attributes identifying them as voice messages. Likewise, the fax server captures the incoming faxes for the user and, rather than leave them stored on the fax server, moves the fax messages to the email Inbox for the specific user, marked with attributes as fax messages.

SINGLE MESSAGE STORE - ALL MESSAGES PLACED IN THE EMAIL MESSAGE STORE

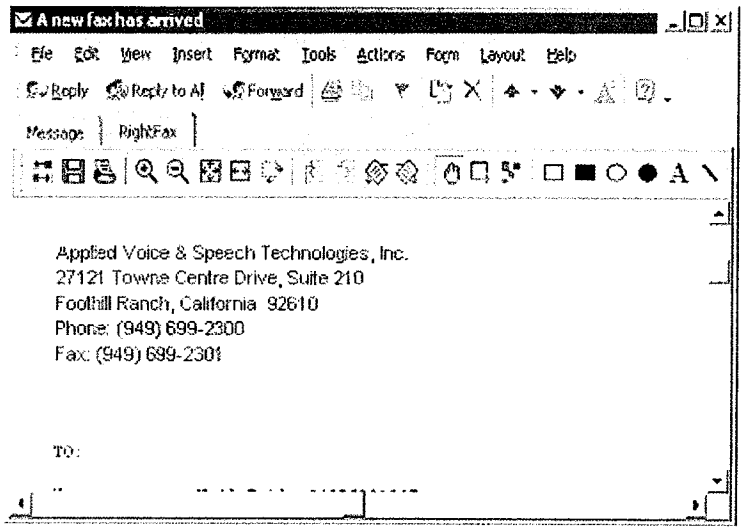
Since the email messages are already in the email Inbox, this now creates a single message store for all of the user's message types. Voice and fax messages are treated as email messages with the specific content (voice message or fax message) appearing as attachments.

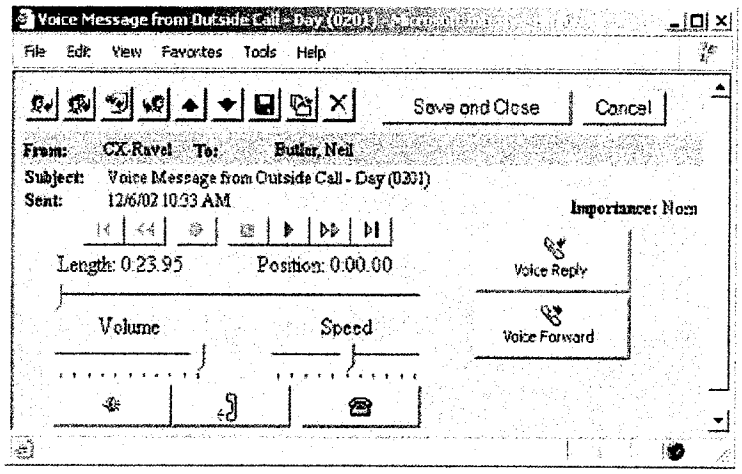


Using this single message store approach is key to creating the wide range of functionality and ease of use required for the successful implementation of unified messaging.

MESSAGING CLIENTS ARE EXTENDED TO ALLOW FOR ACCESS TO ALL MESSAGE TYPES

Rather than have voice and fax messages accessed as standard email messages with attachments, the special attributes of the messages allow for the email clients to be modified to display and handle these messages differently than a typical email message. First, the email client is modified to show different icons for the messages in the message list. Rather than display the traditional envelope icon used to designate an email message, voice messages typically display a speaker icon to identify them as voice messages and fax messages typically display a fax icon to identify them as fax messages. When a user opens these messages, special attributes are used to trigger the opening of a special form for processing the relative message type as opposed to opening the traditional form used to process an email message. These custom forms include the tools needed to effectively process the message, based on its attachment content type. The form used for voice messages includes a player control to simplify the process of playing the message and tools for adjusting the volume and speed of the message. The form used to process fax messages includes the graphical tools needed to handle fax messages such as zoom capabilities, rotation and navigation between pages.





MESSAGE SERVERS FOR OTHER MESSAGING FUNCTIONALITY

In addition to serving as the entry point for messages, the voice mail and fax servers are also used in processing their relative message types. Most unified messaging voice servers allow the user to call in and access their email mailbox using the telephone. This includes the ability to listen to their voice messages, have their email messages read to them using text-to-speech technology and access the information about their fax messages. The fax server is also used to allow the user to forward their fax messages, and in some cases their mail messages, out to a fax machine from the telephone interface—creating a mobile printer.

OTHER GROUPWARE FUNCTIONALITY LEVERAGED FOR UNIFIED MESSAGING

Most unified messaging systems leverage other groupware system functionality to expand the unified messaging capabilities of the system and make it easier for the user to process their messages. These additional capabilities include:

Using folders...

Since all message types are stored in the user's mailbox, users can create folders that store voice and fax messages as well as email messages. This allows users to create folders based on specific subjects and store all the relevant messages on that subject.

Accessing all messages from the Internet...

Most unified messaging systems provide the tools to allow users to access their voice and fax messages from the groupware Web client. Programs such as Microsoft Outlook Web Access and IBM Lotus iNotes can be used to allow Internet access to all of a user's messages, from virtually any location.

Using email rules...

Users can create rules for processing their incoming voice and fax messages in a manner similar to how they process their incoming email messages. Voice and fax messages can be moved to specific folders, trigger specific types of message notification or can be automatically copied to other users.

Using the backup functionality...

Since all messages (voice fax and email) are located on the email server, system administrators can backup all messages when they do scheduled backups of their email servers.

UNIFIED MESSAGING FROM A USER'S PERSPECTIVE

One of the main goals of unified messaging is to allow users to access all of their messages anytime, anywhere. In order to deliver this functionality, unified messaging systems offer the user a number of possible interfaces for accessing and processing all of their messages. The following interfaces and functionality are available from most high-end unified messaging systems:

THE GRAPHICAL USER INTERFACE (GUI)

The best-known unified messaging interface is the modified email client. This graphical user interface is modified to provide users with all the tools needed to access and process each message type. Most unified messaging graphical interfaces provide the following set of features:

Single Inbox and folder system...

Since voice and fax messages are placed into the user's email store, all their messages can now be handled with the same set of folders. This gives the user a single Inbox and allows them to create folders that can hold any combination of email, voice and fax messages.

Multi-media or phone access to voice messages...

Most systems allow users to play and record their voice messages using either their desktop telephone or the speakers and microphone installed on their computer.

Email forward outside of organization...

Some systems allow users to forward voice messages out of their system to external recipients (to Internet email addresses). Some systems will send the voice message in its standard format while others will convert the audio portion of the message to a standard .wav file to insure accessibility by the recipient.

Email directory...

Most systems allow the user to address new voice and fax messages sent from the GUI client using their existing email address book. This greatly simplifies the process of sending messages and alleviates the need for creating or importing additional address books.

Fax initiation...

Some systems allow users to initiate new outbound fax messages directly from their email client eliminating the need to install and support an additional user interface.

Telephone call initiation...

Some unified messaging systems enable the user to initiate outgoing telephone calls from within the email client. This feature can be used either to place return calls to those people who have left them a voice message (using the calling party ID from the caller) or to place calls to the telephone numbers listed in the user's personal or system address books.

THE TELEPHONE USER INTERFACE (TUI)

The voice mail systems used in unified messaging implementations have also been modified to provide the enhanced tools and functionality needed to efficiently process all message types from the telephone interface. Most high-end unified messaging telephone interfaces provide:

Message processing by type...
Most unified messaging systems inform the user of how many messages of each type they have when they first log into their mailbox ("You have twenty-two email messages, twelve voice messages and three fax messages"). Some unified messaging systems also allow the user to have their messages presented to them in separate queues, allowing users to access one particular type of message at a time ("To listen to your voicemail messages, press one. To access your fax messages, press two. To read your email messages, press three.")

Text-to-Speech for email...
Using text-to-speech technology, users can have their email messages (including header information, the subject line and the body of the message) read to them through the telephone interface.

Voice reply to email messages...
Some unified messaging systems allow the user to reply to an email message with a voice message from the telephone interface. In this case, the user records an audio message and it is sent to the sender of the original message as an email with a standard .wav file attachment.

Message forwarding to a fax machine...
Most systems enable users to forward their fax messages to any convenient fax machine by either entering the fax machine telephone number or a short code that represents a fax machine telephone number. Other systems will also allow users to forward their email messages to a fax machine.

Live reply to messages...

A few of the more advanced unified messaging systems allow users to automatically place outgoing calls to the person who left a voice message. This assumes that the system captured the caller ID number or the caller entered a callback number.

Partial mailbox enumeration...
Some email users keep an unusually large number of messages in their Inbox (often above one thousand). While most unified messaging systems will pause for an unusually long time (up to thirty seconds) while the system tries to count and classify the messages in order to present the message count to the user, a few of the most advanced systems have the capability to allow the user to start processing messages as the system continues to count and classify the messages in the background.

THE TRADITIONAL INTERNET BROWSER INTERFACE

Most unified messaging systems provide additional functionality to allow the user to handle their voice and fax messages across an Internet connection using the email system's Internet access applications such as Microsoft Outlook Web Access and IBM Lotus iNotes. Typical functionality available from these interfaces includes:

- Playing voice messages
- Recording and sending new voice messages
- Viewing fax messages
- Replying to all message types
- Forwarding all message types

THE MOBILE WIRELESS DEVICE BROWSER INTERFACE

A few of the leading unified messaging systems have also added the ability for a user to access and process messages from the browsers available on mobile wireless devices. This includes accessing messages from the Wireless Application Protocol browser on their mobile telephone and accessing messages from the cHTML browser on their wireless PDA. These devices provide the user with the following functionality:

- Access to all message types
- Listen to voice messages
- Create new voice or email messages
- Reply to email message with a voice message
- Forward fax and email messages to a fax machine

ADDITIONAL UNIFIED MESSAGING FEATURES

Some providers of unified messaging systems have added additional functionality to their products that goes beyond the standard functionality associated with unified messaging systems. Not all of these features are available on all unified messaging systems.

MOBILE TELEPHONE ENHANCEMENTS

Some unified messaging providers have added additional functionality to their systems to make access from mobile devices easier and more powerful. This includes features such as:

Auto login...

This feature allows the unified messaging system to automatically recognize the user when they call into the system to access their mailbox from their mobile phone. If the system recognizes the user, they do not need to enter their mailbox number, only their security code to access their mailbox. This feature relies on calling party ID information being sent from the user's mobile telephone.

SMS notification...

Some systems can send the user notification of new messages to their mobile device using the SMS (Short Message Service) transmission format. SMS is available on most GSM mobile telephones.

Consolidate messaging...

Some systems can be programmed to allow the users to use a single messaging mailbox to handle calls forwarded from both their business lines and their mobile

telephone. This greatly simplifies messaging and reduces the amount of time spent accessing messages.

Transfer to mobile phone from mailbox...
Some systems allow callers the ability to transfer to a user's mobile telephone when leaving a message for a user. In the event the caller does not answer or declines to accept the call, the caller is prompted to leave a message for the user.

OFFLINE ACCESS TO VOICE AND FAX MESSAGES

True unified messaging systems use the email data store to hold all of the user's messages. As a result, when the user synchronizes or replicates their message database down to their laptop computer to allow them to work offline with their messages, voice and fax messages will be available as well as email messages. Users can view faxes, listen to emails and process messages by saving, forwarding or deleting them. When the user next goes online, the changes to their Inbox will be pushed back to their email server.

ENHANCED MESSAGE NOTIFICATION FUNCTIONALITY

Various unified messaging providers have added enhanced message notification to their products. In recognition of the importance of message notification, these systems offer many notification enhancements including:

Enhanced message notification list...
Most systems allow a user to set notification for a single user, some systems allow the user to create a list of numbers for notification. When a new message arrives that meets their message notification filter criteria, the unified messaging system will traverse the list of notification numbers in an attempt to notify the user of the newly arrived message.

Message notification filters...
Rather than allow notification for all messages or only for urgent messages (the standard for most systems), a few vendors have added the ability for the user to set filters that control what types of new messages will initiate message notification. The filter settings include urgent/all, message type (voice, fax or email), message sender, time of day, etc.

Support for a wide range of notification devices...
Most unified messaging systems support notification only using outcalls to telephone numbers, while other systems include notification abilities via SMS.

FAX AS A MOBILE PRINTER

Some unified messaging vendors have added additional functionality in the way their system interfaces with the fax server allowing the fax server to serve as a mobile printer. These systems allow users to forward fax and email messages to

any fax machine from either the telephone user interface or the mobile wireless interface. These systems may also render the attachments to the email messages as well, depending on their file format.

ACCESS TO OTHER GROUPWARE FUNCTIONALITY

In addition to allowing access to messages, some unified messaging systems allow access to other groupware features such as the calendar, task list and system address book. Generally, this access is offered from the mobile wireless device interface.

EMAIL SYSTEM ENHANCEMENTS

The most important aspect of unified messaging is how well it simplifies the processing of all message types by users. It makes the processing of voice and fax messages much easier but it also adds a considerable amount of enhanced functionality to the email system. This new functionality includes creating notification and telephone-based access to email messages. Users can now be notified of their new email messages when away from their desk and can access those messages from any convenient telephone. Unified messaging users also have the ability to forward email messages to any fax machine using the telephone interface. This includes the ability to render most common types of attachments out to the fax machine.

ADMINISTRATION FUNCTIONALITY

Many unified messaging systems offer a wide range of administrative features aimed at making life easier for the IT staff tasked with maintaining the system. Some of the common administrative features you might find on a unified messaging system are:

User administration from desktop or Web...

Most unified messaging systems include some type of GUI-based utility to allow the users to administer the settings of their mailbox from a computer rather than just from the telephone interface.

System administration across the network...

Most systems support an administrative client that can be accessed from the administrator's desktop computer rather than requiring all of the maintenance to be performed at the unified messaging server itself.

Global system administration...

Some of the more advanced systems support a single administrative client being used to maintain all the unified messaging systems on the customer's network. This type of functionality allows a single well-trained administrator to perform the more critical maintenance functions while allowing local administrators to perform the more day-to-day tasks such as adding and deleting users.

UNIFIED MESSAGING SYSTEM ARCHITECTURAL DIFFERENCES

Not all unified messaging solutions offer all of the features described in this document. As vendors began to design unified messaging systems, they had several architectural decisions to make. Since unified messaging involves merging several different technologies such as email, voice mail, fax servers and networking, each vendor tried to design an architecture that combined these elements in such a way as to create the most compelling application possible. Most vendors went through three distinct stages of product evolution:

Separate proprietary client...

Most early attempts at providing unified messaging involved the manufacturers of voice mail and fax server systems providing a proprietary desktop client to allow users to access their voice and fax messages from their desktop PC. This approach offered very limited functionality and required the system administrators to deploy, train for and support an additional client on desktop PCs.

Simple message forwarding...

The second generation of unified messaging systems typically forwarded the voice and fax messages to the email store, providing no client enhancements or tools. These systems allowed users to click on the voice and fax attachments and use whatever tools were available on the user's PC to process the messages.

Integrated single message store...

The final stage of unified messaging architecture for most of the leading systems today involves integrating with the email system and using the email store as a single message store for all message types. Besides using the email store as the single message store, these systems offer further integration to the email system including extension of the email clients to provide the tools needed to process the new message types, supporting the access of voice and fax messages from the email system's Internet client, and allowing for all message types to be stored in email folders.

UNIFIED MESSAGING ARCHITECTURE AS IT EFFECTS THE SYSTEM USABILITY AND FEATURE SET

The architectural choices made by a unified messaging vendor have a direct effect on both the system's usability and the availability of certain features. A few systems on the market still maintain a separate message store for voice and fax messages. These systems offer less in the way of features requiring proprietary software and clients to be installed on the user's PC. Most of these systems don't support access to voice and fax messages from the email systems Internet clients and some don't allow users to manage their email messages from the telephone interface.

TELEPHONY-LEVEL RELIABILITY

Customer expectations for reliability for products that handle telephone calls are extremely high. Most customers demand uptime levels in the range of 99.99 percent for telephony applications. Some current unified messaging systems actually run on the email system software. While this approach may make it easy for the vendor to create the desired unified messaging functionality, it makes it nearly impossible to meet the customer's reliability expectations as email system or network failures can have a direct negative result on the telephony portion of the unified messaging application, including losing the ability to answer incoming calls. In order for unified messaging applications to be acceptable to customers, they need to be architected to be immune to network failures, groupware crash and other network related disasters. This requires the voice server providing a backup directory and message store to be used in the event of the failure of any of the network or groupware components.

IMPACT ON THE EXISTING INFRASTRUCTURE

As new generations of unified messaging systems have been developed, great strides have been made in minimizing the effect unified messaging installations have on the existing networking and groupware infrastructure. Most systems allow the system administrator to control the type of audio codec used to create the voice messages to insure they are small enough to have a minimum impact on the their email server and network but can still move throughout the customer's IP network without a serious degradation in quality.

Some systems allow fax messages to remain on a separate server and still be integrated with the email system, reducing the amount of additional storage needed on the email server. A few of the most advanced systems cache voice messages on the voice server and allow users who access voice messages from the telephone interface to use the cached copy. This reduces the need to move the messages from the email server to the voice server to be played, reducing network impact by up to 50 percent and reducing the amount of traffic handled by the email server. Most systems that are using the email store as a single message store also allow users to create local storage folders to hold their saved voice messages further reducing the amount of storage required on the email server.

THE TRUE BENEFITS OF UNIFIED MESSAGING

Unified messaging has been available in the market for nearly 10 years. Although the uptake has been slower than expected, due primarily to the fact that its implementation requires efforts from both the telecom and IT groups within a company, there is little doubt today that unified messaging is a valuable addition to a company's infrastructure. Unified messaging adds value in three arenas.

Productivity enhancements...

The most obvious gain when adding unified messaging is the immediate productivity boost that will be experienced by the company's employees. Employees who work primarily from their desk will see an immediate reduction in the amount of time spent accessing and processing messages. The ability to access all messages from a single location (email client), originating fax messages without leaving their desk, having fax messages automatically routed to the email Inbox and the ability to organize all messages in convenient folders - all contribute to a more efficient messaging experience.

For remote or traveling employees, the ability to access messages from any location and from any device is convenient and contributes to spending less time processing messages and more time available for other more critical functions.

Improved customer responsiveness...

An equally important but somewhat less obvious advantage to adding unified messaging is the immediate increase in responsiveness that will be seen by customers and coworkers. Employees will receive their fax and voice messages in their email Inbox and will be able to make decisions on what messages are most important. They will be able to respond to those important messages immediately from their desk by forwarding voice messages, initiating outbound faxes and replying to any message type.

Traveling and remote employees will enjoy an even bigger improvement in their ability to respond to the needs of their customers and coworkers. The ability to be notified of the receipt of any type of new message allows remote users to respond to those messages in a more timely fashion. The ability to use a mobile phone, mobile data device or any convenient Internet connection means employees can process their messages as soon as they receive them. By being able to forward their fax messages or email messages to a fax machine, mobile employees can conduct business from whatever their location - meeting the expectations of their customers.

Cost savings...

The Return On Investment proposition for unified messaging is a simple one. Companies can expect to save money in three ways. First, the increase in productivity will enable employees to spend more time focusing on their key job functions. This will translate to savings and increases in revenue such as more sales from the sales staff, lower staff levels required for administration groups and the ability for support staff to handle more work. Second, long distance charges will decrease as employees send voice responses across the Internet via email rather than calling customers and co-workers directly. Third, the fax server functionality included in most unified messaging solutions saves a significant amount of money through employee timesaving, least cost routing and a paperless office. In addition, businesses will see savings in reduced phone line charges and lower supply costs.

NOW IS THE TIME

The unified messaging industry has developed to the point where it now delivers a strong and valuable set of solutions. Potential customers can feel secure that most of the major systems on the market today deliver proven value and can integrate into their current environment. Prospective customers should evaluate the systems available in the market and address the few remaining issues of possible concern:

Ability to integrate with existing and new systems...

While most systems today can integrate with the major groupware and telephony systems, prospective buyers should be sure that the system they choose can support their current groupware and telephony mix and should also allow for integration into future environments that may come from growth or acquisition. They should be sure the system they choose supports both Microsoft Exchange and IBM Lotus Notes at a minimum and that the system can integrate with all the major telephony systems in the market.

Features and functionality...

Prospective buyers should closely evaluate the functionality of the systems they are considering. They should pay special attention to the user interface features since this has the most effect on acceptance and use of the system. Some questions to consider/answer: Does the telephone interface allow effective access to all message types? Does the system use the standard email clients or does it require special proprietary clients to be installed and maintained? Is there a strong notification component in the system? How strong is the fax functionality in the proposed solution? Does the system offer a mobile data interface component?

Implementation and architecture...

The final consideration is architecture. While most systems on the market today use a single message store, there are still a few systems that rely on separate message stores. These systems offer less in the way of functionality and require the installation and maintenance of additional software on the user machines. Some systems are still built upon the email system and will be unlikely to meet the customer's expectations for the high levels of telephony functionality.

Vendor experience...

While unified messaging is not a new solution, new vendors are constantly emerging. Prospective customers would be well advised to ascertain the experience level of the vendor before purchasing the product; asking for, and closely interviewing, a number of unified messaging references from the prospective vendor is highly advised.

There are great advantages to be had by implementing unified messaging - the increase in employee productivity will strengthen business overall. The improved responsiveness to customers will increase revenue and customer retention rate. The additional labor required to install and maintain the solution will be more than offset by the financial gains that will be recognized. With all the latest

advancements in unified messaging technology and the maturity of the market, now is the optimum time for businesses to invest in this solution to improve employee productivity and save time and money.

FOR MORE INFORMATION

Applied Voice and Speech Technologies, Inc. ("AVST") is an emerging force in the unified communications ("UC") marketplace uniquely combining the strengths of its world-class messaging platform, CallXpress®, with its innovative speech applications platform, Seneca™, to create a powerful, next-generation unified communications solution. The Company's products are designed to scale and support organizations of all sizes. For more information please contact us at: www.avstgroup.com or +1.949.699.2300.

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UNIFYING COMMUNICATIONS

CallXpress® Speech Server

DATASHEET

Increase and Simplify Real-Time Communication for Customers and Employees

A recent study[1] shows 75 percent of incoming business calls don't reach intended recipients. Callers are stuck leaving voice mails or attempting to locate contacts via the operator.

Not surprisingly, such a low success rate doesn't suffice in today's competitive marketplace. The solution is effective call management as an integral component of a unified communications system.

Applied Voice & Speech Technologies, Inc. (AVST) is the leading independent developer of unified communications solutions. Our flagship product, CallXpress®, delivers proven technology with over 25 years in the messaging market and over 40,000 systems installed worldwide.

The CallXpress Speech Server includes Seneca® technology, a speech-enabled call management module. The CallXpress Speech Server dramatically improves the success rate for person-to-person calls through a voice-driven automated attendant system. This is one of many capabilities that lead to boosted mobility, productivity and improved customer satisfaction. The CallXpress Speech Server allows users to:

- Complete all calls in one call
- Respond to voice, e-mail and fax messages any time, anywhere
- Focus on profitable tasks rather than unproductive rounds of phone tag

As a vital component of the CallXpress unified communications solution, the CallXpress Speech Server is a suite of integrated, scalable tools designed to help businesses streamline and accelerate the management of phone calls, voice messages, e-mails and faxes.

Produced on the principle that every call counts, it simplifies communication for productive results.

Powerful, Voice-Activated Communication

The CallXpress Speech Server is built on award-winning voice-user interface tools for communication, messaging and content access. It speech-enables common office technologies, such as voice mail, e-mail, fax, PBX features and groupware.

Powered by intuitive voice commands, the CallXpress Speech Server quickly connects callers to employees and employees to information. For instance, users may take calls and manage voice, fax and e-mail messages on a cell phone while driving to work, in a completely hands-free mode. Voice-activated management simplifies the task and ensures continued productivity even as the government legislate hands-free cell phone use.

One-Call Productivity

Using voice commands, callers may direct the CallXpress Speech Server to locate an employee, call another contact or leave a message—all in one call. Employees, on the other hand, may set it to redirect calls from the office to any alternative location. As a result, more connections are completed more quickly, whether users are in the office or on the road. Since recent studies demonstrate a correlation between response time and financial performance, increased productivity with the CallXpress Speech Server leads to cost savings and profitable customer relations.

Cost-Effective Integration

The CallXpress Speech Server extends the capabilities of CallXpress, but also leverages other existing software and hardware investments. The module may be configured to integrate with and enhance virtually any voice mail system. It also offers tailored, scalable configurations and compatibility with most PBX or KTS systems.

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[1] AT&T study

Customized Efficiency

The CallXpress Speech Server expands CallXpress systems with automated attendant features and voice-activated capabilities, including dialing, e-mail, voice mail and fax.

Receptionist Component
Answering and managing calls around the clock, the CallXpress Speech Server's automated attendant reduces costs, increases productivity and improves the efficiency of call delivery.

Voice-activated options are easily accessed by callers. For instance, when a customer dials the main number, he or she simply tells the CallXpress Speech Server the name of the desired person or department. It delivers the call without menus to wade through or keys to punch.

Voice controls also direct the automated attendant to:

- Try alternate mobile or home "locate" numbers
- Leave a message
- Direct the call to another contact

Within the office, the attendant announces callers and gives recipients capabilities for priority handling. The CallXpress Speech Server patented "acknowledge" feature provides a unique call screening option. In addition to basic accept or reject call options, employees may record a customized message to be played to callers in recognition of the call.

Dialing Component
The dialing module eliminates paper company directories and encourages effective communication with important contacts. Using the CallXpress Speech Server, users can reach co-workers and up to 500 personal address book contacts by simply saying their names.

E-mail Component
E-mail is just a phone call away. CallXpress and the CallXpress Speech Server module enable users to access their inboxes anywhere. Users may listen to messages via text-to-speech capabilities, then reply or record a new message to be sent as a .wav file e-mail attachment.

Exchange Calendaring
Through the Exchange Calendaring feature, you can check calendar schedules for any given day, as well as create, accept, decline, and reply to meeting requests.

Voice Mail Component
The CallXpress Speech Server enables users to review, copy and forward voice messages via voice commands. In addition, if it has identified Caller ID information or if the caller leaves a phone number with a message, users may return the call by telling the CallXpress Speech Server to "call back."

Fax Component
With the CallXpress Speech Server, every employee can be assigned a personal fax number, eliminating the need to buy or rent expensive fax machines. Incoming faxes are routed into the recipient's message inbox and can be printed, copied or forwarded on-demand, even from a remote location.

Generate Text E-mails through Voice Commands
This patent-pending feature allows Microsoft® Exchange® users to send preconfigured text messages such as call me, gone until time, out of the office, etc. with variables for date and time, user name, and phone number all through simple voice commands.

Specifications

- Runs on Microsoft Windows 2003® Server for maximum stability.
- Supports configurations ranging from 4 ports to 48 ports, 5,000 user mailboxes and 10,000 auto-attendant names.
- Installs on a dedicated computer that uses an Intel® Dialogic® card to connect to the PBX or KTS and a network interface card (NIC) to connect to the network.
- Provides localized prompt sets and TTS options for UK and Australian markets.

For More Information

For over 25 years, AVST has been shaping the evolution of communication, with more than 40,000 systems installed worldwide. Our award-winning CallXpress solution has been unifying communications for companies all over the world. So as the world of enterprise communications advances, you can be assured that AVST has your future covered. To learn more visit www.avst.com or contact us at +1.949.699.2300.

AVST

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NotifyXpress™

Broadcast notification with NotifyXpress offers a cost-effective way to keep your customers informed.

AVST

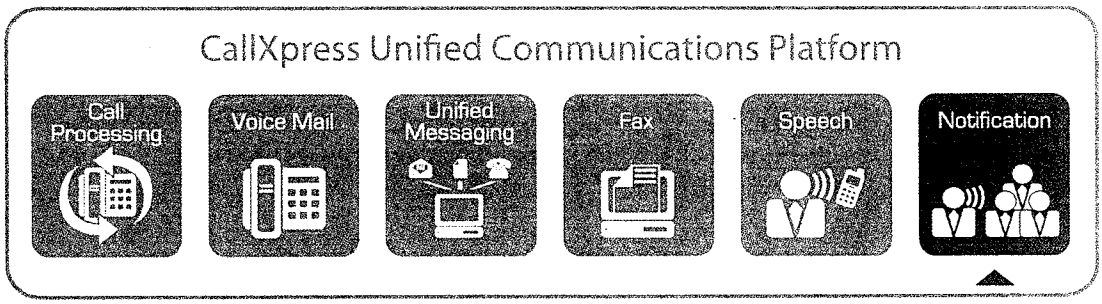
NotifyXpress

Broadcast notification with NotifyXpress offers a cost-effective way to keep your customers informed.

NotifyXpress offers a quick and easy method to deliver timely messages to your customers.

NotifyXpress helps you strengthen your relationships with your customers by proactively reaching out and providing information that they value. Whether you want to contact 20, hundreds or even thousands of people, NotifyXpress lets you record and deliver messages easily. This could be anything from appointment reminders to schedule changes to emergency message notification. You can even personalize the information by customer. For example, outbound phone messages can remind your customers of the time and date of their upcoming appointments.

Not only does this help build customer loyalty, but NotifyXpress also helps you achieve lower operating costs. When you expand your CallXpress® system with NotifyXpress, this module seamlessly leverages CallXpress, where outbound calls are placed on the voice ports.



NotifyXpress is the ideal solution for a wide variety of industries. Organizations in the fields of healthcare, education, law, manufacturing, financial services and government will find NotifyXpress presents a smart solution to outbound customer communications.

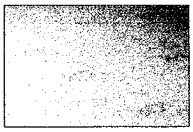
NotifyXpress allows you to:

- Leverage your existing CallXpress system
- Communicate pre-recorded announcements to a large audience
- Create customized announcements with varying data elements including dates, numbers, monetary amounts and names
- Configure certain time periods during which outbound calls are allowed
- Protect outbound messages via password
- Support do-not-call requests
- Configure the maximum number of call attempts and failed call retry intervals
- Handle various call transfer scenarios including no transfer, automatic transfer, or call recipient requested transfer
- Review detailed logging of call attempts, retries, and results for reporting
- Record messages and initiate outbound campaigns through a telephone user interface
- Support your multi-lingual customer base

ɹ matter what you have to say, NotifyXpress delivers the message.

Broadcast notification can be used for a wide variety of purposes, but the common denominator is cost-effectiveness. NotifyXpress enables organizations of all kinds to control their operating costs while delivering a timely message.

Listed below are just a few of the more common uses of NotifyXpress. Once your organization has the capability for fast, easy outbound communication, you're sure to find many other uses.



Appointment Reminders

Send personalized messages to your students, patients, vendors or customers to remind them of events, meetings or appointments. This notification tool can be programmed to continue to place calls until successful, thus improving your attendance, minimizing rescheduling events, and increasing your revenue.

Emergency Message Notification

NotifyXpress can reach thousands of individuals concerning impending events or issues. You can provide pre-recorded messages for disasters like severe weather conditions, fires, chemical spills, or crime in your area.

Marketing Campaigns and Sales Follow Up

Your customers don't want to miss out on important company information, webinars and other events. With an outbound phone message, you can automatically notify your customers and save precious manpower at the same time.

Closure Notifications

Unpredictable weather or other events may require your school or business to close. NotifyXpress makes it easy to notify parents, students, faculty or employees in a timely manner, and avoid tying up phone lines with inbound callers asking the same questions.

Status of Services

Be proactive and provide your customers with updated information about an order, shipment, inventory status, flight schedule change, etc. The banking industry can notify customers of loan status, irregular account activity, or other timely information.

Organizations both large and small are turning to CallXpress from AVST because of its dependability and unparalleled flexibility. CallXpress delivers advanced voice mail, call processing, unified messaging, notification and speech-enabled personal assistant abilities. It allows users to receive and respond to messages anytime and anywhere, which gives your employees the power to communicate and collaborate more productively.

System requirements:

Software Requirements:

- CallXpress software version 7.71 or later license
- CallXpress Automated Agent license
- NotifyXpress license

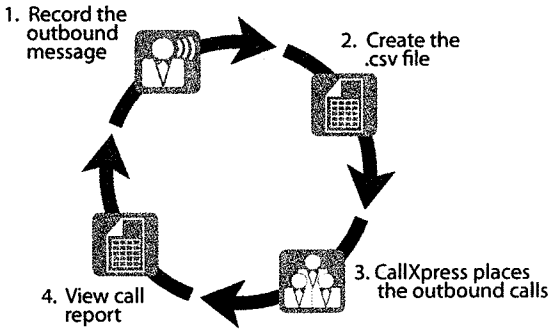
Capacity:

- Supports 2-48 ports

Operating System:

- CallXpress runs on Intel-based server solutions and Microsoft® Windows® Server 2003

With NotifyXpress, the process to generate outbound telephone calls is simple.



1. Record the message to be played to recipients
2. Create an import .csv file with recipients' information
3. CallXpress places the outbound calls
4. Review reporting information

For over 25 years, AVST has been shaping the evolution of communications, with more than 40,000 installations worldwide. So as the world of communications advances, you can be assured that AVST's award winning products have your future covered.

To learn more visit www.avst.com or contact us at:

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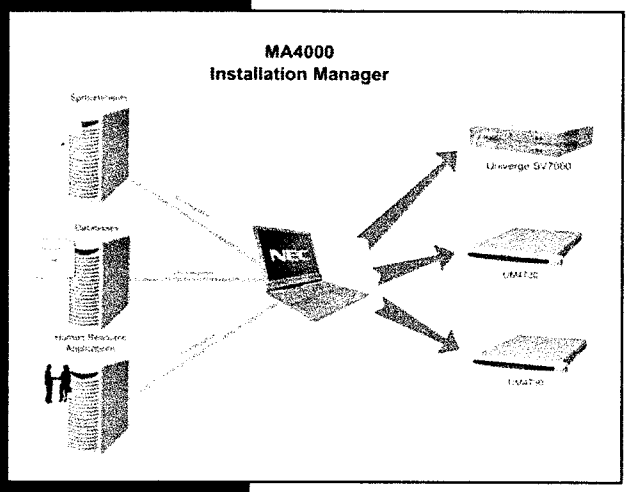
MA4000 Management System

Simplified IP Telephony Management

Secure, easy-to-use and robust, the MA4000 Management System is designed to increase overall productivity while at the same time delivering flexibility and simplicity to IP Telephony administration. In combination with the UNIVERGE™ SV7000 and other NEC voice systems, the MA4000 Management System provides the necessary tools for a truly comprehensive IP Telephony solution.

Installation Made Easy

MA4000 Installation Manager

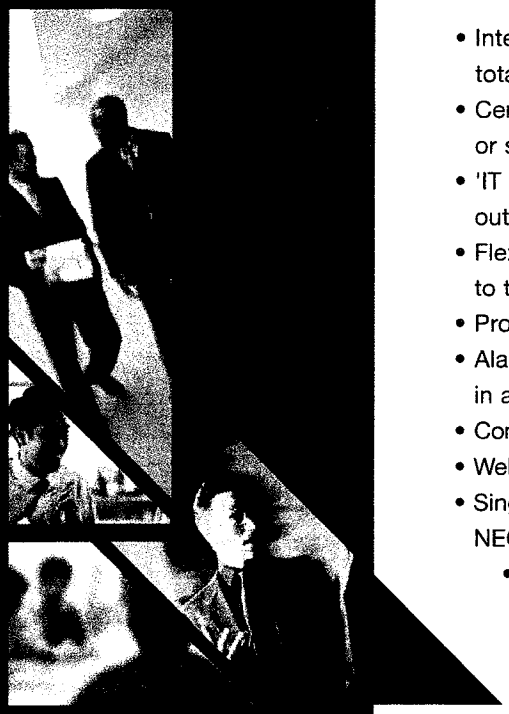


The MA4000 Installation Manager lowers overall project cost by reducing the time it takes to perform initial IP Telephony programming.

- Quick simple and consistent first-time voice system and VMS installation tool
- Easy-to-use interface
- Flexible data import methods
- Reduces the expense of initial programming
- Reduces the time required for initial programming
- Utilizes templates
- Provides reports for Installation Plan Validation

Management Made Easy

Key Features

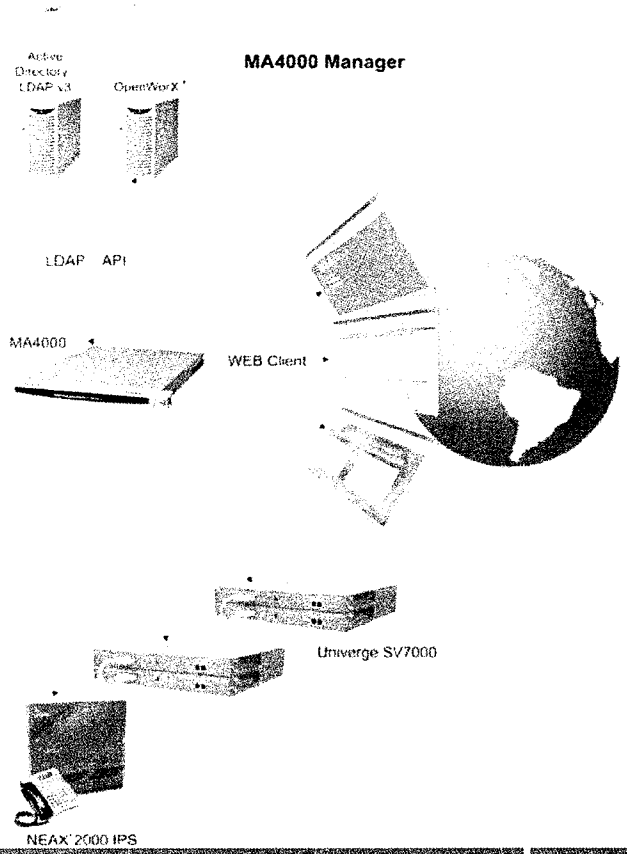


- Integrates with an IT department's current administration system to help reduce the total cost of ownership
- Centralized secure access that integrates with current authentication methods or stands on its own
- 'IT Friendly' GUI interface with easy-to-understand commands takes the mystery out of voice system administration
- Flexible group management that can be pushed down to the user or kept close to the administrator
- Programming tasks can be scheduled to run unattended during off-peak hours
- Alarm notifications via email or screen pop that allow administrators to respond in a timely manner
- Comprehensive audit trails that provide a detailed history of PBX changes and alarms
- Web-based client side interface allows anytime, anywhere access to the system
- Single point-of-entry for Moves, Adds and Changes on the SV7000 and other NEC voice systems
    - Powerful administration tools reduce the time it takes to make changes over more traditional methods

MA4000 Management System

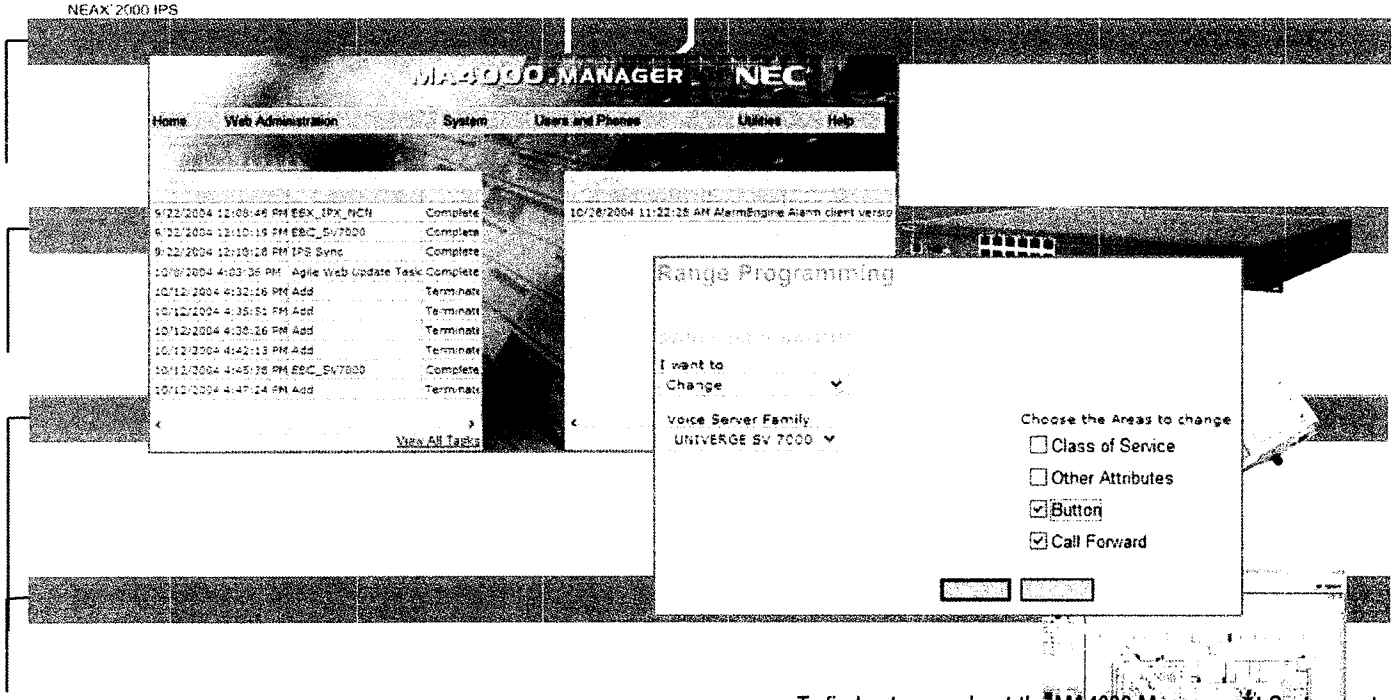
UNIVERGE

Simplified IP Telephony Management



MA4000 Manager

- Web-Browser Operation
- Email Alarm Notification
- Alarm Client Notification
- LDAP Auto Provisioning Service
- LDAP Authentication
- Windows Authentication
- IT-friendly Interface
- Flexible Access Levels (Roles)
- Application Program Interface (API & SDK)
- Security
- HTTPS Supported
- Audit Trail Logging
- Customizable Portals
- Command Line Interface
- Integration To OpenWorX®
- Centralized Authentication Service (NEC CAS)
- System Health Monitoring
- Scheduled Range Programming



To find out more about the MA4000 Management System or to inquire about NEC's powerful and versatile data networking solutions, visit our website at www.necunifiedsolutions.com.

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Number 188342

Empowered by Innovation **NEC**

MA4000 System Integration

MAXIMIZING EFFICIENCIES

Integration of a new management system into a company's existing infrastructure is not optional: it is absolutely essential for keeping IT costs-of-ownership under control and system efficiencies high. That is why NEC's MA4000 Management System relies upon industry standards common to many management platforms.
It is carefully designed to take advantage of this critical element—integration.

LDAP AUTO-PROVISIONING

For easy integration, the MA4000 uses Lightweight Directory Access Protocol (LDAP), the preferred protocol for deploying directory-based applications and solutions. Vendors such as Microsoft,® Red Hat® and Lotus® offer LDAP as a means of integrating with their network management databases.

MA4000 logically provisions new employees based on user-defined criteria in LDAP (Base DN, Scope and Filters). The MA4000 Manager utilizes LDAP to scrutinize specific database fields. It extracts that information and automatically uses it to make provisioning decisions, thereby speeding the provisioning process.

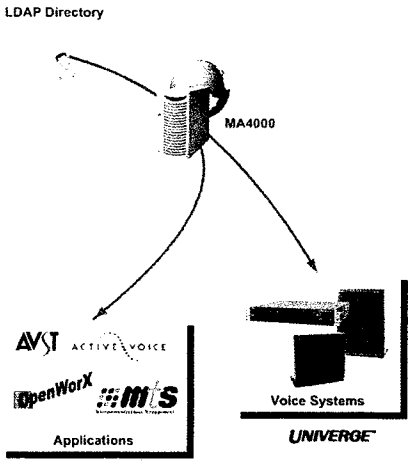
SINGLE POINT OF ENTRY

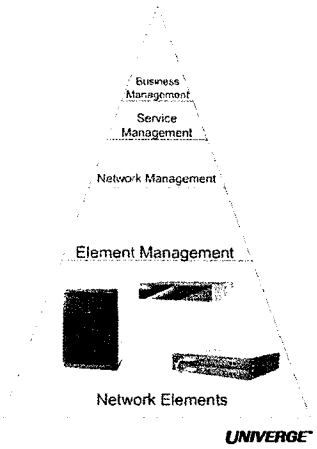
User administration becomes difficult every time an employee joins, leaves, or moves within any organization with multiple application layers. Because the MA4000 acts as a single point of entry for PBX, voice mail, corporate directory, call accounting, the E911 system and more, it eliminates this problem.

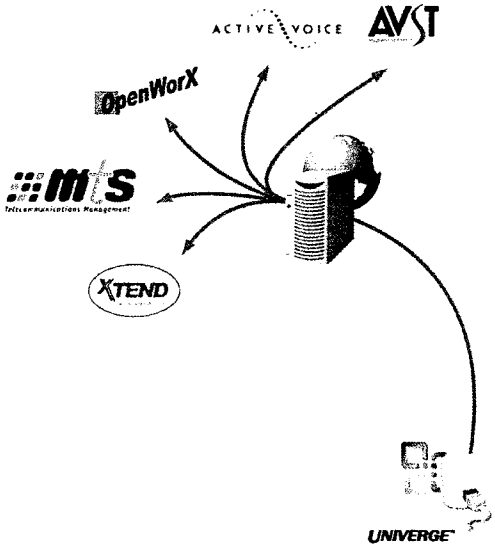
This single-point-of-entry feature derives from the way the MA4000 implements LDAP as well as the system's easy-to-use, native interface. Once a user's information is created in the MA4000 system, it is automatically transmitted to other applications, thus, maximizing efficiencies.

+ Once a user's information is created in the MA4000 system, it is automatically transmitted to other applications, thus, maximizing efficiencies.

MA4000 System Integration for the MA4000 Management System







NETWORK MANAGEMENT SYSTEMS (NMS) INTEGRATION

Systems like HP® OpenViewTM and IBM® TivoliTM utilize network management systems (NMS) to keep track of network faults, inventory and reporting. In the background of every NMS is the Simple Network Management Protocol (SNMP), the standard protocol for managing network devices.

The NEC MA4000 Management System integrates with NMS by taking on the role of the element management system (EMS) as it communicates with NEC communications equipment or network elements.

Using SNMP trap technology, the MA4000 can forward any fault up to the NMS while it simultaneously maintains its own fault escalation system.

The MA4000, using SQL access and its application programming interface (API), shares traffic, voice-over-internet protocol (VoIP) and Quality of Service (QoS) data with the NMS.

In addition, the NMS systems that house an organization's LDAP directory integrate with the MA4000 for authentication and a single point of entry.

TELECOM MANAGEMENT NETWORK COMPLIANT

The MA4000 is built on the telecommunications management network (TMN), developed by the International Telecommunication Union (ITU) as an infrastructure to support management and deployment of integrated telecommunications services. TMN provides a framework that helps companies achieve interconnectivity as they merge new technologies with legacy systems in heterogeneous operating environments.

SAVES TIME, DELIVERS BETTER SERVICE

The MA4000's integration features serve to streamline a company's business processes and reduce operating costs. They are an important reason for choosing the MA4000.

To find out more about the NEC MA4000 Management System and how NEC's powerful and versatile technology platforms can work for your organization, visit our website at www.necunified.com.

MA4000 Productivity and Cost Savings

ACCOMPLISH MORE FOR LESS

What can a system administrator do to increase productivity while driving down costs? With the MA4000 Management System, what can't an administrator do? The MA4000 reduces the cost of administration by eliminating the need for extensive training; it speeds moves, adds and changes, whether they occur one at a time or in large batches. In addition, the MA4000 cuts travel and troubleshooting time, and it greatly aids database consistency, which results in better service to users.

REDUCED TRAINING

The MA4000 easy-to-use interface reduces the learning curve so administrators begin using it sooner. This eliminates weeks of expensive training and costly certification.

EFFICIENT INTERFACE

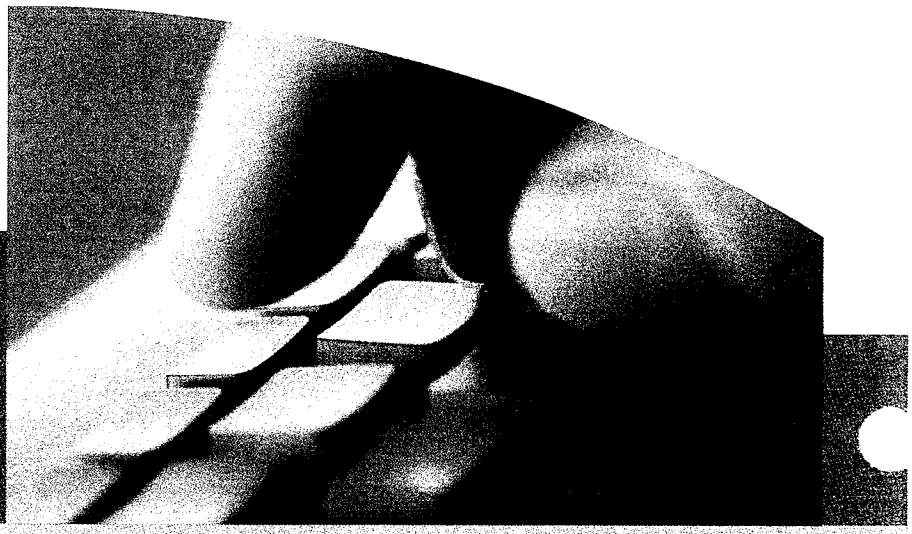
Every element of the MA4000 interface is laid out in clear, understandable language. Drop-down menus are pre-listed in English, making terminals easy to provision and manage. Only valid configuration options appear on-screen so managers choose the right configuration settings.

RANGE PROGRAMMING

Administrators edit large groups of devices from a single screen by using the MA4000 Range Programming tool, thereby dramatically reducing the time it takes to make moves, adds and changes. Range Programming allows administrators to perform daily administrative tasks on large groups of devices and users simultaneously:

- Add new users, phones or voice mailboxes via template-based programming.
- Change any of the configurations for telephones or voice mailboxes.
- Copy current configurations from one device to another.
- Delete groups of users, telephones or voice mailboxes.
- Move time-division multiplexed (TDM) devices from one location to another without having to rewire.
- Renumber phones or voice mailboxes.
- Swap two or more TDM device locations without rewiring.

The MA4000 handles large batch jobs with ease. For example, it can turn a four-digit extension plan into a five-digit plan in a matter of minutes—regardless of the number of users.



The MA4000 easy-to-use interface reduces the learning curve so administrators begin using it sooner.

LDAP INTEGRATION AND AUTO-PROVISIONING

The MA4000 uses Lightweight Directory Access Protocol (LDAP), the preferred protocol for deploying directory-based applications and solutions.

A key MA4000 feature logically provisions new employees based on user-defined criteria in LDAP (Base DN, Scope and Filters). The MA4000 Manager utilizes LDAP to scrutinize specific database fields. It extracts that information and automatically uses it to make provisioning decisions, thereby speeding the provisioning process. As a result, user information is only entered once in the LDAP directory, thus saving time.

LESS TRAVEL, HIGHER PRODUCTIVITY

At one time, changes, moves, adds and swaps had to be made at the MDF or IDF, requiring a technician to travel to the site. With the MA4000, these changes are software-based and made remotely, thus increasing productivity.

Likewise, the MA4000 allows administrators to deploy software upgrades and manage backups from a central location, eliminating travel to remote locations--again, increasing productivity while saving money.

TIMELY TROUBLESHOOTING

When there is trouble on the system, the MA4000 reduces the time it takes to diagnose the problem:

- The MA4000 Real Time Monitoring Tool simultaneously monitors the stations, trunks and connection trunks of multiple PBXs.
- The MA4000 Traffic Manager routes traffic from local and remote locations.
- MA4000 VoIP Statistics gathers voice over IP (VoIP) quality of service data and triggers threshold-based alarms to report network problems.

DATABASE CONSISTENCY

When data has to be reentered from one application or customer screen to another, human error is always a possibility. Thanks to MA4000 Templates, user data, once entered, never has to be reentered, thus eliminating the errors that might otherwise result.

To find out more about the NEC MA4000 Management System and how NEC's voice systems can provide powerful productivity solutions for your organization, visit our website at www.necunified.com.

MA4000 Power and Ease of Use

POWERFUL TOOLSET, EASY TO USE.

The most powerful telephone system won't do you much good if its interface is complicated and hard to learn. That's why we've designed the MA4000 to be both powerful and easy to use. It seamlessly couples a powerful toolset with an easy-to-use interface for effective, efficient management of the NEC Communications Solution.

It eliminates weeks of expensive training and costly certification, so you begin using the MA4000 right away.

The MA4000 dramatically speeds moves, adds and changes while it reduces fault-resolution time. You make changes without rewiring, saving travel time to remote locations and increasing productivity.

EASY-TO-USE INTERFACE

Every element of the MA4000 interface is laid out in clear, easy-to-understand language. Drop-down lists make it easy to provision and manage terminals. Only valid configuration options appear on-screen so you never have to guess the value of a configuration setting.

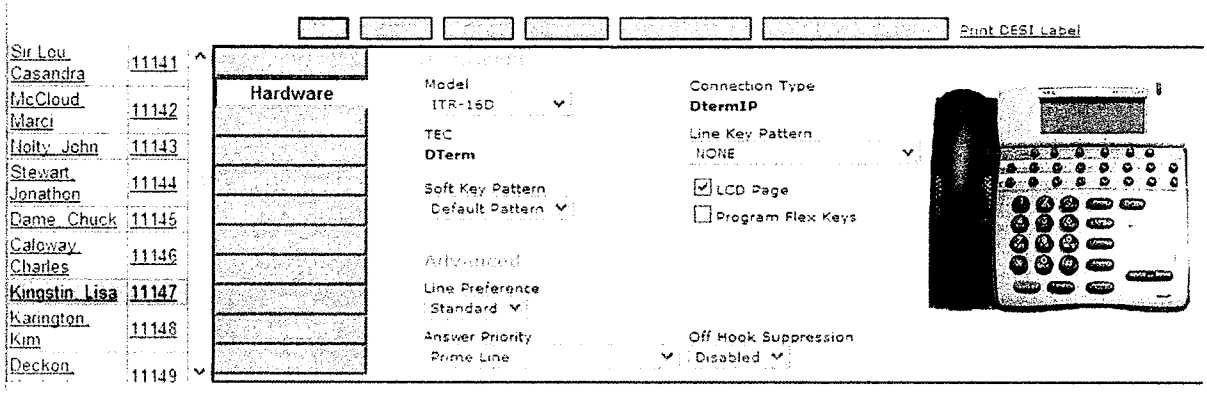
EXTENSIVE ONLINE HELP SYSTEM

The MA4000's extensive web-based help system, written in clear English, describes every aspect of the system. Directions guide you while configuring MA4000 features and functions. Notes and tips help you take advantage of the system's powerful features. And you can search both MA4000 and PBX technical documentation by key concepts, not just keywords.

TEMPLATE-BASED PROGRAMMING

Use the MA4000 to pre-define default configurations for your stations, users and mailboxes. Then use these templates to add new devices or users with your choice of the Range Programming Tool, the import utility or the LDAP auto-provisioning tool.

The MA4000 eliminates weeks of expensive training and costly certification



UNIVERGE

THE MA4000 RANGE PROGRAMMING TOOL

Simultaneously edit large groups of devices and move, add and change users with the MA4000's wizard-based Range Programming Tool. Range programming lets you—

- Add new users, phones or voice mailboxes using programming templates.
- Change telephone or voice mailbox configurations.
- Copy current configurations from one device to another.
- Delete groups of users, telephones or voice mailboxes.
- Move time-division multiplexed (TDM) devices from one location to another without rewiring.
- Renumber phones or voice mailboxes.
- Swap two or more TDM device locations without rewiring.
- Schedule one-time or recurring task execution.
- Import to and export from Microsoft® Excel™ or .CSV files.

REAL-TIME MONITORING TOOL

The Real-Time Monitoring Tool collects IP Quality of Service (QoS) statistics directly from the NEC Univerge® SV7000 and Univerge NEAX® 2400 IPX equipment. View the status of any phone, trunk or connection trunk on any PBX from a single screen. And receive proactive, threshold-based alerts about problems as soon as they appear on the network.

AUDIT HISTORY.

The MA4000 maintains detailed records of all system transactions so you see exactly what changed, who changed it, and the results of the changes.

To find out more about the NEC MA4000 Management System and how NEC's voice systems can provide powerful productivity solutions for your organization, visit our website at www.necunified.com.

MA4000 Security Solution

KEEPING YOUR VOICE COMMUNICATION BACKBONE SECURE

Ask any IT manager, CIO or telecom manager and they'll agree: of all the benefits a voice network can provide, there is none more important than security. Indeed, with the number of security intrusions on the rise, and with voice a business-critical application, the need for end-to-end voice security is paramount.

The MA4000 meets this need, providing companies with the most dependable voice network communications solution available. When utilized in conjunction with the MA4000 Security Best Practice Guide, NEC's voice solution may be the most secure backbone infrastructure in your network.

PROACTIVE FAULT MANAGEMENT WITH BUILT-IN ACCOUNTABILITY

MA4000 Proactive Fault Management stops network problems before they start. The MA4000 collects faults in real time from all the voice servers across the network via SNMP traps. It flexibly allows companies to categorize those faults by type, severity, source or description and generate distinct notifications for each fault group.

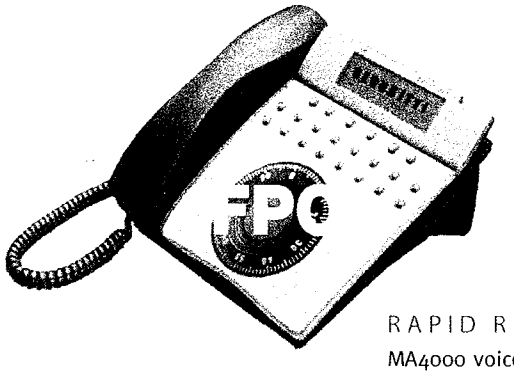
Further, the MA4000 tracks notifications based on acknowledgement and time-to-answer: if a fault is not acted on within a specified time, the MA4000 escalates the notification to the next level. The MA4000 delivers notification by screen-pop, SNMP trap, event log or e-mail. In this way, the MA4000 collects faults, effectively reports them and ensures they are worked by qualified individuals in a timely manner.

POWERFUL, END-TO-END ENCRYPTION

The MA4000 encrypts all transactions from the client and server to the voice system—up to 256 bits in SSH or SSL. Thus, communications to either the client or the PBX travel over the Internet without concern for the security of external sources. Because no sensitive voice configuration information is ever sent in clear text across the network, it is virtually impossible for unauthorized persons to gain access to the provisioning system.

The MA4000 collects faults in real time from all the voice servers across the network via SNMP traps.

MA4000 Security Solution for the MA4000 Management System



RAPID RECOVERY FROM DISASTERS

MA4000 voice servers are always prepared for rapid recovery in case of any disaster—whether from acts of nature or sabotage. This web-based centralized voice-server management system archives the voice system database every night. Thus, the MA4000 enables companies to restore previous configurations on a moment's notice.

INTRUSION DETECTION AND TOLL-FRAUD PREVENTION

Today, unauthorized users break into some voice systems by repeating login attempts until they find a user ID and password that works. The MA4000's intrusion-detection algorithm locks out accounts based on invalid login attempts within a defined period of time.

The MA4000 also prevents long-distance toll-fraud and other kinds of fraud by accessing a centralized authorization code database. Invalid authorization code entries cause the MA4000 to disable the edge telephone device. All intrusion detection and toll fraud attempts generate alarms within the MA4000 itself.

AUDIT HISTORY

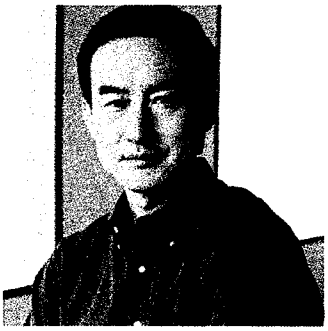
The MA4000 tracks every command issued and every system configuration change. IT personnel can create audit history reports and use searchable audit histories as troubleshooting tools. With the MA4000 audit history log, administrators know who changed what and when. They know what the change affected and any pertinent details associated with the change.

SINGLE LOGIN

The MA4000 integrates with either an Active DirectoryTM or LDAP V3 database to provide a single point of authentication enterprise-wide. As a result, users need to remember only one username and password when logging into the MA4000 management system.

With the pressing need for security solutions dramatically increasing, the MA4000 goes the extra mile to meet the requirement for a dependable voice communication management solution over the network.

To find out more about the NEC MA4000 Management System and how NEC's powerful and versatile technology platforms can work for your organization, visit our website at www.necunified.com.



UC for Business

Empowered by Innovation NEC

*Taking a **Unified** Approach to Communications*

*NEC understands the important role **communications** play in building and maintaining your business relationships. How effectively you communicate with customers, resellers, key suppliers and business partners can be the difference between business **won** and business **lost**.*

But the measure of your responsiveness as an organization is not simply based on how well your contact center agents or console operator does their job. Satisfying customer needs relies on effective communications across the entire enterprise. A breakdown in communications between individuals, departments or locations could see your customer contacting your competitor instead.

Eliminate the barriers to successful interactions in your business. UC for Business (UCB) lets you take a unified approach to all the ways your organization communicates – externally and internally, desktop to desktop, by phone, e-mail, fax, mobile, chat and via your website.

Many Needs, ***One Solution***

Organizations interact with many different people in many different ways every day. To be effective in your communications, you need to be able to exchange information quickly and easily with the people that matter most to your business. But every group or department in your organization has its own unique requirements.

Executives and Knowledge Workers

A significant proportion of their time is spent in meetings or away from the office, but the demand for their input into decisions is high. Executives and Knowledge Workers need to be able to access, prioritize and respond to their communications from anywhere, at anytime.

Contact Center Agents

These personnel are expected to process large numbers of external requests as quickly as possible. These requests come in many forms - calls, faxes, e-mails, chats and via the company website. Contact center agents need to be able to answer and fulfill each of these requests in an accurate and timely manner.

Operators

Operators also deal in high volume transactions but these can range from the most routine inquiry to VIP callers who demand immediate attention. Operators need to be able to manage peak times without compromising quality of service.

UCB from NEC offers a single solution to satisfy all your business communications needs. It unifies the entire organization, enabling individuals, departments and locations to work as one, ensuring efficient internal and external interactions.

The UCB Advantage

So how do you differentiate between Unified Communications (UC) solutions when virtually every vendor claims to have an offering to meet your needs?

In fact, many of these solutions are made up of disparate applications, some which may be the vendor's own and others that have been developed by third-parties.

To create the appearance of a single UC solution, the vendor must force these separate applications to communicate with each other. In reality, each application could be on a separate server and is likely to have its own unique user and administrative interface. The result is a solution that is confusing to operate, difficult to support and expensive to maintain.

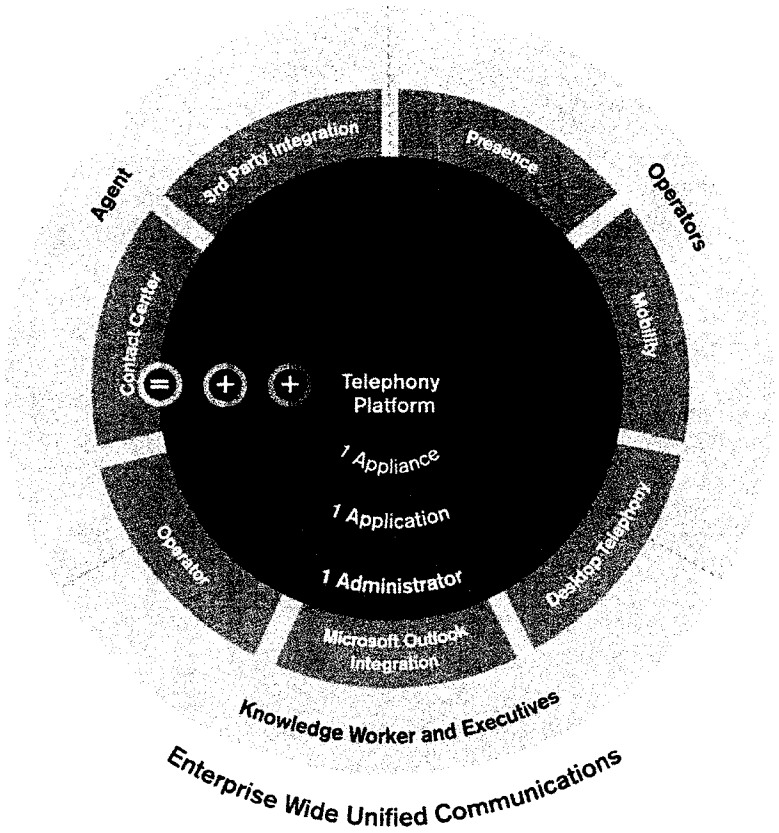
So how do you provide all your staff with the ability to communicate easily and efficiently over a variety of devices and mediums without resorting to multiple appliances and applications?

The solution is as simple as 1+1+1. UCB unifies all your communications on ***one*** appliance, using ***one*** application and ***one*** administrator without requiring you to replace your existing infrastructure.

What are the benefits of 1+1+1 to your business?

With UCB you only purchase and maintain one appliance, your staff uses one familiar Microsoft XP/Vista based user interface and there's one administration tool for managing all your UC applications. UCB means less infrastructure, less complexity and less drain on your limited resources.

With UCB, you can meet all your users' needs and minimize your total cost of ownership of an enterprise wide unified communications solution.



The UCB solution advantages begin with a single UCB application that resides on a single appliance and integrates with your telephony platform. UCB offers a comprehensive suite of UC functionality that is managed within a single administration environment. Whether you require presence to enable more efficient communications across the entire enterprise or desktop telephony functionality to assist operators and contact center agents to provide exceptional customer service, UCB will improve your internal and external interactions.

Where Do I Begin?

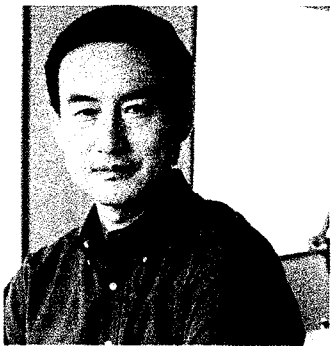
At NEC, we'll work with you to explore how you communicate with your customers, resellers, business partners and suppliers and how they prefer to communicate with you. We look at how you communicate internally – with your colleagues, with other departments and between locations.

We help pinpoint the barriers to effective communication in your organization and demonstrate how a UC solution can deliver tangible benefits to your business.

We'll explain how you can connect the UCB solution with other business applications like your CRM, voice recording and workforce management tools. And we'll guide you on the journey from needs analysis through to solution design, system cutover and beyond.

Unified Communications

Solutions for Executives



Executives are busy, mobile and reliant on their managers and staff to supply them with the right information, at the right time. UCB puts executives in control of their availability by allowing them to screen, prioritize and respond to the people that are most important to their business.

How do I prioritize my communications to maximize my efficiency and effectiveness?

- Manage all your calls, voice messages, faxes and e-mails from within Microsoft Outlook
- Access the most important calls, voice messages, e-mail and faxes first
- Give your most important callers priority routing based on their calling line ID

How can I communicate more efficiently with my managers and staff?

- Use presence to view the availability of staff (i.e. 'on the phone', 'away from my desk')
- Be alerted when the person you want to talk to gets off the phone or returns to his/her office
- View the Outlook Calendar appointment and scheduled return time for the person
  Note: Presence is automatically detected when the staff member uses the mouse, keyboard or phone

How do I ensure that I can respond to requests, no matter where I am?

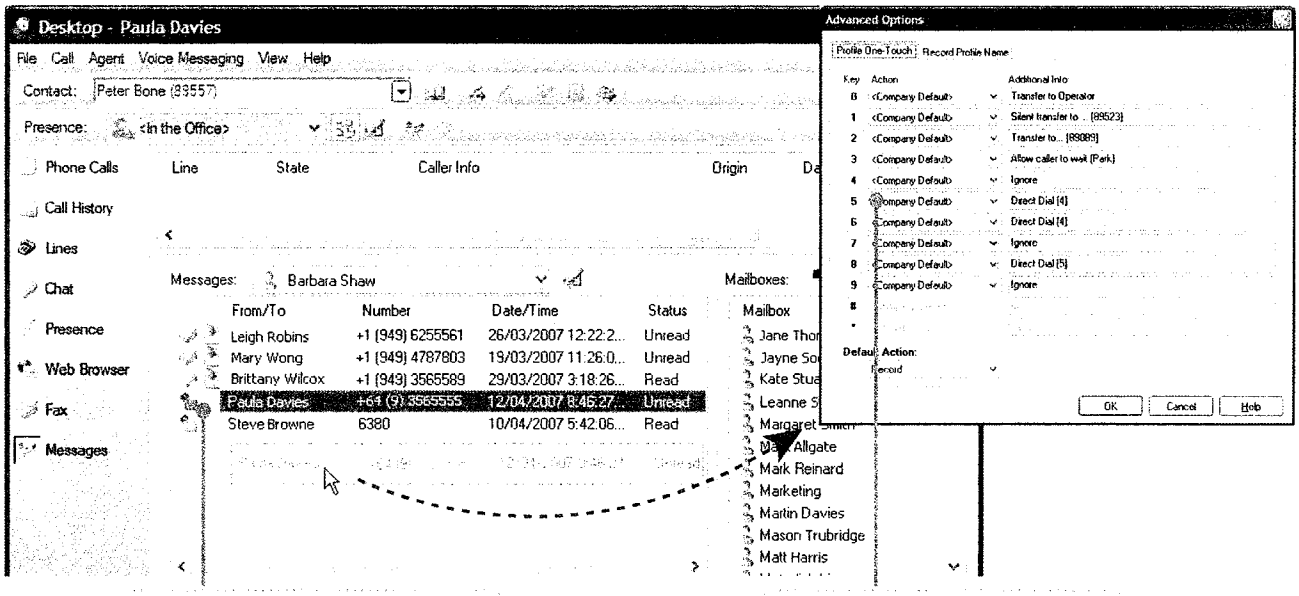
- Anytime, anywhere availability thanks to mobility
- One number to reach you regardless of your location
- Pre-configured greetings or routing to handle any event or caller
- One place to access all your messages
- Phone and web access to messages

Can my Personal Assistant manage my communications for me when I'm too busy or not available?

- PAs can handle voice and fax messages on behalf of their managers from their own desktop
- PAs can change their voice messaging greeting from their own desktop or phone
- PAs can view the status of their managers using Presence
- PAs can use screenpops to personalize the way they answer phone calls on behalf of their managers

How can I increase my productivity while ensuring a seamless communication experience?

- Use "drag and drop" to move voice and fax messages into someone else's mailbox for follow-up
- Send and receive faxes from your PC
- Customize the greetings and options you offer from your voice messaging based on a caller's ID
- Require callers to announce themselves before deciding to take the call or forward them to voice messaging



Executive Desktop gives executives the ability to drag and drop voice messages and faxes into another person's mailbox for follow up.

Users can personalize the one-touch options they offer from their voice messaging.

Unified Communications

Solutions for Knowledge Workers

The frustrations of phone tag, constant interruptions and an overloaded inbox are well known to most knowledge workers. UCB increases the efficiency and productivity of knowledge workers by allowing them to streamline and intelligently manage all their communications using a single desktop application.

How do I collaborate more effectively with colleagues?

- Presence gives you an immediate view of the current status and availability of all staff
- Presence helps you avoid phone tag, it alerts you when the person you require gets off the phone or returns to his/her desk
- Presence lets you view a person's Outlook Calendar appointment and scheduled return time

How do I take control of who I speak to and when?

- Take advantage of new call alert with option to answer, display details or redirect to voice messaging
- Customize how you redirect specific callers that reach your voice messaging
- Benefit from mobility with one number to reach you anywhere, anytime, when you choose
- See who has called even if they don't leave a message and return missed calls

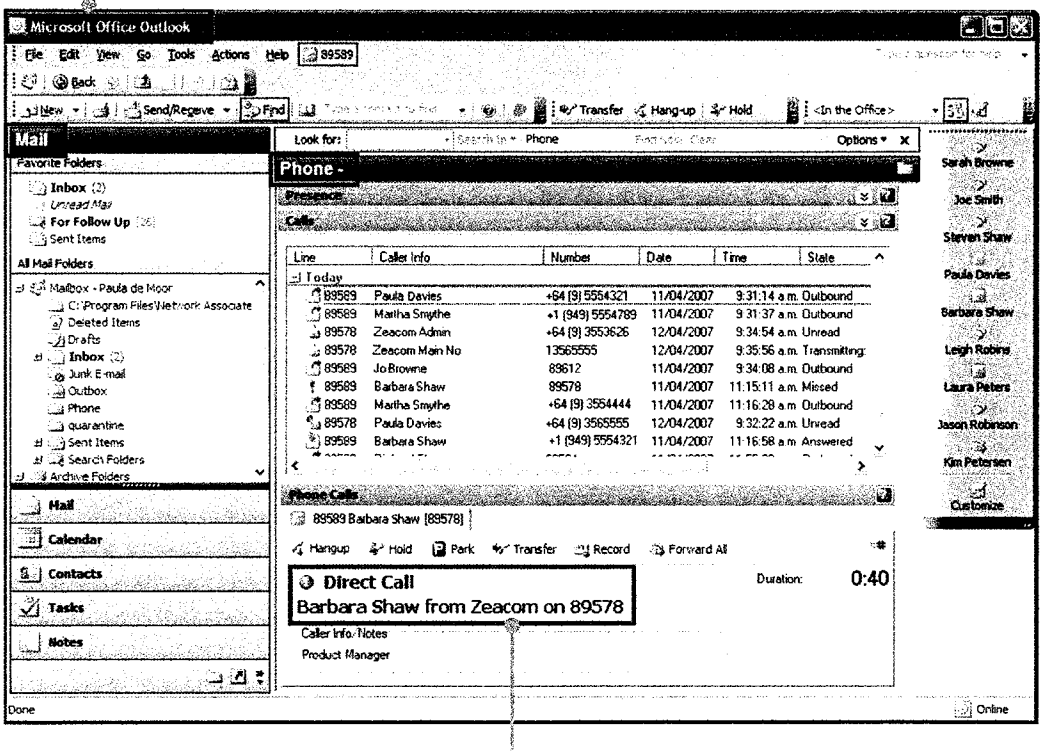
How do I ensure that I always communicate in a professional manner?

- Your incoming calls have screenpop caller details
- Your greeting can automatically change based on your Outlook Calendar appointments
- Pre-recorded voice messaging greetings handle every scenario
- Customize your greetings based on who's calling you

How do I work smarter and more productively?

- Access voice messaging, e-mail, fax and telephony functions all from within Microsoft Outlook
- Send and receive faxes from your PC
- Use the telephony toolbar to make advanced functions faster and easier to use
- One-touch access to global, personal and Microsoft Outlook contacts directories

Executive Outlook gives knowledge workers the ability to manage all of their contacts from within Microsoft Outlook.



Screenpops of caller details allow you to prioritize and personalize your communications.

Unified Communications

Solutions for Contact Center Agents

Contact center agents handle the majority of contacts coming into any business. Regardless of their function, customer service, help desk or new business inquiries - most contact centers struggle to balance customer expectations and demand with the available resources. UCB gives contact centers the tools they need to perform this difficult juggling act, and do an excellent job.

How do we ensure that we deliver consistently high service levels to our customers?

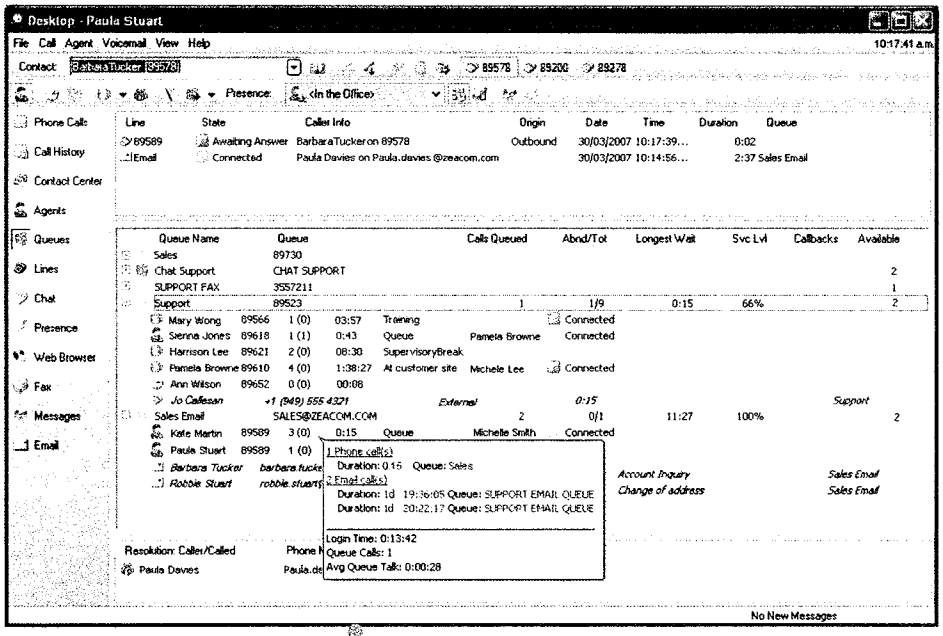
- Apply standard contact handling methods to all media types
- Pre-configure safety nets for emergency or high volume situations
- Deliver to backup agents when thresholds are reached
- Take action based on the real-time status of agents and queues
- Use standard and customized reporting to measure your performance

How do we control costs in our contact center?

- A single desktop interface for handling multimedia contacts ensures optimum utilization of agent time
- Simple, intuitive user interface increases agent efficiency
- Skills-based routing reduces talk time and transfers between agents
- Blend inbound and outbound calling increases agent utilization
- Self-service options offered via an integrated IVR option can reduce the number of agents required

How do we increase the revenues generated by our contact center?

- Answer calls faster and reduce call abandonment
- Give high-value customers or transactions priority handling
- Cross-sell and up-sell using customized announcements
- Measure campaign success by reporting on wrapup data
- Run outbound campaigns to generate new business or farm your base
- Capture more calls by offering alternatives to waiting or hanging up



Agent Desktop gives agents a complete picture of contact center activity. Agents can view the status of queues and agents, waiting calls, CLI information on contacts and much more.

Unified Communications

Solutions for Console Operators

Your operator is often the first point of contact that a caller has with your organization – leaving a lasting impression of your business. But operators face a unique set of communications challenges. They are expected to efficiently handle a large volume of calls that range from time-consuming routine inquiries to urgent high-value transactions. UCB gives your operator superior call-handling abilities - ensuring that every caller's first impression of your organization is a positive one.

How do we process calls faster and more efficiently?

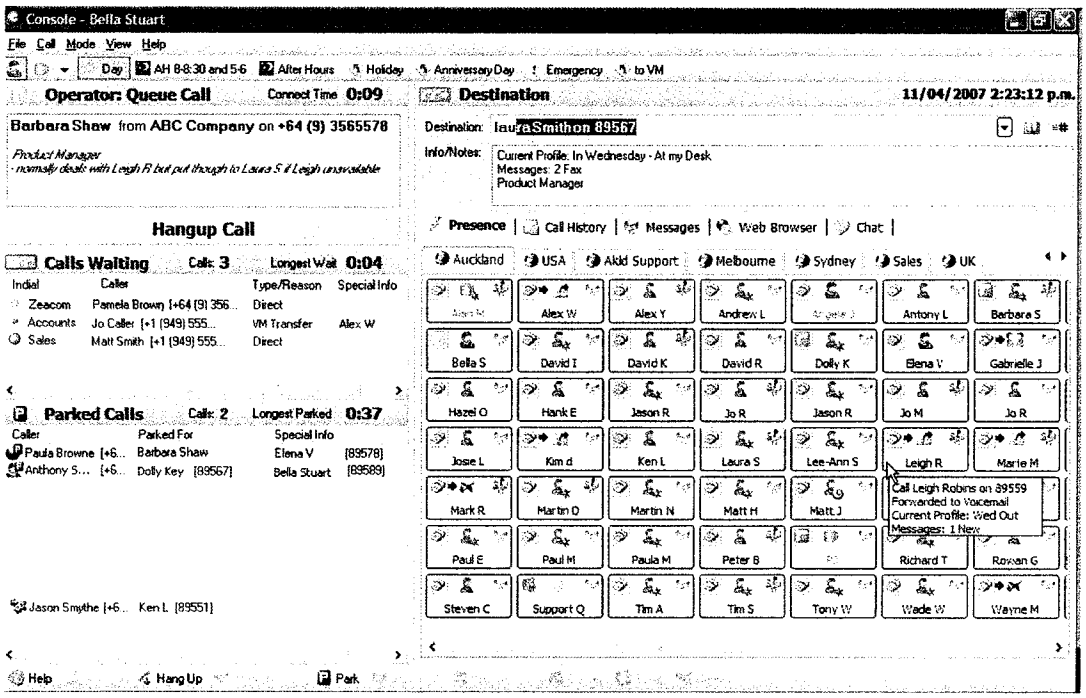
- Operators can see how many calls are waiting and who the callers are
- Calls can be sent to backup operators based on call wait time and priority
- Operators can log on from any PC anywhere in the organization
- 'Point and click' telephony functionality speeds up call processing
- 'Drag and drop' recognized calls to extensions without having to answer them

How do we personalize the service we give to our callers?

- Operators can prioritize waiting calls based on caller ID or number dialed
- Screenpops allow operators to view caller details before answering
- Presence keeps operators informed on staff whereabouts, availability and expected time of return

Are there other ways we can optimize the level of service we provide?

- Play customized announcements to callers on hold
- Change call forwards and voice messaging greetings from the console
- Distribute fax and voice messages to individual staff for follow up via centralized control
- Transfer callers to a user's voice messaging even when the user's extension is not forwarded to Voice Messaging.
- Send and receive faxes from operators' desktops
- Distribute faxes and voice messages efficiently to individual staff for follow up



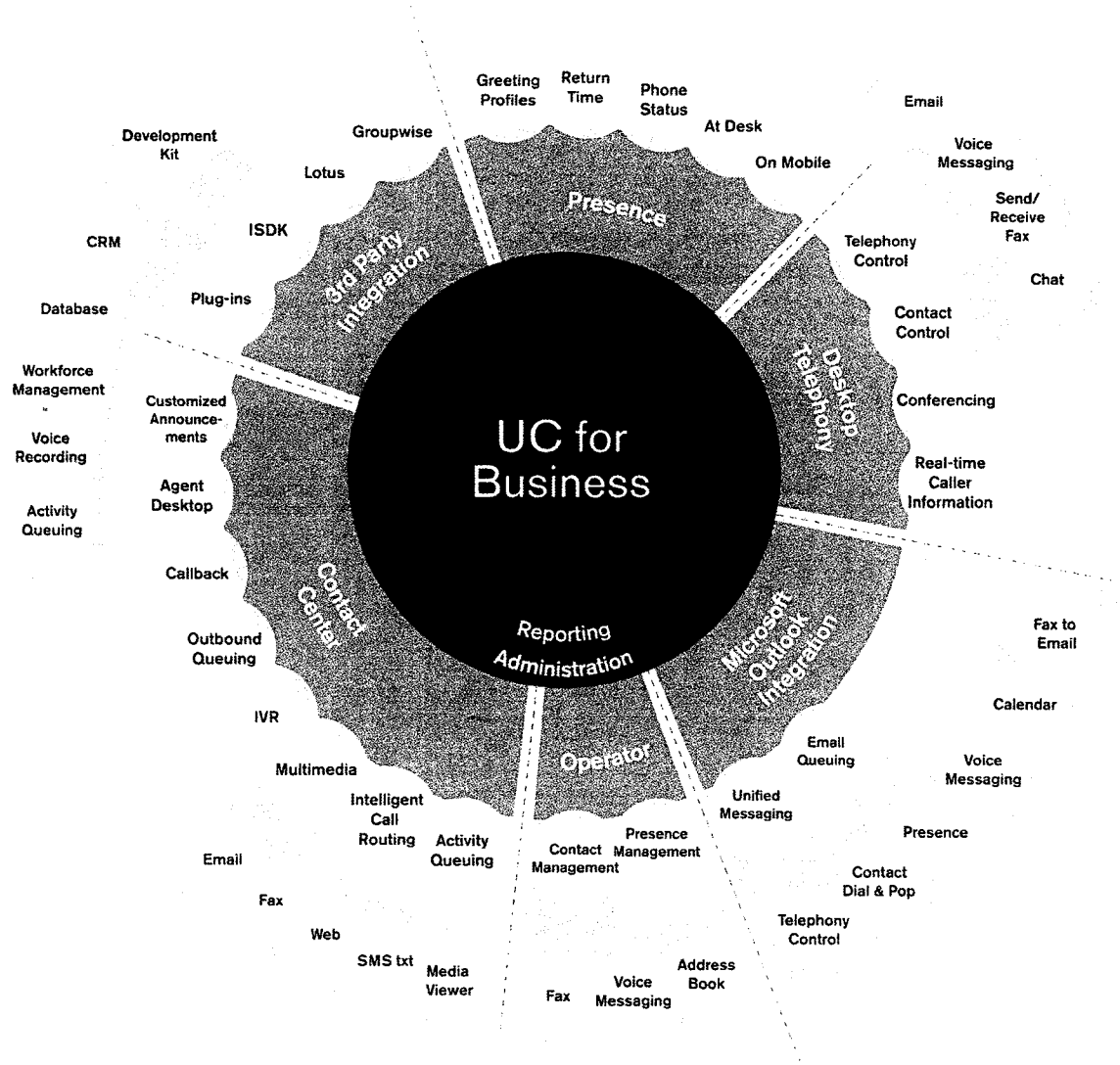
Console gives operators all the information they need at a glance. View current calls, calls waiting, parked calls and Presence information for all staff.

UCB Functionality

UCB offers a comprehensive suite of Unified Communications functionality that improves the way your organization manages all its business communications.

Presence gives staff and operators valuable information on people's whereabouts and availability. Desktop telephony and Microsoft Outlook Integration simplifies call handling and gives users the ability to manage all their communications from their desktop. Sophisticated contact center and operator functionality address the unique requirements of these important customer touch points; while third party integration allows organizations to easily and effectively connect UCB with their other business applications.

UCB is a single solution for enabling UC on one appliance, using one application and one administration interface.



Professional Services

Integration Services

UCB can significantly improve service levels and reduce operating costs within your contact center by enabling advanced features and functionality such as CRM screenpops, dialing from CRM, enhanced database routing, interactive voice response (IVR) and other telephony functionality embedded in third-party applications.

NEC has taken a proactive approach to connecting with these third-party applications by developing an extensive range of off-the-shelf plug-in modules that integrate your UCB contact center solution with the most popular databases, CRM, help desk, voice recording and workforce management applications on the market.

If customization is required, NEC's Integration Software Development Kit (ISDK) has been designed for easy integration with most database contact management applications, help desk software packages and Microsoft Windows®-based applications.

NEC Integration Services has the solutions, methodologies and experience to deliver bottom line business benefits in your contact center environment.

Implementation & Training

From design through to implementation and training, NEC has the expertise to deliver the exact UCB solution you require on time and on budget.

A project manager will work with you every step of the way, creating a detailed project plan, coordinating installation dates, arranging for the training of your staff and ensuring a smooth transition to the new solution.

Our experienced training specialists provide hands-on training to your users and system administrators, making certain that your staff can take advantage of the valuable new functionality available to them.

Customer Support & Technical Assistance

NEC understands that the maintenance and ongoing support of your solution is as important as the initial decision to purchase.

NEC provides 24x7 support and technical assistance through its offices in the US, UK, Australia and New Zealand. Whether you require a standard service package or prefer a customized service-level agreement, NEC and its reseller partners are committed to ensuring that your UCB solution continues to meet your business needs by providing rapid response and resolution to all reported issues.

NEC also includes free software upgrades in all its maintenance programs. Whether you purchased your solution last week or last year, your organization will continue to benefit from NEC's latest software developments.

Unified Communications in Action

A UCB demonstration brings UC to life by showing you the tangible benefits of enterprise-wide communications. You can do this at any time by viewing the online screencast demonstrations available via our website, Webinar sessions or downloadable podcasts.

To arrange for a personal demonstration, contact your local NEC office or reseller. For more information on UCB, visit www.necunified.com.

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For more information, visit necunified.com/uc

About NEC Unified Solutions, Inc. NEC Unified Solutions Inc., a global leader in VoIP and data communications for the enterprise and small-medium business, delivers the industry's most innovative suite of products, applications and services that help customers achieve business value through technology. NEC Unified Solutions, a wholly owned subsidiary of NEC Corporation of America, offers a complete portfolio of solutions for wireless, unified communications, voice, data and management services, and an open migration path to protect investments. NEC Unified Solutions, Inc. serves Fortune 1000 customers across the globe in vertical markets such as hospitality, education, government and healthcare.

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Fact Sheet
Unified Communications for Business (UCB)

Mobility

Mobility gives you the flexibility of being contactable anywhere, anytime.

One number to reach you no matter where you are. Think about how impressed your callers would be if they could reach you anywhere, anytime by simply calling your office phone number. Why force your most important callers to leave a message, be transferred to someone else or call multiple phone numbers hoping to catch up with you? Mobility gives you the freedom to control how, when, where and with whom you communicate.

Key Benefits

The telephone sitting on your desk is the first place most callers try to reach you at, but how often are you actually there and available to take a call? With Mobility, your callers can be automatically redirected to your mobile phone whenever you step away from your desk. There's no need for callers to hang up and try your mobile or press keys to be redirected. Mobility makes it simple and transparent for you and your callers to connect anywhere, anytime.

Mobility puts you in the driver's seat, allowing you to increase your productivity by only directing the high priority callers to your mobile. Stuck on a call at your desk when you have an appointment to get to? Transfer the call from your desk phone to your mobile with a click of your mouse. Eliminate the wasted time and frustration of checking multiple mailboxes. With Mobility, you can access all your messages from one place.

- **When you leave your desk, UCB's Presence function detects that you are no longer there and calls can be automatically diverted to your mobile phone based on the parameters you set.**
- **Redirect selected callers to your mobile while others go to your voice messaging.**
- **If you are talking on your mobile phone when you return to your desk, you can continue the call using your desk phone without having to hang up and re-establish the call.**
- **If you are on a call on your desk phone and you need to leave the office or go elsewhere in the building, you can transfer the caller to your mobile by clicking on the 'Go Mobile' button on your Desktop**
- **Calls diverted to your mobile phone will pop a screen in your Desktop application, allowing you to retrieve the call on your desk phone with the click of a button.**
- **When you can't answer your desk phone or mobile, all your calls can be directed to one mailbox that can be integrated with your Microsoft Outlook or Lotus Notes calendar appointments. Callers are automatically greeted with up-to-date information and your expected time of return.**
- **Have an SMS or phone call alert you of new messages. Voice messages, faxes and emails can all appear in your Outlook or Lotus Notes email application. When you are off-site, access your messages by phone, Microsoft Outlook Web Access or Lotus iNotes.**

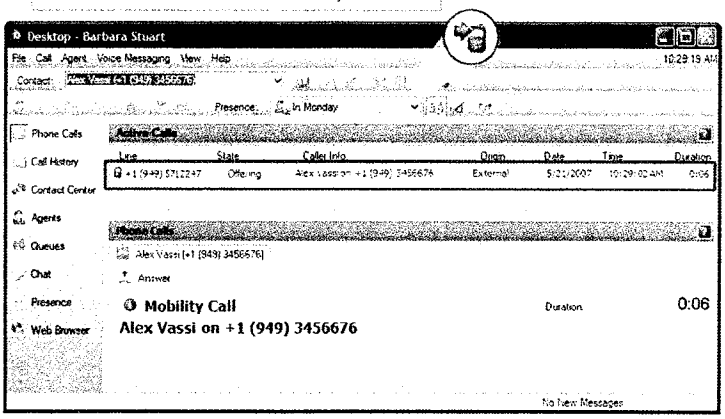
Fact Sheet
Unified Communications for Business (UCB)

Mobility

Required Modules

Each Mobility user requires one of the following applications: Executive Desktop or Agent Desktop. For detailed information on each of these modules, refer to the Whitepapers. Mobility is PBX platform and version dependent.

Click one button to transfer the call to your mobile.

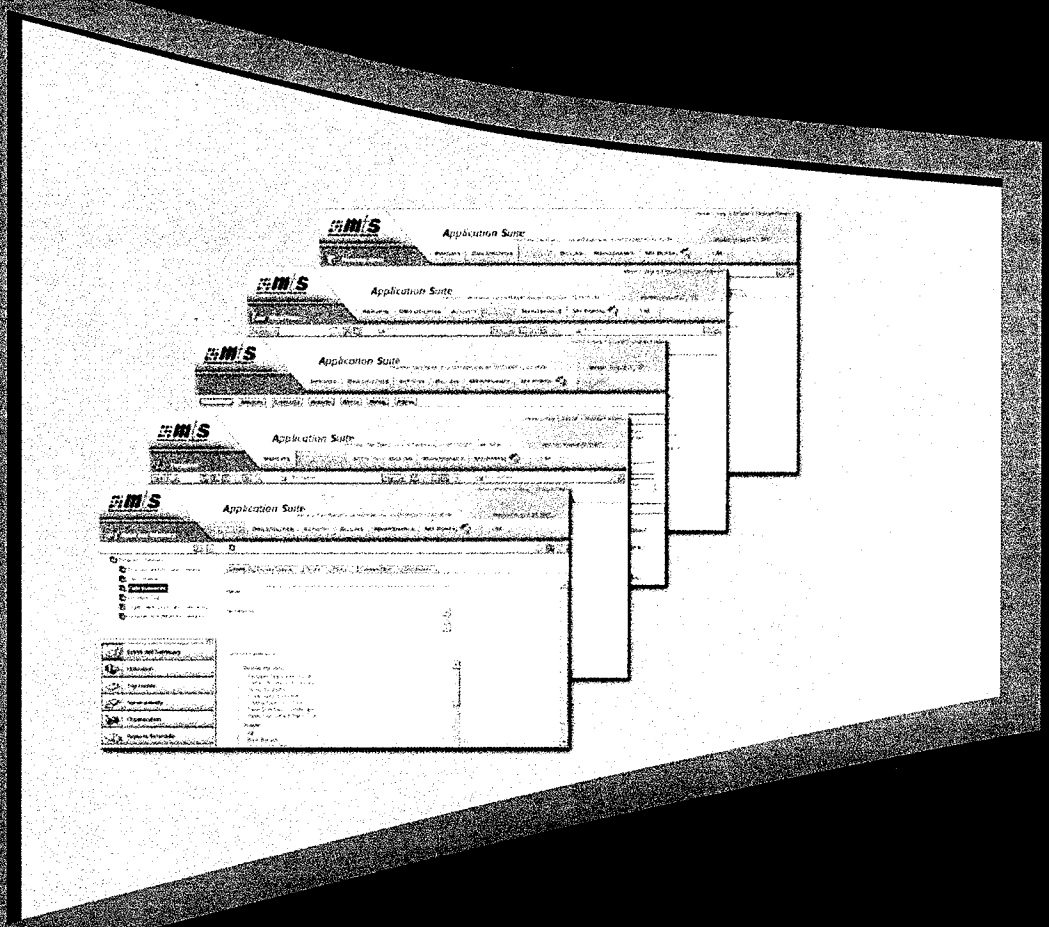


View and retrieve any call that forwards to your mobile.

Your partner of Choice.

MTS Telemanagement Application Suite

- Analyze, allocate & bill costs to internal users
- Identify unused assets, usage exceptions & policy abuse
- Automate & document telecom management processes
- Trigger rule-based alerts and reports



The power to make smart telemanagement decisions

▶ Gain budget control ▶ Reduce costs ▶ Increase ROI

Intelligent Telecom Expense Management

Telecommunication costs are rising annually. Finger pointing can be directed to cell phones, voice mail, inter-office networking, Internet, transmissions as well as teleconferencing services and rate adjustments.

Meanwhile the mounting invoice piles are taxing more time and resources, as statistical errors, up to 12%, are demanding more attention. Technical and organizational needs are prompting companies to converge voice, data and cable services into new systems. The rising need for systems and services, against the cry to cut expenses and increase transparency is forcing organizations to leverage all toolsets, automate and centralize processes and identify and control costs.

"Most companies are looking at wringing 10% to 25% out of communications costs over the next 12 - 24 months."
(Gartner Research)

Mission impossible? Not quite -

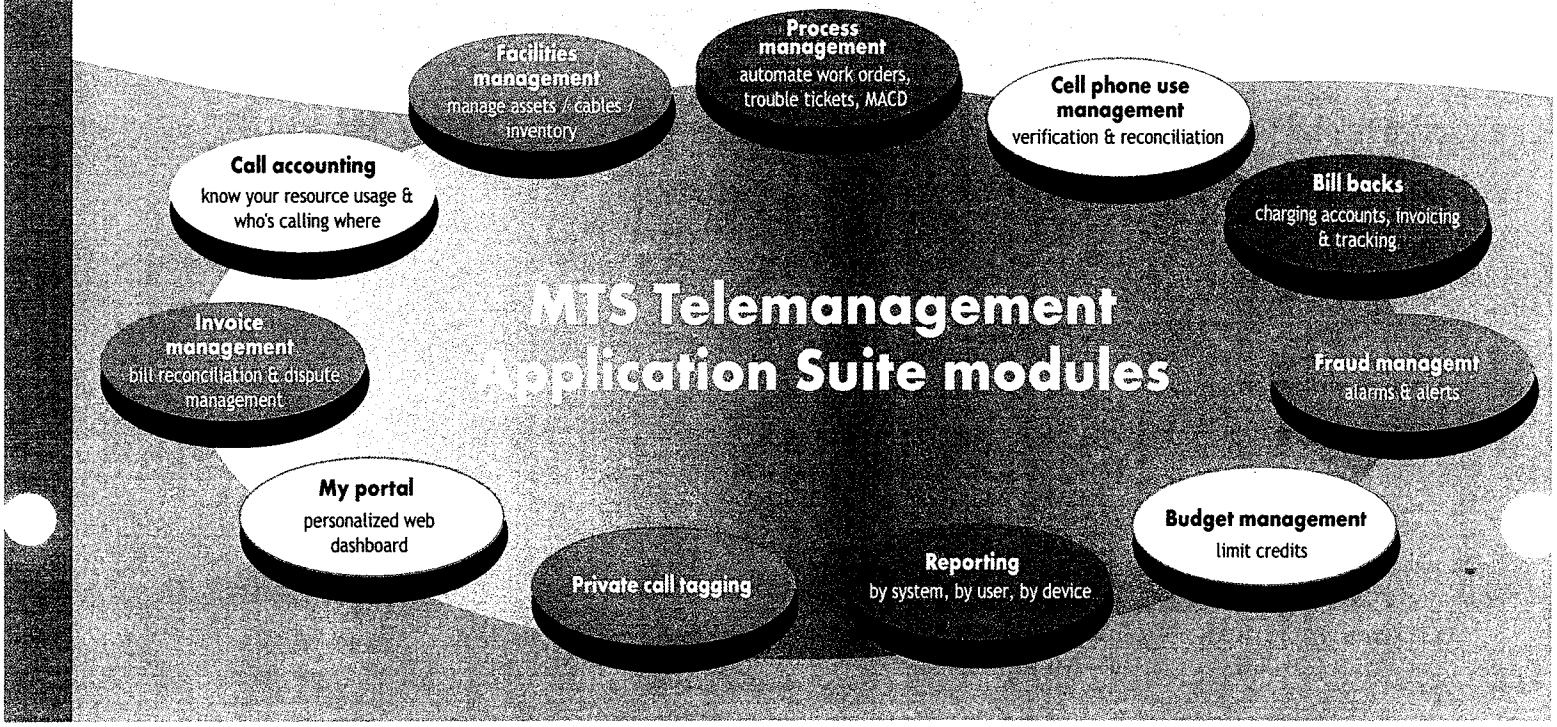
MTS's field proven Telemanagement Application Suite manages processes and infrastructure while significantly reducing costs.

MTS Telemanagement Application Suite is a proactive and policy-based solution that manages and controls the entire communications network from basic Call Accounting - to full IT Service Management.

This comprehensive, fully scalable solution enables organizations to be more productive by significantly reducing the cost and complexity of managing and monitoring internal / external communications.

Designed in a modular format, it integrates system modules with flexible architecture to provide a fully web-based, user-centric solution that addresses all aspects of enterprise telecom management. Here's how:

- Allocates costs to units and users and issues cost reports
- Proactively monitors budget consumption
- Detects policy violation and fraudulent activities
- Analyzes trunk traffic and use
- Searches for specific calls
- Bills customers for your products and services
- Ensures business-process knowledge-base is documented and working
- Automates the MACD process
- Automates provisioning commands to multi-vendor switches
- Documents and manages cables, extensions and asset inventory
- Manages, measures and controls the trouble ticket business process



MTS Telemanagement Application Suite Savings

A proactive system for efficient telecom budgeting

- Documents and automates your business processes
- Automates activity analysis
- Issues alerts and reports
- Streamlines workflow processes

MTS call accounting benefits

- Identifies internal fraud and harassment calls
- Identifies 911 calls
- Pinpoints calls for security purposes

  Synchronizes with PBX systems, eliminating duplicate data entries
- Collects / reconciles data from any PBX or IP Centrex to central repository

Cost allocations, cost reports, budget control benefits

- Allocates costs per business unit - raising awareness and reducing costs
- Analyzes costs by user, destination and hit parades
- Provides a ceiling budget tool per employee / group & issues alerts

Manages Exceptions

- Identifies potential fraud and policy abuse
- Defines fraud and policy abuse alert triggers

Analyzes trunk equipment use

- Assesses trunk usage

  Indicates penalty for removing a trunk
- Pinpoints the busiest time of day for call traffic

Provides Bill-Back Benefits

- Bills customers for your products and services
- Pre-defines preferred revenue margins for telecom use
- Produces invoices
- Tracks payments & late payments

Move/Add/Change/Delete (MACD) Automation

- Documents, maintains and manages your telecom processes
- Automates provisioning commands to multi-vendor switches
- Manages trouble ticketing
- Enables service level measurement and control

Asset and Cable Management

- Manages extensions and asset inventory
- Documents cables and assets connections
- Saves time finding and dealing with cable problems

Technical attributes:

Modular structure - choose from a-la-carte modules

Multi-site support - manage from a central location

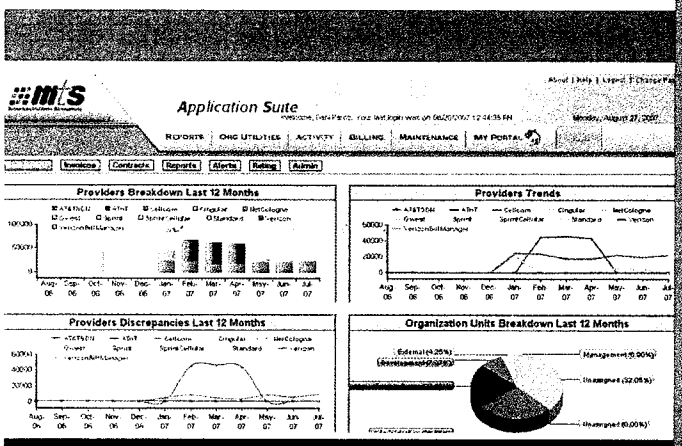
Multi-vendor support - manage all PBXs from a central location

Report generator - define and create your own reports

Data gathering - collect usage data from any PBX / Centrex

Web-enabled GUI

Secured access - based on your profile



MTS TEM Web-based Dashboard

Proactive and Policy-Based
operate within your policy limits

Budget Control & Management
plan & set budget limits per device/use

Call Accounting
customize & filter reports for wireless & landline

Multi-Site
manage unlimited remote sites

User-Centric Application
analyze use per employee not just device

Fully Web-based
latest technologies

Flexible Reporting
collect and format data for analysis

Integration and Customization
with CRM / ERP/ accounting

Integrated Network Security
the right people have the right access

Fully Scalable - a modular platform

About MTS

MTS is a worldwide provider of innovative enterprise telecommunications solutions and Business Support Systems (BSS) for information and Telecommunication Service Providers (TSPs). Our solutions support our clients on an ongoing basis through sophisticated software applications and managed services relationship models.

"MTS' Telecommunication Expense Management (TEM) solutions assist and empower thousands of enterprises and organizations to make smarter choices with their telecom dollar at each stage of the service lifecycle including allocation of cost, proactive budget control, fraud detection, processing of payments, forecasting spending, and more. Our solutions support our clients on an ongoing basis with both sophisticated software applications and a variety of managed services relationship models."

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