



Purchasing Division
 2019 Washington Street East
 Post Office Box 50130
 Charleston, WV 25305-0130

**State of West Virginia
 Request for Quotation**

Proc Folder: 41557

Doc Description: ADDENDUM NO. 1 NETWORK SWITCHES & ACCESS., W/5 YR EXTENDED

Proc Type: Central Purchase Order

Date Issued	Solicitation Closes	Solicitation No	Version
2015-03-10	2015-03-19 13:30:00	CRFQ 0506 MMB1500000002	2

BID RECEIVING LOCATION

BID CLERK
 DEPARTMENT OF ADMINISTRATION
 PURCHASING DIVISION
 2019 WASHINGTON ST E
 CHARLESTON
 US

WV 25305

VENDOR

Vendor Name, Address and Telephone Number:

*Pomeroy IT Solutions
 500 Westmoreland Office Park
 Dunbar, WV 25064
 Phone: (304) 746-4434*

03/19/15 12:34:52
 WV Purchasing Division

FOR INFORMATION CONTACT THE BUYER

Gregory Clay
 (304) 558-2566
 gregory.c.clay@wv.gov

Signature X

FEIN # 61-1352158

DATE

3-19-2015

All offers subject to all terms and conditions contained in this solicitation

INVOICE TO		SHIP TO	
PROCUREMENT OFFICER - 304-525-7801 HEALTH AND HUMAN RESOURCES MILDRED MITCHELL - BATEMAN HOSPITAL PO BOX 448 HUNTINGTON WV25709 US		WV OFFICE OF TECHNOLOGY BLDG 5, 10TH FLOOR 1900 KANAWHA BLVD E CHARLESTON WV 25304 US	

Line	Comm Ln Desc	Qty	Unit Issue	Unit Price	Total Price
1	NETWORK SWITCH	9.00000	EA	1359.95	12,239.51

Comm Code	Manufacturer	Specification	Model #
43222612	CISCO Extreme	15606	Summit X440-48P SWCH

Extended Description :
SECTION 4.2

CATALYST 2960S 48 GIG POE 740W, 4 X SFP LAN BASE SWITCH OR EQUAL

MUST INCLUDE FIVE (5) YEAR EXTENDED SERVICE AGREEMENT. - Included in box

INVOICE TO		SHIP TO	
PROCUREMENT OFFICER - 304-525-7801 HEALTH AND HUMAN RESOURCES MILDRED MITCHELL - BATEMAN HOSPITAL PO BOX 448 HUNTINGTON WV25709 US		WV OFFICE OF TECHNOLOGY BLDG 5, 10TH FLOOR 1900 KANAWHA BLVD E CHARLESTON WV 25304 US	

Line	Comm Ln Desc	Qty	Unit Issue	Unit Price	Total Price
2	NETWORK SWITCH	2.00000	EA	785.11	1,570.21

Comm Code	Manufacturer	Specification	Model #
43222612	CISCO Extreme	16504	Summit X440-24P 14/100/1000 POE

Extended Description :
SECTION 4.3

CATALYST 2960S 24 GIG POE 370 W, 2 x SFP LAN BASE SWITCH OR EQUAL.

MUST INCLUDE FIVE (5) EXTENDED SERVICE AGREEMENT. - Included in box

INVOICE TO		SHIP TO	
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Line	Comm Ln Desc	Qty	Unit Issue	Unit Price	Total Price
3	STACK MODULE	7.00000	EA	ϕ	ϕ

Comm Code	Manufacturer	Specification	Model #
43222600	CISCO Extreme	Included with switches built to stack	

Extended Description :
SECTION 4.4
CISCO CATALYST 2960S FLEX STACK MODULE OR EQUAL

INVOICE TO		SHIP TO	
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Line	Comm Ln Desc	Qty	Unit Issue	Unit Price	Total Price
4	STACKING CABLE	5.00000	EA		

Comm Code	Manufacturer	Specification	Model #
43222600	CISCO	16106	SUMMIT 20GIG STACK CBL 50CM

Extended Description :
SECTIO 4.5
CISCO FLEXSTACK 50CM STACKING CABLE OR EQUAL

INVOICE TO		SHIP TO	
PROCUREMENT OFFICER - 304-525-7801 HEALTH AND HUMAN RESOURCES MILDRED MITCHELL - BATEMAN HOSPITAL PO BOX 448 HUNTINGTON WV25709 US		WV OFFICE OF TECHNOLOGY BLDG 5, 10TH FLOOR 1900 KANAWHA BLVD E CHARLESTON WV 25304 US	

Line	Comm Ln Desc	Qty	Unit Issue	Unit Price	Total Price
5	STACKING CABLE	2.00000	EA	89.25	178.51

Comm Code	Manufacturer	Specification	Model #
43222600	CISCO Extreme	16107	SUMMIT 20GIG STACK CPL 1.5M

Extended Description :

SECTION 4.6

CISCO FLEXSTACK 1M STACKING CABLE OR EQUAL

INVOICE TO	SHIP TO
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Line	Comm Ln Desc	Qty	Unit Issue	Unit Price	Total Price
6	TRANSCEIVER	14.00000	EA	149.76	2096.64

Comm Code	Manufacturer	Specification	Model #
43222600	CISCO Extreme	10051H	100BSX SFP HJ

Extended Description :

SECTION 4.7

CISCO GE SFP, LC CONNECTOR SX TRANSCEIVER OR EQUAL

INVOICE TO	SHIP TO
PROCUREMENT OFFICER - 304-525-7801 HEALTH AND HUMAN RESOURCES MILDRED MITCHELL - BATEMAN HOSPITAL PO BOX 448 HUNTINGTON WV25709 US	WV OFFICE OF TECHNOLOGY BLDG 5, 10TH FLOOR 1900 KANAWHA BLVD E CHARLESTON WV 25304 US

Line	Comm Ln Desc	Qty	Unit Issue	Unit Price	Total Price
7	AC POWER CORD	11.00000	EA	7.56	83.17

Comm Code	Manufacturer	Specification	Model #
26121636	CISCO Extreme	PWR CORD 13A USA NEMA 5-15 IEC-320-C15	

Extended Description :

SECTION 4.8

AC POWER CORD, 16 AWG OR EQUAL

INVOICE TO		SHIP TO	
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Line	Comm Ln Desc	Qty	Unit Issue	Unit Price	Total Price
8	INSERT PACKOUT	11.00000	EA	See note	

Comm Code	Manufacturer	Specification	Model #
43222600			

Extended Description :

SECTION 4.9.1
SECTION 4.9.2

INSERT PACKOUT

- Item was promotion only by CISCO. This promotion no longer exists and this part type no longer available. As we are using Extreme this item is not needed.

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ADDITIONAL TERMS AND CONDITIONS

See attached document(s) for additional Terms and Conditions

REQUEST FOR QUOTATION
CRFQ 0506 MMB1500000002 - NETWORK SWITCHES

SPECIFICATIONS FOR NETWORK SWITCHES

1. **PURPOSE AND SCOPE:** The West Virginia Purchasing Division is soliciting bids on behalf of Mildred Mitchell-Bateman Hospital located at 1530 Norway Avenue, Huntington WV 25705 to establish a contract for the one time purchase Network Switches to replace existing network equipment and Extended Service Agreement.
2. **DEFINITIONS:** The terms listed below shall have the meanings assigned to them below. Additional definitions can be found in Section 2 of the General Terms and Conditions.
 - 2.1 **“Contract Service”** means extended service agreement as more fully described in these specifications.
 - 2.2 **“Contract Items”** means Catalyst 2960S 48 GigE PoE 740W, 4 x SFP LAN Base Switch; Catalyst 2960S 24 GigE PoE 370W, 2 x SFP LAN Base Switch; Cisco Catalyst 2960S Flex Stack Module; Cisco Flexstack 50CM Stacking Cable; Cisco FlexStack 1 m Stacking Cable; GE SFP, LC connector SX Transceiver; AC Power Cord, 16AWG, CON-SNT-2960S4FS, CON-SNT-2960s2PS and associated hardware or equal.
 - 2.3 **“Solicitation”** means the official notice of an opportunity to supply the State with goods and services that is published by the Purchasing Division identified as CRFQ 0506 ***MMB1500000002***.
3. **QUALIFICATIONS:** Vendor, or Vendor’s staff if requirements are inherently limited to individuals rather than corporate entities, shall have the following minimum qualifications:
 - 3.1 Must have a Valid Current West Virginia Business License
4. **GENERAL REQUIREMENTS:**
 - 4.1 **Mandatory Contract Service Requirements:** Contract Items and Services must meet or exceed the mandatory requirements listed below.
 - 4.2 Must be Catalyst 2960S 48 GigE PoE 740W, 4 x SFP LAN Base Switch, Part Number WS-C2960S-48FPS-L or equal.
 - 4.3 Must be Catalyst 2960S 24GigE PoE 370W, 2 x SFP LAN Base Switch, Part Number WS-C2960S-24PS-L or equal.
 - 4.4 Must be Cisco Catalyst 2960S FlexStack Stack Module,

REQUEST FOR QUOTATION
CRFQ 0506 MMB150000002 - NETWORK SWITCHES

Part Number C2960S-STACK or equal.

- 4.5** Must be Cisco FlexStack 50cm Stacking Cable,
Part Number CAB-STK-E-0.5M or equal.

4.5.1 This cable must connect adjacent switches in a stack.

- 4.6** Must be Cisco FlexStack 1m Stacking Cable,
Part Number Cab-STK-E-1M or equal.

4.6.1 This cable must connect the top and bottom switch in a stack of three (3) switches.

- 4.7** Must be Cisco GE SFP, LC connector SX Transceiver,
Part Number GLC-SX-MM or equal.

- 4.8** Must be powered by electricity by AC Power Cord, 16AWG,
Part Number CAB-16AWG-AC or equal.

- 4.9** Must provide Insert Packout – PI-MSE for the each of the following:

4.9.1 (9) each Catalyst 2960S 48 GigE PoE 740W 4 x SFP LAN Base Switch or equal.

4.9.2 (2) each Catalyst 2960S 24 GigE PoE 370W 2 x SFP LAN Base Switch or equal.

- 4.10** Vendor must provide an extended service agreement to include the following requirements for a total of five (5) years.

The extended service agreement must be Cisco Smartnet for each switch listed in 4.2.
Part number CON-SNTP-2960S4FS or equal.

The service must include telephone technical support eight (8) hours a day, 8:00am to 4:00pm eastern time zone/five (5) days a week, next day hardware replacement, and software updates.

- 4.11** Vendor must provide an extended service agreement to include the following requirements for year one (1) and renewals for four (4) additional years for a total of five (5) years.

The extended service agreement must be Cisco Smartnet for each switch listed in Section 4.3.
Part number CON-SNTP-2960S2PS or equal.

REQUEST FOR QUOTATION
CRFQ 0506 MMB150000002 - NETWORK SWITCHES

The service must include telephone technical support eight (8) hours a day, 8:00am to 4:00pm eastern time zone/five (5) days a week, next day hardware replacement, and software updates.

5. CONTRACT AWARD:

5.1 Contract Award: The Contract is intended to provide Agencies with a purchase price for the Contract Items and Service(s). The Contract shall be awarded to the Vendor that provides the Contract Items and Service(s) meeting the required specifications for the lowest overall total cost as shown on the Pricing Page. The renewals included in this purchase are only applicable to the additional years of the "Extended Service Agreements" named within the document and do not include the purchase or renewal of any other items.

5.2 Pricing Page: Vendor should complete the Pricing Page by filling in the price per requested unit, the extended price for the total number of units requested and grand total for all goods and services requested. Vendor should completed the Pricing Page in full as failure to complete the Pricing Page in its entirety may result in Vendor's bid be disqualified.

Vendor may also submit bids using the VSS/WV Oasis website and insert pricing on the commodity lines.

You can go to: <https://prod-fin-vss.wvoasis.gov/webapp/prdvss11/AltSelfService> to submit online bids.

6. PERFORMANCE: Vendor and Agency shall agree upon a schedule for performance of Contract Services and Items and Contract Services Deliverables, unless such a schedule is already included herein by Agency. In the event that this Contract is designated as an open-end contract, Vendor shall perform in accordance with the release orders that may be issued against this Contract.

7. PAYMENT: Agency shall pay a flat fee, as shown on the Pricing Pages, for all Contract Items and Services performed and accepted under this contract. Vendor shall accept payment in accordance with the payment procedures of the State of West Virginia.

8. TRAVEL: Vendor shall be responsible for all mileage and travel costs, including travel time, associated with performance of this Contract. Any anticipated mileage or travel cost may be included in the flat fee or hourly rate listed on Vendor's bid, but such costs will not be paid by the Agency.

9. DELIVERY AND RETURN:

9.1 Shipment and Delivery: Vendor shall ship the Contract Items Immediately after being awarded this Contract and receiving a purchase order or a notice to proceed. Vendor shall

REQUEST FOR QUOTATION
CRFQ 0506 MMB150000002 - NETWORK SWITCHES

deliver the Contract Items within thirty (30) days after receiving a purchase order or notice to proceed. Contract Items must be delivered to Agency at: West Virginia Office of Technology, 1900 Kanawha Boulevard East, Building 5, A-916, Charleston WV 25305.

- 9.2 Late Delivery:** The Agency placing the order under this Contract must be notified in writing if the shipment of the Contract Items will be delayed for any reason. Any delay in delivery that could cause harm to an Agency will be grounds for the cancellation of the Contract, and/or obtaining the Contract Items from a third party.

Any Agency seeking to obtain Contract Items from a third party under this provision must first obtain approval of the Purchasing Division.

- 9.3 Delivery Payment/Risk of Loss:** Vendor shall deliver the Contract Items F.O.B. destination to the Agency's location.
- 9.4 Return of Unacceptable Items:** If the Agency deems the Contract Items to be unacceptable, the Contract Items shall be returned to Vendor at Vendor's expense and with no restocking charge. Vendor shall either make arrangements for the return within five (5) days of being notified that items are unacceptable, or permit the Agency to arrange for return and reimburse Agency for delivery expenses. If the original packaging cannot be utilized for the return, Vendor will supply the Agency with appropriate return packaging upon request. All returns of unacceptable items shall be F.O.B. the Agency's location. The returned product shall either be replaced or the Agency shall receive a full credit or refund for the purchase price, at the Agency's discretion.
- 9.5 Return Due to Agency Error:** Items ordered in error by the Agency will be returned for credit within thirty (30) days of receipt, F.O.B Vendor's location. Vendor shall not charge a restocking fee if returned products are in a resalable condition. Items shall be deemed to be in resalable condition if they are unused and in original packaging. Any restock charge for items not in a resalable condition shall be the lower of the Vendor's customary restocking fee or 5% of the total invoiced value of the returned items.

REQUEST FOR QUOTATION
CRFQ 0506 MMB150000002 - NETWORK SWITCHES

10. FACILITIES ACCESS: Performance of Contract Services may require access cards and/or keys to gain entrance to Agency's facilities. In the event that access card and/or keys are required:

- 10.1 Vendor must identify principle service personnel which will be issued access cards and/or keys to perform service.
- 10.2 Vendor will be responsible for controlling cards and/or keys and will pay replacement fee, if the cards and/or keys become lost or stolen.
- 10.3 Vendor shall notify Agency immediately of any lost, stolen or missing cards and/keys.
- 10.4 Anyone performing under this Contract will be subject to the Agency's security protocol and procedures.
- 10.5 Vendor shall inform all staff of Agency's security protocol and procedures.

11. VENDOR DEFAULT:

11.1 The following shall be considered a vendor default under this Contract.

11.1.1 Failure to perform Contract Services in accordance with the requirements contained herein.

11.1.2 Failure to comply with other specifications and requirements contained herein.

11.1.3 Failure to comply with any laws, rules, and ordinances applicable to the Contract Services Provided under this Contract.

11.1.4 Failure to remedy deficient performance upon request.

11.2 The following remedies shall be available to Agency upon default.

11.2.1 Immediate cancellation of the Contract

11.2.2 Immediate cancellation of one or more release orders issued under this Contract.

11.2.3 Any other remedies available in law or equity.

REQUEST FOR QUOTATION
CRFQ 0506 MMB1500000002 - NETWORK SWITCHES

12. MISCELLANEOUS:

- 12.1 **Point of Contact:** During the performance of this Contract, Vendor must designate and maintain a primary point of contact responsible for overseeing Vendor's responsibilities under this Contract. The Point of Contact must be available during normal business hours to address any customer service or other issues related to this Contract. Vendor shall list its Point Of Contact and his or her contact information below.

Point of Contact: Stuart F. Damron

Telephone Number: Office: 304 746 4434

Cell: 304 421 2221

Fax Number: (866) 387-5674

Email Address: sdamron@pomeroy.com

- 12.2 **Explanation of Award:** Agency will Evaluate the bids received based on the Grand Total Bid Price. A Contract will be awarded to the apparent successful Vendor that provides the Contract Items that meets or exceeds the required specifications contained herein, for the lowest overall Grand Total Bid Price.

Payment to the Vendor will be made in arrears after delivery and 100% of acceptance of Contract Items by the Agency.

Please Complete:

Vendor Business Name: Pomeroy IT Solutions

Vendor Address: 500 Westmoreland Office Park

Dunbar, WV 25864

Remit to Address: PO Box 631049

Cincinnati, OH 45263-1049

Vendor Telephone Number: (304) 746-4434

REQUEST FOR QUOTATION
CRFQ 0506 MMB150000002 - NETWORK SWITCHES

Vendor Fax Number: (866) 367-5674

Vendor Email: sdumron@pomeroy.com

Vendor Authorized Representative: Stuart F. Damron
(Please Print)

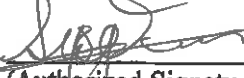
Vendor Authorized Representative Signature: 

Date: 3-19-2015

CERTIFICATION AND SIGNATURE PAGE

By signing below, or submitting documentation through wvOASIS, I certify that I have reviewed this Solicitation in its entirety; understand the requirements, terms and conditions, and other information contained herein; that I am submitting this bid, offer or proposal for review and consideration; that I am authorized by the vendor to execute and submit this bid, offer, or proposal, or any documents related thereto on vendor's behalf; that I am authorized to bind the vendor in a contractual relationship; and that to the best of my knowledge, the vendor has properly registered with any State agency that may require registration.

Pomeroy IT Solutions
(Company)

 Stuart Damron, Technology Solutions Executive
(Authorized Signature) (Representative Name, Title)

(304)-421-2221 (866)367-5674 3-19-2015
(Phone Number) (Fax Number) (Date)

SOLICITATION NUMBER: MMB150000002

Addendum Number: 1

The purpose of this addendum is to modify the solicitation identified as ("Solicitation") to reflect the change(s) identified and described below.

Applicable Addendum Category:

- | Modify bid opening date and time
- | Modify specifications of product or service being sought
- | Attachment of vendor questions and responses
- | Attachment of pre-bid sign-in sheet
- | Correction of error
- | Other

Description of Modification to Solicitation:

ADDENDUM NO. 1

- 1) TO CHANGE THE BID OPENING DATE FOR THIS CRFQ TO MARCH 19, 2015 AT 1:30 PM EST.
- 2) TO PROVIDE A COPY OF CLARIFICATIONS TO TECHNICAL QUESTIONS SUBMITTED.
- 3) TO PROVIDE ADDENDUM ACKNOWLEDGMENT. THIS DOCUMENT SHOULD BE SIGNED AND RETURNED WITH YOUR BID.

END OF ADDENDUM NO. 1

Additional Documentation: Documentation related to this Addendum (if any) has been included herewith as Attachment A and is specifically incorporated herein by reference.

Terms and Conditions:

1. All provisions of the Solicitation and other addenda not modified herein shall remain in full force and effect.
2. Vendor should acknowledge receipt of all addenda issued for this Solicitation by completing an Addendum Acknowledgment, a copy of which is included herewith. Failure to acknowledge addenda may result in bid disqualification. The addendum acknowledgement should be submitted with the bid to expedite document processing.

ATTACHMENT A

ADDENDUM #1 CRQS MMB1500000002

Question #1:

Can we bid on the alternate brands like HP for this solicitation?

Answer #1:

Yes, as long as they alternate brands meet the mandatories listed for each item. You must attach specification sheets with your bid, so that we can compare that they are "equal" to the items solicited.

ADDENDUM ACKNOWLEDGEMENT FORM
SOLICITATION NO.: MMB150000002

Instructions: Please acknowledge receipt of all addenda issued with this solicitation by completing this addendum acknowledgment form. Check the box next to each addendum received and sign below. Failure to acknowledge addenda may result in bid disqualification.

Acknowledgment: I hereby acknowledge receipt of the following addenda and have made the necessary revisions to my proposal, plans and/or specification, etc.


Addendum Numbers Received:

(Check the box next to each addendum received)

- | | |
|--|--|
| <input checked="" type="checkbox"/> Addendum No. 1 | <input type="checkbox"/> Addendum No. 6 |
| <input type="checkbox"/> Addendum No. 2 | <input type="checkbox"/> Addendum No. 7 |
| <input type="checkbox"/> Addendum No. 3 | <input type="checkbox"/> Addendum No. 8 |
| <input type="checkbox"/> Addendum No. 4 | <input type="checkbox"/> Addendum No. 9 |
| <input type="checkbox"/> Addendum No. 5 | <input type="checkbox"/> Addendum No. 10 |

I understand that failure to confirm the receipt of addenda may be cause for rejection of this bid. I further understand that any verbal representation made or assumed to be made during any oral discussion held between Vendor's representatives and any state personnel is not binding. Only the information issued in writing and added to the specifications by an official addendum is binding.

Pomeroy IT Solutions
Company


Authorized Signature

3-19-2015
Date

NOTE: This addendum acknowledgement should be submitted with the bid to expedite document processing.
Revised 6/8/2012

Summit X440 Series

The Intelligent, Affordable Edge

HIGHLIGHTS

Powered by the same robust, modular operating system as our BlackDiamond® X8 and other Summit switches, the Summit X440 utilizes the benefits of the ExtremeXOS operating system in an intelligent, affordable access edge. The Summit X440 series switches provide redundant power supplies, SummitStack capability, comprehensive security features and high performance switching in a cost effective, small access switch.

KEY FEATURES

- PoE/PoE+ for wireless access points, cameras and IP phones
- Extending Intelligent 10/100/1000
- BASE-T connectivity to the desktop
- Line rate on all ports including 2 x 10GBASE-X SFP+ uplinks
- BASE-X SFP based fiber switches, for long distance links.
- Stack using SummitStack ports or SummitStack-V over 10GBASE-X SFP+ ports
- Stack up to 8 members (Using L3 models)
- Stack with other Summit products from Extreme Networks
- Fan can switch to low speed or off for minimal noise
- Edge switching for both AC and DC powered environments
- Energy Efficient Ethernet - IEEE 802.3az



Overview

The Extreme Networks® Summit® X440 series switches extend the intelligence and resiliency of the ExtremeXOS® network operating system to the converged access edge, enabling fine grained Quality of Service (QoS), stacking, high availability features and identity aware security in a compact, cost effective switch.

Standards-based PoE/PoE+ support (802.3af / 802.3at) allows the Summit X440 series to support the large-scale rollout of converged network devices such as IP telephones, wireless access points as well as physical security devices such as video cameras.

With high density, low latency, line rate 10/100/1000 Ethernet, dedicated 10 Gbps stacking ports, available redundant power supplies, hardware-based IP support (IPv4 and IPv6) and rich Layer 2 to Layer 4 functionality in a compact, 1RU form factor, the Summit X440 also provides effective enterprise class network access.

High Availability

- Modular ExtremeXOS operating system
- Ethernet Automatic Protection Switching (EAPS) resiliency protocol
- SummitStack™ - highly available, high-speed stacking support
- External power supply for redundant power

High Performance

- High bandwidth, non-blocking architecture
- Quality of Service (QoS) with advanced traffic management capabilities
- Automatic provisioning via Universal Port capability
- Comprehensive network management functionality

- 8, 24, or 48-port Gigabit Ethernet (GbE) connectivity in a 1RU form factor
- SummitStack 40 Gbps
- 10 Gigabit Ethernet (10GbE) uplinks

Comprehensive Security Features

- Identity aware policy and host integrity enforcement
- Extensive MAC and IP security functionality to help prevent man-in-the-middle attacks
- Universal Port dynamic security profile to provide fine granular security policy in the network
- Multiple network edge authentication support with multiple endpoints per port

Software Defined Networking (SDN)

ExtremeXOS implementations of OpenFlow APIs allow an external OpenFlow-based SDN controller to access and control the forwarding plane of ExtremeXOS network devices. ExtremeXOS-based switches offer a programming interface through OpenFlow to enable high degree of automation in provisioning network services for many upper layer business critical applications running the OpenFlow-based SDN controller.

Extreme XOS-based switches also allow for integration with the OpenStack open source cloud computing platform for public and private clouds through the Extreme Networks Quantum plugin. The plugin provides a scalable, automated, rich API-driven system that enables networking-as-a-service model managing data center interconnect solutions and large multi-tenant networks.

Audio Video Bridging (AVB)

ExtremeXOS® supports IEEE Audio Video Bridging (AVB) standards to enable reliable real-time audio and video transmissions over Ethernet, for high-definition and time-sensitive multimedia streams with assigned Quality of Service (QoS). ExtremeXOS leverages AVB to identify and reserve network resources for A/V traffic streams and supports synchronous streaming capabilities to ensure reliable and high-quality A/V transmissions over Ethernet. AVB also enables time sensitive multimedia streams to be sent over the Ethernet network with low latency and provides service quality for high definition information and entertainment applications.

IEEE 802.3at PoE-plus

Summit X440 PoE+ models support both IEEE 802.3at PoE-plus and IEEE. 802.3af PoE. Summit X440 models that support PoE-plus provide a cumulative total 170 watt or 380 watt power budget, which can be allocated across all of the RJ45 ports on that particular switch.

Stacking

Each of the Summit X440 models with two SummitStack stacking ports, provide a 40 Gigabit stacking solution. This stacking capability offers compatibility with other Extreme Networks stackable switches, including the Summit X250e, Summit X450a/e, Summit X460 with SummitStack module, Summit X480 with VIM2-SummitStack, and Summit X650 with VIM1-SummitStack or VIM1-10G8X – allowing up to eight units in a stack.

The Summit X440 models with two 10 Gigabit Ethernet (10GbE) links can also stack using SummitStack-V alternative stacking. This stacking method also offers compatibility with other Extreme Networks stackable switches that use 10GbE ports for SummitStack-V including Summit X450e, X450a, X460, X480, X650, X670 and X770V.

The SummitStack stacking architecture is designed for rapid failover capability with n-1 master redundancy, distributed Layer 2 and Layer 3 switching, link aggregation across the stack, and 50 millisecond failover in most cases for path failure and hitless master/backup failover.

- Single management point for up to eight units
- High-speed 40 Gbps stacking
- Rapid Failover for converged applications
- Can mix Summit X250e, Summit X440 Series, Summit X450a/e,- Series, Summit X460, Summit X480, Summit X650 and Summit X670 Series switches for SummitStack™ 40 Gbps stacking



Technical Specifications

PERFORMANCE

SWITCH MODEL	AGGREGATED SWITCH BANDWIDTH	FRAME FORWARDING RATE
Summit X440-8t	64 Gbps	48 Mpps
Summit X440-8p	64 Gbps	48 Mpps
Summit X440-24t	88 Gbps	65 Mpps
Summit X440-24tDC	88 Gbps	65 Mpps
Summit X440-24p	88 Gbps	65 Mpps
Summit X440-24x	88 Gbps	65 Mpps
Summit X440-48t	136 Gbps	101 Mpps
Summit X440-48tDC	136 Gbps	101 Mpps
Summit X440-48p	136 Gbps	101 Mpps
Summit X440-24t-10G	88 Gbps	65 Mpps
Summit X440-24p-10G	88 Gbps	65 Mpps
Summit X440-24x-10G	88 Gbps	65 Mpps
Summit X440-48t-10G	136 Gbps	101 Mpps
Summit X440-48p-10G	136 Gbps	101 Mpps

WEIGHT AND PHYSICAL DIMENSIONS

SWITCH MODEL	WEIGHT	PHYSICAL DIMENSION
Summit X440-8t	5.8 lb (2.640 kg)	Height: 1RU, 1.73 inches (4.4 cm) Width: 12.0 inches (30.5 cm) Depth: 10.3 inches (26.1 cm)
Summit X440-8p	6.7 lb (3.035 kg)	
Summit X440-24t	8.4 lb (3.825 kg)	
Summit X440-24p	9.8 lb (4.465 kg)	Height: 1RU, 1.73 inches (4.4 cm) Width: 17.4 inches (44.1 cm) Depth: 10.0 inches (25.4 cm)
Summit X440-24x	8.4 lb (3.825 kg)	
Summit X440-24tDC	8.5 lb (3.869 kg)	
Summit X440-48t	9.1 lb (4.125 kg)	
Summit X440-24x	9.1 lb (4.130 kg)	Height: 1RU, 1.73 inches (4.4 cm) Width: 17.4 inches (44.1 cm) Depth: 10.0 inches (25.4 cm)
Summit X440-48p	10.7 lb (4.845 kg)	
Summit X440-24t-10G	8.5 lb (3.865 kg)	
Summit X440-24p-10G	9.8 lb (4.475 kg)	Height: 1RU, 1.73 inches (4.4 cm) Width: 17.4 inches (44.1 cm) Depth: 10.0 inches (25.4 cm)
Summit X440-24x-10G	8.5 lb (3.865 kg)	

Additional Performance Specifications

- Latency: <5 µs (64-byte)
- Max Packet Size: 9KB (Jumbo Frame Support)
- Total Trunks: 128 load sharing, members per trunk: 8
- VLANs: 4,094
- Ingress ACLs: 1,024

Forwarding Tables

- Layer 2/MAC Addresses: 16K
- Layer 2/Multicast Groups: 1K
- IPv4 LPM Entries: 32
- IPv6 LPM Entries: 16
- IPv4 Host Addresses: 509
- IPv6 Host Addresses: 256
- Layer 3 Interfaces: 256
- IP Multicast Groups: 64

CPU, Memory

- Single Core CPU, 500 MHz clock
- 512MB ECC DRAM
- 512MB Compact Flash

QoS, Rate Limiting

- Ingress bandwidth meters: 1,024
- Ingress metering granularity: 8 Kbps
- Ingress bandwidth policing/rate limiting per flow/ACL
- Egress QoS queues/port: 8
- Egress bandwidth rate shaping per egress queue and per port
- Egress rate granularity: 64 Kbps

LED Indicators

- Per port status LED including power status
- System Status LEDs: management, fan and power

Operating Conditions

Temperature Range

- 0° C to 45° C (32° F to 113° F)
- Humidity: 10% to 95% relative humidity, non-condensing
- Altitude: 0 to 3,000 meters (9,850 feet)
- Shock (half sine): 30 m/s² (3 G), 11 ms, 60 shocks
- Random vibration: 3 to 500 Hz
- at 1.5 G rms

Storage & Transportation Conditions (Packaged)

- Transportation Temperature: -40° C to 70° C (-40° F to 158° F)
- Storage and Transportation Humidity: 10% to 95% RH, non-condensing
- Packaged Shock (Half Sine): 180 m/s² (18 G), 6ms, 600 shocks
- Packaged Sine Vibration: 5-62 Hz @ Velocity 5mm/s, 62-500 Hz @ 0.2G
- Packaged Random Vibration: 5-20 Hz @ 1.0 ASD w/-3dB/oct. from 20-200 Hz
- 14 drops min on sides & corners @ 42" (<15kg box)

EMI/EMC Standards

- FCC CFR 47 part 15 Class A (USA)
- ICES-003 Class A (Canada)
- 2004/108/EC EMC Directive
- EN 55022:2010 Class A (Emissions for ITE Equipment)
- EN 55024:2010 Class A includes EN 61000-4-2, 3, 4, 5, 6, 11
- EN 55011 :2009+A1:2010 (Emissions for Industrial, Scientific & Medical Radio Frequency Equipment)
- EN 61000-3-2: 2006+A2 2009 (Harmonics)
- EN 61000-3-3:2008 (Flicker)
- EN 61000-6-4: 2007+A1: 2011 (General Emissions for Industrial, Scientific & Medical)
- EN 61000-6-2:2005 (General Immunity for Industrial, Scientific & Medical)
- EN 50121-4:2006 (Emission and immunity of the signaling and telecommunications apparatus)

International EMC Standards

- CISPR 22:2008 Class A (International Emissions for ITE Equipment)
- CISPR 24:2010 Class A (International Immunity for ITE Equipment)
- IEC 61000-4-2:2008/EN 61000-4-2:2009 (Electrostatic Discharge, 8kV Contact, 15kV Air, Criteria A)
- IEC 61000-4-3:2010/EN 61000-4-3:2006+A12008 +A2:2010
- Radiated Immunity 20V/m, 80-960MHz, Criteria A
- Radiated Immunity 10V/m, 960-2100MHz, Criteria A
- Radiated Immunity 5V/m, 2100-2700MHz, Criteria A
- IEC 61000-4-4:2011/EN 61000-4-4: 2004+A1: 2010 Transient Burst
- Power AC, ± 2.0kV, Criteria A
- Power DC, ± 2.0kV CM, 1kV DM, Criteria A
- I/O Cables, ± 2.0kV for all I/O longer than 3m
- IEC 61000-4-5:2005/EN 61000-4-5:2006 Surge, Test to 2/4kV, Level 3
- AC Power, 1/2kV, Criteria A
- DC Power 1kV DM, 2kV CM, Criteria A
- I/O 1kV L-G, Criteria A
- IEC 61000-4-6:2008/EN 61000-4-6:2009 Conducted Immunity, 0.15-80 MHz, 10V/m unmod. RMS, Criteria A
- IEC 61000-4-8:2009/EN 61000-4-8:2010 Magnetic Immunity, Not applicable to Extreme's equipment
- IEC 61000-4-11:2004/EN 61000-4-11:2004 Power Dips & Interruptions, >30%, 25 periods, Criteria C
- VCCI Class A (Japan Emissions)
- ACMA (C-Tick) (Australia Emissions)
- CCC Mark
- KCC Mark, EMC Approval (Korea)

Telecom Standards

- ETSI EN 300 386: V1.5.1 (2010-10) EMC Telecommunications
- ETSI EN 300 019 (Environmental for Telecommunications)
- MEF 9 compliant
- MEF 14 compliant

IEEE 802.3 Media Access Standards

- IEEE 802.3ab 1000BASE-T
- IEEE 802.3z 1000BASE-X
- IEEE 802.3at PoE Plus
- IEEE 802.3az (EEE)

Environmental Standards

- EN/ETSI 300 019-2-1 v2.1.2 - Class 1.2 Storage
- EN/ETSI 300 019-2-2 v2.1.2 - Class 2.3 Transportation
- EN/ETSI 300 019-2-3 v2.1.2 - Class 3.1e Operational
- EN/ETSI 300 753 (1997-10) - Acoustic Noise
- ASTM D3580 Random Vibration Unpackaged 1.5G

Warranty

- Ltd. Lifetime with express Advanced Hardware Replacement
- For warranty details, visit <http://www.extremenetworks.com/go/warranty>

Safety Standards

- UL 60950-1 2nd Ed., Listed Device (U.S.)

External Ports

SWITCH MODEL	PORTS
Summit X440-8t	<ul style="list-style-type: none"> • 8 x 10/100/1000BASE-T (RJ45) ports • 4 x 100/1000BASE-X (SFP) unpopulated ports • 2 x SummitStack • 1 x Serial (console port) and 1 x 10/100BASE-T out-of-band management port
Summit X440-8p	<ul style="list-style-type: none"> • 8 x 10/100/1000BASE-T PoE-plus(RJ45) ports • 4 x 100/1000BASE-X (SFP) unpopulated ports • 2 x SummitStack • 1 x Serial (console port) and 1 x 10/100BASE-T out-of-band management port
Summit X440-24t	<ul style="list-style-type: none"> • 24 x 10/100/1000BASE-T (RJ45) - 4 ports are combo ports • 4 x 100/1000BASE-X (SFP) unpopulated combo ports • 2 x SummitStack • 1 x Serial (console port) and 1 x 10/100BASE-T out-of-band management port • 1 x Redundant Power Supply connector
Summit X440-24tDC	<ul style="list-style-type: none"> • 2 x SummitStack • 24 x 10/100/1000BASE-T (RJ45) - 4 ports are combo ports • 4 x 100/1000BASE-X (SFP) unpopulated combo ports • 2 x SummitStack • 1 x Serial (console port) and 1 x 10/100BASE-T out-of-band management port • 1 x DC PSU • 1 x Redundant Power Supply connector
Summit X440-24p	<ul style="list-style-type: none"> • 24 x 10/100/1000BASE-T PoE-plus(RJ45) - 4 ports are combo ports • 4 x 100/1000BASE-X (SFP) combo ports • 2 x SummitStack • 1 x Serial (console port) and 1 x 10/100BASE-T out-of-band management port • 1 x Redundant Power Supply connector
Summit X440-24x	<ul style="list-style-type: none"> • 24 x 100/1000BASE-X (SFP) unpopulated ports - 4 ports are combo ports • 4 x 10/100/1000BASE-T (RJ45) combo ports • 2 x SummitStack • 1 x Serial (console port) and 1 x 10/100BASE-T out-of-band management port • 1 x Redundant Power Supply connector
Summit X440-48t	<ul style="list-style-type: none"> • 48 x 10/100/1000BASE-T (RJ45) - 4 ports are combo ports • 4 x 100/1000BASE-X (SFP) unpopulated combo ports • 2 x SummitStack • 1 x Serial (console port) and 1 x 10/100BASE-T out-of-band management port • 1 x Redundant Power Supply connector
Summit X440-48tDC	<ul style="list-style-type: none"> • 48 x 10/100/1000BASE-T (RJ45) - 4 ports are combo ports • 4 x 100/1000BASE-X (SFP) unpopulated combo ports • 2 x SummitStack • 1 x Serial (console port) and 1 x 10/100BASE-T out-of-band management port • 1 x DC PSU • 1 x Redundant Power Supply connector
Summit X440-48p	<ul style="list-style-type: none"> • 48 x 10/100/1000BASE-T PoE-plus(RJ45) - 4 ports are combo ports • 4 x 100/1000BASE-X (SFP) combo ports • 2 x SummitStack • 1 x Serial (console port) and 1 x 10/100BASE-T out-of-band management port • 1 x Redundant Power Supply connector
Summit X440-24t-10G	<ul style="list-style-type: none"> • 24 x 10/100/1000BASE-T (RJ45) - 4 ports are combo ports • 4 x 100/1000BASE-X (SFP) unpopulated combo ports • 2 x 10GBASE-X SFP+ (1G/10G dual speed) unpopulated • 1 x Serial (console port) and 1 x 10/100BASE-T out-of-band management port • 1 x Redundant Power Supply connector
Summit X440-24p-10G	<ul style="list-style-type: none"> • 24 x 10/100/1000BASE-T PoE-plus(RJ45) - 4 ports are combo ports • 4 x 100/1000BASE-X (SFP) combo ports • 2 x 10GBASE-X SFP+ (1G/10G dual speed) unpopulated • 1 x Serial (console port) and 1 x 10/100BASE-T out-of-band management port • 1 x Redundant Power Supply connector

External Ports - continued

SWITCH MODEL	PORTS
Summit X440-24x-10G	<ul style="list-style-type: none"> • 24 x 100/1000BASE-X (SFP) unpopulated ports - 4 ports are combo ports • 4 x 10/100/1000BASE-T (RJ45) combo ports • 2 x 10GBASE-X SFP+ (1G/10G dual speed) unpopulated • 1 x Serial (console port) and 1 x 10/100BASE-T out-of-band management port • 1 x Redundant Power Supply connector
Summit X440-48t-10G	<ul style="list-style-type: none"> • 48 x 10/100/1000BASE-T (RJ45) - 2 ports are combo ports • 2 x 100/1000BASE-X (SFP) unpopulated combo ports • 2 x 10GBASE-X SFP+ (1G/10G dual speed) unpopulated • 1 x Serial (console port) and 1 x 10/100BASE-T out-of-band management port • 1 x Redundant Power Supply connector
Summit X440-48p-10G	<ul style="list-style-type: none"> • 48 x 10/100/1000BASE-T PoE-plus(RJ45) - 2 ports are combo ports • 2 x 100/1000BASE-X (SFP) combo ports • 2 x 10GBASE-X SFP+ (1G/10G dual speed) unpopulated • 1 x Serial (console port) and 1 x 10/100BASE-T out-of-band management port • 1 x Redundant Power Supply connector

Fan Speed and Acoustic Noise

SWITCH MODEL	LOW SPEED		HIGH SPEED	
	RPM	dB(A) Sound Pressure (LpA)	RPM	dB(A) Sound Pressure (LpA)
Summit X440-8t	0 (no fan)	0 (no fan)	0 (no fan)	0 (no fan)
Summit X440-8p	6800	44	11000	55
Summit X440-24t	0 (fan not on)	0 (fan not on)	11000	55
Summit X440-24tDC	0 (fan not on)	15	10500	51
Summit X440-24p	5900	42	11000	57
Summit X440-24x	0 (fan not on)	0 (fan not on)	11000	52
Summit X440-48t	5900	39	11000	55
Summit X440-48tDC	5900	39	10500	52
Summit X440-48p	5900	42	11000	57
Summit X440-24t-10G	0 (fan not on)	0 (fan not on)	11000	55

Fan Speed and Acoustic Noise

SWITCH MODEL	LOW SPEED		HIGH SPEED	
	RPM	dB(A) Sound Pressure (LpA)	RPM	dB(A) Sound Pressure (LpA)
Summit X440-24x-10G	5900	42	11000	57
Summit X440-24x-10G	5900	42	11000	53
Summit X440-48t-10G	5900	39	11000	55
Summit X440-48p-10G	5900	42	11000	57

Note: Sound pressure is measured in accordance with ISO 7779:2010 (IEC).

Power Specifications

SWITCH MODEL	EFFICIENCY	POE BUDGET	EFFICIENCY
Summit X440-8t	39W		70%
Summit X440-8p	240W	170W	70%
Summit X440-24t	44W		70%
Summit X440-24tDC	38W		79%
Summit X440-24p	585W	380W	70%
Summit X440-24x	46W		70%
Summit X440-48t	60W		70%
Summit X440-48tDC	57W		82%
Summit X440-48p	600W	380W	69%
Summit X440-24t-10G	44W		75%
Summit X440-24p-10G	585W	380W	75%
Summit X440-24x-10G	46W		75%
Summit X440-48t-10G	95W		66%

Accessories

EXTERNAL POWER SUPPLY

EPS-C2

The EPS-C2 is an external power supply that supplies redundant power to Summit X440 switches. The EPS-C2 is a standalone unit that can be rack mounted in a regular 19-inch rack system. The EPS-C2 can be populated with up to three Summit 750W PoE AC PSU to provide a total redundant power budget of up to 2250W. The EPS-C2 can connect up to five Summit X440 switches, actively providing power to all five if needed.



Front View of the EPS-C2 Populated with 3 750W Power Supplies



Rear View of the EPS-C2



EPS-C2 Connected to a Summit X440

EPS MODEL	REDUNDANT POWER SUPPLY OUTPUT BLOCKS
EPS-C2	1 terminal block of 2x9 pins - used for other Summit switches 5 terminal blocks of 2x7 pins - used by Summit X440s Low Speed

EPS MODEL	ALLOWABLE PSU	ALLOWABLE PSU	POWER CORD INPUT PLUG/INPUT SOCKET	POWER CORD INPUT PLUG/INPUT SOCKET
EPS-C2	Summit 750W PoE AC PSU	IEC 320 C14	IEC 320 C13/C14	Min 18AWG

EPS MODEL	WEIGHT	ALLOWABLE PSU
EPS-C2	227 lb (5.0 kg)	Height: 1RU, 1.73 inches (4.4 cm) Width: 17.4 inches (44.1 cm) Depth: 15.1 inches (38.4 cm)

SWITCH MODEL	POWER SUPPLY INPUT SOCKET	POWER CORD INPUT PLUG/ INPUT SOCKET	POWER SUPPLY CORD GAUGE	REDUNDANT POWER SUPPLY INPUT SOCKET
Summit X440-8t	IEC 320 C14	IEC 320 C13/C14	Min 18AWG	n/a
Summit X440-8p	IEC 320 C14	IEC 320 C13/C14	Min 18AWG	n/a
Summit X440-24t	IEC 320 C14	IEC 320 C13/C14	Min 18AWG	2x7 pin terminal block
Summit X440-24tDC	#6 Terminal Block	#6, Crimp lugs, 16/14 AWG	Min 14 AWG	2x7 pin terminal block
Summit X440-24p	IEC 320 C14	IEC 320 C13/C14	Min 18AWG	2x7 pin terminal block
Summit X440-24x	IEC 320 C14	IEC 320 C13/C14	Min 18AWG	2x7 pin terminal block
Summit X440-48t	IEC 320 C14	IEC 320 C13/C14	Min 18AWG	2x7 pin terminal block
Summit X440-24tDC	#6 Terminal Block	#6, Crimp lugs, 16/14 AWG	Min 14 AWG	2x7 pin terminal block
Summit X440-48p	IEC 320 C14	IEC 320 C13/C14	Min 18AWG	2x7 pin terminal block
Summit X440-24t-10G	IEC 320 C14	IEC 320 C13/C14	Min 18AWG	2x7 pin terminal block
Summit X440-24p-10G	IEC 320 C14	IEC 320 C13/C14	Min 18AWG	2x7 pin terminal block
Summit X440-24x-10G	IEC 320 C14	IEC 320 C13/C14	Min 18AWG	2x7 pin terminal block

750W AC PSU (Model 10931) for PoE switches

PHYSICAL SPECIFICATIONS	
Dimensions	Height 40 mm (1.57 inches) Width 80 mm (3.15 inches) Depth 241.5 mm (9.5 inches)
Weight	2.25 lb (1.02kg)
POWER SPECIFICATIONS	
Voltage input range	85-264 VAC
Nominal input ratings	100 to 240 VAC, 50 to 60 Hz, 10 A
Nominal input current at full load	10 A at 90 VAC (low-line) 3.7 A at 230 VAC (high-line)
Line frequency range	47 to 63 Hz
Maximum inrush current	35 A
Output	12 VDC, 25 A maximum, 300 Watts 55 VDC, 8.18 A maximum, 450 Watts 3.3 VDC, 3.03 A maximum, 10 Watts
Power Supply input socket	IEC 320 C14
Power cord input plug	IEC 320 C13
Efficiency	Low Line: 88% at 50% load and 86% at 100% load High Line: 90% at 50% and 100% loads
ENVIRONMENTAL SPECIFICATIONS	
Operating Temperature	0 deg C to 45 deg C normal operation
Storage Temperature	-40 deg C to 70 deg C
Operating Humidity	20% to 90% relative humidity, non-condensing
Operational Shock	30 m/s ² (3g)

Ordering Information

PART NUMBER	NAME	DESCRIPTION
16501	Summit X440-8t	8 10/100/1000BASE-T, 4 1000BASE-X unpopulated SFP, SummitStack Stacking ports, 1 AC PSU, ExtremeXOS Edge license
16501T	Summit X440-8t-TAA	8 10/100/1000BASE-T, 4 1000BASE-X unpopulated SFP, SummitStack Stacking ports, 1 AC PSU, ExtremeXOS Edge license, TAA model
16502	Summit X440-8p	8 10/100/1000BASE-T PoE-plus, 4 1000BASE-X unpopulated SFP, SummitStack Stacking ports, 1 AC PSU, ExtremeXOS Edge license
16502T	Summit X440-8p-TAA	8 10/100/1000BASE-T PoE-plus, 4 1000BASE-X unpopulated SFP, SummitStack Stacking ports, 1 AC PSU, ExtremeXOS Edge license, TAA model
16503	Summit X440-24t	24 10/100/1000BASE-T, 4 1000BASE-X unpopulated SFP (4 SFP ports shared with 10/100/1000BASE-T ports), SummitStack Stacking ports, 1 AC PSU, ExtremeXOS Edge license, connector for external power supply
16503T	Summit X440-24t-TAA	24 10/100/1000BASE-T, 4 1000BASE-X unpopulated SFP (4 SFP ports shared with 10/100/1000BASE-T ports), Summit Stack Stacking ports, 1 AC PSU, ExtremeXOS Edge license, connector for external power supply, TAA model
16519	Summit X440-24tDC	24 10/100/1000BASE-T, 4 1000BASE-X unpopulated SFP (4 SFP ports shared with 10/100/1000BASE-T ports), Summit Stack Stacking ports, 1 DC PSU, ExtremeXOS Edge license, connector for external power supply
16504	Summit X440-24p	24 10/100/1000BASE-T PoE-plus, 4 1000BASE-X unpopulated SFP (4 SFP ports shared with 10/100/1000BASE-T ports), SummitStack Stacking ports, 1 AC PSU, ExtremeXOS Edge license, connector for external power supply

PART NUMBER	NAME	DESCRIPTION
16504T	Summit X440-24p-TAA	24 10/100/1000BASE-T PoE-plus, 4 1000BASE-X unpopulated SFP (4 SFP ports shared with 10/100/1000BASE-T ports), SummitStack Stacking ports, 1 AC PSU, ExtremeXOS Edge license, connector for external power supply, TAA model
16513	Summit X440-24x	24 100/1000BASE-X SFP ports, 4 gigabit combo ports (4 RJ45 ports shared with 100/1000BASE-X ports), SummitStack Stacking ports, 1 AC PSU, ExtremeXOS Edge license, connector for external power supply
16505	Summit X440-48x	48 10/100/1000BASE-T, 4 1000BASE-X unpopulated SFP (4 SFP ports shared with 10/100/1000BASE-T ports), SummitStack Stacking ports, 1 AC PSU, ExtremeXOS Edge license, connector for external power supply
16520	Summit X440-48tDC	48 10/100/1000BASE-T, 4 1000BASE-X unpopulated SFP (4 SFP ports shared with 10/100/1000BASE-T ports), Summit Stack Stacking ports, 1 DC PSU, ExtremeXOS Edge license, connector for external power supply.
16505T	Summit X440-48t-TAA	48 10/100/1000BASE-T, 4 1000BASE-X unpopulated SFP (4 SFP ports shared with 10/100/1000BASE-T ports), SummitStack Stacking ports, 1 AC PSU, ExtremeXOS Edge license, connector for external power supply, TAA model
16506	Summit X440-48p	48 10/100/1000BASE-T PoE-plus, 4 1000BASE-X unpopulated SFP (4 SFP ports shared with 10/100/1000BASE-T ports), SummitStack Stacking ports, 1 AC PSU, ExtremeXOS Edge license, connector for external power supply
16506T	Summit X440-48p-TAA	48 10/100/1000BASE-T PoE-plus, 4 1000BASE-X unpopulated SFP (4 SFP ports shared with 10/100/1000BASE-T ports), SummitStack Stacking ports, 1 AC PSU, ExtremeXOS Edge license, connector for external power supply, TAA model
16507	Summit X440-24t-10G	24 10/100/1000BASE-T, 2 1000BASE-X unpopulated SFP (2 SFP ports shared with 10/100/1000BASE-T ports), 2 10GBASE-X SFP+, 1 AC PSU, ExtremeXOS Edge license, connector for external power supply
16507T	Summit X440-24t-10G-TAA	24 10/100/1000BASE-T, 4 1000BASE-X unpopulated SFP (2 4 SFP ports shared with 10/100/1000BASE-T ports), 2 10GBASE-X SFP+, 1 AC PSU, ExtremeXOS Edge license, connector for external power supply, TAA model
16508	Summit X440-24p-10G	24 10/100/1000BASE-T PoE-plus, 2 1000BASE-X unpopulated SFP (2 SFP ports shared with 10/100/1000BASE-T ports), 2 10GBASE-X SFP+, 1 AC PSU, ExtremeXOS Edge license, connector for external power supply
16508T	Summit X440-24p-10G-TAA	24 10/100/1000BASE-T PoE-plus, 4 1000BASE-X unpopulated SFP (4 SFP ports shared with 10/100/1000BASE-T ports), 2 10GBASE-X SFP+, 1 AC PSU, ExtremeXOS Edge license, connector for external power supply, TAA model
16514	Summit X440-24x-10G	24 100/1000BASE-X SFP ports, 4 gigabit combo ports (4 RJ45 ports shared with 100/1000BASE-X ports), 2 10GBASE-X SFP+, 1 AC PSU, ExtremeXOS Edge license, connector for external power supply
16509	Summit X440-48t-10G	48 10/100/1000BASE-T, 2 1000BASE-X unpopulated SFP (2 SFP ports shared with 10/100/1000BASE-T ports), 2 10GBASE-X SFP+, 1 AC PSU, ExtremeXOS Edge license, connector for external power supply
16509T	Summit X440-48t-10G-TAA	48 10/100/1000BASE-T, 2 1000BASE-X unpopulated SFP (2 SFP ports shared with 10/100/1000BASE-T ports), 2 10GBASE-X SFP+, 1 AC PSU, ExtremeXOS Edge license, connector for external power supply, TAA model
16510	Summit X440-48p-10G	48 10/100/1000BASE-T PoE-plus, 2 1000BASE-X unpopulated SFP (2 SFP ports shared with 10/100/1000BASE-T ports), 2 10GBASE-X SFP+, 1 AC PSU, ExtremeXOS Edge license, connector for external power supply
16510T	Summit X440-48p-10G-TAA	48 10/100/1000BASE-T PoE-plus, 2 1000BASE-X unpopulated SFP (2 SFP ports shared with 10/100/1000BASE-T ports), 2 10GBASE-X SFP+, 1 AC PSU, ExtremeXOS Edge license, connector for external power supply, TAA model
16513	Summit X440-24x	24 100/1000BASE-X SFP ports, 4 gigabit combo ports (4 RJ45 ports shared with 100/1000BASE-X ports), SummitStack Stacking ports, 1 AC PSU, ExtremeXOS Edge license, connector for external power supply
16521	Summit X440 Adv. Edge License	ExtremeXOS Advanced Edge License for Summit X440 Series Switches
16522	Summit X440 OpenFlow FeaturePack	ExtremeXOS SDN - OpenFlow Feature Pack for Summit X440 series switches
16523	X440 Multimedia(AVB) Feature Pack	ExtremeXOS Audio Video Bridging Feature Pack for Summit X440 series switches
10936	EPS-C2	External Power System Chassis 2. Accepts up to three Summit 750W AC PoE PSU 48V power supplies. Accepts up to 3 EPS-CBL-2x7 or up to 1 EPS-CBL-2x9 cables.
10939	EPS-CBL-2x7	External Power System Cable (1M) that connects EPS to any Summit X440 for providing redundant DC power.

PART NUMBER	NAME	DESCRIPTION
10931	Summit 750W PoE AC PSU	PoE AC Power Supply module for EPS-C2 Chassis Redundant Power Supply
10301	10GBASE-SR SFP+	10GBASE-SR SFP+, 850nm, LC Connector, transmission length of up to 300m on MMF
10302	10GBASE-LR SFP+	10GBASE-LR SFP+, 1310nm, LC Connector, transmission length of up to 10km on SMF
10309	10GBASE-ER SFP+	10GBASE-ER SFP+, 1550nm, LC connector, transmission length of up to 40km on SMF
10310	10GBASE-ZR SFP+	10GBASE-ZR SFP+ 1550nm, LC connector, transmission length up to 80km on SMF
10303	SFP+ LRM Module	10 Gigabit Ethernet SFP+ module, 1310nm, legacy MMF 220m link, LC connector
10304	10GBASE-CR SFP+ 1m	10GBASE-CR SFP+ pre-terminated twin-ax copper cable with link lengths of 1m
10305	10GBASE-CR SFP+ 3m	10GBASE-CR SFP+ pre-terminated twin-ax copper cable with link lengths of 3m
10306	10GBASE-CR SFP+ 5m	10GBASE-CR SFP+ pre-terminated twin-ax copper cable with link lengths of 5m
10307	10GBASE-CR SFP+ 10m	10GBASE-CR SFP+ pre-terminated twin-ax copper cable with link lengths of 10m
10051H	1000BASE-SX SFP, Hi	1000BASE-SX SFP, MMF 220 & 550 meters, LC Connector, Industrial Temp
10052H	1000BASE-LX SFP, Hi	1000BASE-LX SFP, LC Connector, Industrial Temp
10053 H	1000BASE-ZX SFP	1000BASE-ZX SFP, SMF 70 km, LC Connector, Industrial Temp
10056H	1000BASE-BX-D SFP, Hi	1000BASE-BX-D SFP, SMF (1490nm TX/1310nm RX Wavelength), Industrial Temp
10057H	1000BASE-BX-U SFP, Hi	1000BASE-BX-U SFP, SMF (1310nm TX/1490nm RX Wavelength), Industrial Temp
10060*	100FX/1000LX SFP	100FX/1000LX SFP, SMF, LC Connector (Requires MCP and 6dB Attenuator for 100FX-MMF Operation)
10063*	100FX SFP	100FX SFP, MMF, LC Connector
10064	1000BASE-LX100 SFP	1000BASE-LX100 SFP, Extra Long Distance SMF 100 km/30dB Budget, LC Connector
10065*	10/100/1000Base-T SFP	10/100/1000BASE-T SFP module, Category 5 cable 100m link, RJ45-Connector
10067	100BASE-FX SFP	100M SFP, 100FX MMF, (1310nm, 2km multimode transmission) LC connector
10066	100BASE-LX10 SFP	100M SFP, 100LX10 SMF, (1310nm 10km single mode transmission) LC connector

PART NUMBER	NAME	DESCRIPTION
10059	100BASE-BX-U SFP	100M SFP, 100BASE-BX-U, SMF (1310nm TX/1550nm RX wavelength), 100 Mbps bidirectional
10071H	1000BASE-SX SFP 10 Pack, Hi	1000BASE-SX SFP 10 Pack, Industrial Temp
10072H	1000BASE-LX SFP 10 Pack, Hi	1000BASE-LX SFP 10 Pack, Industrial Temp
16106	Stacking Cable, 0.5M	SummitStack/UniStack™ Stacking Cable, 0.5M
16107	Stacking Cable, 1.5M	SummitStack/UniStack Stacking Cable, 1.5M
16108	Stacking Cable, 3.0M	SummitStack/UniStack Stacking Cable, 3.0M
16105	Stacking Cable, 5.0M	SummitStack Stacking Cable, 5.0M

* Not supported on combo ports

Protocols and Standards

A list of supported protocols and standards is available on the Extreme Networks website at:

<http://www.extremenetworks.com/products/extreme-xos.aspx>

POWER CORDS

In support of the Extreme Networks Green initiatives, power cords can be ordered separately but need to be specified at the time order. Please refer to www.extremenetworks.com/product/powercords/ for details on power cord availability for this product.



<http://www.extremenetworks.com/contact> / Phone +1-408-579-2800

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State of West Virginia

VENDOR PREFERENCE CERTIFICATE

Certification and application* is hereby made for Preference in accordance with **West Virginia Code, §5A-3-37**. (Does not apply to construction contracts). **West Virginia Code, §5A-3-37**, provides an opportunity for qualifying vendors to request (at the time of bid) preference for their residency status. Such preference is an evaluation method only and will be applied only to the cost bid in accordance with the **West Virginia Code**. This certificate for application is to be used to request such preference. The Purchasing Division will make the determination of the Vendor Preference, if applicable.

1. **Application is made for 2.5% vendor preference for the reason checked:**
 Bidder is an individual resident vendor and has resided continuously in West Virginia for four (4) years immediately preceding the date of this certification; **or**,
 Bidder is a partnership, association or corporation resident vendor and has maintained its headquarters or principal place of business continuously in West Virginia for four (4) years immediately preceding the date of this certification; **or** 80% of the ownership interest of Bidder is held by another individual, partnership, association or corporation resident vendor who has maintained its headquarters or principal place of business continuously in West Virginia for four (4) years immediately preceding the date of this certification; **or**,
 Bidder is a nonresident vendor which has an affiliate or subsidiary which employs a minimum of one hundred state residents and which has maintained its headquarters or principal place of business within West Virginia continuously for the four (4) years immediately preceding the date of this certification; **or**,
2. **Application is made for 2.5% vendor preference for the reason checked:**
 Bidder is a resident vendor who certifies that, during the life of the contract, on average at least 75% of the employees working on the project being bid are residents of West Virginia who have resided in the state continuously for the two years immediately preceding submission of this bid; **or**,
3. **Application is made for 2.5% vendor preference for the reason checked:**
 Bidder is a nonresident vendor employing a minimum of one hundred state residents or is a nonresident vendor with an affiliate or subsidiary which maintains its headquarters or principal place of business within West Virginia employing a minimum of one hundred state residents who certifies that, during the life of the contract, on average at least 75% of the employees or Bidder's affiliate's or subsidiary's employees are residents of West Virginia who have resided in the state continuously for the two years immediately preceding submission of this bid; **or**,
4. **Application is made for 5% vendor preference for the reason checked:**
 Bidder meets either the requirement of both subdivisions (1) and (2) or subdivision (1) and (3) as stated above; **or**,
5. **Application is made for 3.5% vendor preference who is a veteran for the reason checked:**
 Bidder is an individual resident vendor who is a veteran of the United States armed forces, the reserves or the National Guard and has resided in West Virginia continuously for the four years immediately preceding the date on which the bid is submitted; **or**,
6. **Application is made for 3.5% vendor preference who is a veteran for the reason checked:**
 Bidder is a resident vendor who is a veteran of the United States armed forces, the reserves or the National Guard, if, for purposes of producing or distributing the commodities or completing the project which is the subject of the vendor's bid and continuously over the entire term of the project, on average at least seventy-five percent of the vendor's employees are residents of West Virginia who have resided in the state continuously for the two immediately preceding years.
7. **Application is made for preference as a non-resident small, women- and minority-owned business, in accordance with West Virginia Code §5A-3-59 and West Virginia Code of State Rules.**
 Bidder has been or expects to be approved prior to contract award by the Purchasing Division as a certified small, women- and minority-owned business.

Bidder understands if the Secretary of Revenue determines that a Bidder receiving preference has failed to continue to meet the requirements for such preference, the Secretary may order the Director of Purchasing to: (a) reject the bid; or (b) assess a penalty against such Bidder in an amount not to exceed 5% of the bid amount and that such penalty will be paid to the contracting agency or deducted from any unpaid balance on the contract or purchase order.

By submission of this certificate, Bidder agrees to disclose any reasonably requested information to the Purchasing Division and authorizes the Department of Revenue to disclose to the Director of Purchasing appropriate information verifying that Bidder has paid the required business taxes, provided that such information does not contain the amounts of taxes paid nor any other information deemed by the Tax Commissioner to be confidential.

Under penalty of law for false swearing (West Virginia Code, §61-5-3), Bidder hereby certifies that this certificate is true and accurate in all respects; and that if a contract is issued to Bidder and if anything contained within this certificate changes during the term of the contract, Bidder will notify the Purchasing Division in writing immediately.

Bidder: Pomeroy IT Solutions

Signed: 

Date: 3-19-2015

Title: Technology Solutions Executive

STATE OF WEST VIRGINIA
Purchasing Division

PURCHASING AFFIDAVIT

MANDATE: Under W. Va. Code §5A-3-10a, no contract or renewal of any contract may be awarded by the state or any of its political subdivisions to any vendor or prospective vendor when the vendor or prospective vendor or a related party to the vendor or prospective vendor is a debtor and: (1) the debt owed is an amount greater than one thousand dollars in the aggregate; or (2) the debtor is in employer default.

EXCEPTION: The prohibition listed above does not apply where a vendor has contested any tax administered pursuant to chapter eleven of the W. Va. Code, workers' compensation premium, permit fee or environmental fee or assessment and the matter has not become final or where the vendor has entered into a payment plan or agreement and the vendor is not in default of any of the provisions of such plan or agreement.

DEFINITIONS:

"Debt" means any assessment, premium, penalty, fine, tax or other amount of money owed to the state or any of its political subdivisions because of a judgment, fine, permit violation, license assessment, defaulted workers' compensation premium, penalty or other assessment presently delinquent or due and required to be paid to the state or any of its political subdivisions, including any interest or additional penalties accrued thereon.

"Employer default" means having an outstanding balance or liability to the old fund or to the uninsured employers' fund or being in policy default, as defined in W. Va. Code § 23-2c-2, failure to maintain mandatory workers' compensation coverage, or failure to fully meet its obligations as a workers' compensation self-insured employer. An employer is not in employer default if it has entered into a repayment agreement with the Insurance Commissioner and remains in compliance with the obligations under the repayment agreement.

"Related party" means a party, whether an individual, corporation, partnership, association, limited liability company or any other form or business association or other entity whatsoever, related to any vendor by blood, marriage, ownership or contract through which the party has a relationship of ownership or other interest with the vendor so that the party will actually or by effect receive or control a portion of the benefit, profit or other consideration from performance of a vendor contract with the party receiving an amount that meets or exceeds five percent of the total contract amount.

AFFIRMATION: By signing this form, the vendor's authorized signer affirms and acknowledges under penalty of law for false swearing (W. Va. Code §61-5-3) that neither vendor nor any related party owe a debt as defined above and that neither vendor nor any related party are in employer default as defined above, unless the debt or employer default is permitted under the exception above.

WITNESS THE FOLLOWING SIGNATURE:

Vendor's Name: Pomeroy IT Solutions

Authorized Signature: [Signature] Date: 3-19-2015

State of West Virginia

County of Kanawha, to-wit:

Taken, subscribed, and sworn to before me this 19 day of March, 2015

My Commission expires October 26, 2020

AFFIX SEAL HERE

NOTARY PUBLIC

[Signature]

Purchasing Affidavit (Revised 07/01/2012)

