

## City of Aurora

### Core Upgrade Solution for APD and FS8

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#### Hardware and Software

	Cisco List Price	Extended Price
APD Distribution Layer	387,388.00	216,022.00
FS8 Distribution Layer	342,388.00	191,742.00
APD Replacement for VSS 6509 Chassis	239,265.00	132,618.00
DWDM Hardware for APD and FS8	7,590.00	4,278.00
Solution Optics and SFP's	251,360.00	135,639.00
Cisco ONE Wireless Licensing	30,225.00	17,625.00
Wireless Access Points	16,500.00	8,910.00
3850 Switches	28,000.00	15,108.00
Learning Credits	10,000.00	No Cost to CoA
<b>Solution Sub-Total</b>	<b>1,312,716.00</b>	<b>721,942.00</b>

**Total Project** - Project Total Cost is based on the combined purchase of all Hardware/Software, 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.

Hardware, Software, and Maintenance Sub-Total	721,942.00
Implementation Services	59,740.00
One-time Project Incentive Discount	(102,352.00)
<b>Project Total</b>	<b>679,330.00 *</b>

*\* plus applicable shipping & handling*

**\* Please Note > Solution Pricing Includes \$ 10,000 in Cisco Learning Credits at no cost to the City of Aurora**

## General Proposal Assumptions

### 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 warehouse 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.

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 Customer's responsibility.

### Fiber

It is assumed that 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 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.

It may be determined during the blueprint process that additional connections are required or recommended. These will require an additional purchase cost to Customer. Sentinel makes a best effort to avoid any foreseeable additional purchases, but in most cases the final connectivity varies slightly either for a technical reason or due to a physical requirement and this is beyond the fixed price solution design.

### Power, Racks and Cooling

Like the optics, Sentinel has made a best effort to match any power requirements and answer any requests of 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 client and DO NOT represent a commitment by Sentinel that, as sold, the equipment is ready for Customer site. Sentinel offers Technology Area Design (TAD) consulting services should 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 Customer through the Sentinel Project Change Request (PCR) process. Unless specified, Sentinel assumes 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.

**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 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.

**Project Changes Request**

Sentinel assumes, unless noted here, that 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.

**Indoor Wireless****Site Survey Requirement**

Sentinel cannot guarantee any wireless solution under fixed bid without a Sentinel performed site survey. Site surveys performed by other parties or estimated installations will be time & materials only and may require alterations of the parts included based on the actual installation requirements.

**Access Point Installation Limits**

Sentinel will install using manufacturer supplied brackets unless otherwise stated. Sentinel has proposed wireless access point and bridge deployment assuming the safe use of ladders for installation or tower climbing. Any use of a lift or crane will increase the deployment cost as Sentinel will pass on any rental and operator fees. Sentinel does maintain an outdoor small lift truck for some jobs and does maintain ladders for installations where an 8 foot ladder is safely sufficient to install any component of the system. In addition, for safety purposes, Sentinel cannot install any access points or related equipment in elevator shafts. Installations requiring above ceiling mounting, more than an 8 foot ladder, lift truck or installation in an elevator shaft must be brought to Sentinel's attention to accommodate these special circumstances.

**Pricing**

Pricing is valid for thirty (30) days from date of quote delivery unless otherwise stated.

Pricing assumes payment via company check or electronic funds transfer. Alternate payment methods may incur an additional charge.

**City of Aurora - Aurora Police Department  
APD Distribution Layer**



Cisco Hardware and Software				
Part Number	Description	Qty	Unit Price	Ext Price
N9K-C9504-B1	Nexus 9504 Chassis Bundle with 1 Sup, 3 PS, 2 SC, 3 FM, 3 FT	2	26976.00	53952.00
N9K-C9504-FM	Fabric Module for Nexus 9504 chassis	6	0.00	0.00
N9K-C9500-ACK	Nexus 9500 Accessory Kit	2	0.00	0.00
N9K-C9504-RMK	Nexus 9504 Rack Mount Kit	2	0.00	0.00
N9K-C9504-FAN	Fan Tray for Nexus 9504 chassis, Port-side Intake	6	0.00	0.00
CAB-C19-CBN	Cabinet Jumper Power Cord, 250 VAC 16A, C20-C19 Connectors	8	0.00	0.00
N9K-SC-A	System Controller for Nexus 9500	4	0.00	0.00
N9K-SUP-A	Supervisor for Nexus 9500	2	0.00	0.00
N9K-SUP-A	Supervisor for Nexus 9500	2	5396.00	10792.00
N1K-VLCPU-96-ESSTL	Nexus 1000V Essential Edition Paper Delivery License Qty 96	2	0.00	0.00
N9K-PAC-3000W-B	Nexus 9500 3000W AC PS, Port-side Intake	2	1619.00	3238.00
N9K-SELECT-C95PAC	PID to Select Default Power Supply: N9K-PAC-3000W-B	6	0.00	0.00
N9K-PAC-3000W-B	Nexus 9500 3000W AC PS, Port-side Intake	6	0.00	0.00
N9K-X9564TX	Nexus 9500 linecard, VxLAN Routing, 48p 1/10G-T & 4p QSFP	2	12140.00	24280.00
N9K-X9564PX	Nexus 9500 linecard, VxLAN Routing, 48p 1/10G SFP+ & 4p QSFP	2	24279.00	48558.00
N9K-C9500-LC-CV	Nexus 9500 Linecard slot cover	2	0.00	0.00
N9K-SELECT-SUP-A	PID to Select Default Supervisor: N9K-SUP-A	2	0.00	0.00
NXOS-70314.5	Nexus 9k/3K NX-OS Maintenance Software Rel 7.0(3)14.5	2	0.00	0.00
N9K-C9504-FM	Fabric Module for Nexus 9504 chassis	6	5396.00	32376.00
N9K-X9564TX	Nexus 9500 linecard, VxLAN Routing, 48p 1/10G-T & 4p QSFP	2	12140.00	24280.00
CON-SNTP-N9504B1	SNTP-24X7X4 Nexus 9504 Chassis Bundle with 1 Sup (12 months)	2	9273.00	18546.00
<b>Hardware and Software Sub-Total</b>			<b>\$216,022.00</b>	

**City of Aurora - Aurora Police Department  
FS8 Distribution Layer**



Cisco Hardware and Software				
Part Number	Description	Qty	Unit Price	Ext Price
N9K-C9504-B1	Nexus 9504 Chassis Bundle with 1 Sup, 3 PS, 2 SC, 3 FM, 3 FT	2	26976.00	53952.00
N9K-C9504-FM	Fabric Module for Nexus 9504 chassis	6	0.00	0.00
N9K-C9500-ACK	Nexus 9500 Accessory Kit	2	0.00	0.00
N9K-C9504-RMK	Nexus 9504 Rack Mount Kit	2	0.00	0.00
N9K-C9504-FAN	Fan Tray for Nexus 9504 chassis, Port-side Intake	6	0.00	0.00
CAB-C19-CBN	Cabinet Jumper Power Cord, 250 VAC 16A, C20-C19 Connectors	8	0.00	0.00
N9K-SC-A	System Controller for Nexus 9500	4	0.00	0.00
N9K-SUP-A	Supervisor for Nexus 9500	2	0.00	0.00
N9K-SUP-A	Supervisor for Nexus 9500	2	5396.00	10792.00
N1K-VLCPU-96-ESSTL	Nexus 1000V Essential Edition Paper Delivery License Qty 96	2	0.00	0.00
N9K-PAC-3000W-B	Nexus 9500 3000W AC PS, Port-side Intake	2	1619.00	3238.00
N9K-SELECT-C95PAC	PID to Select Default Power Supply: N9K-PAC-3000W-B	6	0.00	0.00
N9K-PAC-3000W-B	Nexus 9500 3000W AC PS, Port-side Intake	6	0.00	0.00
N9K-X9564TX	Nexus 9500 linecard, VxLAN Routing, 48p 1/10G-T & 4p QSFP	2	12140.00	24280.00
N9K-X9564PX	Nexus 9500 linecard, VxLAN Routing, 48p 1/10G SFP+ & 4p QSFP	2	24279.00	48558.00
N9K-C9500-LC-CV	Nexus 9500 Linecard slot cover	4	0.00	0.00
N9K-SELECT-SUP-A	PID to Select Default Supervisor: N9K-SUP-A	2	0.00	0.00
NXOS-70314.5	Nexus 9k/3K NX-OS Maintenance Software Rel 7.0(3)14.5	2	0.00	0.00
N9K-C9504-FM	Fabric Module for Nexus 9504 chassis	6	5396.00	32376.00
CON-SNTP-N9504B1	SNTP-24X7X4 Nexus 9504 Chassis Bundle with 1 Sup (12 months)	2	9273.00	18546.00
<b>Hardware and Software Sub-Total</b>			<b>\$191,742.00</b>	

**City of Aurora - Aurora Police Department  
APD - Replaces VSS 6509 Chassis**



Cisco Hardware and Software				
Part Number	Description	Qty	Unit Price	Ext Price
N7K-C7004-S2E-R	Nexus7004 Bundle(Chassis,2xSUP2E),No Power Supplies	1	55301.00	55301.00
DCNM-PAK	DCNM Advanced License Kit for Nexus and MDS switches	1	0.00	0.00
N7KS2K9-80	Cisco NX-OS Release 8.0 for Nexus 7000 Series	1	0.00	0.00
CAB-C19-CBN	Cabinet Jumper Power Cord, 250 VAC 16A, C20-C19 Connectors	4	0.00	0.00
N7K-DP-CORE	N7K or N77 Core Deployment; For Tracking Only	1	0.00	0.00
N7K-AC-3KW	Nexus 7000 - 3.0KW AC Power Supply Module (Cable Included)	4	1889.00	7556.00
N7K-C7004-5LSB-P1	Inc N7004 LAN,ADV,TRS,EL2,DCNM License - Promotion	1	12949.00	12949.00
DCNM-N7K-K9-SBUN	DCNM for LAN Enterprise License for one Nexus 7000 Chassis	1	0.00	0.00
N7K-C7004-LAN-SBUN	Nexus 7004 LAN Enterprise License (L3 protocols)	1	0.00	0.00
N7K-C7004-EL2-SBUN	Nexus 7004 Enhanced Layer 2 License (FabricPath)	1	0.00	0.00
N7K-C7004-ADV-SBUN	Nexus 7004 Advanced LAN Enterprise License (VDC, CTS ONLY)	1	0.00	0.00
N7K-C7004-TRS-SBUN	Nexus 7004 Transport Services License	1	0.00	0.00
N7K-SUP2E	Nexus 7000 - Supervisor 2 Enhanced,Includes 8GB USB Flash	1	0.00	0.00
N7K-USB-8GB	Nexus 7K USB Flash Memory - 8GB (Log Flash)	1	0.00	0.00
N7K-SUP2E	Nexus 7000 - Supervisor 2 Enhanced,Includes 8GB USB Flash	1	0.00	0.00
N7K-USB-8GB	Nexus 7K USB Flash Memory - 8GB (Log Flash)	1	0.00	0.00
N7K-F312FQ-25	Nexus 7000 F3-Series 12 Port 40GbE (QSFP)	1	23739.00	23739.00
N7K-F312FQ-25	Nexus 7000 F3-Series 12 Port 40GbE (QSFP)	1	23739.00	23739.00
CON-SNTP-N7K4S2ER	SNTC-24X7X4 Nexus7004 Bundle Chassis (12 months)	1	8120.00	8120.00
CON-SAU-7K45LSP1	SW APP SUPP + UPGR Inc N7004 LAN,ADV,TR (12 months)	1	0.00	0.00
CON-SAU-N7DCNMSB	SW APP SUPP + UPGR DCNM for LAN Enterprise (12 months)	1	1214.00	1214.00
<b>Hardware and Software Sub-Total</b>			<b>\$132,618.00</b>	

City of Aurora - Aurora Police Department  
DWDM Hardware for APD & FS8



Cisco Hardware and Software				
Part Number	Description	Qty	Unit Price	Ext Price
15216-FLD-4-30.3=	Edge 4-Ch Bi-Directional OADM Mod 1530.33 to 1532.68	2	1781.00	3562.00
15216-HD-EXT-PNL=	Mechanical Frame - 4 slots - 1 RU	2	119.00	238.00
CON-SNTP-1521FLD4	SNTP-24X7X4 Edge 4-Ch Bi-Directional OADM Mod 1530 (12 months)	2	239.00	478.00
Hardware and Software Sub-Total			\$4,278.00	

**City of Aurora - Aurora Police Department  
Solution Optics & SFPs**



Cisco Hardware and Software				
Part Number	Description	Qty	Unit Price	Ext Price
QSFP-H40G-AOC3M=	40GBASE Active Optical Cable, 3m	4	459.00	1836.00
SFP-10G-SR-S=	10GBASE-SR SFP Module, Enterprise-Class	28	351.00	9828.00
DWDM-SFP10G-58.98=	10GBASE-DWDM 1558.98 nm SFP10G (BUILD-TO-ORDER)	3	10791.00	32373.00
DWDM-SFP10G-30.33=	10GBASE-DWDM 1530.33 nm SFP10G (100-GHz ITU grid)	2	10791.00	21582.00
DWDM-SFP10G-31.12=	10GBASE-DWDM 1531.12 nm SFP10G (BUILD-TO-ORDER)	2	10791.00	21582.00
DWDM-SFP10G-31.90=	10GBASE-DWDM 1531.90 nm SFP10G (BUILD-TO-ORDER)	2	10791.00	21582.00
DWDM-SFP10G-32.68=	10GBASE-DWDM 1532.68 nm SFP10G (BUILD-TO-ORDER)	2	10791.00	21582.00
SFP-H10GB-CU3M=	10GBASE-CU SFP+ Cable 3 Meter	4	54.00	216.00
SFP-10G-LRM=	10GBASE-LRM SFP Module	4	537.00	2148.00
CVR-QSFP-SFP10G=	QSFP to SFP10G adapter	6	189.00	1134.00
SFP-H10GB-ACU10M=	Active Twinax cable assembly, 10m	8	222.00	1776.00
Hardware and Software Sub-Total			<b>\$135,639.00</b>	

**City of Aurora - Aurora Police Department**  
**Cisco ONE Licensing**



Cisco Hardware and Software				
Part Number	Description	Qty	Unit Price	Ext Price
C1-AIR-K9	Cisco ONE Access - Wireless Licensing	1	0.00	0.00
DNA-VOUCHER	Tracker Eligibility SKU for DNA Offers	1	0.00	0.00
C1-MSE-PAK	Cisco ONE MSE License PAK	1	0.00	0.00
C1FPAIRK9	Cisco ONE Foundation Perpetual - Wireless	75	189.00	14175.00
C1-WLC-1	Cisco ONE Wireless LAN Controller AP License (any WLC)	75	0.00	0.00
C1-WLC-PAK	Cisco ONE Wireless LAN Controller AP License PAK (any WLC)	1	0.00	0.00
C1-PI-LFAS-AP-K9	Cisco ONE PI Device License for LF & AS for WLAN	75	0.00	0.00
C1-ISE-BASE-AP	Cisco ONE Identity Services Engine 25 EndPoint Base Lic	75	0.00	0.00
C1-MSE-LS-1	Cisco ONE CMX Base (Location + Connect) - 1AP license	75	0.00	0.00
C1-CEM-25-K9	Cisco ONE Energy Mgmt Perpetual Lic - 25 DO End Points	75	0.00	0.00
C1-LC-5-1Y	Cisco ONE StealthWatch 5 FPS Lic 1 YR	75	0.00	0.00
C1F1VAIR-03	Tracker PID v03 Fnd Perpetual AIR - no delivery	1	0.00	0.00
CON-ECMU-C1FPAIR	SWSS UPGRADES C1 Foundation Perpetual - Wireless (12 months)	75	46.00	3450.00
CON-ECMU-C1AIRK	SWSS UPGRADES Cisco ONE - Wireless (12 months)	1	0.00	0.00
Hardware and Software Sub-Total			\$17,625.00	

**City of Aurora - Aurora Police Department  
Wireless Access Points**



Cisco Hardware and Software				
Part Number	Description	Qty	Unit Price	Ext Price
AIR-AP3802I-B-K9	802.11ac W2 AP w/CA; 4x4:3SS; Int Ant; mGig -B Domain	10	891.00	8910.00
AIR-AP-BRACKET-2	802.11n AP Universal Mounting Bracket	10	0.00	0.00
AIR-AP-T-RAIL-R	Ceiling Grid Clip for Aironet APs - Recessed Mount (Default)	10	0.00	0.00
SW3802-CAPWAP-K9	Cisco Aironet 3800 Series CAPWAP Software Image	10	0.00	0.00
Hardware and Software Sub-Total			<b>\$8,910.00</b>	

**City of Aurora - Aurora Police Department  
3850 Switches**



Cisco Hardware and Software				
Part Number	Description	Qty	Unit Price	Ext Price
WS-C3850-48T-S	Cisco Catalyst 3850 48 Port Data IP Base	2	6205.00	12410.00
S3850UK9-36E	CAT3850 Universal k9 image	2	0.00	0.00
C3850-NM-2-10G	Cisco Catalyst 3850 2 x 10GE Network Module	2	1349.00	2698.00
CAB-TA-NA	North America AC Type A Power	2	0.00	0.00
STACK-T1-50CM	50CM Type 1 Stacking Cable	2	0.00	0.00
CAB-SPWR-30CM	Catalyst 3750X and 3850 Stack Power Cable 30 CM	2	0.00	0.00
PWR-C1-350WAC	350W AC Config 1 Power Supply	2	0.00	0.00
PWR-C1-BLANK	Config 1 Power Supply Blank	2	0.00	0.00
Hardware and Software Sub-Total			\$15,108.00	

City of Aurora - Aurora Police Department  
Learning Credits



Cisco Hardware and Software				
Part Number	Description	Qty	Unit Price	Ext Price
TRN-CLC-0000	Cisco Training Credits	10		0.00
Hardware and Software Sub-Total			\$0.00	