

VILLAGE OF DOWNERS GROVE
Report for the Village Council Meeting
3/8/2022

SUBJECT:	SUBMITTED BY:
VoIP Telephone System Upgrade	Dave Kenny Director, Information Technology

SYNOPSIS

A resolution has been prepared authorizing a contract for upgrading the Village’s VoIP telephone system with Sentinel Technologies of Downers Grove, Illinois in an amount of \$47,112.00.

STRATEGIC PLAN ALIGNMENT

The goals for 2021-2023 include *Exceptional Municipal Services*.

FISCAL IMPACT

The FY 2022 Budget includes \$65,000 in the Equipment Replacement Fund for this contract.

RECOMMENDATION

Approval on the March 8, 2022 consent agenda.

BACKGROUND

Sentinel Technologies was approved by the Council on November 2, 2009 to install the current Cisco VoIP (Voice over Internet Protocol) telephone system. In 2017, as the approved sole source supplier, Sentinel completed a major upgrade to our backend VoIP system.

The current backend server hardware and software are approaching “end of life” (EOL) status. EOL status means the software and hardware will no longer be supported.

Since the installation of the Cisco VoIP system, Sentinel has been the Village’s VoIP vendor and has consistently provided excellent service. Sentinel has provided a proposal to upgrade the VoIP system and funds have been budgeted in 2022 for this project. Sentinel should be designated as a sole source supplier for the upgrade based on the following:

1. It is an upgrade of our current system; not a new VoIP system.
2. Sentinel has proven expertise and is intimate with our configuration.
3. If another vendor was selected, the Village would still have to pay Sentinel to provide assistance to the other vendor since Sentinel is familiar with our configuration.

ATTACHMENTS

Resolution
Agreement

RESOLUTION NO. _____**A RESOLUTION AUTHORIZING EXECUTION OF ADDENDUM NO. 051-TR
BETWEEN THE VILLAGE OF DOWNERS GROVE
AND SENTINEL TECHNOLOGIES, INC.**

BE IT RESOLVED by the Village Council of the Village of Downers Grove, DuPage County, Illinois, as follows:

1. That the form and substance of a certain Addendum No. 051-TR (the "Agreement"), between the Village of Downers Grove (the "Customer") and Sentinel Technologies, Inc. (the "Contractor"), for annual maintenance services for the VoIP telephone system, as set forth in the form of the Agreement submitted to this meeting with the recommendation of the Village Manager, is hereby approved.

2. That the Village Manager and Village Clerk are hereby respectively authorized and directed for and on behalf of the Village to execute, attest, seal and deliver the Agreement, substantially in the form approved in the foregoing paragraph of this Resolution, together with such changes as the Manager shall deem necessary.

3. That the proper officials, agents and employees of the Village are hereby authorized and directed to take such further action as they may deem necessary or appropriate to perform all obligations and commitments of the Village in accordance with the provisions of the Agreement.

4. That all resolutions or parts of resolutions in conflict with the provisions of this Resolution are hereby repealed.

5. That this Resolution shall be in full force and effect from and after its passage as provided by law.

Mayor

Passed:

Attest: _____
Village Clerk



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 appended to include the following:

Commencement Date

Agreement No. 001

Addendum No. 051-TR

Executive Summary

Village of Downers Grove is looking to upgrade their Cisco Unified Communications Platform to Version 14. Their current environment consists of the following applications.

Application	Version	Number of Nodes
Cisco CallManager	11.5.1.12900-21	2
Cisco Unity Connection	11.5.1.12900-21	2
Instant Messaging and Presence	11.5.1.12900-25	2
Expressway C & E	8.9.2	2 Pairs
ESNA Single in Box/Transcriptions with Google Workspace		
Cisco Attendant Console Advanced	Not in use	

- LDAP is integrated for CallManager and Unity
- SSO is disabled
- Single Inbox is not configured, they utilize ESNA
- No Speechview transcription service, they utilize ESNA

The following IP Devices were discovered:

Model	Quantity	Deprecated
Cisco 7911	63	No
Cisco 7925	1	No
Cisco 7937	1	No
Cisco 7945	157	No
Cisco 7965	58	No
Cisco 8832	1	No
Cisco ATA 190	1	No

Voice Gateways

The following gateways were discovered. These routers are providing local telco and analog services.

Host Name	IP Address	Model	IOS	Cards	EOL
VG-224		VG224			4/30/2020
VHVG-310		VG310			No
FS2-VG204-1		VG204XM			No
VH-VG204-1		VG204XM			No
Public Works		VG204XM			No
PD-VG204-1		VG204XM			No
PD-VG204-2		VG204XM			No
VH-4321-1	10.10.0.20	ISR 4321		NIM-1CE1T1-PRI PVDM4-32	No



				NIM-4FXO	
VH-VG1	10.10.0.9	VG204XM			No
PD-VG1	10.10.1.9	ISR 4321			No
PW-4321-1	10.10.2.20	ISR 4321		NIM-1CE1T1-PRI PVDM4-32 NIM-4FXO	No
PW-VG1	10.10.2.9	ISR 4321			No
FSS-VG1	10.10.8.9	ISR 2801			No

Note: The Cisco VG204XM series analog gateways have end of life announcements:

- 4/28/2025 – End of Vulnerability and Security Support – No software updates
- 4/30/2027 – End of Support/RMA

VMware Resources

The Unified Communications applications are hosted on two Cisco BE6H-M4-K9= servers. These servers are running ESXi version 6.0.0. The BE6H-M4-K9= Server is covered under support through 1/31/2023 but at that time will be eligible for any additional manufacturer support and will be EOS.

Cisco Unified Communications Version 14 Upgrade

The scope of the project is as follows:

- Upgrade Cisco CallManager to Version 14
- Upgrade Cisco Unity Connection to Version 14
- Upgrade IM&P to Version 14
- Upgrade Expressway to Version 14
- Upgrade IOS on the following gateways:
 - (2) ISR 4321
 - (5) VG204XM
 - VG310
 - VG224
- Install and configure (2) Cisco Business Edition 6000M servers
- Decommission the following applications and virtual machines
 - Cisco Attendant Console
 - ENSA
- Implement Unity Single Inbox for Google Workspace

VMware Resources

The following VMware ESXi Versions are supported for the proposed UC Application Versions:

UC Application	Version	ESXi Min	ESXi Latest
CUCM	14	6.7	7.0 U1
Unity	14	6.7	7.0U1
Cisco IM&P	14	6.7	7.0
Cisco Expressway	14	6.5	7.0

Project Overview

Project Phases

Phase 1 - Project Initiation Meeting

Sentinel Project Management will coordinate a kick-off meeting to review and approve the Scope of Work provided to the Customer. Customer and Sentinel provided resources will be introduced and their relevant roles for the project discussed. Sentinel Project Management will then coordinate a time for a site visit by Sentinel Engineers in order to draft a blueprint of all proposed work which will be provided to the Customer. High level timelines for project milestones will also be identified and discussed.



Phase 2 - Analysis & Design

Sentinel engineers will perform a high-level audit of the Customer's relevant infrastructure. The data collected from this audit will be used to generate a design for the implementation of the solution. Sentinel engineers will inform the Customer of any design requirements that will need to be completed by the Customer's IT staff prior to the start of the next phase (such as provisioning of storage space, acquisitions of licenses, and other essential design components not covered within this document). Upon acceptance of the work as detailed within the blueprint by the Customer, Sentinel engineers and project managers will then coordinate specific dates and times appropriate for accommodating the nature of the work involved (i.e. work which will require outages will be scheduled during appropriate maintenance windows).

Phase 3 - Staging

During the staging phase, equipment will be unboxed, burned-in, configured and tested off-site before being repacked and delivered for onsite implementation. This ensures maximum efficiency and quality while minimizing the disruptions and impacts to the Customer's environment.

Phase 4 - Implementation

Sentinel engineers will proceed with the implementation of all items specified within this Scope of Work and further detailed in the Customer approved Design Document.

Phase 5 - Post Support

Sentinel engineers will be dedicated to being available for the resolution of any problems or issues that arise during the post support portion of the project.

Phase 6 - Project Completion

Upon conclusion of all other phases of work Sentinel's engineers will provide the Customer with updated design documents for the project. Sentinel's project management team will then arrange for a meeting with the Customer to review the status of all project items. If no project items remain open Sentinel's project managers will request that the Customer sign off on the project, thus closing the project at that time.

Solution Overview

Cisco Collaboration - Upgrades

Applications - CUCM

- The customer has engaged Sentinel to upgrade their current CUCM cluster environment from version 11.5 to 14. This upgrade will be a Virtual Machine upgrade utilizing new VMware resources.

Applications - UNITY

- As part of the project, the customer has elected to upgrade Unity. The current Unity version is 11.5 and will be upgraded to 14. This upgrade will be a Virtual Machine upgrade utilizing new VMware resources.

Applications – IM&P

- As part of this project, the customer has elected to upgrade IM&P. The current IM&P version is 11.5 and will be upgraded to 14. This upgrade will be a Virtual Machine upgrade utilizing new VMware resources.

Applications – Single-Inbox (ESNA)

- As part of this project, the customer has elected to utilize the native functionality within Unity Version 14 to provide integration to Google Workspace. Today, the customer utilizes ESNA for single inbox and transcription services for voicemails.
- Sentinel will enable the following features within Unity
 - Native single inbox with Google Workspace
- Sentinel will decommission the ESNA virtual machine and remove all reference to ESNA within Unity

Applications – Cisco Attendant Console

- Sentinel will decommission CUAC and remove the virtual machine from the environment. Furthermore, Sentinel will remove all reference to CUAC within CallManager.



Applications – Cisco Expressway

- Sentinel will upgrade (2) pairs of Expressway C & E from version 8.9.2 to version 14. This upgrade will be a Virtual Machine upgrade utilizing new VMware resources.

Applications – 3rd Party

- The customer has not identified any third party applications within their Cisco Collaboration Infrastructure. Sentinel assumes that these applications will be upgraded by the customer to support the necessary Cisco Collaboration Release.
 - Sentinel assumes the responsibility for validating compatibility of these applications will be a shared responsibility between the customer and the Sentinel team. Any required changes to the third party applications will be the responsibility of the customer or an associated vendor.
 - Sentinel will be responsible for supporting the Cisco portions of the 3rd Party integrations until the test and acceptance of those integrations are complete. Sentinel will be involved with the customer's team during the planning process.
 - The customer acknowledges that they and/or an associated vendor are the Subject Matter Experts (SME's) for these 3rd party applications and are therefore the most appropriate primary owner responsible for verifying 3rd party applications are compatible with the new version of CUCM.

Hardware – ESXi Hosts

- Sentinel will install and configure (2) Business Edition 6000M servers as replacement for the existing UCS/ESXi hosts.
- Sentinel will upgrade the firmware on (2) Cisco UCS servers to the latest stable firmware as required.
- Sentinel will upgrade the ESXi hypervisors to version 7.0U1 as required.

Hardware – Voice Gateways

- Sentinel will upgrade the IOS on (9) Cisco voice gateways.

Cutover / Migration Strategy

Sentinel has provided Engineering and Project Management professional services to support a cutover/migration strategy. This will be an in place upgrade utilizing new ESXi resources.

Cutover Planning Services Provided by Sentinel

Prior to any cutover, the Sentinel PM and Lead Engineer on the project will provide a "Solution Installation and Cutover Plan" which details the following:

- Start time and End time that is targeted for the maintenance window required for the cutover.
- Step by step plan for the work that is to be done prior to the installation, during the installation, and after the installation.
- Task ownership for each of the tasks identified.
- Task durations for each of the tasks identified.
- Back-out plan – along with a timeframe that identifies when we will initiate the back out plan.
- Test and Acceptance plans to be executed.

Once the cutover/installation plan has been created, the Sentinel Project Team and the Customer will meet to review and approve the plan. Prior to the cutover, a "go/no-go" call will take place to once again review the cutover plan, and ensure that all stakeholders involved in the cutover are available, and all pre-cutover tasks have been completed successfully in preparation for the maintenance window. If a Customer requests to cancel and reschedule a cutover, rescheduling charges may apply. Any impact to Customer resource schedules as a result of a "no-go" call, will be Customer responsibility.

Documentation and Knowledge Transfer

- Provide documentation of the setup including a revised Sentinel design doc as well as any available vendor-created administrative and/or best practices guides.
- Provide knowledge transfer including basic functional overviews of products implemented, demonstrating the normal operations as installed in the Customer's environment.



Note that knowledge transfer and functional overviews are not a substitute for formal vendor product Customer Education courses available. Sentinel strongly encourages attendance at Customer Education classes to gain further insight into the product architecture and its integration.

Sentinel welcomes Customer 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.

Customer's 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. That knowledge transfer and functional overviews are not a substitute for formal vendor product Customer Education courses available. Sentinel strongly encourages attendance at Customer Education classes to gain further insight into the product architecture and its integration.

Project Management

Sentinel will provide a project manager committed to the success of the project. The project manager will be responsible for:

- Complete success of the project.
- Optimal coordination of all resources.
- Guiding the Customer 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.

Customer Responsibilities and Assumptions

Project Specific

Responsibilities and Assumptions

General

The following is a list of responsibilities and/or tasks that Sentinel assumes have been completed or reviewed by the customer relative to the execution of the above-mentioned project. If additional responsibilities are uncovered during the project, Sentinel will make sure that the customer is made aware of any issues promptly to determine resolution.

Product Lead Times

Depending on the technologies quoted, orders may be direct or through distribution. Lead times should be expected to be 8 weeks but can exceed 8 weeks. Should expedited equipment requirements arise, there could be an additional charge to source through a warehousing distribution partner.

Site Readiness and Site Survey Requirement

Every effort has been made to ensure that proper power cords and patch cables have been included to match your environment's infrastructure. The notes section of the Bill of Materials (BOM) explicitly states the quantity and type of cords quoted.



Four options are available to ensure the accuracy of the selected items; please initial next to which method you agree to: (SELECT AND INITIAL ONLY ONE)

Note: In the absence of the Customer selecting one of the four options below, it is agreed that the contract will default to Option #1.

Initials

Option 1

Customer waives the opportunity to complete a site/closet checklist, has reviewed the BOM and agrees to quantity, type and length of the power and patch cables provided. [Financial obligation for labor and materials for changes identified post order will be the Customer's responsibility]

Option 2

Customer has provided a site/closet review checklist document and confirms the quantity, type and length of the power and patch cables quoted. [Financial obligation for labor and materials for changes identified post order will be the Customer's responsibility, unless Sentinel provided the incorrect part based upon the provided checklist]

Option 3

Customer elects a "for charge" onsite survey of the facilities and closets to determine the quantity, type and length of the power and patch cables required. In addition, Sentinel will assess each closet's cooling and UPS readiness for the proposed equipment being provided. [Financial obligation for labor and materials for changes identified post order will be Sentinel's full responsibility, unless changes to the site have taken place subsequent to the site assessment]

Option 4

Not applicable. This SOW does not contain any work that would be performed in or impacted by the Customer's MDF, IDF or Data Center facilities.

Permits & Access

Unless otherwise agreed, all permits, variances, access to facilities, roof access, building warranty concerns or other site specific information and procedures are the responsibility of the Customer. Sentinel can assist as needed, but will need to be informed of any requirements prior to the site survey to consider these within the validation process.

Remote Support

Sentinel's service estimate assumes remote access support through IP VPN or IP PPP connection. Without this access, additional services may be incurred for optimization and tuning required pre and post installation.

Travel Requirements and Cost

Unless specified within the proposal, all travel expenses and time are not included. Travel time shall be invoiced at pre-negotiated rates and expenses plus per diem at actual costs.

Existing Hardware Compatibility & Firmware Updates

Where Customer provides existing server or other hardware, it is assumed the Customer has verified all such hardware is compatible with the versions of the software specified within the scope. This includes relevant firmware updates. Sentinel will not be providing firmware updates to any servers as part of this Scope of Work.

3rd Party Integration

Unless noted otherwise, Sentinel assumes no reliance on 3rd Party applications, connections or plug-ins to software deployments and updates as specified in this scope. If during Analysis and Planning any required 3rd Party integration is uncovered, additional hours may be incurred.



Fiber

It is assumed that the Customer's existing fiber will support proposed transmission speeds (i.e. 1GB, 10GB, 40GB, etc.). Customer must ensure that the fiber optic cabling is within manufacturer tolerances for distance and loss in order to support the required transport speeds. In some cases, specialized equipment, such as attenuators and mode conditioning cables, may be required to properly support these speeds. This equipment will be at the expense of the Customer.

Optics (SFP, SFP+, GBIC, etc...)

Every effort was made in the pre-sales process through white board sessions, BOM reviews and diagrams to identify any and all optics required. **OPTICS AS QUOTED AND SOLD ASSUME A STAND ALONE SYSTEM UNLESS OTHERWISE NOTED.** Migration items and integration items to existing equipment, if not noted, are not included nor is time for the interconnection, planning or design of same. Should any question exist as to the total number, types and use of the optics, Sentinel can set up a design review and white board session prior to the order upon request.

Power, Racks & Cooling

Like the optics, Sentinel has made a best effort to match any power requirements and answer any requests of the Customer related to equipment specifications, power cables included or other physical requirements. Any adjustments to fit in racks, connect to specific power terminal types, or secure electrician services to run a new service are beyond the fixed bid project price. Sentinel will respond to any inquiry and provide product literature. Any sizing charts provided are done so as a convenience to the Customer and DO NOT represent a commitment by Sentinel that, as sold, the equipment is ready for the Customer site. Sentinel offers Technology Area Design (TAD) consulting services should the Customer prefer a more formal and accurate solution.

Patch Cables / Cable Lengths

In most cases the BOM includes any note(s) on cable lengths included. Without the design validation of a formal TAD engagement, only a best effort is made to match the site requirements. Any changes to the cord lengths, connectors or other site readiness items will be in addition to the solution once the order is placed with the manufacturer(s). Many of the vendors offer the ability to select the appropriate items prior to order, but will charge for any replacements needed after the order and this offer will be extended to the Customer through the Sentinel Project Change Request (PCR) process. Unless specified, Sentinel assumes the Customer will provide all patch cables needed and can provide the product literature on any devices upon request.

Labor Union Requirements

Sentinel has NOT included any parameters for Union workers. Any requirement would require a subcontract arrangement to be determined up front and would increase the cost of deployment.

Patching and Equipment Cabling

Sentinel assumes, unless noted here, that the Customer will patch in all equipment to the cabling plant within the facility. Sentinel can perform this connection service at an additional charge with an approved PCR.

Sentinel High Availability Network Support (HANS™)

1. Inspection and Repair

Prior to the Commencement Date of Maintenance under this Appendix, the equipment covered hereunder and delineated in the Pricing Summary ("the Equipment") shall be subject to inspection by the Contractor at no charge to the Customer to determine if it is in acceptable condition for maintenance. Any repairs, adjustments, or replacement of missing items deemed necessary by the Contractor to bring the Equipment up to an acceptable condition shall be the responsibility of the Customer. The Contractor reserves the right to modify, repudiate, or terminate this Appendix if, in Contractor's opinion, the Equipment is not capable of maintenance or if Customer refuses or fails to bring the Equipment up to an acceptable condition.

2. Responsibilities of Contractor

The Contractor shall, for the total charges set forth in the Pricing Summary, maintain the Equipment in good operating condition and furnish maintenance service during the Contracted Periods of Maintenance Service selected by the Customer as designated in the Pricing Summary.

The Maintenance Service includes:



- a. Unscheduled Remedial Maintenance Service during the Contracted Periods of Maintenance Service when notified by the Customer that the Equipment is inoperative.
- b. All costs of labor and field installable parts deemed necessary by Contractor to be required for maintaining the Equipment as a result of normal wear and tear. At Customer's request, Contractor will, for additional time and material cost, make required repairs not attributable to normal wear and tear.
- c. The installation of new parts or parts equivalent to new in performance. Replaced parts shall become the property of Contractor. Contractor shall be responsible for the replacement of only those parts unusable as a result of normal usage and wear and tear.
- d. With regard to end of life products, Contractor shall use its commercially reasonable best efforts to support said products until such time it is determined, in Contractor's sole discretion, that the support of these products is not economically viable. At the time that determination is made, Contractor shall notify Customer in writing, and Contractor shall then be relieved of any and all obligation or liability relating to said products.

3. Responsibility of the Customer

- a. The Customer shall notify Contractor's maintenance personnel upon Equipment failure and shall allow Contractor full and free access to the Equipment, subject to the Customer's commercially reasonable internal security rules.
- b. The Customer shall not permit maintenance or repairs to the Equipment to be made or attempted, except as specified and approved in advance by Contractor.
- c. The Customer shall maintain the site environmental conditions throughout the Contracted Periods of Maintenance Service in accordance with the specifications established by the Equipment manufacturer.
- d. Prior to the Commencement Date of Maintenance under this Appendix, the Customer shall provide Contractor with an accurate inventory of the Equipment to be covered hereunder. Should Customer's inventory be incomplete or otherwise inaccurate, Customer acknowledges that Contractor shall be absolved of any liability relating to the equipment not listed or misidentified, unless the parties agree to an additional charge for provision of service to that equipment. For multi-year contracts, this inventory shall be updated by Customer annually. At Customer's request and for an additional charge, Contractor can perform an inventory of Customer's Equipment to be covered hereunder. If the Customer requests that modifications be made to the inventory during the Contracted Periods of Maintenance Service, then maintenance service will be supplied unless such modifications make it impractical for Contractor to render maintenance service, in which case Contractor shall be relieved of its responsibilities. If the requested modifications increase maintenance costs, Contractor shall have the right to adjust accordingly the maintenance charges specified in the Pricing Summary.
- e. In order to activate Contractor's restoration guarantees, Customer agrees to present Contractor with up to date configurations of the covered devices at time of failure. However, if the Customer has a monitoring/managed services agreement in place, Sentinel can provide the configs via monitoring/managed services. Contractor's restoration guarantees will not be in full force or effect until Customer provides engineer active configuration at time of failure. In the event Customer does not provide the configuration information, any incremental effort required during the restoration process that is attributable to missing configuration information may result in additional charges.
- f. It is the Customer's responsibility to maintain and supply Contractor with current server backups as requested to facilitate system restoration. Contractor is only responsible to restore data based on the latest known good backup that Customer has supplied. In the event Customer does not provide a conforming backup, any incremental effort required by Contractor as a result of the non-conforming backup may result in additional charges.
- g. Customer shall inform Contractor of any end of life, replacement or phase out notifications it receives from Equipment manufacturers, dealers, or agents.

4. Call Recording

The recording and/or monitoring of incoming and outgoing telephone calls between Contractor and Customer will be undertaken by Contractor, subject to the consent of all parties to such calls, for the purpose of providing constructive performance feedback, pursuing complaints, taking corrective action, measuring satisfaction or for any other purpose Contractor deems relevant to improving customer service.

5. Periods of Maintenance Service Availability

- a. The Annual Maintenance Fee and the Contracted Periods of Maintenance Service available to the Customer are stated in the Pricing Summary. Notwithstanding the terms therein, the activation of the



obligations under this Appendix commence no later than the date Contractor purchases any contracts or equipment on Customer's behalf.

- b. If the Customer removes individual Equipment from the system configuration, said individual Equipment may be added or deleted from maintenance coverage under this Appendix by giving Contractor thirty (30) days advance written notice. SMARTnet contracts purchased on the Customer's behalf are non-refundable. Contractor agrees to provide information to assist Customer in requesting a refund for prepaid SMARTnet contracts.

6. Excluded Services

The following services are outside the scope of this Appendix, but can be provided at an additional charge:

- a. Maintenance or repairs attributable to unauthorized attempts by or for the Customer to repair or maintain the Equipment; Equipment being used for purposes other than that for which it was designed; maintenance or repairs necessitated by Acts of God, war, government regulation, terrorism, disaster, strikes, civil disorder, accident, transportation, or similar emergency beyond the parties' control; failure to provide suitable environmental conditions; fault or negligence of the Customer, its agents, employees, or assigns; improper use or misuse of the Equipment; and causes external to the Equipment, such as, but not limited to, power failure, air conditioning failure, and electrostatic conditions.
- b. Furnishing supplies or accessories, or refurbishing of Equipment.
- c. Installation, moves, adds, or changes to Equipment/software.
- d. Maintenance or repairs attributable to manufacturer defects, bugs, viruses, or other similar defects.

7. Service Level Agreement ("SLA") for Sentinel HANS™

SLAs are noted below, in accordance with the following general Severity Level definitions and the provisions of Section 8 below:

- a. **Severity 1:** Interruption making a critical functionality inaccessible or a complete network interruption causing a severe impact on services availability. There is no possible alternative.
- b. **Severity 2:** Critical functionality or network access interrupted, degraded, or unusable, having a severe impact on services availability. No acceptable alternative is possible.
- c. **Severity 3:** Non-critical function or procedure, unusable or hard to use having an operational impact, but with no direct impact on services availability. A workaround is available.

Note: Due to the time required for set up to support HANS™ agreements, adherence to SLAs will become effective no sooner than 30 days after Customer signature.

Incident Service Level

Severity	Notification SLA	SLA Commitment	Response SLA	SLA Commitment	MTTR (Mean Time to Repair)	SLA Commitment
Severity 1	15 Minutes	99.5%	1 Hour	99.5%	Dependent on SLA purchased, See Pricing Summary	99.5%
Severity 2	15 Minutes	99.5%	2 Hours	99.5%	Dependent on SLA purchased, See Pricing Summary	99.5%
Severity 3	4 Hours	99.5%	NBD	99.5%	Two Business Days	99.5%

8. SLA Options

There are three SLA options for Sentinel HANS™. The definitions below describe the components of each SLA offering. The SLA of each device under contract is detailed in the Pricing Summary.

HANS™ Silver – provides all the services detailed under Item 8a. below. This service does not allow the Customer the ability to call the Manufacturer TAC directly for support or receive software updates to a device.



HANS™ Gold – provides all the services detailed under Item 8a. and 8b. below. Contractor is authorized to deliver Manufacturer Support and as such, Contractor has the ability to escalate to Manufacturer TAC for incidents, as well as receive all software updates for devices. Contractor is ultimately responsible for supplying parts to support Manufacturer hardware.

HANS™ Platinum - provides all the services detailed under Item 8a. below with all Equipment backed by a Manufacturer support agreement which provides Customer and Contractor access to Manufacturer's support resources and the ability to update software. Contractor is ultimately responsible for supplying parts to support Manufacturer hardware.

- a. The following details the level of support provided under all HANS™ service agreements:
- All calls for service are to be placed with, monitored, and escalated by Contractor.
 - Contractor will reload/configure system components with Customer-supplied back up as required to ensure complete functionality and restoration.
 - For service calls that are started within the Contracted Period of Maintenance Services, Contractor will, when necessary, provide continuous effort to extend service beyond the contracted hours of coverage.
 - Contractor 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.
 - Contractor will utilize remote diagnosis and remote repair capability to expedite problem resolution.
 - Contractor will supply loaner equipment on a best efforts basis in emergency situations for non-core network equipment.
 - Contractor will provide primary and secondary engineers to gain knowledge of the configurations, along with an assigned escalation manager.
 - Contractor will provide advanced replacement of hardware in accordance with the SLA defined per device in the Pricing Summary.
- b. The following details the additional level of support provided under all HANS™ Gold service agreements:
- Cisco Specific Items
 - Contractor will provide the software for the Smart Collector upon Customer's request. The Smart Collector will only provide the functionality outlined below. Without the Smart Collector, these functions will not be possible. Specification of the hardware requirements will be given to Customer during the kick-off phase, and the Customer will be responsible for provisioning the OVA provided by Sentinel. Customer is also responsible for providing Contractor with SNMP Read-Only community strings for each device. Customer will be responsible for re-configuring the community string if it is not configured correctly on the devices.
 - Alert reporting – alerts to bug fixes, service alerts, EOX alerts
 - Device Diagnostics alerting and providing access to hundreds of symptom/fix data points. Customer is responsible for configuring and registering each device in order to activate this service. A sample configuration can be provided at time of installation.
 - NetApp/EMC Specific Items
 - Sentinel will setup the Manufacturer Phone Home capability to notify both the Manufacturer and Sentinel at the time of failure so that a ticket will automatically be generated in the Sentinel system for immediate response.
 - General Items
 - Contractor provides TAC support and escalation of cases to Manufacturer TAC on behalf of the Customer. In addition, in certain circumstances Customer may participate in Contractor's call with Manufacturer TAC.
 - Contractor will provide Contract and Inventory Management on the Customer infrastructure.
 - Microsoft Premier Support for Partners (PSfP) (See the Pricing Summary for Hours Included)
 - Problem Resolution Support Hours for Reactive Support
 - 24x7 Break/fix support for server and desktop products
 - Unlimited support for all Cloud Technologies
 - Managed escalation
 - Ability to declare critical situation/Rapid On Site Services (ROSS)
 - Goaled Response Times (1 Hour for Severity A, 2 Hours for Severity B, and 4 Hours for Severity C incidents)
 - Support Assistance Hours for Proactive Services



- Risk Assessments for Microsoft technologies
- Tuning and optimizations
- Application Development advisory services
- Customized training and knowledge transfer
- Workshops and chalk talks
- Service Delivery Management via a Customer Success Account Manager
 - Resource coordination and case escalation
 - Scheduling and planning of all proactive services
 - Trusted advisor within the Microsoft services organization
- Hours include Sentinel and Microsoft support hours and are tracked in 15 minute increments on the opened service calls.
- Cloud Technologies support is defined as items that are solely in the control of Microsoft and have no premise support required. Microsoft determines at the end of a service call whether the call is related to Cloud Technologies support and does not detract hours from the support agreement.
- Additional hours can be purchased during the support agreement term or a new support agreement can be purchased if all hours are exhausted within the 12 month term.
- Hours must be used within the 12 month term and cannot be extended.

Pricing Summary

Cisco Unified Collaboration Version 14 Upgrade

Hardware and Software

		Extended Price
Cisco Business Edition 6000M	\$	12,074.00
Hardware and Software Total	\$	12,074.00

Solution Maintenance & Support

		Extended Price
12 Month Support		
HANS™ Maintenance	\$	1,134.00
Maintenance & Support Total	\$	1,134.00

TOTAL PROJECT - Project Total Cost is based on the combined purchase of all Hardware/Software, Professional Services and Solution Maintenance from Sentinel as detailed in the attached Bill of Materials. Unbundling or materially reducing any of these essential elements of the solution may result in modifications to the cost of the remaining elements.

		Extended Price
Hardware and Software	\$	12,074.00
Solution Maintenance & Support	\$	1,134.00
Professional Services	\$	33,904.00
Project Total	\$	47,112.00

*Quote is valid until 03/30/2022

Plus shipping & handling



Cisco Business Edition 6000M

Cisco Business Edition 6000M					
Description	Qty	Unit Price	Ext Price	Special Notes	
Cisco Business Edition 6000M (M5) Appliance, Export Restr SW	2	\$ 5,639.00	\$ 11,278.00		
Cisco UCS 770W AC Power Supply for Rack Server	2	\$ -	\$ -		
Cisco 12G Modular RAID controller with 2GB cache	2	\$ -	\$ -		
300GB 12G SAS 10K RPM SFF HDD	12	\$ -	\$ -		
Enable RAID 5 Setting	2	\$ -	\$ -		
16GB DDR4-2933-MHz RDIMM/1Rx4/1.2v	6	\$ -	\$ -		
2.2 GHz 4114/85W 10C/13.75MB Cache/DDR4 2400MHz	2	\$ -	\$ -		
Power Cord, 200/240V 6A North America	2	\$ -	\$ -		
Cisco BE Embedded Virt. Basic 7x, BE6K only	2	\$ -	\$ -		
Power Cord, 125VAC 13A NEMA 5-15 Plug, North America	2	\$ 15.00	\$ 30.00		
Cisco UCS 770W AC Power Supply for Rack Server	2	\$ 383.00	\$ 766.00		
Hardware and Software Sub-Total:				\$12,074.00	

HANS™ Maintenance

HANS Maintenance					
Description	Qty	Unit Price	Ext Price	Special Notes	
Onsite HANS™ 8x5xNext Business Day Cisco BE 6000M Appliance	2	\$ 477.00	\$ 954.00	12 Months	
HANS™ Software Support + Upgrades Cisco BE Embedded Virt. Basic 7x	2	\$ 90.00	\$ 180.00	12 Months	
Maintenance & Support Sub-Total:				\$1,134.00	

General Terms and Assumptions

- With regard to any software licenses installed by Contractor as necessary to effectuate the provision of services under this Agreement, thus not within the scope of the deliverables, Customer is hereby prohibited from duplicating said software in any form or fashion and is further restricted from using the software beyond the intended scope set forth herein. Moreover, Customer is restricted from licensing, sublicensing or transferring said software to any third party (except to a related party) without the express permission of Contractor, under which circumstance the software shall stay under the control and auspices of the Contractor. In the event Customer loses or damages the software, a copy may be provided at a nominal charge. Contractor may, at its discretion, remove said software upon the completion of its provision of services. Alternatively, at the end of this engagement or the license period, whichever occurs first, Customer is required to either destroy or return all copies of said software to Contractor, as expressly directed by Contractor.
- The manufacturer/support provider has the right to inspect any products that have either never had support coverage or have not had support coverage for an extended period to determine their eligibility for maintenance/support. Devices subject to inspection will be flagged as such and are subject to a non-refundable inspection fee, which shall be the responsibility of Customer. Sentinel will work with the manufacturer/support provider on Customer's behalf until device eligibility is determined. Devices that do not pass the inspection will be ineligible for support.
- For products purchased pursuant to this agreement, Contractor agrees to provide storage at no additional charge for up to 90 days. If the storage period exceeds 90 days, Customer agrees to the following: a.) Customer will be responsible to pay a fee of 2% per month for storage of purchased products from that point forward, b.) Customer will be invoiced and will be responsible to pay the unpaid balance for any products purchased from Contractor that have not been paid in full and, c.) Ownership will transfer from Contractor to Customer.
- For all products purchased, it is assumed that prior to order execution with Contractor, Customer has reviewed, understood, and agreed to each manufacturer's respective terms and conditions governing the purchase of products, including, but not limited to, applicable warranties, order cancellation, and return policies. In the event of a return request, Sentinel may assist Customer by facilitating the request between Customer and the manufacturer. In addition, product return requests will be subject to Sentinel's own return policies, which may include restocking fees and/or shipping and handling costs.



- Under no circumstances will Customer have the right to withhold payment to Sentinel due to an alleged breach of any express or implied warranties with regard to the products purchased herein. Any such claim shall be handled directly between the manufacturer and Customer. If Contractor receives any financial relief or incentives intended for Customer as a result of a settlement between Customer and the manufacturer, Contractor agrees to pass through the incentives or financial relief to Customer.
- Sentinel makes no guarantees with respect to this product's compliance with any local, state, or federal privacy laws, including, but not limited to, the Biometric Information Privacy Act (BIPA) and the California Consumer Privacy Act (CCPA), and Customer shall maintain all responsibility and bear all liability with regard to its compliance with such in relation to its use of this product. Customer shall indemnify and hold harmless Sentinel from any third party claims to arise out of any privacy violations with regard to this product.
- Fixed Fee Services will be progress billed monthly based on percentage of completion. Generally, services for all non-business impacting tasks 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 outside of normal business hours at an overtime labor rate. Notwithstanding the above, services related to migrations, cutovers, or changes to critical core infrastructure are assumed to be performed outside of business hours and are included in the services pricing provided in this contract. For the fixed charges listed, 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.

Payment Terms

Hardware/Software: For orders over \$100K, 50% at contract execution, balance upon shipment from manufacturer

All Invoices: Net 30

This quote is valid until 03 / 30 / 2022.

CUSTOMER:
Village of Downers Grove

Signature: _____

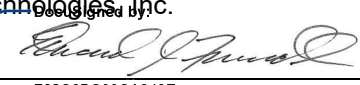
Printed Name: _____

Title: _____

Date: _____

P.O. #: _____

CONTRACTOR:
Sentinel Technologies, Inc.

Signature:  _____

Printed Name: Edward Truesdale

Title: EVP of Operations

Date: 3/1/2022 | 12:48 PM CST



ALWAYS LEADING

Unified Communications Version
14.0 Upgrade



A PROPOSAL TO

Village of Downers Grove

FEBURARY 7, 2022



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GENERAL CONTACT INFORMATION

General Contact Information

SENTINEL CONTACT INFORMATION

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SSAE 16 SOC 2, TYPE II ATTESTATION

SSAE 16 SOC 2, Type II Attestation

Standing at the apex of Sentinel's myriad awards, honors and certifications is its SSAE 16 Service Organization Control (SOC) 2, Type II Attestation which has been undertaken annually by the nationally-renowned auditing firm Plante Moran, PLLC for the past three years. The SOC 2, Type II attestation is the highest and most rigorous in the SSAE 16 portfolio of audits, evaluating Controls and Processes that encompass the Five Trust Service Principles of Security, Availability, Processing Integrity, Confidentiality and Privacy.

Why should this matter to you? The SSAE 16 attestation provides independent validation and assurance that Sentinel is in compliance with best practices regarding items of critical importance to you -- security, confidentiality, data protection, project management and IT strategic solutions, to name a few. If you are seeking consulting or services support for your IT environment, the SOC 2, Type II attestation should be one of the most important factors in your evaluation.



The SSAE 16 Attestation is a standard that was created by the American Institute of Certified Public Accountants (AICPA) in 2010 to replace the SAS 70 certification process, and expand reporting to the effectiveness of a service organization's controls relating to operations and compliance

ENGAGEMENT OVERVIEW

Engagement Overview

Executive Summary

Village of Downers Grove is looking to upgrade their Cisco Unified Communications Platform to Version 14. Their current environment consists of the following applications.

Application	Version	Number of Nodes
Cisco CallManager	11.5.1.12900-21	2
Cisco Unity Connection	11.5.1.12900-21	2
Instant Messaging and Presence	11.5.1.12900-25	2
Expressway C & E	8.9.2	2 Pairs
ESNA Single in Box/Transcriptions with Google Workspace		
Cisco Attendant Console Advanced	Not in use	

- LDAP is integrated for CallManager and Unity
- SSO is disabled
- Single Inbox is not configured, they utilize ESNA
- No Speechview transcription service, they utilize ESNA

ENGAGEMENT OVERVIEW

The following IP Devices were discovered:

Model	Quantity	Deprecated
Cisco 7911	63	No
Cisco 7925	1	No
Cisco 7937	1	No
Cisco 7945	157	No
Cisco 7965	58	No
Cisco 8832	1	No
Cisco ATA 190	1	No

ENGAGEMENT OVERVIEW

Voice Gateways

The following gateways were discovered. These routers are providing local telco and analog services.

Host Name	IP Address	Model	IOS	Cards	EOL
VG-224		VG224			4/30/2020
VHVG-310		VG310			No
FS2-VG204-1		VG204XM			No
VH-VG204-1		VG204XM			No
Public Works		VG204XM			No
PD-VG204-1		VG204XM			No
PD-VG204-2		VG204XM			No
VH-4321-1	10.10.0.20	ISR 4321		NIM-1CE1T1-PRI PVDM4-32 NIM-4FXO	No
VH-VG1	10.10.0.9	VG204XM			No
PD-VG1	10.10.1.9	ISR 4321			No
PW-4321-1	10.10.2.20	ISR 4321		NIM-1CE1T1-PRI PVDM4-32 NIM-4FXO	No
PW-VG1	10.10.2.9	ISR 4321			No
FSS-VG1	10.10.8.9	ISR 2801			No

Note: The Cisco VG204XM series analog gateways have end of life announcements:

- 4/28/2025 – End of Vulnerability and Security Support – No software updates
- 4/30/2027 – End of Support/RMA

VMware Resources

The Unified Communications applications are hosted on two Cisco BE6H-M4-K9= servers. These servers are running ESXi version 6.0.0. The BE6H-M4-K9= Server is covered under support through 1/31/2023 but at that time will in eligible for any additional manufacturer support and will be EOS.

ENGAGEMENT OVERVIEW

Cisco Unified Communications Version 14 Upgrade

The scope of the project is as follows:

- Upgrade Cisco CallManager to Version 14
- Upgrade Cisco Unity Connection to Version 14
- Upgrade IM&P to Version 14
- Upgrade Expressway to Version 14
- Upgrade IOS on the following gateways:
 - (2) ISR 4321
 - (5) VG204XM
 - (1) VG310
 - (1) VG224
- Install and configure (2) Cisco Business Edition 6000M servers
- Decommission the following applications and virtual machines
 - Cisco Attendant Console
 - ENSA
- Implement Unity Single Inbox for Google Workspace

VMWARE RESOURCES

The following VMware ESXi Versions are supported for the proposed UC Application Versions:

UC Application	Version	ESXi Min	ESXi Latest
CUCM	14	6.7	7.0 U1
Unity	14	6.7	7.0U1
Cisco IM&P	14	6.7	7.0
Cisco Expressway	14	6.5	7.0

PROJECT OVERVIEW

Project Overview

Project Phases

PHASE 1 - PROJECT INITIATION MEETING

Sentinel Project Management will coordinate a kick-off meeting to review and approve the Scope of Work provided to the Customer. Customer and Sentinel provided resources will be introduced and their relevant roles for the project discussed. Sentinel Project Management will then coordinate a time for a site visit by Sentinel Engineers in order to draft a blueprint of all proposed work which will be provided to the Customer. High level timelines for project milestones will also be identified and discussed.

PHASE 2 - ANALYSIS & DESIGN

Sentinel engineers will perform a high-level audit of the Customer's relevant infrastructure. The data collected from this audit will be used to generate a design for the implementation of the solution. Sentinel engineers will inform the Customer of any design requirements that will need to be completed by the Customer's IT staff prior to the start of the next phase (such as provisioning of storage space, acquisitions of licenses, and other essential design components not covered within this document). Upon acceptance of the work as detailed within the blueprint by the Customer, Sentinel engineers and project managers will then coordinate specific dates and times appropriate for accommodating the nature of the work involved (i.e. work which will require outages will be scheduled during appropriate maintenance windows).

PHASE 3 - STAGING

During the staging phase, equipment will be unboxed, burned-in, configured and tested off-site before being repacked and delivered for onsite implementation. This ensures maximum efficiency and quality while minimizing the disruptions and impacts to the Customer's environment.

PHASE 4 - IMPLEMENTATION

Sentinel engineers will proceed with the implementation of all items specified within this Scope of Work and further detailed in the Customer approved Design Document.

PHASE 5 - POST SUPPORT

Sentinel engineers will be dedicated to being available for the resolution of any problems or issues that arise during the post support portion of the project.

PHASE 6 - PROJECT COMPLETION

Upon conclusion of all other phases of work Sentinel's engineers will provide the Customer with updated design documents for the project. Sentinel's project management team will then arrange for a meeting with the Customer to review the status of all project items. If no project items remain open Sentinel's project managers will request that the Customer sign off on the project, thus closing the project at that time.

SOLUTION OVERVIEW

Solution Overview

Cisco Collaboration - Upgrades

APPLICATIONS - CUCM

- The customer has engaged Sentinel to upgrade their current CUCM cluster environment from version 11.5 to 14. This upgrade will be a Virtual Machine upgrade utilizing new VMware resources.

APPLICATIONS - UNITY

- As part of the project, the customer has elected to upgrade Unity. The current Unity version is 11.5 and will be upgraded to 14. This upgrade will be a Virtual Machine upgrade utilizing new VMware resources.

APPLICATIONS – IM&P

- As part of this project, the customer has elected to upgrade IM&P. The current IM&P version is 11.5 and will be upgraded to 14. This upgrade will be a Virtual Machine upgrade utilizing new VMware resources.

APPLICATIONS – SINGLE-INBOX (ESNA)

- As part of this project, the customer has elected to utilize the native functionality within Unity Version 14 to provide integration to Google Workspace. Today, the customer utilizes ESNA for single inbox and transcription services for voicemails.
- Sentinel will enable the following features within Unity
 - Native single inbox with Google Workspace
- Sentinel will decommission the ESNA virtual machine and remove all reference to ESNA within Unity

APPLICATIONS – CISCO ATTENDANT CONSOLE

- Sentinel will decommission CUAC and remove the virtual machine from the environment. Furthermore, Sentinel will remove all reference to CUAC within CallManager.

APPLICATIONS – CISCO EXPRESSWAY

- Sentinel will upgrade (2) pairs of Expressway C & E from version 8.9.2 to version 14. This upgrade will be a Virtual Machine upgrade utilizing new VMware resources.

APPLICATIONS – 3RD PARTY

- The customer has not identified any third party applications within their Cisco Collaboration Infrastructure. Sentinel assumes that these applications will be upgraded by the customer to support the necessary Cisco Collaboration Release.
 - Sentinel assumes the responsibility for validating compatibility of these applications will be a shared responsibility between the customer and the Sentinel team. Any required changes to the third party applications will be the responsibility of the customer or an associated vendor.

SOLUTION OVERVIEW

- Sentinel will be responsible for supporting the Cisco portions of the 3rd Party integrations until the test and acceptance of those integrations are complete. Sentinel will be involved with the customer's team during the planning process.
- The customer acknowledges that they and/or an associated vendor are the Subject Matter Experts (SME's) for these 3rd party applications and are therefore the most appropriate primary owner responsible for verifying 3rd party applications are compatible with the new version of CUCM.

HARDWARE – ESXI HOSTS

- Sentinel will install and configure (2) Business Edition 6000M servers as replacement for the existing UCS/ESXi hosts.
- Sentinel will upgrade the firmware on (2) Cisco UCS servers to the latest stable firmware as required.
- Sentinel will upgrade the ESXi hypervisors to version 7.0U1 as required.

HARDWARE – VOICE GATWEAYS

- Sentinel will upgrade the IOS on (9) Cisco voice gateways.

Cutover / Migration Strategy

Sentinel has provided Engineering and Project Management professional services to support a cutover/migration strategy. This will be an in place upgrade utilizing new ESXi resources.

CUTOVER PLANNING SERVICES PROVIDED BY SENTINEL

Prior to any cutover, the Sentinel PM and Lead Engineer on the project will provide a “Solution Installation and Cutover Plan” which details the following:

- Start time and End time that is targeted for the maintenance window required for the cutover.
- Step by step plan for the work that is to be done prior to the installation, during the installation, and after the installation.
- Task ownership for each of the tasks identified.
- Task durations for each of the tasks identified.
- Back-out plan – along with a timeframe that identifies when we will initiate the back out plan.
- Test and Acceptance plans to be executed.

Once the cutover/installation plan has been created, the Sentinel Project Team and the Customer will meet to review and approve the plan. Prior to the cutover, a “go/no-go” call will take place to once again review the cutover plan, and ensure that all stakeholders involved in the cutover are available, and all pre-cutover tasks have been completed successfully in preparation for the maintenance window. If a Customer requests to cancel and reschedule a cutover, rescheduling charges may apply. Any impact to Customer resource schedules as a result of a “no-go” call, will be Customer responsibility.

SOLUTION OVERVIEW

Documentation and Knowledge Transfer

- Provide documentation of the setup including a revised Sentinel design doc as well as any available vendor-created administrative and/or best practices guides.
- Provide knowledge transfer including basic functional overviews of products implemented, demonstrating the normal operations as installed in the Customer's environment.
 - Note that knowledge transfer and functional overviews are not a substitute for formal vendor product Customer Education courses available. Sentinel strongly encourages attendance at Customer Education classes to gain further insight into the product architecture and its integration.

Sentinel welcomes Customer 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.

Customer's 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. That knowledge transfer and functional overviews are not a substitute for formal vendor product Customer Education courses available. Sentinel strongly encourages attendance at Customer Education classes to gain further insight into the product architecture and its integration.

SOLUTION OVERVIEW

Project Management

Sentinel will provide a project manager committed to the success of the project. The project manager will be responsible for:

- Complete success of the project.
- Optimal coordination of all resources.
- Guiding the Customer 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.

CUSTOMER RESPONSIBILITIES AND ASSUMPTIONS

Customer Responsibilities and Assumptions

Project Specific

Responsibilities and Assumptions

General

The following is a list of responsibilities and/or tasks that Sentinel assumes have been completed or reviewed by the customer relative to the execution of the above-mentioned project. If additional responsibilities are uncovered during the project, Sentinel will make sure that the customer is made aware of any issues promptly to determine resolution.

PRODUCT LEAD TIMES

Depending on the technologies quoted, orders may be direct or through distribution. Lead times should be expected to be 8 weeks but can exceed 8 weeks. Should expedited equipment requirements arise, there could be an additional charge to source through a warehousing distribution partner.

SITE READINESS AND SITE SURVEY REQUIREMENT

Every effort has been made to ensure that proper power cords and patch cables have been included to match your environment's infrastructure. The notes section of the Bill of Materials (BOM) explicitly states the quantity and type of cords quoted.

Four options are available to ensure the accuracy of the selected items; please initial next to which method you agree to: (SELECT AND INITIAL ONLY ONE)

Note: In the absence of the Customer selecting one of the four options below, it is agreed that the contract will default to Option #1.

Initials

OPTION 1

Customer waives the opportunity to complete a site/closet checklist, has reviewed the BOM and agrees to quantity, type and length of the power and patch cables provided. [Financial obligation for labor and materials for changes identified post order will be the Customer's responsibility]

CUSTOMER RESPONSIBILITIES AND ASSUMPTIONS

OPTION 2

Customer has provided a site/closet review checklist document and confirms the quantity, type and length of the power and patch cables quoted. [Financial obligation for labor and materials for changes identified post order will be the Customer's responsibility, unless Sentinel provided the incorrect part based upon the provided checklist]

OPTION 3

Customer elects a "for charge" onsite survey of the facilities and closets to determine the quantity, type and length of the power and patch cables required. In addition, Sentinel will assess each closet's cooling and UPS readiness for the proposed equipment being provided. [Financial obligation for labor and materials for changes identified post order will be Sentinel's full responsibility, unless changes to the site have taken place subsequent to the site assessment]

OPTION 4

Not applicable. This SOW does not contain any work that would be performed in or impacted by the Customer's MDF, IDF or Data Center facilities.

PERMITS & ACCESS

Unless otherwise agreed, all permits, variances, access to facilities, roof access, building warranty concerns or other site specific information and procedures are the responsibility of the Customer. Sentinel can assist as needed, but will need to be informed of any requirements prior to the site survey to consider these within the validation process.

REMOTE SUPPORT

Sentinel's service estimate assumes remote access support through IP VPN or IP PPP connection. Without this access, additional services may be incurred for optimization and tuning required pre and post installation.

TRAVEL REQUIREMENTS AND COST

Unless specified within the proposal, all travel expenses and time are not included. Travel time shall be invoiced at pre-negotiated rates and expenses plus per diem at actual costs.

EXISTING HARDWARE COMPATIBILITY & FIRMWARE UPDATES

Where Customer provides existing server or other hardware, it is assumed the Customer has verified all such hardware is compatible with the versions of the software specified within the scope. This includes relevant firmware updates. Sentinel will not be providing firmware updates to any servers as part of this Scope of Work.

3RD PARTY INTEGRATION

Unless noted otherwise, Sentinel assumes no reliance on 3rd Party applications, connections or plug-ins to software deployments and updates as specified in this scope. If during Analysis and Planning any required 3rd Party integration is uncovered, additional hours may be incurred.

CUSTOMER RESPONSIBILITIES AND ASSUMPTIONS

FIBER

It is assumed that the Customer's existing fiber will support proposed transmission speeds (i.e. 1GB, 10GB, 40GB, etc.). Customer must ensure that the fiber optic cabling is within manufacturer tolerances for distance and loss in order to support the required transport speeds. In some cases, specialized equipment, such as attenuators and mode conditioning cables, may be required to properly support these speeds. This equipment will be at the expense of the Customer.

OPTICS (SFP, SFP+, GBIC, ETC...)

Every effort was made in the pre-sales process through white board sessions, BOM reviews and diagrams to identify any and all optics required. **OPTICS AS QUOTED AND SOLD ASSUME A STAND ALONE SYSTEM UNLESS OTHERWISE NOTED.** Migration items and integration items to existing equipment, if not noted, are not included nor is time for the interconnection, planning or design of same. Should any question exist as to the total number, types and use of the optics, Sentinel can set up a design review and white board session prior to the order upon request.

POWER, RACKS & COOLING

Like the optics, Sentinel has made a best effort to match any power requirements and answer any requests of the Customer related to equipment specifications, power cables included or other physical requirements. Any adjustments to fit in racks, connect to specific power terminal types, or secure electrician services to run a new service are beyond the fixed bid project price. Sentinel will respond to any inquiry and provide product literature. Any sizing charts provided are done so as a convenience to the Customer and DO NOT represent a commitment by Sentinel that, as sold, the equipment is ready for the Customer site. Sentinel offers Technology Area Design (TAD) consulting services should the Customer prefer a more formal and accurate solution.

PATCH CABLES / CABLE LENGTHS

In most cases the BOM includes any note(s) on cable lengths included. Without the design validation of a formal TAD engagement, only a best effort is made to match the site requirements. Any changes to the cord lengths, connectors or other site readiness items will be in addition to the solution once the order is placed with the manufacturer(s). Many of the vendors offer the ability to select the appropriate items prior to order, but will charge for any replacements needed after the order and this offer will be extended to the Customer through the Sentinel Project Change Request (PCR) process. Unless specified, Sentinel assumes the Customer will provide all patch cables needed and can provide the product literature on any devices upon request.

LABOR UNION REQUIREMENTS

Sentinel has NOT included any parameters for Union workers. Any requirement would require a subcontract arrangement to be determined up front and would increase the cost of deployment.

PATCHING AND EQUIPMENT CABLING

Sentinel assumes, unless noted here, that the Customer will patch in all equipment to the cabling plant within the facility. Sentinel can perform this connection service at an additional charge with an approved PCR.

PRICING

Pricing

Please refer to the accompanying bill of materials for pricing.