

VILLAGE OF DOWNERS GROVE
REPORT FOR THE VILLAGE COUNCIL WORKSHOP
OCTOBER 27, 2009 AGENDA

| SUBJECT: | TYPE: | SUBMITTED BY: |
|---|--|--|
| Replacement of Village's Telephone System | Resolution Ordinance ✓ Motion Discussion Only | Liangfu Wu Director of Information Services |

SYNOPSIS

A motion is requested to approve a contract for the purchase, installation and maintenance of a Cisco Voice over Internet Protocol (VoIP) telephone system from Sentinel Technologies of Downers Grove, IL in the amount of \$299,470.

STRATEGIC PLAN ALIGNMENT

The Five Year Plan Goals for 2008-2013 identified *Top Quality Village Infrastructure and Facilities*. An objective includes *Replace and Improve Village Facilities: Operating Efficiently, Promoting Productivity, and Supporting Effective Customer Friendly Services*.

FISCAL IMPACT

The FY09 Major Buildings Fund includes \$320,000 for this project. The proposed phone system will be paid from the remaining bond proceeds related to Fire Station #2 construction. The use of this funding source is restricted to capital/facility improvements or debt service payments.

It is estimated that this system will reduce ongoing telephone charges and maintenance costs, which impact the Village's General Fund, by at least \$82,000 per year. The FY10 budget was developed based on anticipation of the acquisition and installation of this system. As such, should Council decide not to proceed with this purchase, the budget may need to be adjusted to reflect the additional costs for telephone charges.

RECOMMENDATION

Approval on the November 3, 2009 consent agenda.

BACKGROUND

The Village's current telephone system is an ISDN Centrex phone system acquired in the early 1990s. Replacement of this system is being recommended for the following reasons:

- **Maintenance concerns with existing system** - Due to its age, AT&T is not willing to offer maintenance services as the equipment may not be replaceable. Currently, the Village has a maintenance contract with Sound, Inc. (due to expire in December) as well as a separate maintenance contract for the voice mail system. A new phone system will allow for simplified and reduced system maintenance.
- **Reduction in annual telephone charges** – Conversion to a VoIP system will reduce the number of telephone lines that must be maintained, as well as the maintenance costs of the system. It is estimated that the net present value of the operating savings over a five-year period is \$370,234.29, meaning that the system will effectively pay for itself within this period of time. A more detailed financial analysis is provided as part of this report.
- **Improved flexibility with a VoIP system** – The use of this technology will allow for greater flexibility in the use of the system, particular in terms of movements, additions and changes to individual phones and users. Currently, a maintenance technician must be called to initiate any modifications the phone system. The new system will allow phones to be moved and modified without such assistance.

- **Increased customer service capabilities** – The system will allow for more comprehensive and customer service-oriented tracking and routing of calls that come into the Village. For instance, the software associated with the system will allow customer service personnel to see which employees are on the phone at the time a call is received. In addition, with the VoIP system, individual call records will be integrated with the MS Outlook email system, allowing employees to view call and voice mail information from their email inbox.

Selection Process

A project team, consisting of staff from multiple village departments, members of the Technology Commission and a telecommunications consulting firm, Wilson Consulting, participated in the selection process. A request for proposal (RFP) was issued in April 2009 and a total of 8 vendors responded.

Based on an eight-point measurement standard (manufacturer support, vendor support, system configuration, system features, telephone instruments, system purchasing cost and system five year cost), two companies, Sound Inc. and Sentinel Technologies, emerged as the two finalists. The evaluation criteria, developed by Wilson Consulting was utilized previously for other organizations and has proven to be an effective measurement tool for selecting a VoIP technology and its implementation vendor.

The two proposals from Sound (NEC VoIP) and Sentinel Technologies (Cisco VoIP) are comparable in terms of meeting Village’s needs and comparable proposal costs are shown in Table 4 below.

Cost Comparison*

| COMPANY | PURCHASE PRICE | 1 ST THROUGH 5 TH YR MAINTENANCE | FIVE YEAR TOTAL |
|---|----------------|--|-----------------|
| Sound, Inc. | \$234,262.00 | \$31,404.00 | \$265,666.00 |
| Sentinel Technologies | \$240,697.40 | \$39,985.00 | \$280,682.40 |
| * Project team negotiated with both companies. The numbers shown in this table were the last round of responses from the two finalists. | | | |

The team then further worked closely with both vendors to determine the finalist. After considering all factors, the team decided to recommend that Sentinel Technologies, a Downers Grove-based business, be awarded the project due in part to its understanding of VoIP technology and the relationship between the VoIP system and Village’s existing data network. The telephone system under the VoIP technology will become another layer of the Village’s data network, which is known in today’s IT field as “convergence.” Therefore, such knowledge is crucial not only for supporting the telephone system, but also to supporting the Village’s data network.

In addition, Sentinel Technologies has been supporting Cisco’s VoIP system for the City of Elgin for five years. The City of Elgin is a larger city than Downers Grove, and its network configuration and police dispatching system are similar to the Village’s. Based on the feedback from Elgin’s IT department, staff believes that Sentinel Technologies will be a successful and long-term partner to support the Village’s telecommunication operations. The Technology Commission supported the staff recommendation (See attached 09/09/23 Technology Meeting Summary).

As the last step in the selection process, staff and the consultant finalized the scope of the project with representatives from Sentinel Technology. The final adjusted total project cost is \$299,470. This recommended award, if approved by the Village Council, will require Sentinel to replace Village’s entire existing telephone system with Cisco’s VoIP solution as a turn-key installation. This total amount will cover the initial purchasing price, a 5-year maintenance cost, and costs associated with upgrading the existing network infrastructure.

ATTACHMENTS

- Financial Analysis Summary
- Sentinel Contract Documents
- Technology Commission meeting summary

Financial Analysis of Phone System Proposals

The current cost of the ISDN Centrex is shown in the Table below.

Current Cost

| # OF LINES | MONTHLY COST PER LINE | MONTHLY COST | ANNUAL COST |
|---|-----------------------|--------------|----------------------|
| 173 ISDN | \$34.29 | \$5,932.17 | \$71,186.04 |
| 10 POTS Area B | \$19.96 | \$ 199.60 | \$2,395.20 |
| 58 POTS Area C | \$21.96 | \$1,273.68 | \$15,284.16 |
| ANNUAL LINE COSTS (Call One, Inc.): | | | \$88,865.40 |
| ANNUAL EQUIPMENT MAINTENANCE (Sound, Inc.): | | | \$14,940.00 |
| TOTAL ANNUAL COST OF THE CURRENT TELEPHONE SYSTEM: | | | \$103,805.40* |
| * This number does not include the daily toll charges such as local and long distance calls | | | |

Most of the financial savings result from the reduction in the number of individual line charges. The current system consists of 241 phone lines, compared with a new VoIP system which utilizes a different type of connection called primary rate interface (PRI). Each PRI supports 23 active phone connections. Based on current usage, the Village would require only two PRI's with a new VoIP system. The table below summarizes the savings.

Line Cost Savings Summary

| ITEMS | ANNUAL TOTAL |
|---|-----------------|
| OLD CENTREX LINE COST (from Table above) | \$88,865 |
| VOIP LINE COSTS | |
| 2 PRI Lines @ \$450/each/month | \$10,800 |
| 10 POTS lines for backups & VOC @ \$21.95/month | \$2,634 |
| Subtotal: | \$13,434 |
| TOTAL ANNUAL SAVINGS (LINE COST ONLY): | \$75,431 |

Please note that this replacement only addresses the telephone usage. There are additional telephone lines required to support other types of usage such as fire alarms, traffic signals, EOC, etc. These lines will be maintained and are not reflected in this financial analysis.

The savings from maintenance of a VoIP system is also significant. The current telephone equipment requires an annual equipment maintenance cost of \$14,940. With a new VoIP system, the annual cost is under a locked annual rate of \$8,000 per year for five years. The five-year savings will be close to \$35,000. Table 3 below summarizes the savings.

Table 3: Saving in Annual Equipment Maintenance

| SYSTEMS | 2010 | 2011 | 2013 | 2014 | 2015 | 5-YEAR TTL |
|--|----------|----------|----------|----------|----------|-----------------------|
| CURRENT SYSTEM , (Sound, from Table 1)* | \$14,940 | \$14,940 | \$14,940 | \$14,940 | \$14,940 | \$74,700.00 |
| NEW VOIP SYSTEM** | \$7,950 | \$7,950 | \$7,950 | \$7,950 | \$7,950 | \$39,750.00 |
| SAVINGS | \$6,990 | \$6,990 | \$6,990 | \$6,990 | \$6,990 | \$34,950.00*** |
| * A flat rate is used for the analysis. The actual cost should be expected to increase in the following years. | | | | | | |
| ** The contract has a locked annual rate for five years. | | | | | | |
| *** The maintenance for the VoIP system includes both telephone equipment and the network components of the VoIP | | | | | | |

As numbers from Table 2 and Table 3 above indicate, the annual savings generated from the VoIP solution will be more than \$82,000. The net present value of these savings, calculated over a five-year period, assuming a 3.5% discount rate, is \$370,234.29

SENTINEL RESPONSES ARE IN BLUE

ADDEMDUM 10

REQUEST FOR PROPOSAL

TELEPHONE SYSTEM REPLACEMENT
RFP-0-21-2009/TT

VILLAGE OF DOWNERS GROVE

June 10, 2009

Addendum 10 is intended to offer more refined and additional requirements to the original RFP. For the same requirements identified on both documents, Addendum 10 supersedes the original RFP. For those requirements not mentioned in Addendum 10, please refer to the original RFP.

**The RFP is due, under previously described constraints, at 9:00 a.m.
Monday, June 29, 2009.**

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2009 TELECOMMUNICATIONS EQUIPMENT PROJECT

VILLAGE OF DOWNERS GROVE

2009

Addendum 10

1.0 INTRODUCTION

This Addendum provides technical guidelines and details for the Village's 2009 Telecommunications Equipment Project. The specifications are an integral part of the Village's formal Request for Proposal (RFP-0-21-2009/TT). All responders are required to review this document in detail and acknowledge their understanding of the technical aspects of this project in order to be considered a responsible Proposer.

Sentinel response: Comply – See cover letter for acknowledgement.

1.1 General Project Description

The project includes the replacement of telephony equipment and services for the following Village facilities:

Village of Downers Grove
Village Hall
Police Department
Public Works
Fire Station 1
Fire Station 2
Fire Station 3
Fire Station 5
Department of Counseling & Social Services

Sentinel response: Read and understood. See Sentinel response for its understanding of the new system locations under the following Scope of Work section.

1.2 Scope of Work

The Village of Downers Grove is replacing its telephone system. Their primary objectives are:

1. To improve service to its residents and businesses who contact them by telephone.
2. To provide uninterrupted and continuous service to constituents.
3. To provide the capability to expand the services it offers.
4. Share equipment and services between facilities, reducing cost and duplication.
5. To replace outdated equipment, which can no longer be adequately serviced.

Sentinel response: Read and understood (1-5)

The project encompasses the following:

1. Modification of the Village's data network to support a VoIP telecommunications system.
2. Gathering end-user information to be used in programming the new system.

3. Providing, programming, installing and connecting all equipment necessary to provide a fully functioning telephone telecommunications system that meets the Village's voice call processing requirements.
4. Connecting the system and programming the system to existing external paging systems.
5. Connecting the system and programming the system to support existing analog devices (fax, analog telephone instruments).
6. Connection to AT&T services (ISDN PRI and POTS lines), test and turn-up of new AT&T ISDN PRI circuits, coordination with AT&T to "port" Centrex numbers to DID numbers.
7. Conduct end-user and system administration training.
8. Conduct system "fail-over" testing.
9. Provide on-site "post-cutover" support.

Sentinel response: Read and understood (1-9)

The new system will include the following locations:

| <u>Village Facility</u> | <u>Departments</u> | <u>Address</u> |
|-------------------------|---|-----------------------|
| Village Hall | Administration, Finance, Community Development | 801 Burlington Avenue |
| Police | Police | 825 Burlington Avenue |
| Public Works | Public Works | 5101 Walnut Avenue |
| Fire Station 1 | Fire Station | 2560 Wisconsin Avenue |
| Fire Station 2 | Fire Department Administration, Fire Station | 5420 Main Street |
| Fire Station 3 | Fire Station | 3900 Highland Avenue |
| Fire Station 5 | Fire Station | 6701 Main Street |
| Social Services | Counseling and Social Services | 842 Curtiss Street |

Sentinel response: Comply with an exception. Per point 5 under the Village's identified features and functionality on the following page, it states that the Counseling and Social Services is not part of the Village's WAN and will remain that way with the new system.

A WAN connection, voice gateway and IP phones are needed to connect this facility to the proposed Cisco telephony system. There were no Counseling and Social Services IP phones listed under the Addendum #10 appendices so Sentinel has not included this site in its quoted solution.

The vendor will be responsible for removal, and disposal of all existing telephone system equipment from each listed facility after the installation of the new equipment.

Sentinel Response: Sentinel has allocated time for existing PBX system removal. Sentinel assumes that the customer will be responsible for disconnecting all associated power inputs to the PBX units and removal of any PBX UPS battery units for the systems being displaced. To avoid any unexpected interruptions to production systems during the removal of the PBX units, Sentinel will be cutting all interconnecting and traditional PBX cabling attached to the unit. All of the cabling and traditional PBX connections will be left in place and will be the responsibility of the customer for removal unless the Village selects the cabling removal service that Sentinel has optionally quoted. Any shipping required for the removal of displaced equipment or trade-in equipment and other services for existing systems unless otherwise noted in this plan are outside the scope of the quoted services.

The Village has also identified the following features and functionality of particular importance in achieving the objectives:

1. Location transparency (uniform dialing plan, seamless transfers, etc.)
2. Direct calling to all departments and divisions as well as individual staff members
3. Program/Information Numbers (announcement mailboxes with individual DID numbers.)
4. Location survivability (near continuous service despite network or component failures)
5. Use of the Village's existing network that utilizes private fiber (between Village Hall and Police; between Village Hall and Fire Station 2), Comcast supported fiber (between Village Hall and Public Works) and Cisco Aironet wireless (between Village Hall and Fire Station 1; between Village Hall and Fire Station 3) to connect facilities. Counseling and Social Services is not part of the Village's WAN and remain that way with the new system.
6. Provide a new voice processing system to replace the Village's existing Centigram AIS 150 voice mail system.
7. Provide Unified/Integrated Messaging to deliver voice mail messages to the users Outlook email client.
8. Centralized system management (changes to the system configuration at each site can be easily made from other locations.)

Sentinel response: Read and understood (1-8)

1.3 Implementation Time Frame

Proposal Due Date: June 26, 2009 - 9:00 AM

Sentinel response: Read and understood that this due date has changed to 6/29/09 at 9AM.

2.0 GENERAL CONDITIONS, QUALIFICATIONS, STANDARDS, & PROCEDURES

2.1 General Conditions

- A. The equipment proposed must be capable of performing all functions described in the specifications. Where a vendor wishes to make a proposal that does not meet specifications, an **Exception Statement** shall be supplied stating all features and functions to which the exception is being taken, and the effect of this exception.

Sentinel response: Comply – See Exceptions section

- B. The system components must be the latest model and software releases available at the date of installation. Should new products and/or software be announced prior to installation the vendor is required to inform the Village of the new products. The Village shall maintain the right to substitute the new products for those proposed.

Sentinel response: Read and understood

- C. Competent personnel shall perform installation work. All work shall be done in a neat, craftsman-like manner and all cables shall be carefully laid with sufficient radius of curvature and protected at corners and bends to ensure that all applicable laws, ordinances, rules, regulations, and order of any public authority having jurisdiction for the installation of communications equipment are complied with.

Sentinel response: Read and understood

- D. The Village reserves the right to approve any subcontractors for this project. Each proposing vendor must identify the name of and information (background and experience) about any subcontractors to be involved in this project. This includes a description of the work the subcontractor will perform.

Sentinel response: Read and understood – See subcontractors section for cabling vendor background and complete cabling scope of work based on Addendum 10, Appendix 3-Site Requirements for cabling.

- E. The vendor will further guarantee that the equipment shall satisfy the growth requirements as detailed under the **Configuration** section. The Village of Downers Grove shall have the express right to modify station requirements prior to cutover date at no increase in cost other than that defined in the **Additions and Deletions** section.

Sentinel response: Read and understood

- F. Each vendor shall submit with its proposal sales and technical information that completely describes the equipment covered by the proposal. Copies of all contracts shall be included in the proposal, including, but not limited to, sales, warranty, maintenance, etc.

Sentinel response: Comply

2.2 Applicable Regulations and Standards

All standards, regulations, work rules, product specifications and workmanship practices listed will apply to this project unless otherwise approved by the Village.

- National Electrical Code (NEC)
- Occupational Health & Safety Administration (OSHA) Standards
- American National Standards Institute (ANSI)
- Local Electrical and Safety Standards
- Underwriters Laboratory (UL)
- The Institute of Electrical and Electronics Engineers (IEEE)
- TIA/EIA 568-B Commercial Building Telecommunications Wiring Standards
- TIA/EIA 606 Building Infrastructure Administration Standard
- TIA/EIA 607 Grounding and Bonding Requirements

Sentinel response: Read and understood

2.3 Proposal Evaluation and Vendor Selection

- A. The Village of Downers Grove has a procedure by which proposals are reviewed; this approach allows the Village to evaluate the vendors based on the type of equipment proposed, the cost of their services and/or equipment, their ability to complete the work within a required amount of time, their past record in performing similar work and their ability to work with local staff. The following factors will be evaluated for each vendor that submits a proposal:

1. Manufacturer Strength: Financial strength, years in business, system's market share, product's current life cycle position, accessibility of support.

Sentinel response: Read and understood. Please see Executive Summary for more detail or visit Cisco's website for public financial information. Cisco has \$22 billion in cash, 25 years in business, holds over 40% marketshare in VoIP, Current product is on version 7.x and is a mature, stable product, accessibility of support is almost unlimited with thousands of Cisco partners available to support the product.

2. Vendor Support: Number of similar systems installed, manufacturer support, number of certified technicians on proposed systems, number of systems under maintenance agreements, references.

Sentinel response: Read and understood. Please see Executive Summary for more detail and the Sentinel Credentials section of our response for validation of expertise with Cisco. Hundreds of customers are using the Cisco VoIP system, 20 dedicated engineers exclusively to Cisco VoIP, maintaining over 100 systems, please see reference section that includes case studies.

3. System Resiliency: The system's ability to survive component failure and/or public telephone network failures (i.e. PRI failure, WAN failure).

Sentinel response: Read and understood. Sentinel has designed call processing redundancy into the solution with (2) Unified Communications Managers at 2 separate locations plus voice gateway call processing survivability in case of WAN or PRI failure. If any single device fails, the Village dial tone will still be available.

4. The proposed system's ability to meet current and potential requirements: Multi-site integration, ease of system administration, and flexibility of system programming.

Sentinel response: Read and understood. The Cisco solution meets all of the current and potential requirements, is designed for multi site integration, and is easy to administer and program through a web interface. More detail is provided in our technical response.

5. Telephone instruments: Ease of use, functionality, variety and cost.

Sentinel response: Read and understood. Cisco has a wide variety of IP phones that are available although only 3 main models have been quoted for the primary phone requirements. An additional conference phone and wireless phones have also been quoted.

6. System cost: System acquisition, post warranty support and telco installation.

Sentinel response: Read and understood. Please see the Implementation section of this response document for details on Sentinel's deployment methodology, see the bill of materials section for pricing detail, and the maintenance section for post warranty support.

2.4 Vendor Questionnaire

In order to ensure the Village will have the necessary information to select an appropriate vendor/system, the vendor must address each of the following issues.

- A. If the vendor is a dealer/distributor, full information must be given about the manufacturer and the model of the system being proposed, as well as, current financial and historic data on the manufacturer(s). Any other manufacturers involved in providing peripheral equipment should be noted.

Sentinel response: Read and understood. Please see the Executive Summary for Cisco company information and our technical response and bill of materials for specific proposed models. Cisco's financials are available for public access on its website. Minuteman UPS systems have also been included in Sentinel's base proposal.

- B. Indicate if a trade-in allowance is available should the Village decide to upgrade to a more technologically advanced system with the same manufacturer at a future date. Indicate the history of system upgrades and the costs incurred to maintain the most current system and software.

Sentinel Response: Yes, a trade in allowance for future enhancements of all Cisco equipment is a possibility. Any allowance would be dependant upon Cisco. Software is available for upgrading upon release from Cisco. Hardware is updated when necessary.

- C. A written statement from the manufacturer must be included indicating the availability of parts for the expected seven (7) year useful life of the system.

Sentinel Response: Comply with an Exception. Cisco has an end of life policy and time period for support of its products. To review all details of Cisco's written end of life policy (please visit http://www.cisco.com/en/US/products/products_end-of-life_policy.html). The portion of the policy that pertains to parts states that "spares or replacement parts for hardware will be available for a period of 5 years from the end-of-sale date. Cisco will provide spares and replacement parts in accordance with their Return Materials Authorization (RMA) process."

The Cisco system being installed will be the latest available models so the installed system may fall under the seven (7) year manufacturer timeframe. As a maintenance and support organization, Sentinel will provide parts to maintain the Cisco VoIP system on a best effort basis up the 7 years. Sentinel has been providing technical support since 1982 and has successfully maintained many legacy systems for clients over the years, relying on critical supplier relationships that have been established.

- D. Clearly state the warranty period during which service charges will not apply and what is covered. The period of the warranty will begin on the date of Village acceptance, not the cutover.

Sentinel response: All Cisco devices included in this RFP are covered by either Cisco's standard 1 year hardware warranty, limited lifetime warranty or by Cisco SMARTnet during the required 1 year warranty period. Cisco TAC will supply all services needed to support these devices. See Service and Maintenance answers as part of this response section for more detail.

- E. State the names of the principals in your company.

Sentinel response: Dennis Hoelzer, President; Jim Emmel, COO; Jay Hackney, VP of Operations; Brian Osborne, VP of Sales and Marketing. See Sentinel Credentials for more detail.

- F. The provider, as a condition of award of the contract, must provide detailed financial information on the company and be available to meet with Village personnel to provide additional information, if required.

Sentinel response: Read and understood. Sentinel will provide financials if awarded this project.

- G. How many of the proposed systems with five (5) or more separate locations has your company installed?

Sentinel response: Sentinel has installed over 50 with five or more separate locations.

- H. How many of the systems you are proposing have been installed nationally?

Sentinel Response: According to a recent report, Cisco Systems shipped more than 2.85 million line stations in 2008 alone or about 40% more line stations than their next closest competitor.

- I. Include a separate customer list, including contact name and telephone number, of systems installed by your office (**similar in size and application**).

Sentinel response: Read and understood. See references section.

- J. The vendor must disclose any formal complaints filed and/or judgments made by their municipal clients.

Sentinel response: Read and understood.

- K. Provide information concerning the number of years in business and the number of years your company has been installing the proposed system.

Sentinel response: Please see the Executive Summary for Sentinel background information. Sentinel was established in 1982 and has been installing Cisco VoIP systems for close to 9 years and IP based Telephony systems since 1998.

- L. Confirm that your company is a factory authorized representative for the equipment you are proposing. Also provide information on any certifications/designations (i.e. Gold, Platinum Dealer) issued by the manufacturer to your firm or members of your firm.

Sentinel response: See Sentinel Credentials Section

- M. State the address of the service and repair center that will install the system and provide maintenance for the proposed system.

Sentinel response: 2550 Warrenville Road, Downers Grove, IL 60515

- N. In the event of a natural disaster, fire, or other catastrophe, indicate the interval to install a working on-line system. Has your company either on a national or state basis been involved in this type of emergency? If yes, provide Customer reference.

Sentinel response: Sentinel maintains the highest level relationship with Cisco Systems, which provides us with the best opportunity possible to services our customers. By purchasing Cisco Smartnet maintenance, this allows for the efficient replacement of damaged or destroyed equipment as quickly as possible. Please note, there are many factors that influence the time frame to achieve a “working on-line system”, that fall outside the control of the vendor providing the system defined in this RFP. These include facilities provided by the local telecommunications company (T1 lines, analog lines, etc.), physical working office space, and power utilities.

Sentinel has worked with ABN AMRO in disaster recovery processes, and can provide additional reference information if requested by the Village. Sentinel has not included any other disaster recovery processes than the ones stated within.

3.0 SYSTEM REQUIREMENTS

The following subsections describe features and requirements based on the Village’s operational needs and objectives.

3.1 System Architecture

- A. State the system, model, and software of the equipment you are proposing.

Sentinel response: Cisco MCS 7816, Cisco Unified Communications Manager, 7.x

- B. Include a statement regarding the future manufacturer's plans for the proposed system design, (e.g., any enhancements or obsolescence being considered in the near future). Will the manufacturer support the proposed software for the life of the system? Is the proposed software capable of enhancement? Describe the history of the proposed system (date of introduction, dates of new software releases, dates of introduction of new station equipment, etc.)

Sentinel response: The Cisco system that Sentinel is proposing is called Unified Communications Manager. Cisco supports software support, minor release upgrades(.x release upgrades), and full point release upgrades at no additional cost to the customer providing the customer purchases and maintains software support and upgrade maintenance contracts.

Major releases usually are available each year and minor releases in are available within the calendar year. Cisco IP Telephony has had 4 major releases within the last 10 years. Server hardware is typically support through 3-4 major releases. Customer has the opportunity to maintain support with installed version and not upgrade through the life of the maintenance contract.

- C. The Village requires the following capabilities across the multi-site system:

1. Uniform dialing plan.
2. Centralized Voice Processing System
3. Centralized Call Accounting-Optional
4. Centralized System Administration
5. Network (telco) services sharing between sites.

Sentinel response: Comply with all requirements.

- D. The system architecture must provide Site Survivability: The system design must include the ability of any site to survive a disruption to the link between it and the other sites (WAN connection). Each site must be fully survivable with significant calling paths and features preserved (except perhaps access to voice mail and the ability to reach other Village sites via 4-digit dialing). Each site must have the ability to receive a limited number (limited by the number of POTS lines connected to the site) of inbound calls from the PSTN and place outbound calls to the PSTN when disconnected from the overall system. The in-place telephone sets must also function within the site while disconnected from the WAN. Illustrate how the proposed system will perform this task.

Sentinel response: Comply, Sentinel has provided SRST software in the routers set for calling processing redundancy. Each site is equipped to support all phones in the event of a WAN or Call Processing Server failure. Additionally Call Processing Servers are redundant. PSTN connectivity to the remote facility must be functional to support local site originated calls.

- E. Call control redundancy and fail-over: The system configuration will include two (2) “call controllers”. One will be installed at the Village Hall and the second will be installed at the Public Works facility. Each controller must be fully capable of handling all call control responsibilities should the other one fail (mirrored databases). Illustrate how the proposed system will perform this task.

Sentinel response: Comply, Dual Call Processing Servers have been included in the design. Sentinel has included two 7816 UCM Servers to support Call Processing. These servers under expected load are at 60% capacity.(see attached UCM Capacity Report) To provide additional capacity Sentinel has included an option to upgrade to 7825 UCM servers.

Cisco Unified Communications Manager Capacity Tool V4.1

[Save or Load Scenario](#) | [Input Section](#) | [Output Section](#) | [User Guide](#)

Download/Upload

Customer: _____ Select File to Load:

Description: _____

Reset:

Save a file containing your input. Later, you can load the file again to continue working on this configuration.

Load a previously saved scenario file. If you are using the configuration for a new customer, be sure to edit the Customer name.

Delete all input on the form and reset BHCA and Traf values to default.

Input

After entering input, click Calculate to update the output. Click the ? for additional help.

Select Releases:

Unified CM:

Unified CC:

DB & Tracing:

| | Device/Port Quantity | Average Busy Hour Call Rate (BHCA) | Average Busy Hour Traffic Utilization | Default BHCA | Default Traffic |
|---|----------------------|------------------------------------|---------------------------------------|--------------|-----------------|
| Devices | | | | | |
| SCCP IP Phone | 300 | 4 | 0.15 | 4 | 0.15 |
| SCCP IP Phone (Secure) | | 4 | 0.15 | 4 | 0.15 |
| SIP IP Phone with Local Dial Rules | | 4 | 0.15 | 4 | 0.15 |
| SIP IP Phone with Local Dial Rules (Secure) | | 4 | 0.15 | 4 | 0.15 |
| SIP IP Phone KPML | | 4 | 0.15 | 4 | 0.15 |
| SIP IP Phone KPML (Secure) | | 4 | 0.15 | 4 | 0.15 |
| IP Phones with Video Capability | | 2 | 0.3 | 2 | 0.3 |
| BLF Presence-Enabled SCCP Phone | | 50 | 0.15 | 50 | 0.15 |
| BLF Presence-Enabled SIP Phone | | 50 | 0.15 | 50 | 0.15 |
| Remote Destination | | 4 | 0.15 | 4 | 0.15 |
| SCCP Unified Messaging Connection Port | 32 | 20 | 0.8 | 20 | 0.8 |
| SIP Unified Messaging Connection Port | | 20 | 0.8 | 20 | 0.8 |
| Conferencing Simultaneous Sessions to/from PSTN Callers | 48 | | | | |
| Conferencing Simultaneous Sessions to/from IP Callers | | | | | |
| Conference Resource (HW, CoRes SW, Standalone SW) | | 6 | 0.8 | 6 | 0.8 |
| IPMA-Associated Lines | | 8 | 0.3 | 8 | 0.3 |
| Web Dialer Users | | 1 | 0.004 | 1 | 0.004 |
| Total Attendant Console Positions | | 8 | 0.3 | 8 | 0.3 |
| Total Attendant Console Queues | 4 | 8 | 0.3 | 8 | 0.3 |
| Total Attendant Pilot Numbers | | 100 | | 100 | |
| CTI Port-Type #1 (simple call, redirect) | | 8 | 0.3 | 8 | 0.3 |
| CTI Port-Type #2 (transfer, conference) | | 8 | 0.8 | 8 | 0.8 |
| CTI Route Point | | 100 | | 100 | |
| CTI 3rd-Party Controlled Lines | | 8 | 0.3 | 8 | 0.3 |
| Inter Cluster Trunk Gateways | | | | | |

| | | | | |
|--|---|------|----|------|
| Total SIP Intercluster Virtual DS0s | 20 | 0.8 | 20 | 0.8 |
| Total H.323 Intercluster Virtual DS0s | 20 | 0.8 | 20 | 0.8 |
| H.323 Client | 4 | 0.15 | 4 | 0.15 |
| H.323 Gateways | 7 | | | |
| H.323 Gateway DS0s (T1/E1, Analog, etc.) | 72 | 20 | 20 | 0.8 |
| MGCP Gateways | | | | |
| MGCP Gateway DS0s (T1/E1, Analog, etc.) | 20 | 0.8 | 20 | 0.8 |
| SIP Gateways | | | | |
| SIP Gateway DS0s (T1/E1, Analog, etc.) | 20 | 0.8 | 20 | 0.8 |
| MoH (Music on Hold) Stream co res | 2 | | | |
| Transcoder | 20 | 0.8 | 20 | 0.8 |
| MTP Resource (HW, CoRes SW, Standalone SW) | 20 | 0.8 | 20 | 0.8 |
| Dial Plan | | | | |
| SCCP Directory Numbers/Lines | 750 | | | |
| SIP Directory Numbers/Lines | | | | |
| Route Patterns | 96 | | | |
| Translation Patterns | 200 | | | |
| Factors | | | | |
| Confidence Factor (50%-100%) | 100% | | | |
| Growth Factor (0%-50%) | 0% | | | |
| Calculate | After entering input, click Calculate to update the output. | | | |

| Output | | | | | | |
|------------------------------|--|-------------------|---------------|--|-------------------|---------------|
| Based on Input Values | | | | Including Confidence and Growth Factors | | |
| Currently Shipping Platforms | Minimum (non-redundant) Subscribers Required | Clusters Required | Capacity Used | Minimum (non-redundant) Subscribers Required | Clusters Required | Capacity Used |
| MCS-7845-H2 | 1 | 1 | 4% | 1 | 1 | 4% |
| MCS-7845-I2 | 1 | 1 | 4% | 1 | 1 | 4% |
| MCS-7835-H2 | 1 | 1 | 12% | 1 | 1 | 12% |
| MCS-7835-I2 | 1 | 1 | 12% | 1 | 1 | 12% |
| MCS-7835-H1 | 1 | 1 | 12% | 1 | 1 | 12% |
| MCS-7835-I1 | 1 | 1 | 12% | 1 | 1 | 12% |
| MCS-7828-H3 | 1 | 1 | 30% | 1 | 1 | 30% |
| MCS-7828-I3 | 1 | 1 | 30% | 1 | 1 | 30% |
| MCS-7825-H3 | 1 | 1 | 30% | 1 | 1 | 30% |
| MCS-7825-I3 | 1 | 1 | 30% | 1 | 1 | 30% |
| MCS-7816-H3 | 1 | 1 | 60% | 1 | 1 | 60% |
| MCS-7815-I3 | 1 | 1 | 60% | 1 | 1 | 60% |

good
ok
not ok

- F. Single ISDN (Integrated Services Digital Network) PRI failure: The system must be able to process any incoming calls directed to ISDN PRI circuits to be installed at the Village Hall (1) and Public Works (1). Arrangements with the telephone company will provide the ability to direct incoming calls that are assigned to one PRI to the surviving PRI should one fail. The new system must successfully process these calls to the correct destination. Illustrate how the proposed system will perform this task.

Sentinel response: Comply, Sentinel has included the hardware and software to support this functionality. Additionally local POTs at each site could be utilized if supported by local PSTN carrier.

- G. Commercial Power Outage: All telephones must be powered from a centralized power source. A UPS with 20 minute battery power for all devices associated with the telephone system (routers, PoE switches (with phones) and servers must be provided.

Sentinel response: Comply, Sentinel has included UPS for all sites including both the IDF and MDF at Village Hall.

- H. The system must be scalable. It must be capable of supporting additional telephones to accommodate growth at the Village's current locations as well as the ability to incorporate additional new locations into the system. Describe all the requirements to expand the system to accommodate:

1. Additional telephone instruments.

Sentinel Response – Comply, this can be accomplished by adding phones and phone licensing. (Additional switch ports maybe necessary)

2. An additional location (T-1 WAN connection) with 20 staff telephones and 4 POTS lines.

Sentinel Response – An additional site can be added at anytime. Site resources would need to include PoE ports, Phones and local PSTN Gateway.

- I. State any limitations on traffic handling capacity of the system; both internal and between sites. Describe what is necessary (if anything) to raise the system's traffic handling capacity between sites.

Sentinel response: Traffic handling capacities between sites is a function of WAN bandwidth, the Village currently has a robust WAN and it is not anticipated that this will be an issue. Site survivability is based on the size of the router, Cisco 2851 will support up to 100 devices in failover, the Cisco 2821 will support up to 50 devices in failover and the Cisco 2801 will support up to 25 devices. Incoming call capacity is determined by PSTN connectivity and available interfaces in the router or PSTN gateway, additional resources can be added to all routers or gateways quoted.

- J. State the method used by your company to upgrade the proposed system with additional software enhancements or a new software package in the future. What is the associated cost? Have hardware changes been required to accomplish upgrades in the past? If so, please describe what hardware had to be replaced and the cost to do so.

Sentinel develops a partnership with our customers and consults them on the latest and greatest technology advancements. With this in mind, Sentinel's goal is to make sure that our customers utilize all the necessary tools to increase their business efficiency and productivity. Most enhancements and software releases do not impact the hardware and thus minimal upgrades are required. Most server hardware platforms will support three to four major software releases. If the customer has valid software maintenance contracts there is no charge to obtain the upgrade, in the event the customer requires Sentinel to do this upgrade professional services would apply. In the event the server platform is no longer supported a new server would be purchased similar to any other server application life cycle.

- K. State the physical requirements of the proposed system. This is to include actual room size required, rack space, floor weight-bearing capacity, electrical requirements, and air conditioning.

Sentinel response: Please see the product data information sheets that have been provided. However, there are no specifics on the size of the room required due to unknown factors that can impact the room configuration (such as additional equipment). Environmental planning can be performed by Sentinel Technologies; however it is a complicated process that does require additional effort and expertise that can be performed for an additional fee.

- L. Provide the following information for the system at each site:
1. Number of telephones supported (hardware and licenses)
Sentinel response: Telephone and license capacities align with the Village supplied counts in Appendix 10. Additionally this information is available in the Bill of Materials.
 2. Number of AT&T business lines supported
Sentinel response: PSTN or AT&T lines supported align with the Village supplied counts in Appendix 10. Additionally this information is available in the Bill of Materials.
 3. Software limitations (i.e. number of extensions (actual and virtual) or other limitation)
Sentinel response: None
- M. Provide a complete software and hardware inventory of the systems proposed.
Sentinel response: comply per our bill of material
- N. Quality of Service: The Village requires that the system will provide “toll call” quality. 100% call completion and latency of 100 milliseconds or less is required.
Sentinel response: Comply, The systems supports QoS. Sentinel cannot guarantee latency issues caused by the fiber or WAN network.

3.2. Location Transparency

A primary requirement of the Village of Downers Grove’s telephone system is that it provide location transparency. Location transparency includes the following:

- A. Uniform 4-digit dialing to any telephone at any Village facility. This capability will be extended to all Village locations.
Sentinel Response: Comply, with all the sites converted to the new VoIP system.
- B. The ability to transfer a call directly to any Village telephone at any location.
Sentinel Response: Comply, with all the sites converted to the new VoIP system.
- C. The ability to forward calls (busy, no answer, all) to any other telephone in the Village.
Sentinel Response: Comply, with all the sites converted to the new VoIP system.
- D. The ability to program call coverage between locations (Village Hall, Police Department, Public Works, Fire Stations)
Sentinel response: Comply, dependent on the type of phone (7942 and 7962, 7911’s)and number of buttons required.
- E. The ability to have an incoming call ring at more than one facility. (An example would be to have the Village Hall pilot number ring telephones at both Public Works and Village Hall simultaneously).
Sentinel Response: Comply, with all the sites converted to the new VoIP system.

- F. The system will include the ability to permit trunks terminated at one site to be used by another site should traffic exceed the capacity at the originating site or should the service at one site be disabled.

Sentinel response: Comply on all outbound calls. Inbound calls require provisioning from the selected telco provider. Any additional telco costs for that provisioning are not included in the response.

3.3 System Features

Describe and/or list the features provided by the proposed solution. Highlight features with address the following requirements (and note any deficiencies as well):

- A. The new system will provide direct dialing to all staff and specific departments. Village staff must be able to distinguish calls for their department from calls to specific individuals. The system must be able to process these calls separately. For example, department calls will be programmed to be answered by other staff whereas calls for a specific individual may be programmed to go to their personal voice mailbox. The directory number will have a separate voice mail box to be used in a no answer (busy, no answer, all) condition and will offer the caller a choice of leaving a message, trying another extension or reaching the receptionist.

Sentinel response: Comply

- B. The system will include automatic call routing software to permit use of multiple trunk groups for outgoing calls.

Sentinel response: Comply, Standard dialing plan programming

- C. **Optional**-Paging through the telephone instruments. All telephones must have the ability to act as a paging speaker. What is the maximum number of instruments that can be paged at one time? How many groups of telephones can be programmed? What is the maximum number of telephones that can be programmed in a group? Can a telephone be included in more than one group?

Sentinel response: Comply, per Bill of Material Option section. Capacities for paging are based on the licensing; the optioned solution is licensed for 300 devices. Number of groups or phones within a group is configurable.

- D. External Paging System interface(s) at each site. All Village buildings (except Public Works and Social Services) have an external, overhead paging system (**see Appendix 2**). The telephone system must be connected to these systems and be programmed to access the paging system from any telephone at that building.

Sentinel response: Comply, Sentinel has included FXS ports on Gateways to support the overhead paging applications noted in Appendix 10. Additionally Sentinel has included a Valcom paging interface to insure accurate and timely connect and disconnect supervision.

- E. The vendor must provided a “chime” or “bell” sound to be delivered through the external paging systems at the Fire Stations when calls to the main numbers are received.

Sentinel response: Comply, Sentinel has included Valcom 1 Zone paging controller with tone generator to accomplish this functionality.

- F. Separate “Night” modes for each entity (Village Hall, Police Department, Fire Stations, Public Works). “Night” modes will send calls to either an automated attendant greeting specific to the location and/or to another telephone at another location. Callers reaching an automated attendant greeting must be able to dial an extension or access a dial by name directory.

Sentinel response: Auto Attendant can be setup to respond to an after hour setting

- G. Distinctive Ringing
- a. Internal vs. external calls. **Sentinel response: Comply**
 - b. Differentiate one telephone from another. **Sentinel response: Comply**
- H. The system must support calling party name display for external and internal site-to-site calls. Caller ID to be displayed for all incoming calls (including new (second or third) call when off-hook on another call). State the number of characters displayed.
- Sentinel response: Comply. Proper Telco provisioning is required to support this requirement. Any additional telco costs for that provisioning are not included in the response.**
- I. Optional: Integration of cell phones (“twinning”). Provide the cost of the equipment, software and programming to integrate 30 cell phones with a telephone system directory number. It is expected that calls directed to the telephone system directory number will automatically be sent to the designated cell phone. The telephone system will be continually connected to permit the cell phone user the ability to transfer the call to another telephone system extension. Should the cell phone user not answer, the call must forward to the user’s telephone system voice mailbox.
- Sentinel response: Comply. This function is native to Cisco Unified Communications Manager and only requires additional device license units per user supported. Pricing is provided in the options section of the Bill of Materials.**
- J. Outgoing caller ID programming must permit the following:
- a. Send DID number
Sentinel response: Comply and configurable
 - b. Send Village’s or Village facility’s main number or;
Sentinel response: Comply and configurable
 - c. Send no number (caller ID blocked)
Sentinel response: Comply and configurable
- K. ACD (Automatic Call Distribution) or “Attendant Queue” software to permit calls to be answered by a recorded announcement after a predetermined (by the Village) number of rings and be placed in a queue to be answered when the attendant is not available, but busy on other calls. If this not a standard feature, the cost to provide it must be itemized on the System Pricing (Section 6).
- Sentinel response: Comply. Sentinel has included Cisco Unified Business Attendant Console to support this feature.**
- L. Recorded Announcement for use with ACD (see #9 above). Includes the ability to change the message callers hear while holding for an attendant in response to a specific event.
- Sentinel response: Comply. Auto Attendant can be configured to support recorded announcements.**
- M. The current Police Department’s main listed, non-emergency numbers (hunt group) and old 10-digit emergency numbers are recorded. These calls are answered on telephones in Police Communications and Police Records. However, when these calls are transferred to other extensions, the calls are no longer recorded. This practice must continue in a similar manner. The Village’s recording equipment is Nice Wordnet system. Modifications to the Wordnet system will be provided by others.
- Sentinel response: Comply. Sentinel can configure these users to be in a separate VLAN that will key the Wordnet Call Recording. Assumes the Village has or will procure the Nice VOIP logger functionality.**

- N. Music-On-Hold: Please describe the proposed system's ability to accommodate separate message/music on hold sources for each Village facility and the process required to replace the message/music. If this requires additional equipment, provide specifications for it. Please provide the cost of this as an **option** in Section 6.1- System Pricing.

Sentinel response: Comply. Sentinel response: The system supports up to 50 separate sources, so in this case since the Village has less than 50 locations the system can accommodate this requirement. The music is stored on the Unified Communications Manager Server, so no additional equipment is required. The system administrator simply drops the selected music file into the designated folder and the file format is automatically converted to a supported file format.

3.4 System Management

The Village expects to continue to perform routine telephone and voice mail system changes utilizing in-house staff. System management software must be included.

- A. System administration and alarm monitoring functions will be accessible via the existing data network, thus permitting access from any Village computer workstation connected to the internal network. This requirement shall include proper security measures to prevent unauthorized access to system administration functions.

Sentinel response: Comply

- B. The system administration software must be browser-based.

Sentinel response: All management will be done via HTTP

- C. Describe the proposed system's self-diagnostic and monitoring capabilities.

Sentinel response: Comply Vendor Response: Real Time Monitoring Tool(RTMT) supports these functions. Also see the RTMT doc in the attachments section.

Cisco Unified Serviceability, a web-based troubleshooting tool, provides the following functionality:

- **Saves alarms and events for troubleshooting and provides alarm message definitions.**
- **Saves trace information to various log files for troubleshooting.**
- **Monitors real-time behavior of components through the Cisco Unified Real-Time Monitoring Tool (RTMT).**
- **Unified CM and Unified CM BE only: Generates Cisco Unified Communications Manager reports for Quality of Service, traffic, and billing information through Cisco Unified Communications Manager CDR Analysis and Reporting (CAR).**
- **Provides feature services that you can activate, deactivate, and view through the Service Activation window.**
- **Provides an interface for starting and stopping feature and network services.**
- **Generates and archives daily reports; for example, alert summary or server statistic reports.**
- **Allows Cisco Unified Communications Manager and Cisco Unity Connection to work as a managed device for SNMP remote management and troubleshooting.**
- **Monitors the disk usage of the log partition on a server.**
- **Monitors the number of threads and processes in the system; uses cache to enhance the performance.**

D. What means are available to identify the source of system performance problems?

Sentinel response: Comply. : Real Time Monitoring Tool(RTMT) supports these functions

Using the alert notification feature, the application notifies you of system problems. Perform the following configuration setup to activate alert notifications for a system counter:

- From the RTMT Perfmon Monitoring pane, choose the system perfmon counter.
- Set up an e-mail or a message popup window for alert notification.
- Determine the threshold for the alert (for example, an alert activates when calls in progress exceed the threshold of over 100 calls or under 50 calls).
- Determine the frequency of the alert notification (for example, the alert occurs once or every hour).
- Determine the schedule for when the alert activates (for example, on a daily basis or at certain times of the day).

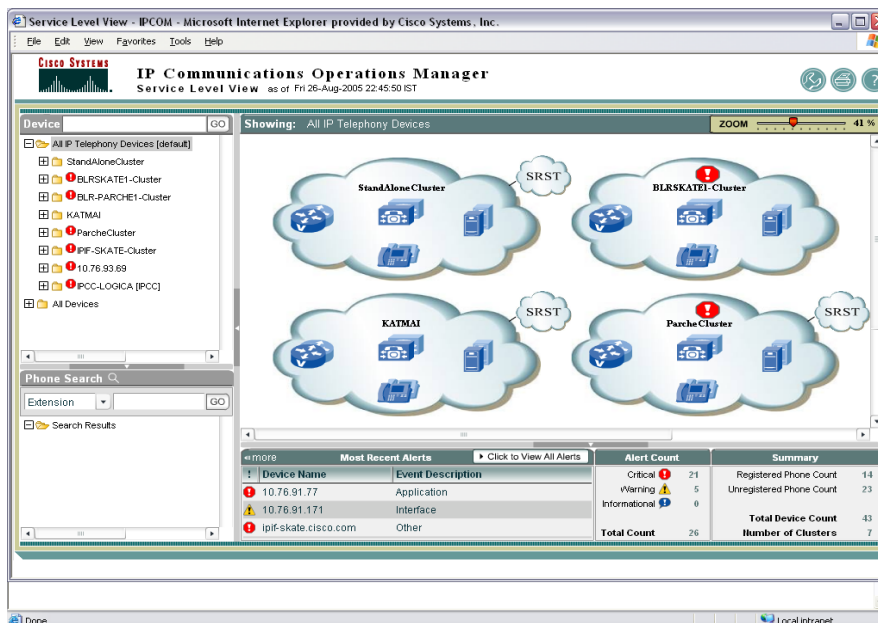
E. How will Village staff be informed of any system problems short of experiencing them first hand?

Sentinel response: Comply. RTMT toll will allow the administrator to setup alert notifications via email or screen pop-up.

F. If additional programs are available to enhance the Village's ability to monitor and diagnose problems with the telephone system please provide a description of their functions and the additional cost (System Pricing-Section 6).

Sentinel response: Comply. Optionally available is Cisco Unified Operations Manager.

Cisco Unified Operations Manager continuously monitors the current operational status of different IP communications elements, including Cisco Unified Communications Manager, Cisco Unified Communications Manager Express, Cisco Unity, Cisco Unity Express, Cisco Unity Connection, Cisco Unified Contact Center, Cisco Unified MeetingPlace, Cisco Emergency Responder, Cisco Personal Assistant, Cisco Conference Connection, and Cisco gateways, routers, and phones. It provides diagnostic capabilities for faster trouble isolation and resolution.



4.0 SYSTEM CONFIGURATION & COMPONENTS

4.1 Telephone System Equipment

A. Telephone Locations: **Appendix 1** provides information on quantity and types of telephones required at each Village facility.

B. Definitions

- Staff Telephone: It is intended for staff who do not regularly assist in covering calls for their department, but do use the telephone frequently. (see Table for feature requirements)

Sentinel response: Comply

- Coverage Telephone: It is intended for staff who have call answering responsibility for more than one person or for the Department telephone number. The telephone must be able to answer multiple lines and monitor the status (busy lamp) of others in the department. A "softphone attendant" that provides GUI access to telephone functions on the user's PC may be an acceptable alternative. (see Table for feature requirements)

Sentinel response: Comply

- Convenience Telephone: This telephone is used for locations not dedicated to a specific staff member (i.e. lunchroom, copy room, etc.) and is not to be used for call coverage (see Table for feature requirements)

Sentinel response: Comply

- Conference Speakerphone: This set is intended for conference room applications for 5 or more participants. Set shall be full-duplex hands-free.

Sentinel response: Comply

- *Analog Port: An analog port or line to permit connection of a fax or modem. Please state the maximum supported modem speed for an analog port. The required number does not include any that the proposed system may require for any other purpose.

Sentinel response: 56Kbs

Telephone Set Requirements

The following chart establishes the minimum requirements for each type of telephone set forth in Section 4.1.A, and 4.1.B.

Coverage and Staff Telephones must be “self-labeling”.

| Feature | Set Type | | | |
|-----------------------|---------------|---------------|--------------|-------------------------|
| | Coverage | Staff | Convenience | Conference SpeakerPhone |
| | Self Labeling | Self Labeling | 1 | 1 |
| Line Appearances | 6-12 | 2-4 | | |
| Feature Keys (min.) | 4 | 4 | 3 | 0 |
| Multi Line Display | X | X | - | - |
| Single Line Display | - | - | X | X |
| Headset Compatible | X | X | - | - |
| 2-way Speaker Phone | X | X | Speaker only | X |
| Message Waiting Lamp | X | X | X | - |
| Wall Mountable | X | X | X | - |
| Selectable Ring Tones | X | X | - | - |
| Caller ID | X | X | X | X |

X = Required Feature

- C. Long handset and mounting cords are required. Assume approximately 20% of sets will require these.

Sentinel response: Comply

- D. PSTN (Public Switched Telephone Network) Configuration: **Appendix 2** identifies the basic requirements for AT&T services and other external devices that must be connected to the system at each Village facility.

Sentinel response: Comply

4.2 Voicemail and Unified Messaging

The Village requires an integrated voicemail system capable of supporting traditional voice messaging functions and unified messaging. Unified messaging is understood to be the combination of voice messages, email messages, and fax messages accessed through a common interface. There are no current requirements to include fax messaging, but any proposed system must have the ability to add fax capabilities as a future option. Any PC based system must include a PC that complies to RAID Level 5 standards. Please state if the system can be connected to the Village’s network and included in routine back-up procedures. If it cannot, the system must include a back-up system.

Sentinel response: Comply. Sentinel has proposed Cisco Unified Messaging for MS Exchange. The Cisco Unified Messaging system will support fax integration with the system. The server proposed is a Cisco MCS7825 server that supports RAID1 functionality. Sentinel is proposing this server based on the fact the messages will not be stored on the Unified Messaging server, but they will be stored on the Exchange server. With the MCS7825 it will provide “mirrored” protection at the application level – which is a static environment for day to day operations. The Unified Communications system will be integrated with the Village’s normal backup routines utilizing a shared drive on the Village’s network and Cisco Unity’s inherent backup processes. Additionally Sentinel has included pricing for a Cisco Fax Server in the options section.

A common Microsoft **Exchange Server 2003** email system will be in place prior to installation of the new telephone system.

A new voice mail system must be provided. The requirements are:

- A. The voice processing system must provide a minimum of 12 ports at installation, and the expandable capacity of the voice mail system should be at least 24 ports and 64 hours of message storage.

Sentinel response: Comply and exceed. Unity Unified Messaging is equipped with 24 ports and 2,312 hours of storage.

- B. For the facilities included in the proposal the voicemail system must support 450 mailboxes. **The itemized cost to provide unified messaging for 100 users must be provided on the pricing page (Section 6).** Will additional storage (for voice mail messages) be required on the Exchange server? Provide guidelines as to these requirements.

Sentinel Response: Comply. Cisco Unified Unity Messaging does not charge for Unified messaging all mailboxes has the ability to accommodate Unified Messaging. Therefore all 450 mailboxes quoted in this proposal can be configured as Unified mailboxes at no additional charge.

Messages are stored on the Exchange Message Store. See table below for storage requirements per codec type.

| Audio Codec | Approximate File Size, 1-Minute Message | Quality Rating |
|------------------------|---|----------------|
| G.711 Mu-Law and A-Law | 480 KB | Excellent |
| G.726 32 Kbps | 240 KB | Fine |
| OKI ADPCM 8 kHz | 240 KB | Fine |
| OKI ADPCM 6 kHz | 180 KB | Fine |
| GSM 6.10 | 98 KB | Good |
| G.729a | 60 KB | Good |

- C. A voice messaging system to be fully integrated with telephone system(s) at all locations (i.e. message waiting notification by Message Waiting lamp, transfer from the voice mail system to another telephone system extension, The system will permit callers to enter "0" to access a live operator and/or another extension particular to their location or default to the operator if the caller does not make an entry.

Sentinel response: Comply

- D. The system programming must permit each voice mailbox to have a unique "0" destination.

Sentinel response: Comply

- E. The system must provide the ability to transfer a caller directly to a personalized voice mailbox. **Describe the steps necessary to complete this function.**

Sentinel response: Comply and configurable(see below for example)

When calls need to be transferred directly to a personal voicemail box without ringing the phone, users to do the transfer like normal but prefix the called parties number with an "*".

**Example: Transfer to ring phone would go to ext. 1234
Transfer directly to voicemail would go to ext. *1234**

- F. Individual users must be able to enable/disable pager or cell phone notification of voice mail messages via phone set or PC interface.

Sentinel response: Comply

- G. The voice processing system must be capable of supporting multiple “V” trees where callers can access information by selecting from menu items through several levels.

Sentinel response: Comply

- H. The voice mail system must permit group messages to be delivered to multiple mailboxes.

Sentinel response: Comply

- I. Automated Attendant for "night answer," permitting dial by name or dialing an extension.

Sentinel response: Comply

- J. A separate DID number (“back-door”) for 24-hour access to automated attendant and voice mail without having to speak to a person.

Sentinel response: Comply

- K. Night mode (activated by a key on a telephone(s) and by an internal system timer) that will direct all incoming calls to the Automated Attendant. Because the hours of operation of each facility are different, it will be required that each building will enable the night greeting according to their individual schedule.

Sentinel response: Comply

4.3 Private Network Details

- A. All locations are connected using the Village’s existing WAN service. It is the desire of the Village to utilize packetized (IP) voice to route voice calls over their LAN and WAN.

Sentinel response: Comply

- B. Compression is desired for WAN calls between sites. Voice compression must comply with the G729a standard.

Sentinel response: Comply.

- C. A data network diagram was provided in Addendum 2.

- D. Details on the individual data routing and switching equipment currently in place at each site is provided in Appendix 4.

4.4 E911

Calling Line Identification

The Village of Downers Grove currently utilizes “Locator ID” software in conjunction with its Centrex service. The new system must support ANI identification to the appropriate PSAP (Public Safety Access Point) serving the Village. The system must support ALI display to the 911center. The system must include all components required to conform to the Illinois statutes regarding “E911”.

- A. If the proposed system cannot perform this function please indicate how the Village will be able to comply with regulations mandating this.

Sentinel response: Comply

- B. The system must provide an alert to a designated telephone at each building from which a 911 call has been placed.

Sentinel response: Comply

- C. The Village requires that the system be capable of displaying a different ANI when users place outgoing calls other than to 911. Identify the options available for ANI display when placing outgoing calls. Is it a system-wide or station-by-station programming option?

Sentinel response: Sentinel assumes that a Locator ID/Locator ID Lite or equivalent E911 service will be provided by the customer. This service works with the Cisco Emergency Responder solution. Should the customer require E911 services and the solution does not include the Cisco Emergency Responder solution, the system will support ANI information on an extension by extension basis. This means that services such as MACs would require a manual entry change in the carrier’s database and also would eliminate compliance if using Extension Mobility. For truly zero cost MACs and compliance when using Extension Mobility Sentinel highly recommends Cisco’s Emergency Responder solution.

Sentinel assumes that at a minimum, each chassis switch will be its own Emergency Responder zone. Any additional breakdown of zones outside of these criteria will be handled through the PCR process.

The Cisco Emergency Responder solution requires database registration support. Sentinel assumes the customer will be responsible for obtaining registration services for the phone number corresponding to the Emergency Responder server.

Enhanced 911 Cabling Note: Systems with E911 requirements that include Sentinel labor to perform the installation and setup of emergency locations or zones assumes that the cabling is complete and accurately labeled for all closets/locations. All cabling is expected to be cross referenced and labeled to each individual location with this information provided to Sentinel. Additional cable management, tracking, tracing or toning will require additional professional services. Further, Sentinel has not included time to program the carrier database and assumes this will be the responsibility of the customer or the carrier providing the service.

4.5 Call Detail Recording-OPTIONAL

Provide pricing for an **optional** on-site Call Detail Recording Device.

- A. Provide Call Accounting hardware and software including new server, and any system interface requirements. Itemize costs associated with each site (i.e. storage devices and modems) in addition to the cost of the centralized processor. The cost of the system must include data base preparation and data entry as well as training on programming, report generation and system administration.

Sentinel response: Comply with comment. ISI Infortel Call Accounting does not require a server. The application will run on a standard PC(see requirements below) Sentinel has not included a PC to accommodate this application but will do so at the Village’s request.

| |
|---|
| <i>2.8 GHz Processor</i> |
| <i>1 GB RAM</i> |
| <i>160 GB Hard Drive</i> |
| <i>Win XP Professional, Vista, or 2005/2009 Server OS</i> |

- B. State model, manufacturer and call record capacity.
Sentinel response: ISI Infortel Select 500
- C. How many systems of this type has your company installed?
Sentinel response: In excess of 20. Additionally ISI professional services are included in the proposal.
- D. The system must provide identification and cost of outward dialed local and long distance calls on a station-by-station basis.
Sentinel response: Comply
- E. The system must create and store records of incoming calls to the Village including calling number, called number, date, time, and duration of call.
Sentinel response: Comply.
- F. The system must provide voice traffic reports including historical reports that illustrate the number of calls (incoming and outgoing) per hour. The purpose is to determine the busiest (telephone calls) periods of the day.
Sentinel response: ISI has a database with toll call information for billing purposes
- G. Describe the system's ability to duplicate AT&T's local calling cost structure so that the reports will accurately reflect the cost of these calls.
Sentinel response: Comply with ISI rate table
- H. The system must be able to generate hierarchical reports by individual station, department, site, total organization as well as various exception (duration, cost, frequency) reports. Reports organized by authorization code must also be available.
Sentinel response: Comply
- I. Can the system be attached to a Wide Area Network? If so, please provide the additional cost, if any, of doing so. What resources are required of the network for this capability?
Sentinel response: Comply via UCM.
- J. Does the system have the capability to detect "toll fraud"? If so, please provide the additional cost, if any, of this function.
Sentinel response: Not available at this time within ISI Infortel product. There are facilities available within Cisco Unified Communications Manager to handle toll fraud.

5.0 IMPLEMENTATION

5.1 Installation Requirements

The vendor is required to perform all the tasks necessary to implement a VoIP telephone system solution with the following steps in mind:

- a) Ensure that all voice system components are installed and configured according to current manufacturer standards.
- b) Ensure that all routers and switches are installed and configured according to current manufacturer standards.
- c) Coordinate and test all system components' functionality.
- d) Install and test any third party applications provided by the vendor.
- e) Allow Village IT staff to accompany and observe vendor staff as deemed appropriate by the Village. The intent of this requirement is to familiarize Village IT staff with the overall design, components, programming, operation and administration of the new system.

As part of the project the Village requires that the vendor perform a technical assessment, prior to installation, to confirm that the hardware and software provided in the proposal is sufficient to support the desired applications.

Sentinel response: Comply with explanation of Sentinel's deployment methodology.

The overall benefit in engaging Sentinel is our experience in successfully deploying Cisco VoIP and our deployment and blueprint methodology along with our project management experiences which are all described in detail below.

Deployment Methodology:

Sentinel has been deploying and providing Enterprise Cisco IP Voice solutions for nearly 9 years. Throughout this time, we have developed a proprietary and comprehensive methodology and approach to deployment which enables Sentinel to yield consistent and complete deployments with each and every install. This methodology and deployment standard has taken years to develop to the point where it is today and has enabled Sentinel to deploy, configure and install hundreds of systems and over 50,000 phones for our clients with the same successful result with every installation. And yet, this methodology is continually developing, evolving and growing as the technology Sentinel deploys evolves.

By working with Sentinel, and using this proven methodology, we can ensure the Cisco voice project will be successfully deployed, enable features and functionality required by the Village's staff, and enable stable and secure growth for the Village. This methodology is why Sentinel is the Go-to partner with Cisco voice solutions within the Midwest Region and a major reason as to why we have consistently received acknowledgement from Cisco and our Customers for our success and achievement deploying voice solutions.

Based on our methodology, we are 100% confident that will be uniquely able to provide the Village the professional project management, comprehensive final solution design, and the expert deployment solutions required. We will provide highly trained and experienced staff to the Village for all aspects of this deployment.

However, these projects are not developed in a vacuum or without intimate knowledge of the organization and environment we are deploying within. Therefore, in order to properly develop a Scope of Work and Project Plan, we have learned that granular design and development meetings are required to ensure success for Sentinel and the Village. We cannot assume that the Cisco solution will "snap" into place, but instead need to spend significant time and effort with the Village team to cooperatively develop the right blend of technology and business development to completely support the Villages' requirements.

Sentinel has a structured process that is followed and will recommend be followed in this project as we move forward in partnership with the Village. The steps, at a high level, are as follows:

- 1) RFP response with the proposed Bill of Materials (BOM)
- 2) Review of this response and BOM with the Village Staff to ensure expectations are capable and understood
- 3) Review and finalization of the BOM
- 4) Preparation of the Detailed Scope of Work (SOW) – review and modify with client as required
- 5) Creation and Execution of the Final BOM and SOW into Contract format.
- 6) Project initiation, Sentinel Blueprint and Design process – Our formal design documentation process on deployment of IPT at the Village and all of the required components and configurations. This includes granular call routing, user info, systems configuration, call flows, voice mail systems, etc. This also includes a detailed timeline and project plan. See more detailed description below.
- 7) Sentinel Blueprint Project Plan and final design signed off and completed
- 8) Project staging and preparation
- 9) Project deployment, full testing
- 10) Classroom end user training by professional trainer. See below for more detail.
- 11) Cutover to new system
- 12) Post cutover onsite support by Sentinel engineer(s) and trainer(s)
- 13) Complete documentation
- 14) Close-out meetings
- 15) Enhancements and additions discussed

Implementation Blueprint Process:

As mentioned above, Sentinel will follow its proven methodology for successfully implementing the Cisco VoIP systems by first developing an Implementation Blueprint. The Implementation Blueprint is developed in a collaborative effort between the Village and Sentinel during the design stage of the project. This blueprint is used to identify and document the final requirements and customer's expectations for the solution.

During the design process, Sentinel will work with the Village to gather the required solution information, make recommendations when necessary, and document all of the technical, functional and operations requirements for the solution. The key element in this process is to make sure that Sentinel interprets the information gathered properly. To ensure this, the final step in the design process is a face to face meeting with the customer to go over the final Implementation Blueprint and agree that if the solution is implemented as designed in the Blueprint, the solution will meet both the customer's needs and expectations.

The following outlines the required steps to create and finalize this document:

- Initial design meetings will produce (Rev. Level 1.0) of the blueprint.
- Follow up design review meetings will produce (Rev. Level 1.x) of the blueprint.
- The final design acceptance meeting will produce (Rev. Level 2.0) of the blueprint.

- Any revisions beyond the accepted (Rev. 2.0) of this document will be considered out of the scope of services and are subject to the change management process.

Sentinel will make every effort to identify and document all of the specific information needed to install the current solution to meet the customer's needs and expectations. It is assumed that any information concerning feature, functionality, call flow, or technical information not included in the approved Implementation Blueprint document, will not be included in the final solution. Any specific information or requirements needed after the Implementation Blueprint approval milestone can be added through the Sentinel's project change request (PCR) process.

In addition to the Implementation Blueprint, Sentinel will review all of the required end user information its solution End User Spreadsheet. Sentinel will provide the customer with an Excel spreadsheet that is used to document all of the specific end user information needed for the solution. It is assumed that the customer will be able to complete this spreadsheet, with some minimal guidance from Sentinel, during the design and staging stages of the project.

Project Management:

Sentinel will provide an experienced and certified project manager dedicated to the success of the Village Cisco VoIP implementation. The project manager will be responsible for:

- Complete success of the project.
- Optimal coordination of all resources.
- Guiding the client on aspects of the project they are required to perform.
- Tracking and reporting of progress.
- Management of agreed to budget issues.
- Management of expected timelines for implementation.
- Changes to the project and communications of changes in writing using a Project Change Form.
- Post installation document gathering, assembly and presentation.
- Post installation project completion agreement and signature.

Project management will ensure complete project success. Communication is the cornerstone of project management and the project manager will be the central communication mechanism for all parties. This will assure all relevant parties are informed about decisions that may affect the success of their component of the solution.

All installations must be performed in accordance with applicable building, safety, and FCC certification codes and regulations as well as all items mentioned in the general conditions section of this report. The vendor will be responsible for the following items:

- A. Installation of Data Network Components – The project includes the work necessary to create a network platform to support all of the Village's voice and data needs. The Village will require the vendor to provide (WAN/LAN) network IP re-design, re-configuration, and implementation services for a "new network IP infrastructure" that integrates and provides high quality VOIP and Data communications for the Village users. The new design shall incorporate industry standard technical requirements for preserving quality and speed of both voice and data traffic. The Village requires the vendor to provide certified technical staff that has experience with integrated VOIP and Data network design and implementation. The vendor's certified technical staff must have experience with the equipment proposed and will personally perform the network IP re-design/implementation work with close Village supervision. Full documentation and diagrams of the new design will be required. The vendor will provide certified engineer(s) to install the network hardware at the Village locations. Installation includes the following:

1. Install hardware modules as needed (modular chassis only).
2. Configure necessary parameters for protocols being used as agreed to by the Village. (Village will supply existing IP addressing schemes and Server naming conventions)
3. Make room on all rack(s) (new or existing) that the new equipment will be mounted on, e.g. POE Switches, Gateway Routers, Servers, etc.
4. Mount all equipment and make necessary connections to the Village's network.
5. Conduct all tests necessary to verify the network meets the manufacturer's standards.

Sentinel response: Comply (1-5) with comment. Assumes reasonable rack space is available and existing cable lengths are adequate.

B. Installation of Telephone System Components – Implementation includes installation and programming of all telephone system components and UPSs.

1. Mount all system components in racks (existing if sufficient space is available or vendor provided).
2. Mount new network hardware (e.g. POE Switches, Gateway Routers, Servers, etc.) in appropriate rack(s)
3. Connect telephone system components to the network hardware.
4. Connect PSTN services to Gateway Routers.
5. Configure the new telephone system as determined and documented by your company's Project Coordinator and approved by the Village.
6. Connect telephone instruments to network and verify functionality.
7. Mount phones on wall (where applicable).
8. Final testing of all telephone systems and equipment.

Sentinel response: Comply (1-8)

C. Telephone System Programming – The data required to program the new telephone system will be developed jointly between the Village of Downers Grove and the vendor.

1. The vendor will provide a qualified project manager to meet with the Village. The purpose of the meeting is to describe the operation of the new telephone system and the information required to program the telephone system.

Sentinel response: Comply

2. The Village will provide information required to attach other external devices to the system such as external paging systems and a Police Department call recording system.

Sentinel response: Comply with comment. This proposal does not include additional software or hardware that may be required for call recording. Sentinel believes this will require Nice Wordnet VOIP logger.

3. The vendor will provide a format (Excel spreadsheet) that will permit entry of information into an appropriate field.

Sentinel response: Comply

4. The vendor will meet with the Village at the end of the database gathering process to review the information and finalize the system programming.

Sentinel response: Comply

5. The vendor will perform all the programming necessary to accommodate the Village's telephone system requirements. These requirements include, but are not limited to, the following:

- User Names
- Extension Number
- DID number
- DID department number
- Telephone Type
- Class Restriction
- Call Pick Up Groups
- Page groups
- Which telephones get voicemail?
- Voicemail "0" out target extensions for individual mailboxes
- Line Appearances
- Trunking information such as back up POTS trunks at each facility
- Which main incoming numbers ring to what location?
- How many incoming line appearances are needed per main incoming number?
- Which telephones are to be designated as the Main Answering Position(s) for each facility?
- Any additional Centrex Number Porting information
- Calls answered by Automated Attendant
- If Automated Attendant what are the menu choices?
- MOH (Music on Hold)

Sentinel response: Comply

D. Telephone Company Liaison - The Village will order and track the installation of new ISDN PRI circuits to be installed at the Village Hall (1 PRI) and Police Department (1 PRI). The vendor will be responsible for extending, if necessary, and connecting these circuits and the analog business lines to the new systems at these sites. The vendor will be responsible for extending, if necessary, and connecting the analog business lines (POTS) to the new voice gateways at the remaining sites. The vendor is required to participate in the "test and turn-up" of the new ISDN PRI circuits until the circuits' successful operation are verified.

Sentinel response: Comply with comment. Sentinel has included the pricing to extend telecommunications demarcation points where necessary. This wiring will be done by a subcontractor.

E. Telephone handset and desktop installation – The vendor will be present and assist the Village with the installation of all VoIP handsets. The vendor will be responsible for installing all analog devices. The vendor will also be present and assist the Village with the installation of five (5) of each desktop application that is included as part of the proposed system (i.e. Unified Messaging).

Sentinel response: Comply

- F. Wiring –The vendor will be responsible for new station wiring and re-terminating existing Category 5 cable on RJ-45 jacks where necessary (see Appendix 3)

Sentinel Response: Sentinel has included pricing for cable runs at the sites

- G. Cutover – Cutover of the new system is defined as the time scheduled to “port” specified Centrex telephone numbers to the new ISDN PRI circuits. There will be one time specified for all Centrex numbers to be ported to the new ISDN PRI circuits as DID numbers. The cutover will be conducted outside of normal business hours. Consideration must be given to the 24-hour operational status of the Village’s Police and Fire Departments. Any additional labor costs to accomplish this must be included in the proposed price. The schedule will be developed at the Village’s direction. The vendor must have qualified technicians on site at the designated cutover.

Sentinel response: Comply

- H. Quality of Work - The installation shall not disrupt the Village of Downers Grove’s routine as little as possible. The installation personnel will adhere to the Village of Downers Grove’s policies at all times. These policies will be communicated to the successful vendor at the time of contract signing. The installation personnel shall keep all equipment secure and will not block any essential passages. If a particular area needs to be closed, the Village of Downers Grove must be notified 48 hours in advance to allow for proper preparation. Any major interruption of service other than an individual station being without telephone service must be coordinated **in advance** with the Downers Grove.

Sentinel response: Comply

- I. Building Surfaces - All wall surfaces that are worked on will be properly covered, plastered or prepared for painting before the Village of Downers Grove accept project completion.

Sentinel response: Comply

- J. Documentation - Vendor will submit the following items prior to system acceptance: One complete set of reproducible "as-installed" drawings, one set of technical manuals, current spare parts list, current database, and a list showing system trunk numbers, and Telco circuit number. All system components must be labeled. The Village must approve the labeling system in advance. The vendor must provide written documentation of all administrative “privileges” (level of administrative access and passwords).

Sentinel response: Comply. Sentinel will provide documentation on all Cisco equipment installed. This will include topology, configuration and IP addressing schemes.

- K. Assuming a contract is awarded July 2009 please complete a project installation milestone chart.

Sentinel response: see sample project plan

- L. Vendor will submit status report to the Village of Downers Grove every week after installation begins.

Sentinel response: Comply

5.2 Training

Attendant, station user, system, and maintenance training is an important aspect of the requirements for the proposed telephone system. State the method in which training requirements will be implemented.

- A. Village station users in the various departments will utilize different standard features. Station user training will be conducted using live telephones at a designated Village location. The successful vendor will establish individualized training sessions on a department basis to insure system utilization. A live telephone will be furnished for each person in attendance.

Sentinel response: Sentinel will provide a live telephone for up to 12 attendees per session.

- B. All station users have the need to understand the general use and capabilities of the new telephone system. The successful vendor will provide general education sessions for Village employees.

Sentinel response: Training will include end user level on-site training and main site administrative knowledge transfer. The end user training will require an appropriate on-site training facility and utilization of the customer's hardware. Sentinel will setup phones and necessary infrastructure, to perform these training sessions.

End User Training

Sentinel utilizes professional trainers to conduct the end user training classes. These classes consist of a 1.5 to 2 hour session for up to 12 end users and will cover the following criteria for the products listed. Sentinel has created a standardized training handout for end users and will provide these during training. Any additional information or customer specific requirements for these booklets would be considered out of scope and handled through the PCR process.

- **IP Phone Training**
 - **Placing and receiving calls**
 - **Muting a call**
 - **Transferring a call**
 - **Using call pick-up**
 - **Conferencing calls**
 - **Custom phone settings**
 - **Using handset, headset, speakers**
 - **Receiving and handling of calls**
 - **Placing a call on hold**
 - **Parking a call**
 - **Forwarding of calls**
 - **Access voicemail**
 - **Directories**
 - **Hands on practice**
- **Unity Voicemail Training**
 - **Enrolling in Voicemail**
 - **Replying to messages**
 - **Changing name and password**
 - **Unified Messaging**
 - **Accessing voicemail**
 - **Sending & receiving messages**
 - **Saving messages**
 - **Enabling and disabling greetings**

- **Attendant Console**
 - **Logging on and off**
 - **Creating custom speed dials**
 - **Handling calls via desktop**
 - **Using the directories**
 - **Hands on practice**

Any requested training not included in these sections will be considered out of scope and handled through the PCR process.

- C. The successful vendor will provide training, if necessary, for second and third shift personnel during their normal working hours.

Sentinel response: Exception. Proposal does not include after hours training. Sentinel would recommend “train the trainer” training for village staff to provide end user training to after hours employees for cost containment purposes.

What facilities are available for attendant console training? Your company will provide continuous training for attendants after cutover if necessary.

Sentinel response: Sentinel will provide attendant console training as part of its initial training as described above. Sentinel can provide additional onsite attendant console training as needed on a time and materials basis.

- D. The successful vendor will provide **system administration training for three (3) Village employees**. Completion of the training will permit Village staff to complete station programming, traffic studies, etc. Please provide a list of the functions the training will permit Village staff to complete. Where will the training be conducted?

Sentinel response: Sentinel will perform admin training at the customer site.

Administrative knowledge transfer includes basic system management understanding for the main site administration team during the project. The administrative knowledge transfer will targeted to cover the following criteria for the products included, but depending on the customer’s needs and availability during the project, all of the products may not be covered.

- **Unified Communications Server**
 - **Add, change or remove phone devices**
 - **Add, change or remove users**
 - **Reporting engine login procedures. Sentinel does not include report definition and information analysis in admin training.**
- **Unified Messaging (Voice Mail) Server**
 - **Add, change or remove voicemail users**
 - **Add, change or remove Auto Attendants**
 - **Add, change or remove holiday schedule**
- **Emergency Responder Server**
 - **Add new switches and assign proper E911 zone**
 - **Add, change or remove zone assignments**
 - **Reporting engine login procedures. Sentinel does not include report definition and information analysis in admin training.**

Sentinel does not provide any documentation for administration knowledge transfer and assumes that the customer will utilize the information available on the Manufacture’s website.

Sentinel welcomes the Village to be involved in all aspects of the project life cycle to achieve the highest level of knowledge transfer during the project. While there is no way to guarantee the level of knowledge transfer that will occur, additional time can be added to the staging, installation or testing portions of the project to try and accomplish this need. This request should be scheduled with the Project Manager. If additional time is added for this request,

it will be handled through Sentinel's PCR process.

Customers that seek to get the most out of the knowledge transfer have had a higher degree of success by combining the specific deployment knowledge transfer with formal Cisco course training. When the course work is done prior to the project knowledge transfer Sentinel has seen the highest degree of self support post installation.

- E. Instruction materials (instruction manuals, manufacturer user guides, custom instruction guides, etc.) will be provided in sufficient quantity for all users with 20% extra for replacement and new hire purposes.

Sentinel response: Comply

- F. Follow up training for the Village will be provided three weeks after cutover. A **minimum 1/2 day of training per site** will be allotted for this purpose.

Sentinel response: Comply

- G. Indicate the material available to the Village to keep them informed of new product services, and equipment that may be beneficial to their operation.

Sentinel response: Cisco website (www.Cisco.com) has an abundance of information on their Unified Communications products that the Village can access.

- H. Indicate the available training sessions and material to provide the Village with the ability to understand and utilize the traffic management usage and reporting systems proposed by your system.

Sentinel Response: Within its admin training, Sentinel will review reporting engine login procedures with the Village and direct the client to the available material on Cisco's website and any available third party classroom training provided by a Cisco Authorized Education Partner. Sentinel does not include report definition and information analysis as part of its standard admin training but if the Village requests onsite hands on training, Sentinel can provide this service on a time and materials basis.

- I. If the Call Accounting option is selected, the vendor will provide traffic reports 30 days and 180 days after system cutover and review them with the Village.

Sentinel response: Comply

5.3 Inspection and Acceptance

Prior to acceptance of the new system, the contractor, with the assistance of the Village, will conduct an acceptance test to validate that the system meets the contract specifications and that all components specified in the successful contractor's proposal have been installed. At a minimum, the following tests will be conducted.

Sentinel Response: Comply with points A through I below.

- A. Public Network connectivity (outside dial tone and the ability to place an outside call)
- B. 911 calls to verify the PSAP receives the proper ANI and ALI information for each site.
- C. DID calls to each department telephone number and selected individual stations.
- D. Receipt of Caller ID and Caller ID-Name on first and subsequent calls to selected stations.

- E. Calls to Automated Attendant call processors to verify proper routing of calls after each menu selection has been entered.
- F. Verify proper "0" destinations from selected voice mailboxes.
- G. Resiliency/Redundancy Tests including:
 - 1. Disconnecting individual PRI circuits from the system.
 - 2. Disconnecting the WAN connection at each site
 - 3. Disabling a single call processor
- H. The successful contractor shall, without charge, replace any material or correct any workmanship found by the Village not to conform to the contract requirements. If the Vendor does not promptly replace rejected material or workmanship, the Village may by contract or otherwise, replace such material or correct such workmanship and charge the cost thereof to the contractor.
- I. Any additional tests deemed necessary, and communicated in writing, by the Village of Downers Grove to demonstrate the functionality of the system.

5.4 As-Built Documentation

- A. Upon completion of system testing, the Proposer will submit one (1) complete copy of the System Documentation. System Documentation shall include a spreadsheet (electronic) with the following station information.
 - 1. Extension number;
 - 2. Jack number;
 - 3. Telephone model;
 - 4. IDF position;
 - 5. Telephone handset key layout;
 - 6. Summary (narrative) of call processing for each department;
 - 7. Telephone company service connected to the system (circuit and telephone numbers).

Sentinel Response: Comply

- B. The documentation shall be the property of the Village. All system components must be labeled. The Village must approve the labeling system in advance.

Sentinel Response: Comply

5.5 Service and Maintenance

- A. The proposed system must be accessible remotely by your service center for diagnostic routines, minor system alarms major system failures, and minor program changes. Dispatch and contact procedures must be established as part of the implementation process.

Sentinel Response: Comply. As a standard support practice, Sentinel establishes remote VPN connectivity during project installations so post project day 2 support can be provided on a remote basis if needed. Dispatch and contact procedures will be established as requested.

- B. Establishing Village access of the system must be provided as part of the proposed system installation. Your company will be responsible for training the appropriate Village employee(s) to perform number changes, class of service changes, and other minor changes as are appropriate. Please detail the types of changes the Village personnel are capable of implementing.

Sentinel Response: Comply. Village personnel will be able to perform all phone and voicemail moves, adds, and changes.

- C. A two-hour maximum response time by the vendor is required for a major outage or total system failure. A major outage is defined as:
1. System unable to process calls.
 2. 10% or more of administrative stations or trunks out of service.

Sentinel response: Comply. A two hour response time will be provided for major outages as defined above provided the Village is contracted under a Sentinel HANS (High Availability Network Support) agreement. Any hardware parts replacement will be dictated by the type of HANS coverage (24x7x4, 8x5x4, or 8x5xNBD).

- D. A next business day maximum on site response time for a normal type maintenance calls is required.

Sentinel response: Comply. Sentinel has quoted its HANS 8x5xNBD maintenance as an option which will provide next business day onsite response for non critical service.

- E. The vendor must be willing to take responsibility for diagnosing equipment problems and notifying the telephone company should the trouble be determined to exist in the LEC facilities. Your company must be responsible for any service charge billed to the Village for service by the telephone company if it is determined that the trouble is in the interconnect equipment.

Sentinel response: Comply. If Sentinel is supporting the system under its HANS maintenance program, Sentinel will diagnose equipment problems and notify the telephone company if necessary. A letter of agency will need to be provided by the Village for Sentinel to perform this work with the LEC.

- F. Will the manufacturer of the proposed system offer a written assurance to the Village that they will stand behind your service? This includes the potential circumstance if your company were to fail or not fulfill your maintenance obligations. If yes, attach document.

Sentinel response: Exception - Cisco does not offer the form of guarantee or written assurance requested. Cisco cannot guarantee services performed by a third party. However, if the Village has purchased Cisco SMARTnet from a Cisco partner, then Cisco will perform such services for the SMARTnet contract period. For all other services of the partner, Cisco cannot guarantee performance of a third party. Cisco can assist the Village in locating another Cisco authorized reseller and the Village and such new reseller will be able to negotiate services, terms and conditions and pricing directly.

- G. A maintenance contract must be made available for years two through five of this contract. State the annual maintenance contract price in **Section XVIII. (System Pricing)**. A warranty period of one year will be provided as part of the purchase cost. **Be specific in describing service offered, hours of operation, and conditions where the Village would be charged in addition to maintenance contract costs.** Please indicate any provisions and associated reduction in maintenance cost if the Village would assume responsibility for telephone instruments.

Sentinel response: Comply, Sentinel has included information and pricing on its HANS maintenance program. Please see the maintenance section of the proposal for complete HANS coverage information. In Sentinel's bill of materials detail pricing, year one HANS is quoted as an uplift to the year one warranty. HANS for years 2 through 5 have also been quoted in the pricing form. HANS pricing for years 2 through 5 are estimated based on the projected CPI increases over that time period. Sentinel can also offer multi year prepaid HANS agreements for up to 5 years which will enable the Village to lock in maintenance fees over the selected time period, reducing the overall maintenance costs.

HANS has been quoted with 8x5xNBD coverage which will provide more than sufficient coverage because of the redundancy built into the solution. However, HANS can also be offered with 8x5x4 or 24x7x4 coverage if required. If Sentinel is awarded the project, Sentinel can customize a maintenance plan to best meet the needs of the Village.

The year one warranty provided within the base solution price includes the Cisco standard one year hardware warranty (IP phones and MCS servers), Cisco's limited lifetime warranty (switches), and one year of 8x5xNBD SMARTnet for Cisco voice gateways (because their standard warranty is only 90 days). Cisco software also only has a standard 90 day warranty so Essential Software Support (ESW) has been included for year one on all Cisco software. ESW provides patches, fixes, and Cisco Technical Assistance Center (TAC) phone support. Under the Cisco hardware warranty, Cisco will be providing all support and replacement equipment (with 10 day turnaround) through its remote Technical Assistance Center. Sentinel would only become involved if requested by the Village to provide an onsite engineer on a T&M basis.

- H. Does your company offer per call maintenance? If yes, what is the cost and what services are included?

Sentinel Response: For per call maintenance, support, or moves, adds, and changes, Sentinel can provide the support remotely or onsite on a time and materials basis. T&M rates are outlined below.

- **8 x 5 Monday – Friday Hourly rate \$175.00**
- **After hours, weekend and holiday rates \$250.00**
- **Best effort response time**
- **4 Hour minimum for onsite support**
- **1 Hour minimum for remote**
- **Onsite time is tracked portal to portal.**
- **Mileage (35 cents/mile) and expenses are tracked and billed additionally**

- I. Does your company perform all of your own maintenance? Will you commit to this? Please include an attachment as evidence to this guarantee.

Sentinel response: Comply. Sentinel has been performing its own hardware maintenance services since its inception in 1982. The Village is welcome to visit our facility, customer service center, and bench repair department. The Village can also visit www.sentinel.com for more details on Sentinel's service history and the support services that we provide. We are open to discuss any additional documentation the Village would need as evidence.

6.0 ATTACHMENTS

6.1 System Pricing (Attachment #1)

ATTACHMENT 6.1 - SYSTEM ACQUISITION COST

| | <u>Equipment Price</u> | <u>Installation, Configuration, & Training</u> | <u>One Year Warranty</u> |
|---|------------------------|--|--------------------------|
| <u>VILLAGE OF DOWNERS GROVE</u> | | | |
| Telephone System Components | \$ 262,883.34 | \$ 46,116.00 | \$ 8,080.00 |
| Data Equipment | Included | \$ 6,696.00 | Included |
| TOTAL | \$ 262,883.34 | \$ 52,812.00 | \$ 8,080.00 |
| <u>Optional Pricing</u> | | | |
| Call Accounting | \$ 5,036.00 | \$ 1,404.00 | Included |
| Cell phone "twinning" (30 phones) | \$ 1,728.00 | Included | Included |
| Telephone system paging (8 zones; 288 telephones) | \$ 10,777.00 | \$ 1,080.00 | \$ _____ |
| Call Queuing | Included | Included | Included |
| UM Fax (20 users; 2 ports) | \$ 13,984.00 | \$ 3,240.00 | \$ 4,128.00 |
| Unified Messaging (75) | Included | Included | Included |
| Unified Messaging (100) | Included | Included | Included |
| Remove abandoned wiring | N/A | \$ 8,900.00 | N/A |
| Total | \$ 31,525.00 | \$ 14,624.00 | \$ 4,128.00 |

COMPANY NAME: Sentinel Technologies, Inc.

AUTHORIZED SIGNATURE: _____

PRINTED NAME: _____

TITLE: _____ DATE: _____

ATTACHMENT 6.2 - POST WARRANTY MAINTENANCE COST

| <u>Post Warranty Maintenance</u> | | | | |
|--|---------------------|---------------------|---------------------|---------------------|
| | <u>2nd Year</u> | <u>3rd Year</u> | <u>4th Year</u> | <u>5th Year</u> |
| <u>VILLAGE OF DOWNERS GROVE</u> | | | | |
| Telephone System Components | \$ 14,907.19 | \$ 15,354.41 | \$ 15,815.04 | \$ 16,289.49 |
| Data Equipment | \$ 2,964.34 | \$ 3,053.27 | \$ 3,144.87 | \$ 3,239.21 |
| TOTAL | \$ 17,871.53 | \$ 18,407.68 | \$ 18,959.91 | \$ 19,528.70 |

(Warranty period of 12 months begins at System Acceptance)

6.3 Itemized Pricing - Additions and Deletions (Attachment #5)

Vendor to provide addition and deletion price list showing installed cost of common control hardware, station equipment, etc.

Additions to or deletions from proposed equipment will be made in accordance with this list. If prices are different for changes made to the system prior to cutover please list both pre- and post-cutover prices.

Sentinel Response: Comply. In the bill of materials detail pricing section, the summary page reflects pre cut pricing and includes all discounts. The pages following the summary that shows the solution line item details reflects post cut prices.



s e n t i n e l *

APPENDIX A

Customer Name: Village of Downers Grove

Street Address: 801 Burlington Avenue

City, State, Zip: Downers Grove, IL 60515

The Agreement referenced below by and between Sentinel Technologies, Inc., (Contractor) with principal offices at 2550 Warrenville Road, Downers Grove, Illinois 60515, and Village of Downers Grove (Customer) with principal offices at 801 Burlington Avenue, Downers Grove, IL 60515 is hereby amended to include the following:

Commencement Date Agreement No. Addendum No. 009

For details on the Statement of Work for the Village of Downers Grove Cisco VoIP system installation, please refer to the attached Exhibit 1 which is the RFP response entitled "Telephone System Replacement Request For Proposal" submitted by Sentinel Technologies on June 29, 2009. Please note that the hardware and software originally quoted in the RFP response has been updated and changes in materials, labor, maintenance, and project pricing are reflected in Appendix B. The bill of materials detail and pricing in Appendix B supersedes the bill of materials and pricing as originally quoted in the RFP response. In addition, the following items supersede Sentinel's original RFP response and are to be considered part of the Statement of Work for the telephone replacement project.

Additions/Changes to the Statement of Work (RFP Response):

- Village technical personnel will rack/stack switches and routers, and will place/connect/test phones at the desks or at wall mounts.
- Cisco Emergency Responder has been removed from the project and will not be installed as part of the telephone system replacement.
- Sentinel will stage, configure, and install all other hardware and software components as specified in the updated bill of materials in Appendix B which includes some original options that have been purchased (i.e. core switching, call accounting, mobility, and Fleet Garage).
- Cabling (now subcontracted to Applied Communications) will include the following:
 1. Installation of (63) new cable runs - PVC rated category 5e cable and Plenum rated category 5e cable (only for PD) per location information provided by Village.
 2. (17) New cable runs for fax machines per information provided by Village. PVC rated category 5e cable.
 3. Installation of 57 wall mount brackets
 4. Provision and installation of (1) amp and (1) timer at Fire Station#1. Assumes existing horn and speaker wire will be reused.
 5. Provision and installation of (1) outdoor horn, (1) amp, and (1) timer each for Fire Stations #3 and #5. Includes required cable runs.
 6. Installation at Public Works of 400 ft armored fiber optic cable PVC rated from mezzanine to server room. Fiber cable will be run up in truss bars and secured with tywraps.
 7. Wall cabinet at Public Works (mezzanine) including cooling fan unit and filters.
- Cabling Assumptions:
 1. Free and clear access for all work area will be required.
 2. PVC & Plenum cable has been specified.
 3. Union labor has been specified.
 4. All conduit, cores, sleeves and cable trays if needed, will be supplied by others.
 5. Permit fee's have not been included and will be considered billable to the customer.
 6. Customer shall be responsible for and billed any time Sentinel is unable to work due to Customer, other trades and other contractors working on the job site.
 7. All labor has been specified to be provided during standard business hours. An additional labor price for weekend and after-hour work can be given as an option.



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8. An on-site, secure staging area for materials and tools will be designated by the customer for Sentinel's use during the installation. Customer is responsible for securing this area.
 9. Customer shall provide a 'project leader' who will be available at all times while Sentinel personnel are working. The project leader shall be well versed with the project and will have authority to make binding, billable decisions for the customer at all times.
 10. No changes in the Scope of Work will be accepted without a signed Project Change Request (PCR) by Project Leader.
 11. All work is to be completed in accordance with current standards and general installation practices. Any additions or changes to the above specifications resulting in additional cost to Sentinel will be performed only upon written orders, and will be invoiced as a PCR above this original quotation.
 12. Owner agrees to carry building insurance.
 13. Certificates of insurance reflecting Sentinel's coverage are available upon request.
 14. Cabling work is based on using existing cable supports throughout all facilities, in the event there is no true cable support system and the Village would like the new cabling installed in cable supports, a PCR for the additional cost will be provided to the Village and this will be billed as an addition to the base bid price.
 15. Cabling work is based on Sentinel using existing cable pathways throughout the Village of Downers Groves facilities. In the event there is no existing cable pathways for Sentinel's technicians to utilize, Sentinel will bring this up to the assigned project manager and provide a PCR to the project managers attention and will be billed as an addition to the base bid price.
 16. Removal of existing cable is optional and has been quoted to only remove the existing 63 cables Sentinel is replacing with new cable.
 17. Cabling work excludes any DMARC extensions being copper (data or analog) fiber etc. as well as any analog extensions from phone room to the server room. In the event any DMARC or backbone cabling is needed, Sentinel will supply a PCR for the additional cost associated with it.
 18. Any necessary man lifts have been excluded in proposal for the Public Works facility and can be added as a PCR in the event the Village cannot provide one.
 19. Cabling excludes any new patch panels or wire management. It is assumed that existing patch panels will be used. In the event new patch panels are needed in any communications closet, Sentinel will supply a PCR for the cost to purchase and install new patch panels or wire management.
- Training will include the following:
 1. Classroom sessions to include training on IP phones, Unity VM/UM, and Attendant Console (for receptionists as needed).
 2. 12-13 classroom sessions - 150 total users to be trained with 12 students per classroom session
 3. There will need to be (1) train the trainer session provided (the Village can then train off shift workers themselves).
 4. The end user training will require an appropriate on-site training facility and utilization of the customer's hardware. Sentinel will setup phones and necessary infrastructure, to perform these training sessions.
 5. Training sessions will be 1.5 to 2 hours in duration and will be conducted during standard business hours Monday through Friday 8:30AM to 5:00PM.
 6. Standardized training handouts for end users will be provided during the training sessions.
 7. System administration training for three (3) Village employees.

Other Project Technical Assumptions:

- All construction permits and building code requirements necessary to complete this project are the responsibility of the client. Sentinel can assist or take on this responsibility on a Time and Materials basis and will be handled through the PCR process.
- General Cabling: Other than the cabling being provided, all sites assumed to have proper cabling in place for VoIP phones and 10/100 Ethernet to all desktops and print server unless noted. Customer provided patch cables assumed.
- Phone Patch Cables & Wall Mounting: Cisco IP phones include a 6 foot black patch cable. Wall mount brackets are to be installed by Sentinel's cabling company as part of this project.



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- **Modem Support:** Modem performance may vary connected through the Cisco system. Sentinel can not guarantee speed of connections as too many variables exist to determine speeds and reliability.
- **Power:** Unless specified within the bill of materials, Sentinel assumes all power conditioning, UPS systems and cables provided by the customer.
- **PoE (Power Over Ethernet):** Sentinel has attempted to assure PoE requirements are met. However, 48-port model switches and chassis may have limited wattage available for PoE devices. Sentinel suggests a detailed review with count by closet of PoE device by class and model to assure proper PoE supply is available. In the absence of information Sentinel will assume 48-port model switches quoted will have capacity for devices and any change to another model switch or additional switches for PoE wattage capacity will be in addition to the project.
- **Rack & K/V/MS:** Unless specified within the bill of materials, Sentinel assumes the customer will provide all required rack equipment, keyboard/monitor/video switching and other site specific installation hardware. Sentinel can provide this upon request with additional planning.
- **Existing Equipment Compatibility:** In situations where Sentinel will reuse existing equipment compatibility is assumed only and any incompatibility may result in replacement of existing devices. This includes analog phones planned for re-use on Cisco equipment. In many cases Sentinel can test such devices in our demonstration facility depending on the customer final configuration. However, without testing all compatibility is assumed and any replacement/updates will be in addition to the proposed solution.
- **Language Support:** Unless noted within the bill of materials detail the solution assumes US English language only. Additional language support needs to be identified and quoted at an additional cost.
- **Message Support:** Prompts, messages & music on hold. Unless noted this proposal assumes customer provided prompts and messages. Sentinel can recommend a professional service for this as required.
- **Remote Support:** Sentinel's service estimate assumes remote access support through IP VPN or IP PPP connection. Without this access additional services may be occurred for optimization and tuning required pre and post installation.
- **Line Quality Note:** Sentinel will work with the local line provider on the signaling quality, input gain and output attenuation. It is common upon initial production of the system minor optimization is required on the voice gateways. Symptoms can include slight echo, volume too high or low or mild jitter in the voice. All of these parameters can be optimized based on customer feedback after initial deployment should they make it past pre-production testing. It should be expected that most optimization will be performed in pre-production testing but customer feedback while in initial production will result in the best possible voice quality. Only in extreme cases will external line conditioning be required and this is not part of the Sentinel Technologies standard bill of materials and affects approximately 1% of installations where the carrier provided circuits can not be adjusted to provide a consistent signal quality.
- **Analog ports for fax machines may require specific fax machine configuration settings.** These configuration settings will be provided to the customer and it is the customer's responsibility to configure the required settings on all fax machines. If compatibility issues arise that cannot be resolved by fax machine configuration settings, an alternate system connection may be required to support specific fax machines. Analog devices that are SG3 (SuperG3) are NOT supported on Cisco ATA adapters. Sentinel has provided analog ports assuming SG3 machines are not in production. However, prior to final order all fax machines should be inventoried by the customer and a final count by location of any SG3 fax compatible devices provided to the Sentinel pre-sales team. Optionally these will be addressed in a project change request during deployment at an additional equipment and labor cost.



s e n t i n e l *

- **Existing Equipment:** Unless specified here, Sentinel has not allocated time for existing system removal and this is assumed to be performed post cut over by the customer. Additional time can be allocated upon request for equipment, cabling and phone removal as required. Any return of equipment, trade-in shipping and other services for existing system unless otherwise noted in this plan are outside the scope of this agreement.
- **Site Power:** Power backup provisions are recommended. Unless noted here or within the bill of material detail, Sentinel has not provided power backup analog lines, phones or cabling. There are many ways to provide this service including automatic power failure relay equipment and Sentinel can provide a recommendation and cost estimate upon request.
- **System Capacities:** During the sales process Sentinel has made a best effort to determine all system sizing based on customer provided and Sentinel interpreted requirements. During detailed planning by the deployment team additional or changes in requirements may occur. Sentinel adheres strictly to the return policy of the vendor and the Sentinel Master Services agreement. In the area of phones and accessories, Sentinel makes every effort to provide the customer details on the phone capabilities and details the quantity of phones and accessories. In addition phone models, accessories and components are displayed and shown for further clarification. Changes in the qty, accessories and models will be at the cost of the customer within the Sentinel and vendor return policy. Additional services for changes will be agreed to in the Project Change process prior to order changes.
- **During Project Changes:** Any changes to scope will be presented and approved through Sentinel Project Management using the Project Change Request (PCR). Changes will not be performed until the PCR is approved for procedure and all budget and timeframe impacts are understood.
- **Emergency Services for Voice:** Sentinel implements 911 services on all voice solutions. Depending on local, state or federal regulation enhanced 911 services may be required. Sentinel's standard installation allows 911 calling from "9911", "x911" where x is the digit agreed to for PBX outside line requests and for "911" being dialed. This assures 911 calls are processed by the most common methods used in telecom solutions and does not block any potential emergency calls. Please refer to the detailed solution listing for 911 specific information and E911 specific equipment. Sentinel must be made aware of specific E911 requirements and recommends the customer seek professional counsel for E911 compliance recommendations for design.
- **Enhanced 911 Cabling Note:** Systems with E911 requirements that include Sentinel labor to perform the installation and setup of emergency locations or zones assumes that the cabling is complete and accurately labeled for all closets/locations. All cabling is expected to be cross referenced and labeled to each individual location with this information provided to Sentinel. Additional cable management, tracking, tracing or toning will require additional professional services. Further, Sentinel has not included time to program the carrier database and assumes this will be the responsibility of the customer or the carrier providing the service.

Rated CallManager Capacities: Cisco CallManager number of phones is dependant on final installed solution, routing plan and many other considerations. These considerations are usually not 100% determined without a consulting engagement. Unless specifically included these ratings are estimates only and final installed configurations may require additional hardware or programming considerations. Cisco keeps an internal engineer only weight system for reference as required. Sentinel has made all possible upfront considerations to scale the system within the customers required near term capacities but can not guarantee final installed capacities within the sales process.



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HANS MAINTENANCE

ENHANCED LEVEL OF SUPPORT

Sentinel Technologies, Inc. is offering an enhanced level of support to supplement Cisco's Smartnet. Sentinel's High Availability Network Support is designed to keep your Cisco network at the highest level of availability by ensuring that your network is monitored and repaired in a timely and comprehensive manner. From initial problem notification through complete restore, Sentinel takes an active role in ensuring the high availability of your network.

- ☞ **Sentinel Customer Service Center first call** – all calls placed to, monitored by and escalated by Sentinel
- ☞ **Sentinel complete restore** - reload/configure system components with customer supplied back-up as required to ensure complete functionality.
- ☞ **Sentinel continuous effort** - service extends beyond hours of coverage window when necessary
- ☞ **Sentinel "no fault" troubleshooting** – perform fault isolation and anomaly identification for problems caused by carriers, environment, or other manufacturers equipment (does not include problems caused by customer).
- ☞ **Priority Access to Cisco TAC** - as a Cisco Gold Partner, Sentinel receives priority service when accessing Cisco TAC
- ☞ **Sentinel end-to-end problem management** – Sentinel will provide maintenance management services and, if requested by customer, will act as the customer's agent in attempting to resolve issues with other vendors/suppliers
- ☞ **Sentinel remote diagnosis and remote repair capability** – Sentinel leverages remote tools to ensure service is delivered quickly and efficiently.
- ☞ **Sentinel IP Watch** - proactive monitoring through Sentinel's IP Watch appliance for contracts exceeding \$50,000 annually
- ☞ **Loaner Equipment Availability** - Sentinel will supply loaner equipment on a best effort basis in emergency situations for non-core network equipment

Basic package NMS contains the following:

- Monitoring of 25 KNE (Key Network Elements)
 - Standard monitoring of router/switches/ports/modules/firewalls/servers and blades for system availability via IP or SNMP
 - Device Status (up/down) monitored via IP to test availability
 - Critical IPT resources (PRI ports and/or analog modules (FXO/FXS))
- Automated service call placement to Sentinel's service center 24/7/365
- Rack Mount server standard
- Web Browser interface providing access to host availability, real-time latency and service status
- Custom reporting of host availability and overall network service status

CUSTOMER:

Village of Downers Grove

Signature: _____

Printed Name: _____

Title: _____

Date: _____

CONTRACTOR:

Sentinel Technologies, Inc.

Signature: _____

Printed Name: _____

Title: _____

Date: _____



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APPENDIX B

Customer Name: Village of Downers Grove

Street Address: 801 Burlington Avenue

City, State, Zip: Downers Grove, IL 60515

The Agreement referenced below by and between Sentinel Technologies, Inc., (Contractor) with principal offices at 2550 Warrenville Road, Downers Grove, Illinois 60515, and Village of Downers Grove (Customer) with principal offices at 801 Burlington Avenue, Downers Grove, IL 60515 is hereby amended to include the following:

Commencement Date

Agreement No.

Addendum No. 009

PROJECT SCHEDULE

Customer agrees to pay Contractor for services in accordance with the following schedule:

Village of Downers Grove Cisco Unified Communications Solution

TOTAL PROJECT

| | | | |
|--|-------------------|---------------|------------|
| Village Hall (includes Call Processing, Unified Messaging and Licensing for all sites) | 145,569.00 | Phones | 276 |
| Police Department | 50,138.00 | | |
| Public Works | 31,959.00 | | |
| Fleet | 3,308.00 | | |
| Fire Station 1 | 8,004.00 | | |
| Fire Station 2 | 27,944.00 | | |
| Fire Station 3 | 8,576.00 | | |
| Fire Station 5 | 8,576.00 | | |
| Performance Bond | 1,600.00 | | |
| Cabling - Includes (63) cable drops, (17) fax drops, (57) wall mount installs. Plus provision & install of (3) amps, (3) timers, (2) speaker wire runs and horns. No patch panels or retermination of (4) lines at FS#2 are included. | 17,847.00 | | |
| Shipping | 550.00 | | |
| Five Years Prepaid HANS Maintenance at \$7950/Year | 39,750.00 | | |
| Professional Services Retail | 65,620.00 | | |
| Pre-Discount Project Total | 409,441.00 | | |
| Equipment & Software Discount - One time only for combined equipment, services and maintenance order. | (84,810.85) | | |
| Professional Services Discount - One time only for combined equipment, services and maintenance order. The Village will rack/stack switches & routers, and will place/connect/test phones. Sentinel will train (150) end users, (1) train the trainer, and (3) system admins during standard business hours. | (25,160.00) | | |
| Discounted Project Total | 299,470.16 | | |



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Village Hall

| Unified Communications Processing & Advanced Features | | |
|---|-----|---|
| Description | Qty | Special Notes |
| CUCM 7.0 7816 Servers | | |
| CUCM 7.0 top level part number | 1 | |
| HW/SW MCS 7816-H3 Unified CM 7.0 Appliance | 1 | |
| AC Power Cord (North America), C13, NEMA 5-15P, 2.1m | 1 | |
| CCX 7.0 UCM 5 Seat ENH Bundle - ONLY with NEW UCM | 1 | |
| CUCMS Monitoring Bundle Evaluation | 1 | |
| License CM 7.0 7815/7816 Appliance, 500 seats | 1 | |
| Cisco Unit Licensing Options (Select from Following for Licensing) | | |
| CallManager Device License - 10 units | 0 | Required 1100 Quoted 1,100 Units Req |
| CallManager Device License - 100 units | 1 | |
| CallManager Device License - 1,000 units | 1 | |
| Advanced Ad Hoc & Meet Me Conferencing | | |
| 48 Concurrent Ports Per CallManager Server Included for both meet me and ad hoc conferencing services - License and feature ready for additional hardware assisted capacity as required | 1 | |
| Forced Authorization Codes/Account Code Billing | | |
| Included with Cisco CallManager 4.1 and Newer | 1 | |
| Cisco Security Agent (Host Intrusion Prevention) | | |
| Headless CSA Agent Optimized for Cisco CallManager | 1 | |
| Call Detail Reporting System (web based) | | |
| Cisco CAR Utility | 1 | |
| Extension Mobility (Hotelling) at Phones | | |
| Cisco Extension Mobility XML Support (on compatible phones) - Services for Setup Included on up to 5% of sold stations | 1 | Note: Licensing included for all phones |
| Cisco IPMA (Boss/Admin) Application | | |
| Cisco IPMA Boss/Admin advanced call coverage application with XML phone interface (boss) and PC interface (Admin) for compatible stations - Services include installation for up to 2% of total stations sold | 1 | Note: Licensing included for all phones |
| Time of Day Ringing | | |
| Cisco Time of Day Ringing Feature Set - Versions 3.34 and 4.1 or any 4.x version greater than 4.1 | 1 | Note: Included |
| Forced Authorization Codes | | |
| Cisco Forced Authorization Code Feature Set - Versions 3.34 and 4.1 or any 4.x version greater than 4.1 | 1 | Note: Licensing included, labor additional |
| Multiple PBX Networking Features | | |
| Cisco to Cisco PBX Networking | 1 | Note: Included when PBX networking is part of the scope of work |
| Q.Sig to Cisco and Non-Cisco PBX Systems | 1 | |
| Q.Sig ANNEX 1 over H.323 | 1 | |
| Tape Backup | | |
| Cisco Backup Utility - This requires a customer provided server, Sentinel will provide SFTP application for backup utility | 1 | Note: Customer server required. |



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Anti-Virus

Anti-Virus - Not required with CallManager 5.0 appliance solution 1

Hardware & Software Sub-Total 36,205

Cisco Unity Messaging

| Description | Qty | Special Notes |
|---|-----|--|
| Unity Unified Messaging | | |
| Unity Release 7 | 1 | |
| Unity server license for VM or UM. Incl 32 sessions | 1 | |
| One Unity for Exchange User | 450 | |
| Exchange 2003 in English, French, German, and Japanese | 1 | |
| Cisco Unity MCS 7825 HP Server | 1 | |
| Power Cord - US, Can, Mex, PR, Phil, Ven, Tai, Col, Ecu | 1 | |
| Unity Operating System 2003 | 1 | |
| Advanced Auto-Attendant | | |
| Auto-Attendant (session sized above) with advanced routing, multiple attendant support, dial by name services, multi-site with multi-operator routing support | 1 | <i>Note: Included</i> |
| Cisco Security Agent (Host Intrusion Prevention) | | |
| Headless CSA Agent Optimized for Cisco Unity Messaging Platforms | 1 | <i>Note: Included</i> |
| Tape Backup | | |
| Customer provided central backup system - Customer to provide backup agents for remote Windows 2000 Server, SQL Server and Exchange Server | 1 | <i>Note: Assumes customer provided, can be quoted upon request</i> |
| Anti-Virus | | |
| Included in Following Section - If no Anti-Virus section then Sentinel assumes customer provided | 1 | <i>Note: See anti-virus section</i> |
| Hardware & Software Sub-Total | | 25,147 |

IP Telephony Anti-Virus Solution

| Description | Qty | Special Notes |
|--|-----|--------------------------------|
| Anti-Virus Protection | | |
| Customer Provided Anti-Virus Protection - To be determined based on post sales design and ordered via project change request as needed | 0 | <i>Note: Customer Provided</i> |
| Hardware & Software Sub-Total | | - |



Attendant Console Software Console

| Description | Qty | Special Notes |
|--|-----|--|
| Unified Business Attendant Console | | |
| Cisco Unified Business Attendant Console | 1 | |
| Cisco Unified Business Attendant Console | 1 | |
| SERVER TO BE PROVIDED BY THE VILLAGE. Server hardware requirements of the Cisco Unified Business Attendant Console follow: | | <i>Customer provided hardware and OS</i> |
| <ul style="list-style-type: none"> • Pentium IV 1 GHz or better • 1-GB RAM • 80-GB hard disk drive • 100/1000 network card • SVGA (1024 x 768) display card with correct drivers • Sound card • Windows 2000 or 2003 Server plus SP2 running Windows English Regional settings | | |
| You can install the server software for the Cisco Unified Business Attendant Console to a dedicated hardware server or load it on a desktop PC. For mission-critical installations, a dedicated hardware server is recommended because shutting off the PC server will cause the Cisco Unified Business Attendant Console to lose Cisco Unified Communications Manager connectivity. | | |
| Client hardware requirements of the Cisco Unified Business Attendant Console follow: | | |
| <ul style="list-style-type: none"> • Pentium II or III 700 MHz • 512-MB RAM • 3-GB available hard disk drive • 100 network card • SVGA (1024 x 768) display card with correct drivers • Sound card • Windows 2000 Professional or Vi | | |
| The operator client for the Cisco Unified Business Attendant Console has the following PC limitations: Cisco Unified Business Attendant Console client software can be installed on many PCs, but only six can be active at one time with the server (requires purchase of six client licenses). | | |
| Hardware & Software Sub-Total | | 1,262 |

PSTN Gateways

| Description | Qty | Special Notes |
|--|-----|--|
| 2821 Voice Bundle,PVDM2-32,SP Serv,64F/256D | | |
| 2821 Voice Bundle,PVDM2-32,SP Serv,64F/256D | 1 | |
| AC Power Cord (North America), C13, NEMA 5-15P, 2.1m | 1 | |
| Cisco 2800 SPSK9-SPSK9 FEAT SET FACTORY UPG FOR BUNDLES | 1 | |
| High density voice/fax extension module - 8 FXS/DID | 1 | |
| 8-port voice/fax expansion module - FXS and DID | 1 | |
| Two-port Voice Interface Card - FXO (Universal) | 1 | |
| Cisco 2821/51 AC power supply | 1 | |
| CD for SDM software | 1 | |
| 32-Channel Packet Voice/Fax DSP Module | 1 | |
| 256MB DDR DRAM Memory factory default for the Cisco 2800 | 1 | |
| 64MB CF default for Cisco 2800 Series | 1 | |
| Cisco 2821/51 Standard Accessory Kit | 1 | |
| Amphenol Cables | | |
| Stocked Siemon 66 Block with RJ21 Connector | 1 | <i>Note: For high density fax extension module</i> |
| Stocked 25' cable with Male Ends | 1 | |
| Hardware & Software Sub-Total | | 4,637 |

Cisco 3750G Core Switches

| Description | Qty | Special Notes |
|---|-----|---------------|
| Catalyst 3750 24 10/100/1000T + 4 SFP + IPS Image | | |
| Catalyst 3750 24 10/100/1000 + 4 SFP + IPS Image; 1RU | 2 | |
| Cisco StackWise 50CM Stacking Cable | 2 | |
| AC Power Cord (North America), C13, NEMA 5-15P, 2.1m | 2 | |



s e n t i n e l

| | | |
|---|---|---------------|
| Catalyst 3750 24 10/100/1000T PoE + 4 SFP + IPS Image | | |
| Catalyst 3750 24 10/100/1000T PoE + 4 SFP + IPS Image | 1 | |
| Cisco StackWise 1M Stacking Cable | 1 | |
| AC Power cord, 16AWG | 1 | |
| 1G Optics | | |
| 1000BASE-T SFP | 2 | |
| GE SFP, LC connector SX transceiver | 3 | |
| Hardware & Software Sub-Total | | 20,788 |

| Cisco 3560G PoE Switches | | |
|---|-----|---------------|
| Description | Qty | Special Notes |
| Catalyst 3560 24 10/100/1000T PoE + 4 SFP | | |
| Catalyst 3560 24 10/100/1000T PoE + 4 SFP + IPB Image | 5 | |
| AC Power cord, 16AWG | 5 | |
| 1G Optics | | |
| 1000BASE-T SFP | 2 | |
| Catalyst 3560 SFP Interconnect Cable, 50cm | 4 | |
| Hardware & Software Sub-Total | | 17,112 |

| Cisco Spare Switch | | |
|---|-----|---------------|
| Description | Qty | Special Notes |
| Catalyst 3750 24 10/100/1000T PoE + 4 SFP | | |
| Catalyst 3750 24 10/100/1000T PoE + 4 SFP + IPB Image | 1 | |
| AC Power cord, 16AWG | 1 | |
| Hardware & Software Sub-Total | | 4,480 |

| UPS Systems | | |
|--|-----|---------------|
| Description | Qty | Special Notes |
| MINUTEMAN ENDEAVORS ON-LINE 3000VA UPS | | |
| MINUTEMAN ED3000RM2U ENDEAVORS ON-LINE 3000VA UPS 2100 WATTS, 7 OUTLETS RACK/TOWER UPS | 2 | |
| Hardware & Software Sub-Total | | 1,898 |

| Call Accounting | | |
|--|-----|--|
| Description | Qty | Special Notes |
| ISI Infortel | | |
| Infortel Select 500 | 1 | <i>Note: Village to provide dedicated PC with minimum 2.8 GHz Proc., 1 GB RAM, 160 GB HD, and Win XP Pro or Vista OS</i> |
| VoIP View | 1 | |
| Includes 1 Year of Software Phone Support for Select 500 | 1 | |
| Includes 1 Year of Software Phone Support for VoIP View | 1 | |



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| | | |
|--|---|---|
| Includes 1 Year Rate Table Subscription. Required for regular updates of most current tariff information for accurate accounting of calls. | 1 | <i>Note: Subscription is estimated at \$577.00/year thereafter.</i> |
| ISI Remote Installation and Training | 1 | <i>Sentinel to provide onsite engineer to assist</i> |
| Hardware & Software Sub-Total | | 4,876 |

| Syn-Apps Do Not Disturb Software | | |
|----------------------------------|-----|---------------|
| Description | Qty | Special Notes |

| | | |
|---|---|--|
| DND Phone Status Software | | |
| SA-DND - IP Telephony Do-Not-Disturb application up to 500 users | 1 | <i>Note: Village to provide dedicated hardware with Win 2000 or 2003 Server, MS .NET 1.1, MS IIS, 1G RAM, 2.0 ghz or greater Pentium 4 class Processor</i> |
| 1 year of Syn-Apps maintenance - SA-DND for 500 Users (includes unlimited e-mail and 2 support calls per month) | 1 | |
| Hardware & Software Sub-Total | | 4,852 |

| Analog Terminal Adapters | | |
|--------------------------|-----|---------------|
| Description | Qty | Special Notes |

| | | |
|---|---|---|
| Analog Endpoint Adapters | | |
| Cisco ATA 186 2-Port Adaptor, 600 Ohm Impedance | 1 | <i>Note: For fax machine at Social Services</i> |
| ATA Power Supply Cable for North America | 1 | |
| Hardware & Software Sub-Total | | 87 |

| Cisco IP Digital Phones, Licensing & Accessories | | |
|--|-----|---------------|
| Description | Qty | Special Notes |

| | | |
|---|-----|----------------------------------|
| Calculated Units from Sold Phones | | |
| Calculated Units Based on Phones Quoted in this Section | 372 | |
| <i>Note: Licensing based on the above points reflected in the CallManager section</i> | | |
| Advanced GB Media Phones | | |
| Cisco Unified IP Phone 7965, Wideband & iLBC, Gig Ethernet, 5-inch graphical TFT color display, 16-bit color depth, 320 x 240 effective pixel resolution, with backlight, 802.3af Class 3 | 16 | <i>Note: 342.00 Plus license</i> |
| Cisco Unified IP Phone 7945, Wideband & iLBC, Gig Ethernet, 5-inch graphical TFT color display, 16-bit color depth, 320 x 240 effective pixel resolution, with backlight, 802.3af Class 3 | 53 | <i>Note: 268.00 Plus license</i> |
| <i>Note: Model 7945 staff phone quantity includes 3 staff phones for Counseling & Social Services Building</i> | | |



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Dual 10/100 Ethernet Phones

Cisco IP Phone 7911G - Single Line Button, 3.5" Diagonal Monochrome Pixel Display, XML Application Support, Softkeys, Basic Business Phone, Enhanced Ethernet Port, Enhanced Security/Memory/Features 9 *Note: 130.00 Plus license*

TOTAL DUAL SWITCHED PHONES 78

Mobility Users

Cisco Mobility Clients (Single Number Reach) 30

Advanced Media IP Conference Phones - Single Ethernet

Cisco IP Conference Station 7937 Global 1 *Note: 745.00 Plus license*

Microphone Kit for 7937 1 *Note: 202.00 Plus license*

7925 IP Wireless Phones & Accessories

Cisco 7925G FCC; CM UL; Battery/PS Not Included 1 *Note: 503.00 Plus license*

Cisco 7925G Software, FCC 1

Cisco 7925G Battery, Standard 1 *Note: 44.00 each*

Cisco 7925G Power Supply for North America 1 *Note: 26.00 each*

TOTAL PHONES 80

Digital Phone Accessories

IP Phone pwr trnsfmr Requires separate cord - Generation 3 Model 4 *Note: For Social Services*

7900 Series Transformer Power Cord, North Amer 4

Universal Locking Wallmount Kit for 7900 Series IP Phones 4 *Note: 18.00 each*

Plantronics CS55 Wireless Headset System 1.9 Ghz for Office Use 1 *Note: 179.00 Per Unit*

Hardware & Software Sub-Total 22,745

Spare Cisco IP Digital Phones

Description Qty Special Notes

Advanced GB Media Phones

Cisco Unified IP Phone 7965, Wideband & iLBC, Gig Ethernet, 5-inch graphical TFT color display, 16-bit color depth, 320 x 240 effective pixel resolution, with backlight, 802.3af Class 3 2

Cisco Unified IP Phone 7945, Wideband & iLBC, Gig Ethernet, 5-inch graphical TFT color display, 16-bit color depth, 320 x 240 effective pixel resolution, with backlight, 802.3af Class 3 2

Dual 10/100 Ethernet Phones

Cisco IP Phone 7911G - Single Line Button, 3.5" Diagonal Monochrome Pixel Display, XML Application Support, Softkeys, Basic Business Phone, Enhanced Ethernet Port, Enhanced Security/Memory/Features 2

TOTAL DUAL SWITCHED PHONES 6

Hardware & Software Sub-Total 1,480



PD

Unified Communications Processing & Advanced Features

| Description | Qty | Special Notes |
|-------------|-----|---------------|
|-------------|-----|---------------|

| | | |
|--|--|--------------|
| Cisco Unit Licensing Options (Select from Following for Licensing) | | Required 261 |
|--|--|--------------|

| | | |
|--|--|---|
| Hardware & Software Sub-Total | | - |
|--|--|---|

IP Telephony Anti-Virus Solution

| Description | Qty | Special Notes |
|-------------|-----|---------------|
|-------------|-----|---------------|

Anti-Virus Protection

| | | |
|--|---|-------------------------|
| Customer Provided Anti-Virus Protection - To be determined based on post sales design and ordered via project change request as needed | 0 | Note: Customer Provided |
|--|---|-------------------------|

| | | |
|--|--|---|
| Hardware & Software Sub-Total | | - |
|--|--|---|

PSTN Gateways

| Description | Qty | Special Notes |
|-------------|-----|---------------|
|-------------|-----|---------------|

2851 Voice Bundle w/ PVDM2-48,FL-SRST-100

| | | |
|---|---|--|
| 2851 Voice Bundle w/ PVDM2-48,FL-SRST-100,SP Serv,128F/256D | 1 | |
| AC Power Cord (North America), C13, NEMA 5-15P, 2.1m | 1 | |
| Cisco 2800 SPSK9-SPSK9 FEAT SET FACTORY UPG FOR BUNDLES | 1 | |
| Four-port Voice Interface Card - FXO (Universal) | 1 | |
| Four-Port Voice Interface Card - FXS and DID | 1 | |
| 1-Port 2nd Gen Multiflex Trunk Voice/WAN Int. Card - T1/E1 | 1 | |
| Cisco 2821/51 AC power supply | 1 | |
| CD for SDM software | 1 | |
| 48-Channel Packet Voice/Fax DSP Module | 1 | |
| 256MB DDR DRAM Memory factory default for the Cisco 2800 | 1 | |
| 64 to 128 MB CF Factory Upgrade for Cisco 2800 Series | 1 | |
| Feat Lic Survivable Remote Site Telephony Up To 100 Users | 1 | |
| Cisco 2821/51 Standard Accessory Kit | 1 | |

| | | |
|--|--|-------|
| Hardware & Software Sub-Total | | 6,608 |
|--|--|-------|

Cisco 3560G PoE Switches

| Description | Qty | Special Notes |
|-------------|-----|---------------|
|-------------|-----|---------------|

Catalyst 3560 24 10/100/1000T PoE + 4 SFP

| | | |
|---|---|--|
| Catalyst 3560 24 10/100/1000T PoE + 4 SFP + IPB Image | 6 | |
| AC Power cord, 16AWG | 6 | |

1G Optics

| | | |
|--|---|--|
| GE SFP, LC connector SX transceiver | 1 | |
| 3 meter LC to SC Patch cable LC/SCMMD-003M | 1 | |
| Catalyst 3560 SFP Interconnect Cable, 50cm | 5 | |

| | | |
|--|--|--------|
| Hardware & Software Sub-Total | | 20,336 |
|--|--|--------|



| Voice Gateway | | |
|---|-----|---------------|
| Description | Qty | Special Notes |
| 24 Port Voice over IP analog phone gateway | | |
| 24 Port Voice over IP analog phone gateway | 1 | |
| Cisco VG200 Series IP SUBSET/IPSEC 64 BIT/VOICE | 1 | |
| Power Cord,110V | 1 | |
| 64MB Flash Memory for VG224 (Factory Upgrade) | 1 | |
| 128MB DRAM Memory for VG224 (Factory Upgrade) | 1 | |
| Amphenol Cables | | |
| Stocked Siemon 66 Block with RJ21 Connector | 1 | |
| Stocked 25' cable with Male Ends | 1 | |
| Hardware & Software Sub-Total | | 3,458 |

| UPS Systems | | |
|--|-----|---------------|
| Description | Qty | Special Notes |
| MINUTEMAN ENDEAVORS ON-LINE 3000VA UPS | | |
| MINUTEMAN ED3000RM2U ENDEAVORS ON-LINE 3000VA UPS 2100 WATTS, 7 OUTLETS RACK/TOWER UPS | 2 | |
| Hardware & Software Sub-Total | | 1,898 |

| Valcom Paging | | |
|--|-----|---------------|
| Description | Qty | Special Notes |
| Valcom Paging Hardware | | |
| V-9970 CEN-PBX STATION LEVEL PGE | 1 | |
| Hardware & Software Sub-Total | | 182 |

| Cisco IP Digital Phones, Licensing & Accessories | | |
|---|-----------|----------------------------------|
| Description | Qty | Special Notes |
| Calculated Units from Sold Phones | | |
| Calculated Units Based on Phones Quoted in this Section | 261 | |
| <i>Note: Licensing based on the above points reflected in the CallManager section</i> | | |
| Advanced Media Phones | | |
| Cisco Unified IP Phone 7965, Wideband & iLBC, Gig Ethernet, 5-inch graphical TFT color display, 16-bit color depth, 320 x 240 effective pixel resolution, with backlight, 802.3af Class 3 | 14 | <i>Note: 342.00 Plus license</i> |
| Cisco Unified IP Phone 7945, Wideband & iLBC, Gig Ethernet, 5-inch graphical TFT color display, 16-bit color depth, 320 x 240 effective pixel resolution, with backlight, 802.3af Class 3 | 40 | <i>Note: 268.00 Plus license</i> |
| Dual 10/100 Ethernet Phones | | |
| Cisco IP Phone 7911G - Single Line Button, 3.5" Diagonal Monochrome Pixel Display, XML Application Support, Softkeys, Basic Business Phone, Enhanced Ethernet Port, Enhanced Security/Memory/Features | 15 | <i>Note: 130.00 Plus license</i> |
| TOTAL PHONES | 69 | |



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Digital Phone Accessories

Universal Locking Wallmount Kit for 7900 Series IP Phones 11 *Note: 18.00 each*

Hardware & Software Sub-Total 17,656

Public Works

Unified Communications Processing & Advanced Features

Description Qty Special Notes

CUCM 7.0 7816 Servers

CUCM 7.0 top level part number 1
HW/SW MCS 7816-H3 Unified CM 7.0 Appliance 1
AC Power Cord (North America), C13, NEMA 5-15P, 2.1m 1
CCX 7.0 UCM 5 Seat ENH Bundle - ONLY with NEW UCM 1
CUCMS Monitoring Bundle Evaluation 1
License CM 7.0 7815/7816 Appliance, 500 seats 1

Cisco Unit Licensing Options (Select from Following for Licensing) *Required 148*

Hardware & Software Sub-Total 4,595

IP Telephony Anti-Virus Solution

Description Qty Special Notes

Anti-Virus Protection

Customer Provided Anti-Virus Protection - To be determined based on post sales design and ordered via project change request as needed 0 *Note: Customer Provided*

Hardware & Software Sub-Total -

PSTN Gateways

Description Qty Special Notes

2811 Voice Bundle,PVDM2-16,SP Serv,64F/256D 1
2811 Voice Bundle,PVDM2-16,SP Serv,64F/256D 1
AC Power Cord (North America), C13, NEMA 5-15P, 2.1m 1
PVDM2 16-channel to 32-channel factory upgrade 1
Cisco 2800 SP SERVICES 1
Cisco 2811 AC power supply 1
CD for SDM software 1
256MB DDR DRAM Memory factory default for the Cisco 2800 1
64MB CF default for Cisco 2800 Series 1
Four-port Voice Interface Card - FXO (Universal) 1
Four-Port Voice Interface Card - FXS and DID 1
1-Port 2nd Gen Multiflex Trunk Voice/WAN Int. Card - T1/E1 1

Hardware & Software Sub-Total 3,937



| Cisco 3560G PoE Switches | | |
|---|-----|--|
| Description | Qty | Special Notes |
| Catalyst 3560 24 10/100/1000T PoE + 4 SFP | | |
| Catalyst 3560 24 10/100/1000T PoE + 4 SFP + IPB Image | 3 | |
| AC Power cord, 16AWG | 3 | |
| Catalyst 3560V2 24 10/100 PoE + 2 SFP + IPB (Standard) Image | | |
| Catalyst 3560V2 24 10/100 PoE + 2 SFP + IPB (Standard) Image | 1 | <i>Note: To be installed in Mezzanine Area</i> |
| AC Power Cord (North America), C13, NEMA 5-15P, 2.1m | 1 | |
| 1G Optics | | |
| GE SFP, LC connector SX transceiver | 2 | |
| 1000BASE-T SFP | 1 | |
| Catalyst 3560 SFP Interconnect Cable, 50cm | 2 | |
| Hardware & Software Sub-Total | | 12,922 |

| UPS Systems | | |
|--|-----|---------------------------------------|
| Description | Qty | Special Notes |
| MINUTEMAN ENDEAVORS ON-LINE 2000VA UPS | | |
| MINUTEMAN ED2000RM2U ENDEAVORS ON-LINE 2000VA UPS 1600 WATTS, 7 OUTLETS RACK/TOWER UPS | 2 | <i>IDF UPS & Wall Cabinet UPS</i> |
| Hardware & Software Sub-Total | | 1,612 |

| Cisco IP Digital Phones, Licensing & Accessories | | |
|---|-----------|----------------------------------|
| Description | Qty | Special Notes |
| Calculated Units from Sold Phones | | |
| Calculated Units Based on Phones Quoted in this Section | 148 | |
| <i>Note: Licensing based on the above points reflected in the CallManager section</i> | | |
| Advanced Media Phones | | |
| Cisco Unified IP Phone 7965, Wideband & iLBC, Gig Ethernet, 5-inch graphical TFT color display, 16-bit color depth, 320 x 240 effective pixel resolution, with backlight, 802.3af Class 3 | 4 | <i>Note: 342.00 Plus license</i> |
| Cisco Unified IP Phone 7945, Wideband & iLBC, Gig Ethernet, 5-inch graphical TFT color display, 16-bit color depth, 320 x 240 effective pixel resolution, with backlight, 802.3af Class 3 | 12 | <i>Note: 268.00 Plus license</i> |
| Dual 10/100 Ethernet Phones | | |
| Cisco IP Phone 7911G - Single Line Button, 3.5" Diagonal Monochrome Pixel Display, XML Application Support, Softkeys, Basic Business Phone, Enhanced Ethernet Port, Enhanced Security/Memory/Features | 27 | <i>Note: 130.00 Plus license</i> |
| Advanced Media IP Conference Phones - Single Ethernet | | |
| Cisco IP Conference Station 7937 Global | 1 | <i>Note: 745.00 Plus license</i> |
| TOTAL PHONES | 44 | |
| Digital Phone Accessories | | |
| Universal Locking Wallmount Kit for 7900 Series IP Phones | 3 | <i>Note: 18.00 each</i> |
| Hardware & Software Sub-Total | | 8,893 |



Fleet

| Cisco 3560 PoE Switches | | |
|--|-----|---------------|
| Description | Qty | Special Notes |
| Catalyst 3560V2 24 10/100 PoE + 2 SFP + IPB (Standard) Image | | |
| Catalyst 3560V2 24 10/100 PoE + 2 SFP + IPB (Standard) Image | 1 | |
| AC Power Cord (North America), C13, NEMA 5-15P, 2.1m | 1 | |
| GE SFP, LC connector SX transceiver | 1 | |
| 3 meter LC to SC Patch cable LC/SCMMD-003M | 1 | |
| Hardware & Software Sub-Total | | 2,502 |

| UPS Systems | | |
|--|-----|---------------|
| Description | Qty | Special Notes |
| MINUTEMAN ENDEAVORS ON-LINE 2000VA UPS | | |
| MINUTEMAN ED2000RM2U ENDEAVORS ON-LINE 2000VA UPS 1600 WATTS, 7 OUTLETS RACK/TOWER UPS | 1 | IDF UPS |
| MINUTEMAN EDP48XL BATTERY PACK FOR ED2000RM2U | 0 | |
| Hardware & Software Sub-Total | | 806 |

FS #1

| Unified Communications Processing & Advanced Features | | |
|--|-----|---------------|
| Description | Qty | Special Notes |
| Cisco Unit Licensing Options (Select from Following for Licensing) | | Required 32 |
| Hardware & Software Sub-Total | | - |

| IP Telephony Anti-Virus Solution | | |
|--|-----|-------------------------|
| Description | Qty | Special Notes |
| Anti-Virus Protection | | |
| Customer Provided Anti-Virus Protection - To be determined based on post sales design and ordered via project change request as needed | 0 | Note: Customer Provided |
| Hardware & Software Sub-Total | | - |

| PSTN Gateways | | |
|---|-----|---------------|
| Description | Qty | Special Notes |
| 2801 Voice Bundle w/ PVDM2-8,FL-SRST-25 | | |
| 2801 Voice Bundle w/ PVDM2-8,FL-SRST-25,SP Serv,128F/256D | 1 | |
| Two-port Voice Interface Card - FXO (Universal) | 1 | |
| Two-Port Voice Interface Card- FXS and DID | 1 | |
| Cisco 2801 IOS SPSK9-SPSK9 FEAT SET FACTORY UPG FOR BUNDLES | 1 | |
| AC Power Cord (North America), C13, NEMA 5-15P, 2.1m | 1 | |
| 64 to 128 MB CF Factory Upgrade for Cisco 2800 Series | 1 | |
| 128 to 256MB SODIMM DRAM factory upgrade for the Cisco 2801 | 1 | |



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| | | |
|--|---|--------------|
| Cisco 2801 AC power supply | 1 | |
| Feat Lic Survivable Remote Site Telephony Up To 25 Users | 1 | |
| CD for SDM software | 1 | |
| 8-Channel Packet Voice/Fax DSP Module | 1 | |
| Cisco 2801 Standard Accessory Kit | 1 | |
| Hardware & Software Sub-Total | | 2,239 |

| Cisco 3560 PoE Switches | | |
|--|-----|---------------|
| Description | Qty | Special Notes |
| Catalyst 3560V2 24 10/100 PoE + 2 SFP + IPB (Standard) Image | 1 | |
| Catalyst 3560V2 24 10/100 PoE + 2 SFP + IPB (Standard) Image | 1 | |
| AC Power Cord (North America), C13, NEMA 5-15P, 2.1m | 1 | |
| 1000BASE-T SFP | 1 | |
| Hardware & Software Sub-Total | | 2,410 |

| UPS Systems | | |
|--|-----|---------------|
| Description | Qty | Special Notes |
| MINUTEMAN ENDEAVORS ON-LINE 2000VA UPS | | |
| MINUTEMAN ED2000RM2U ENDEAVORS ON-LINE 2000VA UPS 1600 WATTS, 7 OUTLETS RACK/TOWER UPS | 1 | IDF UPS |
| Hardware & Software Sub-Total | | 806 |

| Valcom Paging | | |
|--|-----|---------------|
| Description | Qty | Special Notes |
| Valcom Paging Hardware | | |
| V-9970 CEN-PBX STATION LEVEL PGE | 1 | |
| Valcom V-2001A Interface Paging Control 1 Zone with tone generator and contact closure | 1 | |
| Hardware & Software Sub-Total | | 333 |

| Cisco IP Digital Phones, Licensing & Accessories | | |
|---|----------|----------------------------------|
| Description | Qty | Special Notes |
| Calculated Units from Sold Phones | | |
| Calculated Units Based on Phones Quoted in this Section | 32 | |
| <i>Note: Licensing based on the above points reflected in the CallManager section</i> | | |
| Advanced Media Phones | | |
| Cisco Unified IP Phone 7945, Wideband & iLBC, Gig Ethernet, 5-inch graphical TFT color display, 16-bit color depth, 320 x 240 effective pixel resolution, with backlight, 802.3af Class 3 | 8 | <i>Note: 268.00 Plus license</i> |
| TOTAL DUAL SWITCHED PHONES | 8 | |
| TOTAL PHONES | 8 | |



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Digital Phone Accessories

Universal Locking Wallmount Kit for 7900 Series IP Phones 4 *Note: 18.00 each*

Hardware & Software Sub-Total 2,216

FS #2

Unified Communications Processing & Advanced Features

Description Qty Special Notes

Cisco Unit Licensing Options (Select from Following for Licensing) *Required 207*

Hardware & Software Sub-Total -

IP Telephony Anti-Virus Solution

Description Qty Special Notes

Anti-Virus Protection

Customer Provided Anti-Virus Protection - To be determined based on post sales design and ordered via project change request as needed 0 *Note: Customer Provided*

Hardware & Software Sub-Total -

PSTN Gateways

Description Qty Special Notes

2811 Voice Bundle w/ PVD2-16,FL-SRST-35,SP Serv 1
2811 Voice Bundle w/ PVD2-16,FL-SRST-35,SP Serv,128F/256D 1
Cisco 2800 SPSK9-SPSK9 FEAT SET FACTORY UPG FOR BUNDLES 1
Two-port Voice Interface Card - FXO (Universal) 1
Four-Port Voice Interface Card - FXS and DID 1
AC Power Cord (North America), C13, NEMA 5-15P, 2.1m 1
Feat Lic Survivable Remote Site Telephony Up To 35 Users 1
Cisco 2811 AC power supply 1
CD for SDM software 1
16-Channel Packet Voice/Fax DSP Module 1
256MB DDR DRAM Memory factory default for the Cisco 2800 1
64 to 128 MB CF Factory Upgrade for Cisco 2800 Series 1
Cisco 2811 Standard Accessory Kit 1

Hardware & Software Sub-Total 2,814

Cisco 3560 PoE Switches

Description Qty Special Notes

Catalyst 3560 24 10/100/1000T PoE + 4 SFP + IPB Image
Catalyst 3560 24 10/100/1000T PoE + 4 SFP + IPB Image 3
AC Power cord, 16AWG 3

1G Optics

GE SFP,LC connector LX/LH transceiver 1
Catalyst 3560 SFP Interconnect Cable, 50cm 2

Hardware & Software Sub-Total 10,508



| UPS Systems | | |
|--|-----|---------------|
| Description | Qty | Special Notes |
| MINUTEMAN ENDEAVORS ON-LINE 2000VA UPS | | |
| MINUTEMAN ED2000RM2U ENDEAVORS ON-LINE 2000VA UPS 1600 WATTS, 7 OUTLETS RACK/TOWER UPS | | IDF UPS |
| Hardware & Software Sub-Total | | - |

| Valcom Paging | | |
|--|-----|---------------|
| Description | Qty | Special Notes |
| Valcom Paging Hardware | | |
| V-9970 CEN-PBX STATION LEVEL PGE | 1 | |
| Hardware & Software Sub-Total | | 182 |

| Cisco IP Digital Phones, Licensing & Accessories | | |
|---|-----|----------------------------------|
| Description | Qty | Special Notes |
| Calculated Units from Sold Phones | | |
| Calculated Units Based on Phones Quoted in this Section | 207 | |
| <i>Note: Licensing based on the above points reflected in the CallManager section</i> | | |
| Advanced Media Phones | | |
| Cisco Unified IP Phone 7965, Wideband & iLBC, Gig Ethernet, 5-inch graphical TFT color display, 16-bit color depth, 320 x 240 effective pixel resolution, with backlight, 802.3af Class 3 | 6 | <i>Note: 342.00 Plus license</i> |
| Cisco Unified IP Phone 7945, Wideband & iLBC, Gig Ethernet, 5-inch graphical TFT color display, 16-bit color depth, 320 x 240 effective pixel resolution, with backlight, 802.3af Class 3 | 32 | <i>Note: 268.00 Plus license</i> |
| Dual 10/100 Ethernet Phones | | |
| Cisco IP Phone 7911G - Single Line Button, 3.5" Diagonal Monochrome Pixel Display, XML Application Support, Softkeys, Basic Business Phone, Enhanced Ethernet Port, Enhanced Security/Memory/Features | 16 | <i>Note: 130.00 Plus license</i> |
| TOTAL DUAL SWITCHED PHONES | | 54 |
| Advanced Media IP Conference Phones - Single Ethernet | | |
| Cisco IP Conference Station 7937 Global | 1 | <i>Note: 745.00 Plus license</i> |
| 7925 IP Wireless Phones & Accessories | | |
| Cisco 7925G FCC; CM UL; Battery/PS Not Included | 1 | <i>Note: 503.00 Plus license</i> |
| Cisco 7925G Software, FCC | 1 | |
| Cisco 7925G Battery, Standard | 1 | <i>Note: 44.00 each</i> |
| Cisco 7925G Power Supply for North America | 1 | <i>Note: 26.00 each</i> |
| TOTAL PHONES | | 55 |
| Digital Phone Accessories | | |
| Universal Locking Wallmount Kit for 7900 Series IP Phones | 23 | <i>Note: 18.00 each</i> |
| Hardware & Software Sub-Total | | 14,440 |



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FS #3

| Unified Communications Processing & Advanced Features | | |
|---|-----|---------------|
| Description | Qty | Special Notes |

| | | |
|--|--|-------------|
| Cisco Unit Licensing Options (Select from Following for Licensing) | | Required 40 |
|--|--|-------------|

| | | |
|-------------------------------|--|---|
| Hardware & Software Sub-Total | | - |
|-------------------------------|--|---|

| IP Telephony Anti-Virus Solution | | |
|----------------------------------|-----|---------------|
| Description | Qty | Special Notes |

| | | |
|--|---|-------------------------|
| Anti-Virus Protection Customer Provided Anti-Virus Protection - To be determined based on post sales design and ordered via project change request as needed | 0 | Note: Customer Provided |
|--|---|-------------------------|

| | | |
|-------------------------------|--|---|
| Hardware & Software Sub-Total | | - |
|-------------------------------|--|---|

| PSTN Gateways | | |
|---------------|-----|---------------|
| Description | Qty | Special Notes |

| | | |
|---|---|--|
| 2801 Voice Bundle w/ PVDM2-8,FL-SRST-25 | | |
| 2801 Voice Bundle w/ PVDM2-8,FL-SRST-25,SP Serv,128F/256D | 1 | |
| Two-port Voice Interface Card - FXO (Universal) | 1 | |
| Two-Port Voice Interface Card- FXS and DID | 1 | |
| Cisco 2801 IOS SPSK9-SPSK9 FEAT SET FACTORY UPG FOR BUNDLES | 1 | |
| AC Power Cord (North America), C13, NEMA 5-15P, 2.1m | 1 | |
| 64 to 128 MB CF Factory Upgrade for Cisco 2800 Series | 1 | |
| 128 to 256MB SODIMM DRAM factory upgrade for the Cisco 2801 | 1 | |
| Cisco 2801 AC power supply | 1 | |
| Feat Lic Survivable Remote Site Telephony Up To 25 Users | 1 | |
| CD for SDM software | 1 | |
| 8-Channel Packet Voice/Fax DSP Module | 1 | |
| Cisco 2801 Standard Accessory Kit | 1 | |

| | | |
|-------------------------------|--|-------|
| Hardware & Software Sub-Total | | 2,239 |
|-------------------------------|--|-------|

| Cisco 3560 PoE Switches | | |
|-------------------------|-----|---------------|
| Description | Qty | Special Notes |

| | | |
|---|---|--|
| Catalyst 3560V2 24 10/100 PoE + 2 SFP + IPB (Standard) Image | | |
| Catalyst 3560V2 24 10/100 PoE + 2 SFP + IPB (Standard) Image | 1 | |
| AC Power Cord (North America), C13, NEMA 5-15P, 2.1m | 1 | |
| 1000BASE-T SFP | 1 | |

| | | |
|-------------------------------|--|-------|
| Hardware & Software Sub-Total | | 2,410 |
|-------------------------------|--|-------|



| UPS Systems | | |
|--|-----|---------------|
| Description | Qty | Special Notes |
| MINUTEMAN ENDEAVORS ON-LINE 2000VA UPS | | |
| MINUTEMAN ED2000RM2U ENDEAVORS ON-LINE 2000VA UPS 1600 WATTS, 7 OUTLETS RACK/TOWER UPS | 1 | IDF UPS |
| Hardware & Software Sub-Total | | 806 |

| Valcom Paging | | |
|--|-----|---------------|
| Description | Qty | Special Notes |
| Valcom Paging Hardware | | |
| V-9970 CEN-PBX STATION LEVEL PGE | 1 | |
| Valcom V-2001A Interface Paging Control 1 Zone with tone generator and contact closure | 1 | |
| Hardware & Software Sub-Total | | 333 |

| Cisco IP Digital Phones, Licensing & Accessories | | |
|---|-----|----------------------------------|
| Description | Qty | Special Notes |
| Calculated Units from Sold Phones | | |
| Calculated Units Based on Phones Quoted in this Section | 40 | |
| <i>Note: Licensing based on the above points reflected in the CallManager section</i> | | |
| Advanced Media Phones | | |
| Cisco Unified IP Phone 7945, Wideband & iLBC, Gig Ethernet, 5-inch graphical TFT color display, 16-bit color depth, 320 x 240 effective pixel resolution, with backlight, 802.3af Class 3 | 10 | <i>Note: 268.00 Plus license</i> |
| TOTAL DUAL SWITCHED PHONES | 10 | |
| TOTAL PHONES | 10 | |
| Digital Phone Accessories | | |
| Universal Locking Wallmount Kit for 7900 Series IP Phones | 6 | <i>Note: 18.00 each</i> |
| Hardware & Software Sub-Total | | 2,788 |

FS #5

| Unified Communications Processing & Advanced Features | | |
|--|-----|--------------------|
| Description | Qty | Special Notes |
| Cisco Unit Licensing Options (Select from Following for Licensing) | | <i>Required 40</i> |
| Hardware & Software Sub-Total | | - |



| IP Telephony Anti-Virus Solution | | |
|----------------------------------|-----|---------------|
| Description | Qty | Special Notes |

Anti-Virus Protection

| | | |
|--|---|-------------------------|
| Customer Provided Anti-Virus Protection - To be determined based on post sales design and ordered via project change request as needed | 0 | Note: Customer Provided |
|--|---|-------------------------|

Hardware & Software Sub-Total -

| PSTN Gateways | | |
|---------------|-----|---------------|
| Description | Qty | Special Notes |

| | | |
|---|---|--|
| 2801 Voice Bundle w/ PVD2-8,FL-SRST-25 | | |
| 2801 Voice Bundle w/ PVD2-8,FL-SRST-25,SP Serv,128F/256D | 1 | |
| Two-port Voice Interface Card - FXO (Universal) | 1 | |
| Two-Port Voice Interface Card- FXS and DID | 1 | |
| Cisco 2801 IOS SPSK9-SPSK9 FEAT SET FACTORY UPG FOR BUNDLES | 1 | |
| AC Power Cord (North America), C13, NEMA 5-15P, 2.1m | 1 | |
| 64 to 128 MB CF Factory Upgrade for Cisco 2800 Series | 1 | |
| 128 to 256MB SODIMM DRAM factory upgrade for the Cisco 2801 | 1 | |
| Cisco 2801 AC power supply | 1 | |
| Feat Lic Survivable Remote Site Telephony Up To 25 Users | 1 | |
| CD for SDM software | 1 | |
| 8-Channel Packet Voice/Fax DSP Module | 1 | |
| Cisco 2801 Standard Accessory Kit | 1 | |

Hardware & Software Sub-Total 2,239

| Cisco 3560 PoE Switches | | |
|-------------------------|-----|---------------|
| Description | Qty | Special Notes |

| | | |
|--|---|--|
| Catalyst 3560V2 24 10/100 PoE + 2 SFP + IPB (Standard) Image | 1 | |
| Catalyst 3560V2 24 10/100 PoE + 2 SFP + IPB (Standard) Image | 1 | |
| AC Power Cord (North America), C13, NEMA 5-15P, 2.1m | 1 | |
| 1000BASE-T SFP | 1 | |

Hardware & Software Sub-Total 2,410

| UPS Systems | | |
|-------------|-----|---------------|
| Description | Qty | Special Notes |

| | | |
|--|---|---------|
| MINUTEMAN ENDEAVORS ON-LINE 2000VA UPS | | |
| MINUTEMAN ED2000RM2U ENDEAVORS ON-LINE 2000VA UPS 1600 WATTS, 7 OUTLETS RACK/TOWER UPS | 1 | IDF UPS |

Hardware & Software Sub-Total 806



| Valcom Paging | | |
|--|-----|---------------|
| Description | Qty | Special Notes |
| Valcom Paging Hardware | | |
| V-9970 CEN-PBX STATION LEVEL PGE | 1 | |
| Valcom V-2001A Interface Paging Control 1 Zone with tone generator and contact closure | 1 | |
| Hardware & Software Sub-Total | | 333 |

| Cisco IP Digital Phones, Licensing & Accessories | | |
|---|-----|----------------------------------|
| Description | Qty | Special Notes |
| Calculated Units from Sold Phones | | |
| Calculated Units Based on Phones Quoted in this Section | 40 | |
| <i>Note: Licensing based on the above points reflected in the CallManager section</i> | | |
| Advanced Media Phones | | |
| Cisco Unified IP Phone 7945, Wideband & iLBC, Gig Ethernet, 5-inch graphical TFT color display, 16-bit color depth, 320 x 240 effective pixel resolution, with backlight, 802.3af Class 3 | 10 | <i>Note: 268.00 Plus license</i> |
| TOTAL DUAL SWITCHED PHONES | | 10 |
| TOTAL PHONES | | 10 |
| Digital Phone Accessories | | |
| Universal Locking Wallmount Kit for 7900 Series IP Phones | 6 | <i>Note: 18.00 each</i> |
| Hardware & Software Sub-Total | | 2,788 |

HANS

| Onsite Year 1 HANS Cisco Hardware & Software Support | | | | |
|--|-----|------|--------------|----------------------|
| Description | Qty | Unit | Ext. Price | Special Notes |
| Hardware | | | | |
| HANS 8x5xmbd MCS7816 Unified CM7.0 Appliance | 2 | 260 | 520 | |
| HANS 8x5xmbd Cisco Unity MCS 7825 Server | 1 | 585 | 585 | |
| HANS 8x5xmbd Cisco 2811 SRST Voice Gateway | 1 | 188 | 188 | <i>Note: FS2</i> |
| HANS 8X5Xmbd 2821 Voice Bundle,PV | 1 | 237 | 237 | <i>Note: VH</i> |
| HANS 8x5xmbd 2811 Voice Bundle,PV | 1 | 188 | 188 | <i>Note: PW</i> |
| HANS 8x5xmbd Cisco 2851 SRST Voice Gateway | 1 | 712 | 712 | <i>Note: PD</i> |
| HANS 8x5xmbd Cisco 2801 SRST Voice Gateway | 3 | 169 | 507 | <i>Note: FS1,3,5</i> |
| HANS 8x5xmbd Cisco VG224 Analog Voice Gateway | 1 | 351 | 351 | |
| ESSENTIAL SW Lic CM7.0 7815/7816 Appliance 500 Seats | 2 | 682 | 1,363 | |
| ESSENTIAL SW Auto Attendant Software | 1 | 375 | 375 | |
| ESSENTIAL SW Unity Release 7-Top Level | 1 | - | - | |
| ESSENTIAL SW 1 Unity for Exchange Usr | 450 | 7 | 2,925 | |
| HANS Maintenance Total | | | 7,950 | |



Payment Terms: Labor – Net 30, Non-labor – 50% at contract, balance upon delivery for staging or to Customer location, whichever occurs first.

Services are quoted at a standard rate for labor from 9:00 a.m. – 5:00 p.m. If customer requires, Contractor can perform some of these services after hours at an overtime labor rate.

Fixed Price

For the charges listed above, the Contractor shall furnish all of the materials and perform all of the work shown on the drawings and/or described in the specifications entitled Appendix A, as annexed hereto as it pertains to work to be performed at designated customer locations. Any alteration or deviation from the above specifications, including but not limited to any such alteration or deviation involving additional material and/or labor costs, will be executed only upon a written order for same, signed by Customer and Contractor, and if there is any charge for such alteration or deviation, the additional charge will be added to the contract price detailed above.

This quote is valid for 30 days from 10 / 16/ 2009

CUSTOMER:
Village of Downers Grove

Signature _____

Printed Name: _____

Title: _____

Date: _____

P.O. #: _____

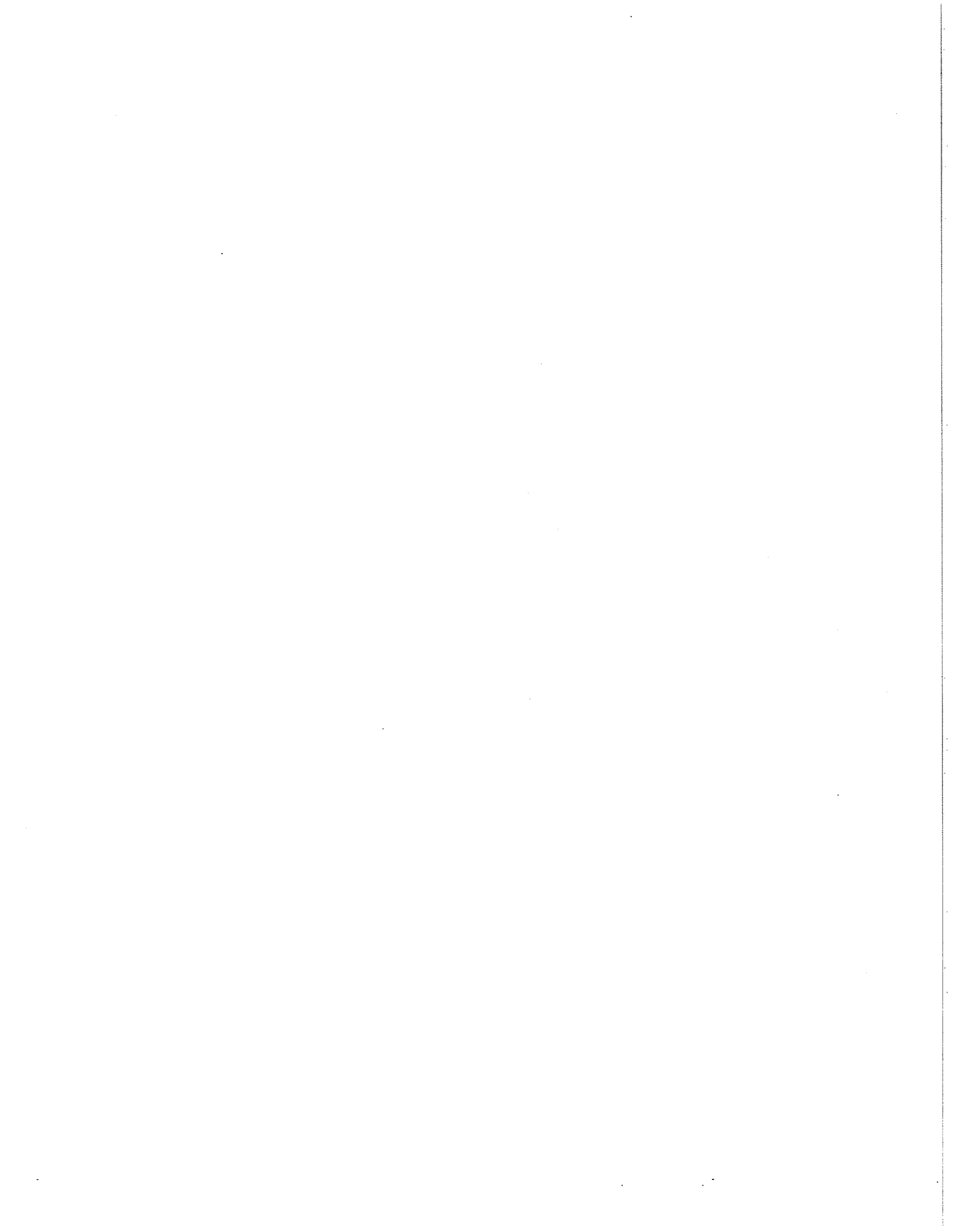
CONTRACTOR:
Sentinel Technologies, Inc.

Signature: _____

Printed Name: _____

Title: _____

Date: _____



IV. PROPOSAL/CONTRACT FORM

*****THIS PROPOSAL, WHEN ACCEPTED AND SIGNED BY AN AUTHORIZED SIGNATORY OF THE VILLAGE OF DOWNERS GROVE, SHALL BECOME A CONTRACT BINDING UPON BOTH PARTIES.**

Entire Block Must Be Completed When A Submitted Bid Is To Be Considered For Award

PROPOSER:

Sentinel Technologies, Inc.
Company Name

Date: 06/24/09

2550 Warrenville Road
Street Address of Company

trico@sentinel.com
Email Address

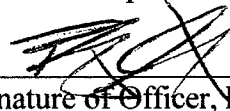
Downers Grove, IL 60515
City, State, Zip

Tim Rico
Contact Name (Print)


630-769-4271
Business Phone

800-860-8102
24-Hour Telephone

630-769-1399
Fax


Signature of Officer, Partner or Sole Proprietor

Tim Hill, CFO
Print Name & Title

ATTEST: If a Corporation

Signature of Corporation Secretary

VILLAGE OF DOWNERS GROVE:

Authorized Signature

ATTEST:

Title

Signature of Village Clerk

Date

Date

In compliance with the specifications, the above-signed offers and agrees, if this Proposal is accepted within 90 calendar days from the date of opening, to furnish any or all of the services upon which prices are quoted, at the price set opposite each item, delivered at the designated point within the time specified above.

CAMPAIGN DISCLOSURE CERTIFICATE

Any contractor, proposer, bidder or vendor who responds by submitting a bid or proposal to the Village of Downers Grove shall be required to submit with its bid submission, an executed Campaign Disclosure Certificate, attached hereto.

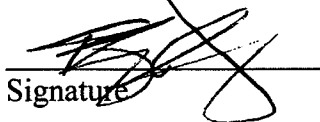
The Campaign Disclosure Certificate is required pursuant to the Village of Downers Grove Council Policy on Ethical Standards and is applicable to those campaign contributions made to any member of the Village Council.

Said Campaign Disclosure Certificate requires any individual or entity bidding to disclose campaign contributions, as defined in Section 9-1.4 of the Election Code (10 ILCS 5/9-1.4), made to current members of the Village Council within the five (5) year period preceding the date of the bid or proposal release.

By signing the bid documents, contractor/proposer/bidder/vendor agrees to refrain from making any campaign contributions as defined in Section 9-1.4 of the Election Code (10 ILCS 5/9-1.4) to any Village Council member and any challengers seeking to serve as a member of the Downers Grove Village Council.

Under penalty of perjury, I declare:

Bidder/vendor has not contributed to any elected Village position within the last five (5) years.


Signature

Tim Hill
Print Name

Bidder/vendor has contributed a campaign contribution to a current member of the Village Council within the last five (5) years.

Print the following information:

Name of Contributor: _____
(company or individual)

To whom contribution was made: _____

Year contribution made: _____ Amount: \$ _____

Signature

Print Name

TECHNOLOGY COMMISSION MEETING SUMMARY

Committee Room, Village Hall

September 23rd, 2009

In Attendance:

Technology Commission:

Present:

Mark Grippando, Chair

Will Hutchinson

Don Nichols

Pete Craven

Bob Blair-Smith

Absent:

Tom Nybo

Jim Mcginnis

Staff:

Liangfu Wu, staff liaison

The Chair, Mr. Grippando started the meeting by asking Mr. Liangfu Wu to give a brief report of the status of the telephone system replacement project.

Liangfu Wu reported that after the Commission's last meeting in July, staff started working with Sound, Inc. in terms of the network design and detailed equipment counts. However, during the process, staff detected certain deficiencies in their networking knowledge.

Commissioner Don Nichols asked about the reasons as to why Sound was considered.

Liangfu Wu indicated that between Sound and another finalist, Sentinel Technologies proposing Cisco product, the price difference was very significant—more than \$100K.

Liangfu Wu continued his report: staff then started to negotiate with both Sound and Sentinel, asking both to lower their costs as much as they were willing to. As part of the negotiation, staff indicated that IS staff would step up their involvement during the installation process in order to help lower the total cost. With some adjustments made by both companies regarding their maintenance costs and equipments, the cost differences between the two companies became an insignificant factor. Sentinel Technologies cut down their total five-year project cost by 22%. On the maintenance side of their proposal, they cut the five-year total by 57%. As a result, staff now is considering Sentinel Technologies/Cisco system as the final recommendation to the Village Council.

Liangfu Wu also indicated that by checking its references, staff learned Sentinel has installed the same system for several municipal government agencies among which City of Elgin is a much larger city than Downer Grove. Staff from City of Elgin is very satisfied with the performance by Sentinel and liked the Cisco system.

Commissioner Mr. Blair-Smith said that based on his research and experience, Cisco is the leader in the VoIP industry compared to the other proposed systems. Cisco's support and VoIP platform have been stable over the years, and they have increased market share on that same platform (Call Manager). City of Elgin is proof positive of this: they do not need to re-vamp or re-purchase upgrades to their Cisco system - even after 5 + years. This would not have been the case had they gone with Nortel, NEC, or Panasonic for example.

In addition, Mr. Blair-Smith indicated that he would also agree with staff that due to the fact that a VoIP system is part of the network, the level of the knowledge in networking is an important factor.

Commissioner Don Nichols asked how Sentinel would perform its technical support when required.

Liangfu Wu indicated that according to the proposed maintenance agreement, Sentinel would either send its technician to perform on-site trouble shooting or for minor problem, do the trouble shooting remotely.

Commissioner Don Nichols asked staff to make sure to have proper network security measures in place when offering VPN as a remote trouble shooting channel.

Commissioner Hutchinson asked what would be the payback time. Liangfu Wu said that based on the latest cost estimate, the payback time is around 4 years, given that the Village locks the 5-five maintenance cost based on the first-year rate.

Liangfu Wu also explained the slight delay currently staff is experiencing. Mr. Wu said that along the process of double-checking the network infrastructure supporting the new VoIP system, more network cable drops are required. Staff is working with Sentinel and the cable companies to refine the cabling requirements.

Staff is expecting to submit the project to Manager' Office soon for its final review.

Commission members at the meeting unanimously voted to agree with staff's recommendation that Sentinel Technologies, a Downers Grove local company, be awarded this project.

Meeting adjourned at 8pm.

(Summarized by Liangfu Wu)