

140 Quaker Lane · Malvern, PA 19355

Phone: (610) 644-5155 FAX: (610) 889-0484

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STATEMENT OF WORK

Mechanicsburg Area School District

Aruba Outdoor Wireless

Prepared By:

Douglas M. Schiel

Network Engineer

Comm Solutions Company

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dschiel@commsolutions.com

May 10, 2013

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Comm Solutions Company is an end to end technology solutions provider specializing in the design, development, deployment, and support of enterprise level solutions in the corporate, education, government, and healthcare markets. For the last thirty years, we have been in the network services business and have grown our business by listening to the needs of our clients and responding with technical innovation and service excellence.

Comm Solutions Company maintains excellent alliances with "Best in Class" technology vendors and our certified specialists understand how to leverage these technologies to shorten deployment cycles and provide you with the best overall value and ROI on your technology deployments.

Our core competencies include Network Infrastructure, Secure Wireless, Unified Communications, Information Security, Systems/Management, Virtualization, Storage, and Professional Services.

To find out more about Comm Solutions Company, visit www.commsolutions.com. Comm Solutions Company is headquartered at 140 Quaker Lane, Malvern, PA 19355 and can be contacted by phone at (610) 644-5155 or by e-mail at info@commsolutions.com.

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1.0 Background

Mechanicsburg Area School District (MASD) wishes to install outdoor security cameras on a light-post situated approximately mid-way down the north-western side of the Senior High School parking lot. (This is the side adjacent to the track.) The security cameras are wired Ethernet clients, and (in-lieu of a wired connection to the High School) require a wireless bridge to the school's LAN. MASD also feels that it would be desirable to have the flexibility to serve wireless clients from the outdoor AP installations for sporting and other events in a manner that does not interfere with, or detract from, the performance of the security cameras, and integrates with their existing Aruba WLAN.

2.0 Stated Agreement of Mission

Comm Solutions Company will provide an engineering resource for the following:

- Conduct a remote one hour pre-installation discovery and configuration planning session / call to establish a final configuration plan
- Complete the configuration and testing of (2) outdoor AP-175 access points (AP's)
 - o Configuration and testing of the 5Ghz wireless mesh point-to-point link
 - Aruba Controller configuration related to extending client-serving up to
 (3) SSID's to the Outdoor AP's
 - Aruba controller configuration to address concerns specific to wireless video transmission and client-access on the same WLAN and network
- Configuration documentation of the installation

3.0 Stakeholders

Bruce Gordon, Mechanicsburg Area School District – Technology Coordinator
Douglas Schiel, Comm Solutions Company – Network Engineer
Tim Ryan, Comm Solutions Company – Network Engineer (peer reviewer)
Francine Roselli, Comm Solutions Company – Account Manager

G. Michael McKee, Comm Solutions Company – Project Management Supervisor

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4.0 Pre-Requisites

Customer Responsibilities:

- Installation of infrastructure cabling and terminations from station jack location to the termination block in data closet will be completed and tested to pass Cat 5E/6 specification prior to Comm Solutions Company arriving onsite
- All power / POE+ and access points will be installed prior to/ and coordinated with the Comm Solutions engineer coming onsite
 - AC power will be required for AP-175AC and Outdoor POE switch being installed by others on light pole
 - o POE+ is required for AP-175P being installed by others on bldg
- All patch cords for the entire Ethernet channel from switch to AP will be installed
- Customer will provide IP address(es) and appropriate access to the Aruba controller and any related networking equipment to be configured or tested
- Provide server(s) for DHCP services
- If 802.1x /RADIUS authentication is required, customer will have already provided a functioning RADIUS server and authentication mechanism for integration with the wireless controller / APs
- Provide AP naming scheme
- Ensure that VLAN's and routing are otherwise pre-configured on the existing network
- Provide all necessary passwords and encryption keys for configuration.
- Provide network resource to assist in the configuration of any switch ports or VLAN(s) for segmenting wireless traffic
- Access to local IT contacts on-site to assist with troubleshooting/installation
- Provide floor plans and AP locations (provided already)
- Provide contacts to provide physical access to the premises
- Provide details about the network configuration (This will be determined on the remote design session call):
 - o VLAN ID's
 - o Address pools
 - Server addresses
 - Pre-shared keys
 - Any other standard configuration points

Any work requested outside of the aforementioned responsibilities of Comm Solutions Company shall be documented by a Change Order / Quote and agreed upon by both parties before the work will be completed.

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5.0 Project Tasks

- 5.1. Prior to installation, conduct a brief, one (1) hour discovery and planning session call to review the following:
 - 5.1.1. Understand the pre-existing network, security and authentication mechanisms to be applied
 - 5.1.2. Review the existing controller configuration
 - 5.1.3. Review technical information regarding the protocols, bandwidth, and access control requirements for the cameras inorder to properly construct the Camera role
 - 5.1.4. Establish which SSID's the customer wishes to broadcast outdoors, and the application, user or client role, and background context of the usage of those SSID's
- 5.2. Configure and test point-to-point mesh-portal (building AP) and meshnode (light-pole AP) wireless link within the Aruba Controller
 - 5.2.1. Create and configure Outdoor Mesh AP group(s) not to exceed (2) groups
 - 5.2.1.1. Configure Mesh SSID and authentication
 - 5.2.1.2. Configure 5 Ghz radio profiles and parameters within the Mesh group for the wireless backhaul, following Aruba best practices and Outdoor Mesh VRD guidelines
 - 5.2.1.3. Configure wired port profile, other profile parameters within the new AP group(s) (divergent wired-port configurations and authentication mechanisms between the two AP's may require the 2nd AP group or (2) individual AP configs, but does not appreciably impact the scope)
 - 5.2.1.4. Add new AP's to their groups
 - 5.2.1.5. Basic layer 2 connectivity testing
- 5.3. Configure and test the extension of up to (3) WLAN SSID's to the newly installed outdoor AP's from within the Aruba controller, using the new AP groups created in section 5.2
 - 5.3.1. Add up to (3) pre-existing VAP's (SSID's) to the new AP groups
 - 5.3.2. Configure the 2.4 Ghz radio profile
 - 5.3.3. Perform basic pass-fail client connectivity testing to each SSID with one laptop and one mobile device provide by the customer from one location adjacent to each AP
- 5.4. Configure the Outdoor AP group(s) and VAP's to shape traffic and reserve bandwidth for the cameras discovered in section 5.1

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- 5.4.1. Create(1) new "Security Camera" or similarly named role with any specific access control and protocol requirements as discovered in 5.1
- 5.4.2. Create and apply a white-list bandwidth contract to "Security Camera" role
- 5.5. Documentation of the Aruba controller configuration for customer's records

6.0 Deliverables

- A configured and functioning Aruba point-to-point link between the High School and the parking lot light post
- Up to (3) configured and functioning SSID's on the outdoor AP's
- Configure up to (2) outdoor AP groups
- Configuration documentation of the deployment

7.0 Exclusions

- The procurement, installation, or configuration of any cameras
- Scheduled knowledge transfer / training
- Any AP client connectivity troubleshooting. (Comm Solutions Company will
 test to verify initial AP connectivity with devices provided by customer PC,
 wireless tablet, etc. Comm Solutions Company will be available to assist with
 configuration modifications, system upgrades, and client connectivity issues
 on a T&M basis outside the scope of this project, based on the rates in
 Appendix 1). This will require a change order.
- Comm Solutions Company is not responsible for delays due to incomplete
 tasks, incomplete cabling, software bugs, unfulfilled feature requests, missing
 content or other delays resulting from the action or inaction of any thirdparty, including vendors, the customer and third-party subcontractors not
 specifically approved/provided by Comm Solutions Company or a party to
 this Scope of Work.
- Procurement, installation, or configuration of POE switches, power injectors, or AC electrical power.
- Installation of infrastructure cabling and terminations from station jack location to termination block in data closet.
- Installation of patch cords for entire Ethernet channel from data closet switch ports to APs.
- Installation of access points.
- Anything not specifically addressed in this document

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8.0 Assumptions

- Comm Solutions Company engineers will have proper site access and will be provided with site escorts as needed
- Any needed passwords and network access will be provided to Comm Solutions Company engineers
- A server will be provided and configured by Customer to provide DHCP
- A Radius server will be provided by the customer if 802.1x is required
- Customer will provide any devices needed to test connectivity to ESSIDs created
- Any needed passwords and network access will be provided to Comm Solutions Company engineers.
- Work is estimated to be performed during full (8) hours days; customer will ensure Comm Solutions Company engineers can work full days onsite
- All work will be performed during normal business hours
- Cameras are to be mounted by the customer or contractor thereof, and are not the responsibility of Comm Solutions Company
- It is assumed that all of the network, system, and other infrastructures needed to implement this SOW, that are not being implemented as a part of this SOW, are in place and the sole responsibility of the customer

9.0 Project Management

Comm Solutions Company will provide a project manager to act as a single point of contact between both parties. The project manager will coordinate resources and project scheduling, provide project updates, and schedule meetings/conference calls as needed. The project manager will engage the appropriate individuals to make technical and project level decisions within the scope of this project.

10.0 Acceptance Criteria

Acceptance will be based on the approval by Customer that all the deliverables in section 6.0 have been met. Acceptance of each deliverable shall occur five (5) business days after Comm Solution Company's written notice to Customer of completion of such deliverable unless Customer provides a written notice within the five (5) day period setting forth the ways in which the deliverable does not materially satisfy the applicable criteria for such deliverable. Comm Solutions Company shall be afforded a commercially reasonable period of time not more than thirty (30) days to correct any nonconformities, whereupon the review cycle will recommence with written notice to Customer. Deliverables will be deemed to be fully and finally accepted by Customer in the event Customer has not submitted a written notice before the expiration of the applicable review period, or when Customer uses the Deliverable in its business, whichever occurs first.

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11.0 Schedule / Rates

*The project timeline is contingent on the PO being placed, SOW being signed and returned, procurement of the equipment, and engineer availability.

Labor for this project is listed as a fixed fee on the attached Quote #CSCQ54060-01.

These rates are good for 90 days from the date on this SOW.

All work may not be conducted at the customer site.

These rates are good for 90 days from the date on this SOW.

11.1. Invoices

ALL INVOICES SHALL BE PAYABLE WITHIN THIRTY (30) DAYS OF THE DATE OF THE INVOICE. PAST-DUE AMOUNTS SHALL BE SUBJECT TO AN INTEREST CHARGE OF ONE AND ONE-HALF PERCENT (1½%) PER MONTH, OR THE HIGHEST RATE PERMITTED BY LAW, IF SUCH RATE IS LESS, PLUS ALL COMM SOLUTIONS COMPANY'S COSTS OF COLLECTION, INCLUDING ATTORNEYS' FEES.

12.0 Limitation of Liability

IN NO EVENT SHALL COMM SOLUTIONS COMPANY BE LIABLE IN CONTRACT, TORT OR OTHERWISE FOR INCIDENTAL, CONSEQUENTIAL, SPECIAL, INDIRECT OR PUNITIVE DAMAGES, INCLUDING, WITHOUT LIMITATION, LOSS OF BUSINESS, LOST PROFITS OR DAMAGE OR DESTRUCTION OF DATA, EVEN IF COMM SOLUTIONS COMPANY HAS BEEN ADVISED OF THE POSSIBILITY OF THE SAME. THE MAXIMUM LIABILITY OF COMM SOLUTIONS COMPANY UNDER THIS AGREEMENT SHALL BE LIMITED IN ALL EVENTS TO THE REASONABLE COSTS OF ADJUSTMENTS, REPAIRS OR REPLACEMENTS NECESSARY TO CORRECT DEFECTS CAUSED SOLELY BY THE NEGLIGENCE OF COMM SOLUTIONS COMPANY, SUBJECT TO A MAXIMUM AGGREGATE LIABILITY OF THE AMOUNT ACTUALLY PAID BY CUSTOMER FOR THE WORK PERFORMED. CUSTOMER AGREES TO PROVIDE COMM SOLUTIONS COMPANY WITH PROMPT WRITTEN NOTIFICATION AS TO THE SPECIFICS OF ANY CLAIM FOR DAMAGES AND TO PROVIDE COMM SOLUTIONS COMPANY WITH A REASONABLE OPPORTUNITY TO INVESTIGATE SUCH CLAIM.

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13.0 Exclusive Warranty

THE EXCLUSIVE WARRANTY OF COMM SOLUTIONS COMPANY RELATING TO THIS AGREEMENT IS THAT THE WORK SHALL BE PERFORMED IN A GOOD AND WORKMANLIKE MANNER AND ANY PRODUCTS PROVIDED BY COMM SOLUTIONS COMPANY SHALL BE FREE OF MATERIAL DEFECTS FOR A PERIOD OF THIRTY (30) DAYS AFTER DELIVERY. IN THE EVENT THIS WARRANTY IS BREACHED, THE SOLE OBLIGATION OF COMM SOLUTIONS COMPANY, AND THE EXCLUSIVE REMEDY OF CUSTOMER, SHALL BE TO HAVE ALL REASONABLE ADJUSTMENTS, REPAIRS AND REPLACEMENTS NECESSARY TO CORRECT ANY SUCH DEFECT MADE AT THE SOLE COST AND EXPENSE OF COMM SOLUTIONS COMPANY, SUBJECT TO THE LIMITATION SPECIFIED IN SECTION 12.0. COMM SOLUTIONS COMPANY MAKES NO OTHER EXPRESS OR IMPLIED WARRANIES CONCERNING ANY SERVICES OR ANY OTHER ITEMS PROVIDED UNDER THIS AGREEMENT. COMM SOLUTIONS COMPANY HEREBY DISCLAIMS ANY IMPLIED WARRANTY OF MERCHANTABILITY, WARRANTY FOR FITNESS FOR A PARTICULAR PURPOSE, OR ANY OTHER WARRANTIES NOT OTHERWISE SPECIFICALLY SET FORTH HEREIN.

14.0 Indemnification

Customer assumes the entire responsibility and liability for, and agrees to indemnify, defend and hold harmless Comm Solutions Company, its officers, agents, employees, successors and assigns, from and against any and all losses, expenses (including without limitation attorneys' and other professional fees), costs, damages (including consequential and incidental damages), demands, judgments, liabilities, suits and claims in connection with or arising out of any actual or alleged personal injury (including death) or damage or destruction to property (including loss of use) by whomever suffered, sustained or alleged to have been sustained by reason of or in any way related to (a) any act or omission, whether negligent or not, of customer or its agents, employees, suppliers, subcontractors and consultants; or (b) any breach by customer of any term in this Agreement.

15.0 Termination

Comm Solutions Company may, by written notice to Customer, terminate this Agreement, or any part of it, upon the occurrence of any of the following events ("Events of Default"):

a. Customer fails fully to perform any obligations under this Agreement, including without limitation, the conformity with any express or implied warranty hereunder, or the failure to comply fully with any applicable Law or provide written evidence of such compliance;

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- b. The commencement of an involuntary case or the filing of a petition against Customer (i) seeking reorganization, arrangement, adjustment or composition of or in respect of Customer under the Federal Bankruptcy Code as now or hereafter constituted, or under any other applicable Federal or state bankruptcy, insolvency, reorganization or other similar law, (ii) seeking the appointment of a receiver, liquidator, assignee, custodian, trustee, sequestrator or similar official of Customer for any part of its property, or (iii) seeking the winding up or liquidation of its affairs, and such involuntary case or petition is not dismissed within thirty calendar days after the filing thereof;
- c. The commencement by Customer of a voluntary case or the institution by Customer of proceedings to be adjudicated as bankrupt or insolvent, or the consent by it to the institution of bankruptcy or insolvency proceedings against it, under the Federal Bankruptcy Code as now or hereafter constituted, or any other applicable Federal or state bankruptcy or insolvency or other similar law;
- d. The consent by Customer to the appointment of or taking possession by a receiver, liquidator, assignee, trustee, custodian, sequestrator or other similar official of Customer for any substantial part of its property;
 - e. The making by Customer of any assignment for the benefit of creditors;
- f. The admission by Customer in writing of its inability to pay its debts generally as they become due or the failure of Customer to generally pay its debts as such become due;
- g. The taking of any corporate action by Customer or its shareholders or Board of directors or any committee thereof in furtherance of any of the foregoing; or
- h. Comm Solutions Company in its reasonable opinion believes that Customer's ability to perform this Agreement is in danger or impaired.

Whenever Comm Solutions Company has the right to demand of Customer adequate assurance of due performance, Comm Solutions Company shall be sole judge of the adequacy of assurance given by Customer.

In the event this Agreement is terminated, Comm Solutions Company shall be compensated for the work actually performed through the date of such termination.

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16.0 Arbitration

Any and all disputes or claims arising out of this Agreement shall be resolved and determined solely and exclusively by arbitration, pursuant to the rules, then obtaining, of the American Arbitration Association, or any successor, at its office nearest Malvern, Pennsylvania. The prevailing party in any arbitration shall be entitled to receive reasonable costs and reasonable attorney's fees from the non-prevailing party. Comm Solutions Company shall select one arbitrator and Customer shall select one arbitrator and the two so selected shall select a third. The arbitrators shall be individuals skilled in the legal and business aspects of the subject matter of this Agreement. Notice of the demand for arbitration shall be made in writing to the other party to this Agreement and to the American Arbitration Association. The demand shall be made within a reasonable time after the claim or dispute has arisen. In no event shall the demand for arbitration be made after the date when institution of legal or equitable proceedings based on the claim or dispute would be barred by the applicable statute of limitations. The arbitration award shall be final and binding upon the parties. Judgment upon the award shall be binding and may be entered in any court of competent jurisdiction.

17.0 Miscellaneous

It is understood and agreed that Comm Solutions Company will provide services under this agreement as an independent contractor and that during the performance of services under this agreement, Comm Solutions Company's employees will not be considered employees of Customer for any purpose whatsoever. Accordingly, Comm Solutions Company shall be solely responsible for the compensation of such employees and all employment related taxes. Further, nothing herein shall be construed to entitle either Party to be a representative, agent, partner or joint venture of the other.

Customer agrees with the definition of services stated in this Statement of Work. Any work requested outside of the aforementioned responsibilities of Comm Solutions Company shall be documented by a Change Order / Quote and agreed upon by both parties before the work will be completed.

Comm Solutions Company shall not be liable for any delay or failure to perform its obligations hereunder due to any strikes, lockouts, secondary boycotts, labor organization stoppages and harassments, damages caused by fire, lightning, earthquake, other natural disasters, or other casualty, and any other conditions beyond the control of Comm Solutions Company.

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Both parties warrant that they have obtained all necessary corporate approvals to enter into this Agreement and that no consent, approval, or withholding of objection is required from any external authority with respect to the entering into of this Agreement. The Parties further represent and warrant that they are under no obligation or restriction, nor will they assume any such obligation or restriction, that would in any way interfere or conflict with any obligations under this Agreement.

Without limitation of any other provision of this Agreement, customer hereby warrants that it will properly comply with all laws in a timely manner, and customer agrees to indemnify, defend and hold Comm Solutions Company harmless for any and all costs, penalties, fines or other liability incurred by Comm Solutions Company, directly or indirectly, including without limitation, reasonable attorneys' and other professional fees, relating to any failure of customer to comply fully or properly with the requirements of any applicable laws.

This Agreement and all questions relating to its validity, interpretation, performance, and enforcement shall be construed in accordance with, and shall be governed by, the substantive laws of the Commonwealth of Pennsylvania without regard to its principles of conflicts of law.

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By providing signatures below, both parties warrant that they understand the scope of work as documented herein and agree that it represents work to be done. Signatures do not constitute a Purchase Order. Purchase Orders for this work can either be faxed to (610) 889-0484 or e-mailed to <u>orders@commsolutions.com</u>.

Comm Solutions Company		Mechanicsburg Area School District	
G. Michael McKee	•		
Name (Print)		Name (Print)	
G. Michael MyKer	Digitally signed by G. Michael McKee Date: 2013.05.10 11:53:10 -04'00'		
Signature		Signature	
Project Managem	ent Supervisor		
Title		Title	
Date		Date	

This SOW shall be signed by the customer and the entire document faxed to the Comm Solutions Company PMO at: (610) 884-7702 before any work is performed.

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Appendix 1 - Project Change Control Process

This document describes the process for requesting and managing changes to the project. This procedure will handle all changes in a controlled manner and facilitate communication about requested changes among the project team. This change control process applies to all design and implementation managed by Comm Solutions Company for this project.

Any stakeholder of the project can submit the following types of requests to the change control system:

- Requests for requirements changes in the technical design
- Reporting of issues or problems during implementation
- Requests for technology enhancements to the current solution
- Timeline Changes
- Technical training and/or documentation changes

1.0 Procedure

1.1 Request Entry

The Originator submits a valid change request with all necessary information. This is submitted to the Comm Solutions Company Project Manager via the attached Change Request Form.

1.2 Request Flow

- 1.2.1 The Comm Solutions Company project team will review the request, how it pertains to the project, the estimated labor hours to implement the change, the estimated cost of materials, and the priority.
- 1.2.2 The project team will decide if the requested change should be made at this time, later in the project, or not at all. This decision will be based on input from the stakeholders affected by the change.
- 1.2.3 If accepted, the Project Manager will negotiate any necessary changes in project commitments with affected stakeholders. If the change is rejected, a written explanation will be e-mailed to the change originator and all stakeholder contacts.
- 1.2.4 Both Comm Solutions Company and the Customer contact must sign the Change Request Form before any changes can take effect.

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- 1.2.5 The Project Manager will email all necessary changes and notify any other affected parties if corresponding changes need to be made, such as schedule, materials, testing, etc.
- 1.2.6 The Project Manager updates the project plans, task lists, and schedules to reflect the impact of the change on the remaining project work.
- 1.2.7 When the change is completed, the Project Manager updates the change in the Change Control Log with appropriate notes and the hours of effort that were required to make the change. The Change Control Form will be re-submitted to the customer for approval and final signoff by both parties that the change has been implemented.

2.0 Reporting

The Comm Solutions Company Project Manager will summarize the status of the contents of the Change Control Log for each project meeting. This log identifies all status changes made since the previous meeting, lists the status of all change requests that currently have a status other than Rejected or Closed, and indicates the level of change activity. The project team will review this log to determine whether any actions are necessary.

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140 Quaker Lane ·Malvern, PA 19355 (Phone) 610-644-5155 (FAX) 610-889-0484 info@commsolution.com www.commsolution.com

CHANGE CONTROL FORM

Time Estimate for change	e implementation		
Engineer Name	Est. Time	Actual Time	
	·		
Total Hou	rs:		
Notes: (Impact on Schedu	le, Technical Info,	etc.)	
		,	
Change Approved	Change Not A	Approved	
Comm Solutions	Company	Customer Contact	
Name (Print)		Name (Print)	·
Signature		Signature	
Title		Title	· .
Date		 Date	

CHANGE	EBEDS	CREEN	TAT	IANI.
CHANGE	INIPL	ENIEN	IAI	IUN:

By providing signatures below, both parties agree that the change(s) approved above have been implemented as required.

Comm Solutions Company	Customer Contact	
Name (Print)	Name (Print)	
Signature	Signature	
Title	Title	
Date	Date	

Francine Roselli Senior Sales Consultant 610-529-7318 Fax: (610) 889-0484 froselli@commsolutions.com



QUOTE

140 Quaker Lane Malvern, PA 19355 800-795-7559

Date	Quote#
05/08/13	CSCQ54060-01

Sold To: MECHANICSBURG AREA SCHOOL

BRUCE GORDON

100 EAST ELMWOOD AVENUE MECHANICSBURG, PA 17055

Phone: (717)691-4500 Ext 00

Fax: 717-691-3228 Ship To: MECHANICSBURG AREA SCHOOL

BRUCE GORDON

100 EAST ELMWOOD AVENUE MECHANICSBURG, PA 17055

P.O. Number

Ship Via

FEDEX

Phone: 717-506-1805

Rep

Francine

Terms

Net 30

COSTARS Hardware Contract#: COSTARS-003-065 COSTARS Software Contract#: COSTARS-006-036

Aruba Outdoor Wireless for Security Cameras at the Senior High School Parking-Lot

#	Qty	Description		Unit Price	Ext. Price
1.			HDWR & LIC		
2.	1	AP-175P	AP-175P Outdoor Access Point, 802.11n 2x2 dual radio 320mW; POE powered	\$1,714.51	\$1,714.51
3.	1	AP-175AC	AP-175AC Outdoor Access Point, 802.11n 2x2 dual radio 320mW; AC powered (with PSE)	\$1,938.62	\$1,938.62
4.	2	ANT-2X2-D805	Antenna 2.4/5G, 5.0DB, 120DEG SECTR, 2X2, N-TYPE.	\$272.68	\$545.36
5.	4	AP-LAR-1	Aruba Outdoor Antenna Lightning Arrestor - N-Type Connector	\$112.06	\$448.24
6.	4	AP-LAR-24	Aruba Outdoor Antenna Lightning Arrestor for outdoor Access Points: Single, In-line lightning arrester with N-typel Male to N-type Female interface. Supports RF frequency Passband of 2.4-2.5 GHz	\$112.06	\$448.24
7.	2	AINS2KKIT-00	Includes accessories that may be useful in the installation process: two electrical tape rolls, mastic tape, white tie wraps.	\$18.68	\$37.36
8.	1	ANT-2X2-D607	2.4/5G, 7.0DB, 60DEG SECTR, 2X2, N-TYPE. To support pole mount or az/el adjustment on wall mount, order AP-ANT-MNT-1 kit in addition to antenna	\$272.68	\$272.68
9.	2	AP-ANT-MNT-1	Azimuth and Elevation adjustable Mount Kit for pole or wall mounting	\$70.98	\$141.96
10.	1	ANT-2x2-2005	Antenna PAIR 2.4G, 5.0DB, OMNI, N-TYPE, DM	\$220.39	\$220.39
11.	1	ANT-2x2-5005	Antenna PAIR 5G, 5.0DB, OMNI, N-TYPE, DM	\$220.39	\$220.39

#	Qty	Description		Unit Price	Ext. Price
12.	1	CBL-AC-NA	Weatherproof cable assembly to connect to (metal) AC power interface on outdoor AP models (length: 5m). North America version	\$145.68	\$145.68
13.	1	CKIT-RJ45-M	Kit with weatherproof connector assembly to attach cable to (metal) RJ45 interface on outdoor AP models	\$70.98	\$70.98
14.	1	LIC-2-AP	Access Point License (2 Access Point License)	\$112.06	\$112.06
15.	1	LIC-SEC-2	Security Software Bundle (2 AP License)	\$209.18	\$209.18
16.	1	TP-SW5G-24	Tycon Power - 5 Port 802.3af POE Gigabit 10-36VDC Input Switch	\$230.89	\$230.89
17.	1	ENC-SW-8x5	Tycon Power - Outdoor POE Switch Enclosure	\$28.53	\$28.53
18.			SubTotal		\$6,785.07
19.			Support		
20.	1	SN1-AP-175P	NEXT-DAY SUPPORT FOR AP-175P (1 YEAR)	\$92.00	\$92.00
21.	1	SN1-AP-175AC	NEXT-DAY SUPPORT FOR AP-175AC (1 YEAR)	\$104.00	\$104.00
22.	2	SN1-ANT-2X2-D805	ARUBACARE NEXT-DAY SUPPORT FOR ANT-2x2-D805	\$15.00	\$30.00
23.	4	SN1-AP-LAR-1	ARUBACARE NEXT-DAY SUPPORT FOR AP-LAR-1 (1 YEAR)	\$6.00	\$24.00
24.	4	SN1-AP-LAR-24	ARUBACARE NBD SUPPORT FOR AP-LAR-24 (1 YEAR)	\$6.00	\$24.00
25.	1	SN1-ANT-2x2-D607	ARUBACARE NEXT-DAY SUPPORT FOR ANT-2x2-D607 (1 YEAR)	\$15.00	\$15.00
26.	1	SN1-ANT-2x2-2005	NEXT-DAY SUPPORT FOR ANT-2x2-2005 (1 YR)	\$12.00	\$12.00
27.	1	SN1-ANT-2x2-5005	NEXT-DAY SUPPORT FOR ANT-2x2-5005 (1 YR)	\$12.00	\$12.00
28.	1	EN1-LIC-2-AP	SUPPORT FOR LIC-2-AP (1 YEAR)	\$10.00	\$10.00
29.	1	EN1-LIC-SEC-2	SUPPORT FOR LIC-SEC-2 (1 YEAR)	\$20.00	\$20.00
30.			SubTotal		\$343.00
31.			PROFESSIONAL SERVICES		
32.	1	SERVICE-MECHANICSBUR G	Comm Solutions Engineering Services	\$3,875.00	\$3,875.00
33.			SubTotal	Nan-	\$3,875.00
34.	1	SHIPPING	Ground shipping	\$35.00	\$35.00

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# # Qty Description The Add The Add	Unit Price Ext. Price
Please reference this quote number and send your purchase orders to	SubTotal \$11,038.07
"orders@commsolutions.com" or Fax: (610) 889-0484.	Sales Tax \$0.00
Please send your quote requests to "quotes@commsolutions.com".	Shipping
r lease send your quote requests to quotes@commisciations.com .	Total \$11,038.07

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