



West Virginia Purchasing Division

2019 Washington Street, East
Charleston, WV 25305
Telephone: 304-558-2306
General Fax: 304-558-6026
Bid Fax: 304-558-3970

The following documentation is an electronically-submitted vendor response to an advertised solicitation from the *West Virginia Purchasing Bulletin* within the Vendor Self-Service portal at ***wvOASIS.gov***. As part of the State of West Virginia's procurement process, and to maintain the transparency of the bid-opening process, this documentation submitted online is publicly posted by the West Virginia Purchasing Division at ***WVPurchasing.gov*** with any other vendor responses to this solicitation submitted to the Purchasing Division in hard copy format.

Header

List View

General Information | Contact | Default Values | Discount | Document Information

Procurement Folder: 205127

SO Doc Code: CRFQ

Procurement Type: Central Purchase Order

SO Dept: 0608

Vendor ID: 00000210570

SO Doc ID: COR1600000038

Legal Name: ALPHA TECHNOLOGIES INC

Published Date: 6/14/16

Alias/DBA:

Close Date: 7/12/16

Total Bid: \$42,023.68

Close Time: 13:30

Response Date: 07/12/2016

Status: Closed

Response Time: 12:44

Solicitation Description: NETWORK SWITCHES FOR PAROLE SERVICES

Total of Header Attachments: 0

Total of All Attachments: 0



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

State of West Virginia
 Solicitation Response

Proc Folder : 205127

Solicitation Description : NETWORK SWITCHES FOR PAROLE SERVICES

Proc Type : Central Purchase Order

Date issued	Solicitation Closes	Solicitation No	Version
	2016-07-12 13:30:00	SR 0608 ESR07121600000000128	1

VENDOR

000000210570
 ALPHA TECHNOLOGIES INC

FOR INFORMATION CONTACT THE BUYER

Crystal Rink
 (304) 558-2402
 crystal.g.rink@wv.gov

Signature X FEIN # DATE

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

Line	Comm Ln Desc	Qty	Unit Issue	Unit Price	Ln Total Or Contract Amount
1	Network switches	10.00000	EA	\$1,734.990000	\$17,349.90

Comm Code	Manufacturer	Specification	Model #
43222612			

Extended Description : Cisco Catalyst 2960S-F48FPS-L
48 Ethernet 10/100 ports with PoE+
4 SFP
740W
Part Number WS-C2960S-F48FPS-L

Line	Comm Ln Desc	Qty	Unit Issue	Unit Price	Ln Total Or Contract Amount
2	Network switches	14.00000	EA	\$1,099.070000	\$15,386.98

Comm Code	Manufacturer	Specification	Model #
43222612			

Extended Description : Cisco Catalyst 2960S-F24PS-L
24 Ethernet 10/100 ports with PoE+
2 SFP
370W
Part number WS-C2960S-F24PS-L

Line	Comm Ln Desc	Qty	Unit Issue	Unit Price	Ln Total Or Contract Amount
3	Transceivers and media converters	28.00000	EA	\$174.930000	\$4,898.04

Comm Code	Manufacturer	Specification	Model #
43201553			

Extended Description : GLC-SX-MMD= 1000BASE-SX SFP transceiver module MMF 850nm DOM. or equal

Line	Comm Ln Desc	Qty	Unit Issue	Unit Price	Ln Total Or Contract Amount
4	Guarantee agreements	10.00000	EA	\$232.740000	\$2,327.40

Comm Code	Manufacturer	Specification	Model #
84101503			

Extended Description : CISCO Smartnet 24x7x365 Total Care Service, or equal
for CISCO 2960-SF 48 FE PoE, OR EQUAL

Line	Comm Ln Desc	Qty	Unit Issue	Unit Price	Ln Total Or Contract Amount
5	Guarantee agreements	14.00000	EA	\$147.240000	\$2,061.36

Comm Code	Manufacturer	Specification	Model #
84101503			

Extended Description :	CISCO Smartnet 24x7x365 Total Care Service, or equal for CISCO 2960-SF 24 FE PoE, OR EQUAL
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Purchasing Division
 2019 Washington Street East
 Post Office Box 50130
 Charleston, WV 25305-0130

State of West Virginia
 Request for Quotation
 21 – Info Technology

Proc Folder: 205127

Doc Description: NETWORK SWITCHES FOR PAROLE SERVICES

Proc Type: Central Purchase Order

Date Issued	Solicitation Closes	Solicitation No	Version
2016-06-14	2016-07-12 13:30:00	CRFQ 0608 COR1600000038	1

BID RECEIVING LOCATION

BID CLERK
 DEPARTMENT OF ADMINISTRATION
 PURCHASING DIVISION
 2019 WASHINGTON ST E
 CHARLESTON WV 25305
 US

VENDOR

Vendor Name, Address and Telephone Number:

Alpha Technologies Inc.
 4003 Outlook Drive
 Hurricane, WV 25526
 Phone 304-721-8987 Fax 304-201-2610

FOR INFORMATION CONTACT THE BUYER

Crystal Rink
 (304) 558-2402
 crystal.g.rink@wv.gov

Signature X

FEIN# 55-0774279

DATE 7-11-2016

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

ADDITIONAL INFORMATION:

THE STATE OF WEST VIRGINIA PURCHASING DIVISION FOR THE AGENCY, THE WEST VIRGINIA DIVISION OF CORRECTIONS, IS SOLICITING BIDS TO ESTABLISH A CONTRACT FOR THE ONE-TIME PURCHASE OF ETHERNET SWITCHES PER THE ATTACHED

INVOICE TO		SHIP TO	
FISCAL DEPARTMENT DIVISION OF CORRECTIONS - CENTRAL OFFICE 1409 GREENBRIER ST STE 300		FISCAL DEPARTMENT DIVISION OF CORRECTIONS - CENTRAL OFFICE STE 300 1409 GREENBRIER ST	
CHARLESTON	WV25311	CHARLESTON	WV 25311
US		US	

Line	Comm Ln Desc	Qty	Unit Issue	Unit Price	Total Price
1	Network switches	10.00000	EA		

Comm Code	Manufacturer	Specification	Model #
43222612			

Extended Description :

Cisco Catalyst 2960S-F48FPS-L
48 Ethernet 10/100 ports with PoE+
4 SFP
740W
Part Number WS-C2960S-F48FPS-L
or equivalent

INVOICE TO		SHIP TO	
FISCAL DEPARTMENT DIVISION OF CORRECTIONS - CENTRAL OFFICE 1409 GREENBRIER ST STE 300		FISCAL DEPARTMENT DIVISION OF CORRECTIONS - CENTRAL OFFICE STE 300 1409 GREENBRIER ST	
CHARLESTON	WV25311	CHARLESTON	WV 25311
US		US	

Line	Comm Ln Desc	Qty	Unit Issue	Unit Price	Total Price
2	Network switches	14.00000	EA		

Comm Code	Manufacturer	Specification	Model #
43222612			

Extended Description :

Cisco Catalyst 2960S-F24PS-L
24 Ethernet 10/100 ports with PoE+
2 SFP
370W
Part number WS-C2960S-F24PS-L
or equivalent

INVOICE TO		SHIP TO	
FISCAL DEPARTMENT DIVISION OF CORRECTIONS - CENTRAL OFFICE 1409 GREENBRIER ST STE 300		FISCAL DEPARTMENT DIVISION OF CORRECTIONS - CENTRAL OFFICE STE 300 1409 GREENBRIER ST	
CHARLESTON	WV25311	CHARLESTON	WV 25311
US		US	

Line	Comm Ln Desc	Qty	Unit Issue	Unit Price	Total Price
3	Transceivers and media converters	28.00000	EA		

Comm Code	Manufacturer	Specification	Model #
43201553			

Extended Description :
GLC-SX-MMD= 1000BASE-SX SFP transceiver module MMF 850nm DOM. or equal

INVOICE TO		SHIP TO	
FISCAL DEPARTMENT DIVISION OF CORRECTIONS - CENTRAL OFFICE 1409 GREENBRIER ST STE 300		FISCAL DEPARTMENT DIVISION OF CORRECTIONS - CENTRAL OFFICE STE 300 1409 GREENBRIER ST	
CHARLESTON	WV25311	CHARLESTON	WV 25311
US		US	

Line	Comm Ln Desc	Qty	Unit Issue	Unit Price	Total Price
4	Guarantee agreements	10.00000	EA		

Comm Code	Manufacturer	Specification	Model #
84101503			

Extended Description :
CISCO Smartnet 24x7x365 Total Care Service, or equal
for CISCO 2960-SF 48 FE PoE, OR EQUAL

INVOICE TO		SHIP TO	
FISCAL DEPARTMENT DIVISION OF CORRECTIONS - CENTRAL OFFICE 1409 GREENBRIER ST STE 300		FISCAL DEPARTMENT DIVISION OF CORRECTIONS - CENTRAL OFFICE STE 300 1409 GREENBRIER ST	
CHARLESTON	WV25311	CHARLESTON	WV 25311
US		US	

Line	Comm Ln Desc	Qty	Unit Issue	Unit Price	Total Price
5	Guarantee agreements	14.00000	EA		

Comm Code	Manufacturer	Specification	Model #
84101503			

Extended Description :
CISCO Smartnet 24x7x365 Total Care Service, or equal
for CISCO 2960-SF 24 FE PoE, OR EQUAL

SCHEDULE OF EVENTS

<u>Line</u>	<u>Event</u>	<u>Event Date</u>
1	VENDOR QUESTION DEADLINE	2016-06-27

COR1600000038	Document Phase Final	Document Description NETWORK SWITCHES FOR PAROLE SERVICES	Page 5 of 5
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ADDITIONAL TERMS AND CONDITIONS

See attached document(s) for additional Terms and Conditions

REQUEST FOR QUOTATION
CRFQ COR1600000038 (COR205127)
Network Switches, Transceivers, and Warranty

SPECIFICATIONS

1. **PURPOSE AND SCOPE:** The West Virginia Purchasing Division is soliciting bids on behalf of the West Virginia Division of Corrections, Parole Services unit, to establish a contract for the one-time purchase of Ethernet Switches.
2. **DEFINITIONS:** The terms listed below shall have the meaning assigned to them below. Additional definitions can be found in section 2 of the General Terms and Conditions.
 - 2.1. **“Contract Items”** means the network switches, and accessories, as more fully described by these specifications.
 - 2.2. **“Pricing Pages”** means the pages, contained in wvOASIS or attached as Exhibit A, upon which Vendor should list its proposed price for the Contract Items.
 - 2.3. **“Solicitation”** means the official notice of an opportunity to supply the State with goods or services that is published by the Purchasing Division.

3. GENERAL REQUIREMENTS:

- 3.1. **Mandatory Contract Item Requirements:** Contract Items must meet or exceed the mandatory requirements listed below.
 - 3.1.1. **CISCO Catalyst 2960-SF 48 FE PoE 740W4 X SFP Lan Base, or equal (part number WS-C2960S-F48FPS-L)**
 - 3.1.1.1. Switch must be 48 Ethernet 10/100 ports with PoE.
 - 3.1.1.2. Switch must have 4 SFP uplinks.
 - 3.1.1.3. Switch must have 740W of available PoE power.
 - 3.1.2. **CISCO Catalyst 2960-SF 24 FE PoE 370W 2 X SFP Lan Base, or equal (part number WS-C2960S-F24PS)**
 - 3.1.2.1. Switch must be 24 Ethernet 10/100 ports with PoE.
 - 3.1.2.2. Switch must have 2 SFP uplinks.
 - 3.1.2.3. Switch must have 370W of available PoE power.

REQUEST FOR QUOTATION
CRFQ COR1600000038 (COR205127)
Network Switches, Transceivers, and Warranty

3.1.3. CISCO SFP Gigabit Ethernet Interface Converter, or equal (part number GLC-SX-MM)

3.1.3.1. Tranceiver must be 1000 Base-SX

3.1.3.2. Transceiver must be MMF fiber type.

3.1.3.3. Transceiver shall be capable of working with a minimum cable length of 1804 feet.

3.1.4. CISCO Smartnet 24X4X7 warranty, or equal (one year term for each switch)

3.1.5. Vendor must be a certified reseller of the bid commodity.

3.1.5.1 Upon request, vendor shall supply all certifications to verify that they are a certified reseller of any commodity items included in bid

4. CONTRACT AWARD:

4.1. Contract Award: The Contract is intended to provide Agencies with a purchase price for the Contract Items. The Contract shall be awarded to the Vendor that provides the Contract Items meeting the required specifications for the lowest overall cost as shown on the Pricing Pages.

4.2. Pricing Page: Vendor should complete the Pricing Page by providing the unit price, and extended price. Vendor should complete the Pricing Page as failure to complete the Pricing Page in its entirety may result in Vendor's bid being disqualified.

Vendor should type or electronically enter the information into the Pricing Page to prevent errors in the evaluation.

5. PAYMENT:

5.1. Payment: Vendor shall accept payment in accordance with the payment procedures of the State of West Virginia.

REQUEST FOR QUOTATION
CRFQ COR1600000038 (COR205127)
Network Switches, Transceivers, and Warranty

6. DELIVERY AND RETURN:

- 6.1. Shipment and Delivery:** Vendor shall ship the Contract Items immediately after being awarded this Contract and receiving a purchase order or notice to proceed. Vendor shall deliver the Contract Items within ten (10) working days after receiving a purchase order or notice to proceed. Contract Items must be delivered to Agency at 1409 Greenbrier Street, Charleston, WV 25311.
- 6.2. 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 cancellation of the Contract, and/or obtaining the Contract Items from a third party.

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

- 6.3. Delivery Payment/Risk of Loss:** Vendor shall deliver the Contract Items F.O.B. destination to the Agency's location.
- 6.4. 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 the 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.
- 6.5. Return Due to Agency Error:** Items ordered in error by the Agency will be returned for credit within 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 a resalable condition if they are unused and in the original packaging. Any restocking fee 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.

7. VENDOR DEFAULT:

- 7.1.** The following shall be considered a vendor default under this Contract.

REQUEST FOR QUOTATION
CRFQ COR1600000038 (COR205127)
Network Switches, Transceivers, and Warranty

- 7.1.1. Failure to provide Contract Items in accordance with the requirements contained herein.
 - 7.1.2. Failure to comply with other specifications and requirements contained herein.
 - 7.1.3. Failure to comply with any laws, rules, and ordinances applicable to the Contract Services provided under this Contract.
 - 7.1.4. Failure to remedy deficient performance upon request.
- 7.2. The following remedies shall be available to Agency upon default.
- 7.2.1. Immediate cancellation of the Contract.
 - 7.2.2. Immediate cancellation of one or more release orders issued under this Contract.
 - 7.2.3. Any other remedies available in law or equity.

INSTRUCTIONS TO VENDORS SUBMITTING BIDS

1. REVIEW DOCUMENTS THOROUGHLY: The attached documents contain a solicitation for bids. Please read these instructions and all documents attached in their entirety. These instructions provide critical information about requirements that if overlooked could lead to disqualification of a Vendor's bid. All bids must be submitted in accordance with the provisions contained in these instructions and the Solicitation. Failure to do so may result in disqualification of Vendor's bid.

2. MANDATORY TERMS: The Solicitation may contain mandatory provisions identified by the use of the words "must," "will," and "shall." Failure to comply with a mandatory term in the Solicitation will result in bid disqualification.

3. PREBID MEETING: The item identified below shall apply to this Solicitation.

A pre-bid meeting will not be held prior to bid opening

A **NON-MANDATORY PRE-BID** meeting will be held at the following place and time:

A **MANDATORY PRE-BID** meeting will be held at the following place and time:

All Vendors submitting a bid must attend the mandatory pre-bid meeting. Failure to attend the mandatory pre-bid meeting shall result in disqualification of the Vendor's bid. No one person attending the pre-bid meeting may represent more than one Vendor.

An attendance sheet provided at the pre-bid meeting shall serve as the official document verifying attendance. The State will not accept any other form of proof or documentation to verify attendance. Any person attending the pre-bid meeting on behalf of a Vendor must list on the attendance sheet his or her name and the name of the Vendor he or she is representing.

Additionally, the person attending the pre-bid meeting should include the Vendor's E-Mail address, phone number, and Fax number on the attendance sheet. It is the Vendor's responsibility to locate the attendance sheet and provide the required information. Failure to complete the attendance sheet as required may result in disqualification of Vendor's bid.

All Vendors should arrive prior to the starting time for the pre-bid. Vendors who arrive after the starting time but prior to the end of the pre-bid will be permitted to sign in, but are charged with knowing all matters discussed at the pre-bid.

Questions submitted at least five business days prior to a scheduled pre-bid will be discussed at the pre-bid meeting if possible. Any discussions or answers to questions at the pre-bid meeting are preliminary in nature and are non-binding. Official and binding answers to questions will be published in a written addendum to the Solicitation prior to bid opening.

4. VENDOR QUESTION DEADLINE: Vendors may submit questions relating to this Solicitation to the Purchasing Division. Questions must be submitted in writing. All questions must be submitted on or before the date listed below and to the address listed below in order to be considered. A written response will be published in a Solicitation addendum if a response is possible and appropriate. Non-written discussions, conversations, or questions and answers regarding this Solicitation are preliminary in nature and are nonbinding.

Submitted e-mails should have solicitation number in the subject line.

Question Submission Deadline: June 27, 2016 at 4:00 PM EST

Submit Questions to: Crystal Rink
2019 Washington Street, East
Charleston, WV 25305
Fax: (304) 558-4115 (Vendors should not use this fax number for bid submission)
Email: Crystal.G.Rink@wv.gov

5. VERBAL COMMUNICATION: Any verbal communication between the Vendor and any State personnel is not binding, including verbal communication at the mandatory pre-bid conference. Only information issued in writing and added to the Solicitation by an official written addendum by the Purchasing Division is binding.

6. BID SUBMISSION: All bids must be submitted electronically through wvOASIS or signed and delivered by the Vendor to the Purchasing Division at the address listed below on or before the date and time of the bid opening. Any bid received by the Purchasing Division staff is considered to be in the possession of the Purchasing Division and will not be returned for any reason. The Purchasing Division will not accept bids, modification of bids, or addendum acknowledgment forms via e-mail. Acceptable delivery methods include electronic submission via wvOASIS, hand delivery, delivery by courier, or facsimile.

The bid delivery address is:
Department of Administration, Purchasing Division
2019 Washington Street East
Charleston, WV 25305-0130

A bid that is not submitted electronically through wvOASIS should contain the information listed below on the face of the envelope or the bid may be rejected by the Purchasing Division.:

SEALED BID:
BUYER: Crystal Rink
SOLICITATION NO.: CRFQ COR1600000038
BID OPENING DATE: July 12, 2016
BID OPENING TIME: 1:30 PM EST
FAX NUMBER: 304-558-3970

The Purchasing Division may prohibit the submission of bids electronically through wvOASIS at its sole discretion. Such a prohibition will be contained and communicated in the wvOASIS system resulting in the Vendor's inability to submit bids through wvOASIS. Submission of a response to an Expression of Interest or Request for Proposal is not permitted in wvOASIS.

For Request For Proposal ("RFP") Responses Only: In the event that Vendor is responding to a request for proposal, the Vendor shall submit one original technical and one original cost proposal plus ^{n/a} convenience copies of each to the Purchasing Division at the address shown above. Additionally, the Vendor should identify the bid type as either a technical or cost proposal on the face of each bid envelope submitted in response to a request for proposal as follows:

BID TYPE: (This only applies to CRFP)

- Technical
 Cost

7. BID OPENING: Bids submitted in response to this Solicitation will be opened at the location identified below on the date and time listed below. Delivery of a bid after the bid opening date and time will result in bid disqualification. For purposes of this Solicitation, a bid is considered delivered when confirmation of delivery is provided by wvOASIS (in the case of electronic submission) or when the bid is time stamped by the official Purchasing Division time clock (in the case of hand delivery).

Bid Opening Date and Time: July 12, 2016 at 1:30 PM EST

Bid Opening Location: Department of Administration, Purchasing Division
2019 Washington Street East
Charleston, WV 25305-0130

8. ADDENDUM ACKNOWLEDGEMENT: Changes or revisions to this Solicitation will be made by an official written addendum issued by the Purchasing Division. Vendor should acknowledge receipt of all addenda issued with this Solicitation by completing an Addendum Acknowledgment Form, 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.

9. BID FORMATTING: Vendor should type or electronically enter the information onto its bid to prevent errors in the evaluation. Failure to type or electronically enter the information may result in bid disqualification.

10. ALTERNATES: Any model, brand, or specification listed in this Solicitation establishes the acceptable level of quality only and is not intended to reflect a preference for, or in any way favor, a particular brand or vendor. Vendors may bid alternates to a listed model or brand provided that the alternate is at least equal to the model or brand and complies with the required specifications. The equality of any alternate being bid shall be determined by the State at its sole discretion. Any Vendor bidding an alternate model or brand should clearly identify the alternate items in its bid and should include manufacturer's specifications, industry literature, and/or any other relevant documentation demonstrating the equality of the alternate items. Failure to provide information for alternate items may be grounds for rejection of a Vendor's bid.

11. EXCEPTIONS AND CLARIFICATIONS: The Solicitation contains the specifications that shall form the basis of a contractual agreement. Vendor shall clearly mark any exceptions, clarifications, or other proposed modifications in its bid. Exceptions to, clarifications of, or modifications of a requirement or term and condition of the Solicitation may result in bid disqualification.

12. COMMUNICATION LIMITATIONS: In accordance with West Virginia Code of State Rules §148-1-6.6, communication with the State of West Virginia or any of its employees regarding this Solicitation during the solicitation, bid, evaluation or award periods, except through the Purchasing Division, is strictly prohibited without prior Purchasing Division approval. Purchasing Division approval for such communication is implied for all agency delegated and exempt purchases.

13. REGISTRATION: Prior to Contract award, the apparent successful Vendor must be properly registered with the West Virginia Purchasing Division and must have paid the \$125 fee, if applicable.

14. UNIT PRICE: Unit prices shall prevail in cases of a discrepancy in the Vendor's bid.

15. PREFERENCE: Vendor Preference may only be granted upon written request and only in accordance with the West Virginia Code § 5A-3-37 and the West Virginia Code of State Rules. A Vendor Preference Certificate form has been attached hereto to allow Vendor to apply for the preference. Vendor's failure to submit the Vendor Preference Certificate form with its bid will result in denial of Vendor Preference. Vendor Preference does not apply to construction projects.

16. SMALL, WOMEN-OWNED, OR MINORITY-OWNED BUSINESSES: For any solicitations publicly advertised for bid, in accordance with West Virginia Code §5A-3-37(a)(7) and W. Va. CSR § 148-22-9, any non-resident vendor certified as a small, women-owned, or minority-owned business under W. Va. CSR § 148-22-9 shall be provided the same preference made available to any resident vendor. Any non-resident small, women-owned, or minority-owned business must identify itself as such in writing, must submit that writing to the Purchasing Division with its bid, and must be properly certified under W. Va. CSR § 148-22-9 prior to contract award to receive the preferences made available to resident vendors. Preference for a non-resident small, women-owned, or minority owned business shall be applied in accordance with W. Va. CSR § 148-22-9.

17. WAIVER OF MINOR IRREGULARITIES: The Director reserves the right to waive minor irregularities in bids or specifications in accordance with West Virginia Code of State Rules § 148-1-4.6.

18. ELECTRONIC FILE ACCESS RESTRICTIONS: Vendor must ensure that its submission in wvOASIS can be accessed by the Purchasing Division staff immediately upon bid opening. The Purchasing Division will consider any file that cannot be immediately opened and/or viewed at the time of the bid opening (such as, encrypted files, password protected files, or incompatible files) to be blank or incomplete as context requires, and are therefore unacceptable. A vendor will not be permitted to unencrypt files, remove password protections, or resubmit documents after bid opening if those documents are required with the bid.

19. NON-RESPONSIBLE: The Purchasing Division Director reserves the right to reject the bid of any vendor as Non-Responsible in accordance with W. Va. Code of State Rules § 148-1-5.3, when the Director determines that the vendor submitting the bid does not have the capability to fully perform, or lacks the integrity and reliability to assure good-faith performance.”

20. ACCEPTANCE/REJECTION: The State may accept or reject any bid in whole, or in part in accordance with W. Va. Code of State Rules § 148-1-4.5. and § 148-1-6.4.b.”

21. YOUR SUBMISSION IS A PUBLIC DOCUMENT: Vendor’s entire response to the Solicitation and the resulting Contract are public documents. As public documents, they will be disclosed to the public following the bid/proposal opening or award of the contract, as required by the competitive bidding laws of West Virginia Code §§ 5A-3-1 et seq., 5-22-1 et seq., and 5G-1-1 et seq. and the Freedom of Information Act West Virginia Code §§ 29B-1-1 et seq.

DO NOT SUBMIT MATERIAL YOU CONSIDER TO BE CONFIDENTIAL, A TRADE SECRET, OR OTHERWISE NOT SUBJECT TO PUBLIC DISCLOSURE.

Submission of any bid, proposal, or other document to the Purchasing Division constitutes your explicit consent to the subsequent public disclosure of the bid, proposal, or document. The Purchasing Division will disclose any document labeled “confidential,” “proprietary,” “trade secret,” “private,” or labeled with any other claim against public disclosure of the documents, to include any “trade secrets” as defined by West Virginia Code § 47-22-1 et seq. All submissions are subject to public disclosure without notice.

GENERAL TERMS AND CONDITIONS:

1. CONTRACTUAL AGREEMENT: Issuance of a Award Document signed by the Purchasing Division Director, or his designee, and approved as to form by the Attorney General's office constitutes acceptance of this Contract made by and between the State of West Virginia and the Vendor. Vendor's signature on its bid signifies Vendor's agreement to be bound by and accept the terms and conditions contained in this Contract.

2. DEFINITIONS: As used in this Solicitation/Contract, the following terms shall have the meanings attributed to them below. Additional definitions may be found in the specifications included with this Solicitation/Contract.

2.1. "Agency" or "Agencies" means the agency, board, commission, or other entity of the State of West Virginia that is identified on the first page of the Solicitation or any other public entity seeking to procure goods or services under this Contract.

2.2. "Bid" or "Proposal" means the vendors submitted response to this solicitation.

2.3. "Contract" means the binding agreement that is entered into between the State and the Vendor to provide the goods or services requested in the Solicitation.

2.4. "Director" means the Director of the West Virginia Department of Administration, Purchasing Division.

2.5. "Purchasing Division" means the West Virginia Department of Administration, Purchasing Division.

2.6. "Award Document" means the document signed by the Agency and the Purchasing Division, and approved as to form by the Attorney General, that identifies the Vendor as the contract holder.

2.7. "Solicitation" means the official notice of an opportunity to supply the State with goods or services that is published by the Purchasing Division.

2.8. "State" means the State of West Virginia and/or any of its agencies, commissions, boards, etc. as context requires.

2.9. "Vendor" or "Vendors" means any entity submitting a bid in response to the Solicitation, the entity that has been selected as the lowest responsible bidder, or the entity that has been awarded the Contract as context requires.

3. CONTRACT TERM; RENEWAL; EXTENSION: The term of this Contract shall be determined in accordance with the category that has been identified as applicable to this Contract below:

Term Contract

Initial Contract Term: This Contract becomes effective on _____ and extends for a period of _____ year(s).

Renewal Term: This Contract may be renewed upon the mutual written consent of the Agency, and the Vendor, with approval of the Purchasing Division and the Attorney General's office (Attorney General approval is as to form only). Any request for renewal should be submitted to the Purchasing Division thirty (30) days prior to the expiration date of the initial contract term or appropriate renewal term. A Contract renewal shall be in accordance with the terms and conditions of the original contract. Renewal of this Contract is limited to _____ successive one (1) year periods or multiple renewal periods of less than one year, provided that the multiple renewal periods do not exceed _____ months in total. Automatic renewal of this Contract is prohibited. Notwithstanding the foregoing, Purchasing Division approval is not required on agency delegated or exempt purchases. Attorney General approval may be required for vendor terms and conditions.

Delivery Order Limitations: In the event that this contract permits delivery orders, a delivery order may only be issued during the time this Contract is in effect. Any delivery order issued within one year of the expiration of this Contract shall be effective for one year from the date the delivery order is issued. No delivery order may be extended beyond one year after this Contract has expired.

Fixed Period Contract: This Contract becomes effective upon Vendor's receipt of the notice to proceed and must be completed within _____ days.

Fixed Period Contract with Renewals: This Contract becomes effective upon Vendor's receipt of the notice to proceed and part of the Contract more fully described in the attached specifications must be completed within _____ days.

Upon completion, the vendor agrees that maintenance, monitoring, or warranty services will be provided for one year thereafter with an additional _____ successive one year renewal periods or multiple renewal periods of less than one year provided that the multiple renewal periods do not exceed _____ months in total. Automatic renewal of this Contract is prohibited.

One Time Purchase: The term of this Contract shall run from the issuance of the Award Document until all of the goods contracted for have been delivered, but in no event will this Contract extend for more than one fiscal year.

Other: See attached.

4. NOTICE TO PROCEED: Vendor shall begin performance of this Contract immediately upon receiving notice to proceed unless otherwise instructed by the Agency. Unless otherwise specified, the fully executed Award Document will be considered notice to proceed.

5. QUANTITIES: The quantities required under this Contract shall be determined in accordance with the category that has been identified as applicable to this Contract below.

Open End Contract: Quantities listed in this Solicitation are approximations only, based on estimates supplied by the Agency. It is understood and agreed that the Contract shall cover the quantities actually ordered for delivery during the term of the Contract, whether more or less than the quantities shown.

Service: The scope of the service to be provided will be more clearly defined in the specifications included herewith.

Combined Service and Goods: The scope of the service and deliverable goods to be provided will be more clearly defined in the specifications included herewith.

One Time Purchase: This Contract is for the purchase of a set quantity of goods that are identified in the specifications included herewith. Once those items have been delivered, no additional goods may be procured under this Contract without an appropriate change order approved by the Vendor, Agency, Purchasing Division, and Attorney General's office.

6. EMERGENCY PURCHASES: The Purchasing Division Director may authorize the Agency to purchase goods or services in the open market that Vendor would otherwise provide under this Contract if those goods or services are for immediate or expedited delivery in an emergency. Emergencies shall include, but are not limited to, delays in transportation or an unanticipated increase in the volume of work. An emergency purchase in the open market, approved by the Purchasing Division Director, shall not constitute a breach of this Contract and shall not entitle the Vendor to any form of compensation or damages. This provision does not excuse the State from fulfilling its obligations under a One Time Purchase contract.

7. REQUIRED DOCUMENTS: All of the items checked below must be provided to the Purchasing Division by the Vendor as specified below.

BID BOND (Construction Only): Pursuant to the requirements contained in W. Va. Code § 5-22-1(c), All Vendors submitting a bid on a construction project shall furnish a valid bid bond in the amount of five percent (5%) of the total amount of the bid protecting the State of West Virginia. The bid bond must be submitted with the bid.

PERFORMANCE BOND: The apparent successful Vendor shall provide a performance bond in the amount of _____. The performance bond must be received by the Purchasing Division prior to Contract award. On construction contracts, the performance bond must be 100% of the Contract value.

LABOR/MATERIAL PAYMENT BOND: The apparent successful Vendor shall provide a labor/material payment bond in the amount of 100% of the Contract value. The labor/material payment bond must be delivered to the Purchasing Division prior to Contract award.

In lieu of the Bid Bond, Performance Bond, and Labor/Material Payment Bond, the Vendor may provide certified checks, cashier's checks, or irrevocable letters of credit. Any certified check, cashier's check, or irrevocable letter of credit provided in lieu of a bond must be of the same amount and delivered on the same schedule as the bond it replaces. A letter of credit submitted in lieu of a performance and labor/material payment bond will only be allowed for projects under \$100,000. Personal or business checks are not acceptable.

MAINTENANCE BOND: The apparent successful Vendor shall provide a two (2) year maintenance bond covering the roofing system. The maintenance bond must be issued and delivered to the Purchasing Division prior to Contract award.

INSURANCE: The apparent successful Vendor shall furnish proof of the following insurance prior to Contract award and shall list the state as a certificate holder:

Commercial General Liability Insurance: In the amount of _____
_____ or more.

Builders Risk Insurance: In an amount equal to 100% of the amount of the Contract.

The apparent successful Vendor shall also furnish proof of any additional insurance requirements contained in the specifications prior to Contract award regardless of whether or not that insurance requirement is listed above.

LICENSE(S) / CERTIFICATIONS / PERMITS: In addition to anything required under the Section entitled Licensing, of the General Terms and Conditions, the apparent successful Vendor shall furnish proof of the following licenses, certifications, and/or permits prior to Contract award, in a form acceptable to the Purchasing Division.

The apparent successful Vendor shall also furnish proof of any additional licenses or certifications contained in the specifications prior to Contract award regardless of whether or not that requirement is listed above.

8. WORKERS' COMPENSATION INSURANCE: The apparent successful Vendor shall comply with laws relating to workers compensation, shall maintain workers' compensation insurance when required, and shall furnish proof of workers' compensation insurance upon request.

9. LITIGATION BOND: The Director reserves the right to require any Vendor that files a protest of an award to submit a litigation bond in the amount equal to one percent of the lowest bid submitted or \$5,000, whichever is greater. The entire amount of the bond shall be forfeited if the hearing officer determines that the protest was filed for frivolous or improper purpose, including but not limited to, the purpose of harassing, causing unnecessary delay, or needless expense for the Agency. All litigation bonds shall be made payable to the Purchasing Division. In lieu of a bond, the protester may submit a cashier's check or certified check payable to the Purchasing Division. Cashier's or certified checks will be deposited with and held by the State Treasurer's office. If it is determined that the protest has not been filed for frivolous or improper purpose, the bond or deposit shall be returned in its entirety.

10. LIQUIDATED DAMAGES: Vendor shall pay liquidated damages in the amount of

n/a

for n/a

This clause shall in no way be considered exclusive and shall not limit the State or Agency's right to pursue any other available remedy.

11. ACCEPTANCE: Vendor's signature on its bid, or on the certification and signature page, constitutes an offer to the State that cannot be unilaterally withdrawn, signifies that the product or service proposed by vendor meets the mandatory requirements contained in the Solicitation for that product or service, unless otherwise indicated, and signifies acceptance of the terms and conditions contained in the Solicitation unless otherwise indicated.

12. PRICING: The pricing set forth herein is firm for the life of the Contract, unless specified elsewhere within this Solicitation/Contract by the State. A Vendor's inclusion of price adjustment provisions in its bid, without an express authorization from the State in the Solicitation to do so, may result in bid disqualification.

13. PAYMENT: Payment in advance is prohibited under this Contract. Payment may only be made after the delivery and acceptance of goods or services. The Vendor shall submit invoices, in arrears.

14. PURCHASING CARD ACCEPTANCE: The State of West Virginia currently utilizes a Purchasing Card program, administered under contract by a banking institution, to process payment for goods and services. The Vendor must accept the State of West Virginia's Purchasing Card for payment of all orders under this Contract unless the box below is checked.

Vendor is not required to accept the State of West Virginia's Purchasing Card as payment for all goods and services.

15. TAXES: The Vendor shall pay any applicable sales, use, personal property or any other taxes arising out of this Contract and the transactions contemplated thereby. The State of West Virginia is exempt from federal and state taxes and will not pay or reimburse such taxes.

16. ADDITIONAL FEES: Vendor is not permitted to charge additional fees or assess additional charges that were not either expressly provided for in the solicitation published by the State of West Virginia or included in the unit price or lump sum bid amount that Vendor is required by the solicitation to provide. Including such fees or charges as notes to the solicitation may result in rejection of vendor's bid. Requesting such fees or charges be paid after the contract has been awarded may result in cancellation of the contract.

17. FUNDING: This Contract shall continue for the term stated herein, contingent upon funds being appropriated by the Legislature or otherwise being made available. In the event funds are not appropriated or otherwise made available, this Contract becomes void and of no effect beginning on July 1 of the fiscal year for which funding has not been appropriated or otherwise made available.

18. CANCELLATION: The Purchasing Division Director reserves the right to cancel this Contract immediately upon written notice to the vendor if the materials or workmanship supplied do not conform to the specifications contained in the Contract. The Purchasing Division Director may also cancel any purchase or Contract upon 30 days written notice to the Vendor in accordance with West Virginia Code of State Rules § 148-1-5.2.b.

19. TIME: Time is of the essence with regard to all matters of time and performance in this Contract.

20. APPLICABLE LAW: This Contract is governed by and interpreted under West Virginia law without giving effect to its choice of law principles. Any information provided in specification manuals, or any other source, verbal or written, which contradicts or violates the West Virginia Constitution, West Virginia Code or West Virginia Code of State Rules is void and of no effect.

21. COMPLIANCE: Vendor shall comply with all applicable federal, state, and local laws, regulations and ordinances. By submitting a bid, Vendor acknowledges that it has reviewed, understands, and will comply with all applicable laws, regulations, and ordinances.

22. ARBITRATION: Any references made to arbitration contained in this Contract, Vendor's bid, or in any American Institute of Architects documents pertaining to this Contract are hereby deleted, void, and of no effect.

23. MODIFICATIONS: This writing is the parties' final expression of intent. Notwithstanding anything contained in this Contract to the contrary no modification of this Contract shall be binding without mutual written consent of the Agency, and the Vendor, with approval of the Purchasing Division and the Attorney General's office (Attorney General approval is as to form only). Any change to existing contracts that adds work or changes contract cost, and were not included in the original contract, must be approved by the Purchasing Division and the Attorney General's Office (as to form) prior to the implementation of the change or commencement of work affected by the change.

24. WAIVER: The failure of either party to insist upon a strict performance of any of the terms or provision of this Contract, or to exercise any option, right, or remedy herein contained, shall not be construed as a waiver or a relinquishment for the future of such term, provision, option, right, or remedy, but the same shall continue in full force and effect. Any waiver must be expressly stated in writing and signed by the waiving party.

25. SUBSEQUENT FORMS: The terms and conditions contained in this Contract shall supersede any and all subsequent terms and conditions which may appear on any form documents submitted by Vendor to the Agency or Purchasing Division such as price lists, order forms, invoices, sales agreements, or maintenance agreements, and includes internet websites or other electronic documents. Acceptance or use of Vendor's forms does not constitute acceptance of the terms and conditions contained thereon.

26. ASSIGNMENT: Neither this Contract nor any monies due, or to become due hereunder, may be assigned by the Vendor without the express written consent of the Agency, the Purchasing Division, the Attorney General's office (as to form only), and any other government agency or office that may be required to approve such assignments. Notwithstanding the foregoing, Purchasing Division approval may or may not be required on certain agency delegated or exempt purchases.

27. WARRANTY: The Vendor expressly warrants that the goods and/or services covered by this Contract will: (a) conform to the specifications, drawings, samples, or other description furnished or specified by the Agency; (b) be merchantable and fit for the purpose intended; and (c) be free from defect in material and workmanship.

28. STATE EMPLOYEES: State employees are not permitted to utilize this Contract for personal use and the Vendor is prohibited from permitting or facilitating the same.

29. BANKRUPTCY: In the event the Vendor files for bankruptcy protection, the State of West Virginia may deem this Contract null and void, and terminate this Contract without notice.

30. PRIVACY, SECURITY, AND CONFIDENTIALITY: The Vendor agrees that it will not disclose to anyone, directly or indirectly, any such personally identifiable information or other confidential information gained from the Agency, unless the individual who is the subject of the information consents to the disclosure in writing or the disclosure is made pursuant to the Agency's policies, procedures, and rules. Vendor further agrees to comply with the Confidentiality Policies and Information Security Accountability Requirements, set forth in <http://www.state.wv.us/admin/purchase/privacy/default.html>.

31. YOUR SUBMISSION IS A PUBLIC DOCUMENT: Vendor's entire response to the Solicitation and the resulting Contract are public documents. As public documents, they will be disclosed to the public following the bid/proposal opening or award of the contract, as required by the competitive bidding laws of West Virginia Code §§ 5A-3-1 et seq., 5-22-1 et seq., and 5G-1-1 et seq. and the Freedom of Information Act West Virginia Code §§ 29B-1-1 et seq.

DO NOT SUBMIT MATERIAL YOU CONSIDER TO BE CONFIDENTIAL, A TRADE SECRET, OR OTHERWISE NOT SUBJECT TO PUBLIC DISCLOSURE.

Submission of any bid, proposal, or other document to the Purchasing Division constitutes your explicit consent to the subsequent public disclosure of the bid, proposal, or document. The Purchasing Division will disclose any document labeled "confidential," "proprietary," "trade secret," "private," or labeled with any other claim against public disclosure of the documents, to include any "trade secrets" as defined by West Virginia Code § 47-22-1 et seq. All submissions are subject to public disclosure without notice.

32. LICENSING: In accordance with West Virginia Code of State Rules § 148-1-6.1.e, Vendor must be licensed and in good standing in accordance with any and all state and local laws and requirements by any state or local agency of West Virginia, including, but not limited to, the West Virginia Secretary of State's Office, the West Virginia Tax Department, West Virginia Insurance Commission, or any other state agency or political subdivision. Upon request, the Vendor must provide all necessary releases to obtain information to enable the Purchasing Division Director or the Agency to verify that the Vendor is licensed and in good standing with the above entities.

33. ANTITRUST: In submitting a bid to, signing a contract with, or accepting a Award Document from any agency of the State of West Virginia, the Vendor agrees to convey, sell, assign, or transfer to the State of West Virginia all rights, title, and interest in and to all causes of action it may now or hereafter acquire under the antitrust laws of the United States and the State of West Virginia for price fixing and/or unreasonable restraints of trade relating to the particular commodities or services purchased or acquired by the State of West Virginia. Such assignment shall be made and become effective at the time the purchasing agency tenders the initial payment to Vendor.

34. VENDOR CERTIFICATIONS: By signing its bid or entering into this Contract, Vendor certifies (1) that its bid or offer was made without prior understanding, agreement, or connection with any corporation, firm, limited liability company, partnership, person or entity submitting a bid or offer for the same material, supplies, equipment or services; (2) that its bid or offer is in all respects fair and without collusion or fraud; (3) that this Contract is accepted or entered into without any prior understanding, agreement, or connection to any other entity that could be considered a violation of law; and (4) that it has reviewed this Solicitation in its entirety; understands the requirements, terms and conditions, and other information contained herein.

Vendor's signature on its bid or offer also affirms that neither it nor its representatives have any interest, nor shall acquire any interest, direct or indirect, which would compromise the performance of its services hereunder. Any such interests shall be promptly presented in detail to the Agency. The individual signing this bid or offer on behalf of Vendor certifies that he or she is authorized by the Vendor to execute this bid or offer or any documents related thereto on Vendor's behalf; that he or she is authorized to bind the Vendor in a contractual relationship; and that, to the best of his or her knowledge, the Vendor has properly registered with any State agency that may require registration.

35. VENDOR RELATIONSHIP: The relationship of the Vendor to the State shall be that of an independent contractor and no principal-agent relationship or employer-employee relationship is contemplated or created by this Contract. The Vendor as an independent contractor is solely liable for the acts and omissions of its employees and agents. Vendor shall be responsible for selecting, supervising, and compensating any and all individuals employed pursuant to the terms of this Solicitation and resulting contract. Neither the Vendor, nor any employees or subcontractors of the Vendor, shall be deemed to be employees of the State for any purpose whatsoever. Vendor shall be exclusively responsible for payment of employees and contractors for all wages and salaries, taxes, withholding payments, penalties, fees, fringe benefits, professional liability insurance premiums, contributions to insurance and pension, or other deferred compensation plans, including but not limited to, Workers' Compensation and Social Security obligations, licensing fees, etc. and the filing of all necessary documents, forms, and returns pertinent to all of the foregoing.

Vendor shall hold harmless the State, and shall provide the State and Agency with a defense against any and all claims including, but not limited to, the foregoing payments, withholdings, contributions, taxes, Social Security taxes, and employer income tax returns.

36. INDEMNIFICATION: The Vendor agrees to indemnify, defend, and hold harmless the State and the Agency, their officers, and employees from and against: (1) Any claims or losses for services rendered by any subcontractor, person, or firm performing or supplying services, materials, or supplies in connection with the performance of the Contract; (2) Any claims or losses resulting to any person or entity injured or damaged by the Vendor, its officers, employees, or subcontractors by the publication, translation, reproduction, delivery, performance, use, or disposition of any data used under the Contract in a manner not authorized by the Contract, or by Federal or State statutes or regulations; and (3) Any failure of the Vendor, its officers, employees, or subcontractors to observe State and Federal laws including, but not limited to, labor and wage and hour laws.

37. PURCHASING AFFIDAVIT: In accordance with West Virginia Code § 5A-3-10a, all Vendors are required to sign, notarize, and submit the Purchasing Affidavit stating that neither the Vendor nor a related party owe a debt to the State in excess of \$1,000. The affidavit must be submitted prior to award, but should be submitted with the Vendor's bid. A copy of the Purchasing Affidavit is included herewith.

38. ADDITIONAL AGENCY AND LOCAL GOVERNMENT USE: This Contract may be utilized by other agencies, spending units, and political subdivisions of the State of West Virginia; county, municipal, and other local government bodies; and school districts ("Other Government Entities"). Any extension of this Contract to the aforementioned Other Government Entities must be on the same prices, terms, and conditions as those offered and agreed to in this Contract, provided that such extension is in compliance with the applicable laws, rules, and ordinances of the Other Government Entity. If the Vendor does not wish to extend the prices, terms, and conditions of its bid and subsequent contract to the Other Government Entities, the Vendor must clearly indicate such refusal in its bid. A refusal to extend this Contract to the Other Government Entities shall not impact or influence the award of this Contract in any manner.

39. CONFLICT OF INTEREST: Vendor, its officers or members or employees, shall not presently have or acquire an interest, direct or indirect, which would conflict with or compromise the performance of its obligations hereunder. Vendor shall periodically inquire of its officers, members and employees to ensure that a conflict of interest does not arise. Any conflict of interest discovered shall be promptly presented in detail to the Agency.

40. REPORTS: Vendor shall provide the Agency and/or the Purchasing Division with the following reports identified by a checked box below:

Such reports as the Agency and/or the Purchasing Division may request. Requested reports may include, but are not limited to, quantities purchased, agencies utilizing the contract, total contract expenditures by agency, etc.

Quarterly reports detailing the total quantity of purchases in units and dollars, along with a listing of purchases by agency. Quarterly reports should be delivered to the Purchasing Division via email at purchasing.requisitions@wv.gov.

41. BACKGROUND CHECK: In accordance with W. Va. Code § 15-2D-3, the Director of the Division of Protective Services shall require any service provider whose employees are regularly employed on the grounds or in the buildings of the Capitol complex or who have access to sensitive or critical information to submit to a fingerprint-based state and federal background inquiry through the state repository. The service provider is responsible for any costs associated with the fingerprint-based state and federal background inquiry.

After the contract for such services has been approved, but before any such employees are permitted to be on the grounds or in the buildings of the Capitol complex or have access to sensitive or critical information, the service provider shall submit a list of all persons who will be physically present and working at the Capitol complex to the Director of the Division of Protective Services for purposes of verifying compliance with this provision. The State reserves the right to prohibit a service provider's employees from accessing sensitive or critical information or to be present at the Capitol complex based upon results addressed from a criminal background check.

Service providers should contact the West Virginia Division of Protective Services by phone at (304) 558-9911 for more information.

42. PREFERENCE FOR USE OF DOMESTIC STEEL PRODUCTS: Except when authorized by the Director of the Purchasing Division pursuant to W. Va. Code § 5A-3-56, no contractor may use or supply steel products for a State Contract Project other than those steel products made in the United States. A contractor who uses steel products in violation of this section may be subject to civil penalties pursuant to W. Va. Code § 5A-3-56. As used in this section:

- a. "State Contract Project" means any erection or construction of, or any addition to, alteration of or other improvement to any building or structure, including, but not limited to, roads or highways, or the installation of any heating or cooling or ventilating plants or other equipment, or the supply of and materials for such projects, pursuant to a contract with the State of West Virginia for which bids were solicited on or after June 6, 2001.
- b. "Steel Products" means products rolled, formed, shaped, drawn, extruded, forged, cast, fabricated or otherwise similarly processed, or processed by a combination of two or more or such operations, from steel made by the open heath, basic oxygen, electric furnace, Bessemer or other steel making process. The Purchasing Division Director may, in writing, authorize the use of foreign steel products if:
- c. The cost for each contract item used does not exceed one tenth of one percent (.1%) of the total contract cost or two thousand five hundred dollars (\$2,500.00), whichever is greater. For the purposes of this section, the cost is the value of the steel product as delivered to the project;
- d. The Director of the Purchasing Division determines that specified steel materials are not produced in the United States in sufficient quantity or otherwise are not reasonably available to meet contract requirements.

43. PREFERENCE FOR USE OF DOMESTIC ALUMINUM, GLASS, AND STEEL: In Accordance with W. Va. Code § 5-19-1 et seq., and W. Va. CSR § 148-10-1 et seq., for every contract or subcontract, subject to the limitations contained herein, for the construction, reconstruction, alteration, repair, improvement or maintenance of public works or for the purchase of any item of machinery or equipment to be used at sites of public works, only domestic aluminum, glass or steel products shall be supplied unless the spending officer determines, in writing, after the receipt of offers or bids, (1) that the cost of domestic aluminum, glass or steel products is unreasonable or inconsistent with the public interest of the State of West Virginia, (2) that domestic aluminum, glass or steel products are not produced in sufficient quantities to meet the contract requirements, or (3) the available domestic aluminum, glass, or steel do not meet the contract specifications. This provision only applies to public works contracts awarded in an amount more than fifty thousand dollars (\$50,000) or public works contracts that require more than ten thousand pounds of steel products.


The cost of domestic aluminum, glass, or steel products may be unreasonable if the cost is more than twenty percent (20%) of the bid or offered price for foreign made aluminum, glass, or steel products. If the domestic aluminum, glass or steel products to be supplied or produced in a "substantial labor surplus area", as defined by the United States Department of Labor, the cost of domestic aluminum, glass, or steel products may be unreasonable if the cost is more than thirty percent (30%) of the bid or offered price for foreign made aluminum, glass, or steel products. This preference shall be applied to an item of machinery or equipment, as indicated above, when the item is a single unit of equipment or machinery manufactured primarily of aluminum, glass or steel, is part of a public works contract and has the sole purpose or of being a permanent part of a single public works project. This provision does not apply to equipment or machinery purchased by a spending unit for use by that spending unit and not as part of a single public works project.

All bids and offers including domestic aluminum, glass or steel products that exceed bid or offer prices including foreign aluminum, glass or steel products after application of the preferences provided in this provision may be reduced to a price equal to or lower than the lowest bid or offer price for foreign aluminum, glass or steel products plus the applicable preference. If the reduced bid or offer prices are made in writing and supersede the prior bid or offer prices, all bids or offers, including the reduced bid or offer prices, will be reevaluated in accordance with this rule.

DESIGNATED CONTACT: Vendor appoints the individual identified in this Section as the Contract Administrator and the initial point of contact for matters relating to this Contract.

David Chambers Sales Executive
(Name, Title)
Dsvid Chambers Sales Executive
(Printed Name and Title)
4003 Outlook Drive, Hurricane, WV 25526
(Address)
304-721-8987 Fax 304-201-2610
(Phone Number) / (Fax Number)
dchambers@alpha-tech.us
(email address)

CERTIFICATION AND SIGNATURE: By signing below, or submitting documentation through wvOASIS, I certify that I have reviewed this Solicitation in its entirety; that I understand the requirements, terms and conditions, and other information contained herein; that this bid, offer or proposal constitutes an offer to the State that cannot be unilaterally withdrawn; that the product or service proposed meets the mandatory requirements contained in the Solicitation for that product or service, unless otherwise stated herein; that the Vendor accepts the terms and conditions contained in the Solicitation, unless otherwise stated 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.

Alpha Technologies Inc.
(Company)

David Chambers, Sales Executive
(Authorized Signature) (Representative Name, Title)

David Chambers, Sales Executive
(Printed Name and Title of Authorized Representative)

7-11-2016
(Date)

304-721-8987 Fax 304-201-2610
(Phone Number) (Fax Number)

ADDENDUM ACKNOWLEDGEMENT FORM
SOLICITATION NO.: CRFQ COR1600000038

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 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.

Alpha Technologies Inc.

Company


Authorized Signature

7-11-2016

Date

NOTE: This addendum acknowledgment should be submitted with the bid to expedite document processing.

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;
 Bidder is a resident vendor partnership, association, or corporation with at least eighty percent of ownership interest of bidder held by another entity that meets the applicable four year residency requirement; **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 that employs a minimum of one hundred state residents, or a nonresident vendor which has an affiliate or subsidiary which maintains its headquarters or principal place of business within West Virginia and employs a minimum of one hundred state residents, and for purposes of producing or distributing the commodities or completing the project which is the subject of the bidder's bid and continuously over the entire term of the project, on average at least seventy-five percent of the bidder's employees or the bidder's affiliate's or subsidiary's employees are residents of West Virginia who have resided in the state continuously for the two immediately preceding years and the vendor's 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) rescind the contract or purchase order; 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.

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: Alpha Technologies Inc.

Signed: 

Date: 6/29/2016

Title: Sales Executive

*Check any combination of preference consideration(s) indicated above, which you are entitled to receive.

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 exceed 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: Alpha Technologies Inc.
Authorized Signature:  Date: 6/29/2016

State of West Virginia
County of Putnam, to-wit:

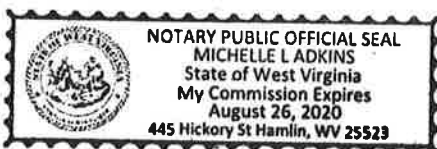
Taken, subscribed, and sworn to before me this 29 day of June, 2016.
My Commission expires August 26th, 2020.

AFFIX SEAL HERE

NOTARY PUBLIC



Purchasing Affidavit (Revised 08/01/2015)



We have prepared a quote for you

COR1600000038 Extreme

Quote #006984

Version 1

Main: 3042017485

Email: dchambers@alpha-tech.us

Web: www.alpha-tech.us

Prepared For:

WV Division of Corrections
 Jamie Jones
 1409 Greenbrier Street
 Charleston, WV 25311
 james.r.jones@wv.gov

Prepared By



David Chambers
 Phone: 3042017485
 Email: dchambers@alpha-tech.us

Quote ID: 006984

Date: Monday, July 11, 2016

Expires: Monday, August 08, 2016

Hardware

Description	Price	Qty	Ext. Price
10061 PWR CORD NA 10A NEMA 5-15P IEC320 C13 11	\$0.00	24	\$0.00
 16535 Extreme Networks X440-G2-48p-10GE4 Ethernet Switch - 48 Ports - Manageable - 8 x Expansion Slots - 10/100/1000Base-T, 1000Base-X - Uplink Port - Modular - 48 x Network, 8 x Expansion Slot - Twisted Pair, Optical Fiber - Gigabit Ethernet - Shared SFP Slot	\$1,734.99	10	\$17,349.90
 16533 Extreme Networks X440-G2-24p-10GE4 Ethernet Switch - 24 Ports - Manageable - 8 x Expansion Slots - 10/100/1000Base-T, 1000Base-X - Uplink Port - Modular - 24 x Network, 8 x Expansion Slot - Twisted Pair, Optical Fiber - Gigabit Ethernet - Shared SFP Slot	\$1,099.07	14	\$15,386.98
10051H Extreme Networks 1000BASE-SX SFP, Hi - 1 x 1000Base-SX1 Gbit/s	\$174.93	28	\$4,898.04
97004-16535 1YR SKU FOR 97004-16535	\$232.74	10	\$2,327.40
97004-16533 1YR SKU FOR 97004-16533	\$147.24	14	\$2,061.36
Hardware Subtotal			\$42,023.68

Main: 3042017485

Email: dchambers@alpha-tech.us

Web: www.alpha-tech.us

Quote Summary

Description	Amount
Hardware	\$42,023.68
Subtotal	\$42,023.68
Tax	\$0.00
Total	\$42,023.68

Signature

Date

ExtremeSwitching™ X440-G2

Scalable Cost-Effective Edge Switch with ExtremeXOS Modular Operating System

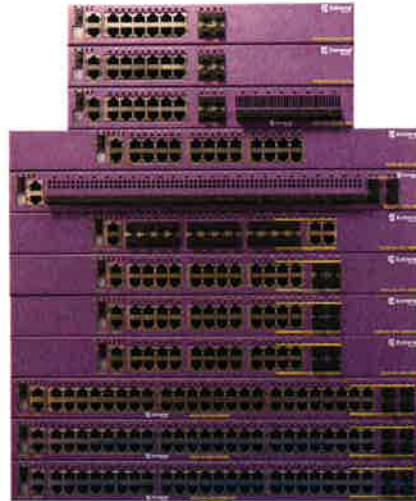
HIGHLIGHTS

HARDWARE MODELS

- 12, 24, and 48-port GbE models
- 4 x 1GbE available uplink ports — upgradeable to 10GbE via software license (except for extended temperature models)
- SFP, Copper PoE-Plus, non-PoE and 100Base-FX models
- Extended 0°C to 60°C operating range models
- Two SummitStack-V stacking ports (except for extended temperature models) enable up to 8 switches to be stacked together
- All configurations non-blocking full duplex

FEATURES

- Side-to-side, left-to-right airflow
- Fixed power supplies, along with RPS
- Full PoE-Plus 30W power on 48-port models
- DC Power option
- Energy Efficient Ethernet
- 10MB/100MB half-duplex support
- Role-based policy capabilities allow individualized access to specific applications or services
- ExtremeCloud™ cloud-based management on select models



Product Overview

The ExtremeSwitching X440-G2 series is a scalable cost-effective family of edge switches powered by Extreme Networks ExtremeXOS, a highly resilient OS providing continuous uptime, manageability and operational efficiency. The X440-G2 series switches provide high-performance routing and switching, flexible stacking, PoE-plus support and comprehensive security, while extending the benefits of ExtremeXOS to the campus edge.

The X440-G2 Series easy-to-use, yet powerful, management services include role-based policies for controlled access to specific network applications. Select X440-G2 Series switches can also be cloud-managed via ExtremeCloud™, Extreme Networks innovative single-pane subscription-based management solution.

Intelligent Switching

The X440-G2 Series supports sophisticated and intelligent Layer 2 switching, as well as Layer 3 IPv4/IPv6 routing. They also support role-based policy capabilities, Provider Bridges, bidirectional Access Control Lists, as well as granular (8 Kbps) ingress/egress bandwidth control. Altogether, these enable fine-grained control over traffic flows, as well as controlled access to specific network services and application.

FLEXIBLE 10GBE PORT UPGRADES

All X440-G2 base models come equipped with 4 upgradeable 1GbE ports, resident on either the faceplate or rear panel of each model. These 1GbE ports can be upgraded to 10GbE Ethernet via a simple software license. This gives administrators the option to increase switch uplink speeds without replacing the entire switch. (Note: 10GbE upgrades are not supported on extended temperature models.)

HIGH-PERFORMANCE STACKING

ExtremeXOS SummitStack-V capabilities allow up to eight X440-G2 switches to be stacked together via two of the native X440-G2 stacking ports. SummitStack-V allows use of standard 10Gb Ethernet cabling and optics technologies, providing long-distance stacking connectivity of up to 40 Km while eliminating the cable complexity of non-standard stacking options. X440-G2 switches can be stacked with other X450-G2, X460-G2, X670-G2 and X770 switches via SummitStack-V so long as all are running the same version of ExtremeXOS.

Note 1: SummitStack-V uses two of the four available uplink ports on the X440-G2 and runs a 10Gb non-Ethernet stacking protocol. These stacking ports DO NOT require a 10GbE software license, and can take full advantage of standard SFP+ transceivers.

Note 2: Extended temperature range switches do not support stacking.

IEEE 802.3AT POE-PLUS

X440-G2 Series switches support both IEEE 802.3at PoE-Plus and IEEE 802.3af PoE to enable connection of standards-compliant PoE devices today and into the future. Power over Ethernet allows connection of Ethernet-powered devices, such as wireless access points, Voice over IP phones, and security cameras. The X440-G2 can also support full PoE-Plus 30W power across all 48 ports with an external redundant power supply (RPS).

ROLE-BASED POLICY

The X440-G2 supports role-based policies that can be centrally administered through the ExtremeManagement (formerly Netsight) policy manager. This policy framework empowers network administrators to define distinct roles or profiles to represent industry-specific operational groups that may exist in an education or a business environment (e.g., administrator, teacher, student, guest). Each defined role can then be granted individualized access to specific network services and applications and these access privileges remain associated with users as they move across both wired and wireless network access points.

EXTREMECLOUD™ MANAGEMENT

Provides a single plane of glass for cloud managing both the wired and wireless components of your network. Zero touch provisioning also significantly reduces deployment times. Select X440-G2 models have been enabled for use with ExtremeCloud. See the ExtremeCloud Data Sheet for details.

FUTURE USB 2.0 SUPPORT

All X440-G2 switches have a USB 2.0 port that will be supported

with a future operating system upgrade.

EXTENDED TEMPERATURE RANGE SUPPORT

The X440-G2 include three switch models that support 0°C to 60°C operating range (Models 16539, 16540 and 16541) to address the unique environmental needs of specific industries and/or locations.

COMPREHENSIVE SECURITY MANAGEMENT

The X440-G2 provides comprehensive security, including:

- User policy and host integrity enforcement, and identity management
- Universal Port Dynamic Security Profiles for fine granular security policies across the network
- Threat detection and response instrumentation to react to network intrusion
- Denial of Service (DoS) protection and IP security against man-in-the-middle and DoS attacks

These features ensure both the security of the network and of users accessing the network.

AUDIO VIDEO BRIDGING (AVB)

The X440-G2 series supports IEEE 802.1 Audio Video Bridging to enable reliable, real-time audio/video transmission over Ethernet. AVB technology delivers the quality of service required for today's high-definition and time-sensitive multimedia streams.

Ordering Notes

- All X440-G2 switches ship with fixed fans and power supplies
- All the X440-G2 switches support optional external redundant power supplies (RPS)
- The following three switch models that support 0C to 60C are NOT upgradeable to 10GbE:
 - X440-G2-24x-GE4
 - X440-G2-12t8fx-GE4
 - X440-G2-24t-GE4

Specifications

SWITCH MODEL	MAXIMUM 10/100/1000BASE-T PORTS	MAXIMUM ACTIVE 1GBE SFP PORTS	MAXIMUM 10GBPS SFP+ PORTS	AGGREGATED SWITCH BANDWIDTH ¹	FRAME FORWARDING RATE ²
X440-G2-12L-10GE4	12	4	4 via license	104 Gbps	77.4 Mpps
X440-G2-24t-10GE4	24	8 (4 + 4 Combo)	4 via license	128 Gbps	95.2 Mpps
X440-G2-48t-10GE4	48	8 (2 + 6 Combo)	4 via license ³	176 Gbps	130.9 Mpps
X440-G2-12p-10GE4	12	4	4 via license	104 Gbps	77.4 Mpps
X440-G2-24p-10GE4	24	8 (4 + 4 Combo)	4 via license	128 Gbps	95.2 Mpps
X440-G2-48p-10GE4	48	8 (2 + 6 Combo)	4 via license ³	176 Gbps	130.9 Mpps
X440-G2-24t-10GE4-DC	24	8 (4 + 4 Combo)	4 via license	128 Gbps	95.2 Mpps
X440-G2-48t-10GE4-DC	48	8 (2 + 6 Combo)	4 via license ³	176 Gbps	130.9 Mpps
X440-G2-24x-10GE4	4 Combo	28 (24 + 4 Combo)	4 via license	128 Gbps	95.2 Mpps
X440-G2-24fx-GE4	24 100 Base-FX	4	0	12.8 Gbps	9.5 Mpps
X440-G2-12t8fx-GE4	12 10/100/1000 + 8 100 Base-FX	4	0	33.6 Gbps	25.0 Mpps
X440-G2-24t-GE4	24 10/100/1000	4	0	56 Gbps	41.7 Mpps

¹ 2 10GBase-T combo ports

³ -with 10Gb licenses if available with license

- Less than 4 microsecond latency (64-byte)
- Layer 2/MAC Addresses: 16K
- IPv4 LPM Entries: 480
- IPv4 Hosts: 1000
- IPv6 LPM (64-bit) Entries: 240
- 4092 user-created VLAN/VMANs
- 9216 Byte Max Packet Size (Jumbo Frame)
- 128 load sharing trunks, up to 8 members per trunk
- 1,024 ingress bandwidth meters, 256 egress meters
- Ingress and egress bandwidth policing/rate limiting per flow/ACL
- 8 QoS egress queues/port
- Egress bandwidth rate shaping per egress queue and per port
- Rate Limiting Granularity: 8 Kbps
- Half-duplex 10/100 supported on the following 10/100/1000 ports:
 - 12 port switches: Ports 1-12
 - 24 port switches: Ports 1-16
 - 48 port switches: Ports 1-16 and Ports 25-40
- Policy Capabilities
 - Policy Profiles: 63
 - Rules per Profile: Up to 440
 - Authenticated Policy Users per Switch: Up to 256
 - Authenticated Policy Users per Port: Up to 256
 - Unique Permit/Deny Rules per switch: 440
 - MAC Rules: N/A
 - IPv4 Rules: 256
 - IPv6 Rules: N/A
 - L2 Rules: 184
 - Rate Limiting: Per Class of Service

Specifications (cont.)

SWITCH HARDWARE	PORTS
X440-G2-12t-10GE4	<ul style="list-style-type: none"> • 12 x 10/100/1000BASE-T (RJ-45) • 4 x 1GBASE-X SFP (unpopulated ports) upgradeable to 10Gb Ethernet via licensing • 1 x Serial (console port RJ-45) with RTS/CTS modem control • 1 x 10/100/1000BASE-T out-of-band management port • Coaxial Barrel Connector RPS port
X440-G2-24t-10GE4	<ul style="list-style-type: none"> • 24 x 10/100/1000BASE-T (RJ-45) • 4 x 1GBASE-X SFP (unpopulated) combo ports • 4 x 1GBASE-X SFP (unpopulated ports) upgradeable to 10Gb Ethernet via licensing • 1 x Serial (console port RJ-45) with RTS/CTS modem control • 1 x 10/100/1000BASE-T out-of-band management port • 2x7 RPS port
X440-G2-48t-10GE4	<ul style="list-style-type: none"> • 48 x 10/100/1000BASE-T (RJ-45) • 4 x 1GBASE-X SFP (unpopulated) combo ports • 2 x 1GbE copper combo ports upgradable to 10GbE • 4 x 1GBASE-X SFP (unpopulated ports) upgradeable to 10Gb Ethernet via licensing • 1 x Serial (console port RJ-45) with RTS/CTS modem control • 1 x 10/100/1000BASE-T out-of-band management port • 2x7 RPS port
X440-G2-12p-10GE4	<ul style="list-style-type: none"> • 12 x 10/100/1000BASE-T PoE-Plus • 4 x 1GBASE-X SFP (unpopulated ports) upgradeable to 10Gb Ethernet via licensing • 1 x Serial (console port RJ-45) with RTS/CTS modem control • 1 x 10/100/1000BASE-T out-of-band management port • 2x7 RPS port
X440-G2-24p-10GE4	<ul style="list-style-type: none"> • 24 x 10/100/1000BASE-T PoE-Plus • 4 x 1GBASE-X SFP (unpopulated) combo ports • 4 x 1GBASE-X SFP (unpopulated ports) upgradeable to 10Gb Ethernet via licensing • 1 x Serial (console port RJ-45) with RTS/CTS modem control • 1 x 10/100/1000BASE-T out-of-band management port • 2x7 RPS port
X440-G2-48p-10GE4	<ul style="list-style-type: none"> • 48 x 10/100/1000BASE-T PoE-Plus • 4 x 1GBASE-X SFP (unpopulated) combo ports • 2 x 1GbE copper combo ports upgradable to 10GbE • 4 x 1GBASE-X SFP (unpopulated ports) upgradeable to 10Gb Ethernet via licensing • 1 x Serial (console port RJ-45) with RTS/CTS modem control • 1 x 10/100/1000BASE-T out-of-band management port • 2x7 RPS port
X440-G2-24t-10GE4-DC	<ul style="list-style-type: none"> • 24 x 10/100/1000BASE-T (RJ-45) • 4 x 1GBASE-X SFP (unpopulated) combo ports • 4 x 1GBASE-X SFP (unpopulated ports) upgradeable to 10Gb Ethernet via licensing • 1 x Serial (console port RJ-45) with RTS/CTS modem control • 1 x 10/100/1000BASE-T out-of-band management port • 2x7 RPS port
X440-G2-48t-10GE4-DC	<ul style="list-style-type: none"> • 48 x 10/100/1000BASE-T (RJ-45) • 4 x 1GBASE-X SFP (unpopulated) combo ports • 2 x 1GbE copper combo ports upgradable to 10GbE • 4 x 1GBASE-X SFP (unpopulated ports) upgradeable to 10Gb Ethernet via licensing • 1 x Serial (console port RJ-45) with RTS/CTS modem control • 1 x 10/100/1000BASE-T out-of-band management port • 2x7 RPS port
X440-G2-24x-10GE4	<ul style="list-style-type: none"> • 24 x SFP (unpopulated) • 4 x 10/100/1000 combo ports • 4 x 1GBASE-X SFP (unpopulated ports) upgradeable to 10Gb Ethernet via licensing • 1 x Serial (console port RJ-45) with RTS/CTS modem control • 1 x 10/100/1000BASE-T out-of-band management port • 2x7 RPS port

SWITCH HARDWARE	PORTS
X440-G2-24fx-GE4	<ul style="list-style-type: none"> • 24 x 100Base-FX – LC connectors • 4 x 1GBASE-X SFP (unpopulated ports) • 1 x Serial (console port RJ-45) with RTS/CTS modem control • 1 x 10/100/1000BASE-T out-of-band management port • 2x7 RPS port
X440-G2-12t8fx-GE4	<ul style="list-style-type: none"> • 12 x 10/100/1000BASE-T with 8 x 100Base-FX – LC connectors • 4 x 1GBASE-X SFP (unpopulated ports) • 1 x Serial (console port RJ-45) with RTS/CTS modem control • 1 x 10/100/1000BASE-T out-of-band management port • 2x7 RPS port
X440-G2-24t-GE4	<ul style="list-style-type: none"> • 24 x 10/100/1000BASE-T (RJ-45) • 4 x 1GBASE-X SFP (unpopulated ports) • 1 x Serial (console port RJ-45) with RTS/CTS modem control • 1 x 10/100/1000BASE-T out-of-band management port • 2x7 RPS port

Physical

SWITCH MODEL	WEIGHT	HEIGHT	WIDTH	DEPTH
X440-G2-12t-10GE4	5.82 lb (2.64 kg)	1 RU / 1.73 inches (4.4 cm)	12.01 inches (30.5 cm)	10.28 inches (26.1 cm)
X440-G2-24t-10GE4	8.07 lb (3.66 kg)	1 RU / 1.73 inches (4.4 cm)	17.36 inches (44.1 cm)	10.01 inches (25.4 cm)
X440-G2-48t-10GE4	11.22 lb (5.09 kg)	1 RU / 1.73 inches (4.4 cm)	17.36 inches (44.1 cm)	14.51 inches (36.85 cm)
X440-G2-12p-10GE4	6.66 lb (3.02 kg)	1 RU / 1.73 inches (4.4 cm)	12.01 inches (30.5 cm)	10.28 inches (26.1 cm)
X440-G2-24p-10GE4	9.44 lb (4.28 kg)	1 RU / 1.73 inches (4.4 cm)	17.36 inches (44.1 cm)	10.01 inches (25.4 cm)
X440-G2-48p-10GE4	14.55 lb (6.60 kg)	1 RU / 1.73 inches (4.4 cm)	17.36 inches (44.1 cm)	14.51 inches (36.85 cm)
X440-G2-24t-10GE4-DC	8.07 lb (3.66 kg)	1 RU / 1.73 inches (4.4 cm)	17.36 inches (44.1 cm)	10.01 inches (25.4 cm)
X440-G2-48t-10GE4-DC	11.20 lb (5.08 kg)	1 RU / 1.73 inches (4.4 cm)	17.36 inches (44.1 cm)	14.51 inches (36.85 cm)
X440-G2-24x-10GE4	8.22 lb (3.73 kg)	1 RU / 1.73 inches (4.4 cm)	17.36 inches (44.1 cm)	10.01 inches (25.4 cm)
X440-G2-24fx-GE4	8.66 lb (3.93 kg)	1 RU / 1.73 inches (4.4 cm)	17.36 inches (44.1 cm)	10.01 inches (25.4 cm)
X440-G2-12t8fx-GE4	6.50 lb (2.95 kg)	1 RU / 1.73 inches (4.4 cm)	12.01 inches (30.5 cm)	10.28 inches (26.1 cm)
X440-G2-24t-GE4	7.98 lb (3.62 kg)	1 RU / 1.73 inches (4.4 cm)	17.36 inches (44.1 cm)	10.01 inches (25.4 cm)

CPU/MEMORY

- 64-bit MIPS Processor, 1 GHz clock, single core
- 1GB ECC DDR3 DRAM
- 4GB eMMC Flash
- 1.5MB packet buffer on 12 - 24 port switches, 3.0MB packet buffer on 48 port switches

LED INDICATORS

- Per port status LED including power status
- System Status LEDs: management, fan and power
- 7 segment display of stack number – operational on switches that support stacking

STACKING

- SummitStack-V with support for up to eight switches per stack
- Mixed stacking with other Extreme X-Series switches, so long as all are running the same ExtremeXOS version
- Requires two of the four available X440-G2 uplink ports

Note: SummitStack-V stacking is enabled on two of the four X440-G2 uplink ports by default (no license required). All stacking ports operate at 10Gb, but do not use standard Ethernet protocols. X440-G2 uplink ports, when not used for stacking, run the standard Ethernet protocol. Non-stacking uplink ports are limited by default to 1GbE, unless upgraded via software license. 10GbE licenses are available in both two- and four-port versions, that enable X440-G2 uplink ports to run the 10Gb Ethernet protocol.

Mapping of the two default X440-G2 stacking ports to their respective physical chassis interface #'s — by chassis type — are listed below.

X440-G2 SWITCHES*	STACK PORT #	PHYSICAL UPLINK PORT # ON CHASSIS
48 Port Models	1	49 (rear panel, dedicated SFP+ port)
	2	50 (rear panel, dedicated SFP+ port)
24 Port Models	1	27 (rear panel)
	2	28 (rear panel)
12 Port Models	1	15 (front panel)
	2	16 (front panel)

*The three extended temperature X440-G2 models (16539, 16540 and 16541) do NOT stack.

POWER

SWITCH MODEL	MINIMUM ¹ HEAT DISSIPATION (BTU/HR)	MINIMUM ¹ POWER CONSUMPTION (WATTS)	MAXIMUM ² HEAT DISSIPATION (BTU/HR)	MAXIMUM ² POWER CONSUMPTION (WATTS)
X440-G2-12t-10GE4	52	15	109	32
X440-G2-24t-10GE4	87	26	136	40
X440-G2-48t-10GE4	141	41	208	61
X440-G2-12p-10GE4	72	21	216 (200W PoE)	264
X440-G2-24p-10GE4	121	35	410 (380W PoE)	500
X440-G2-48p-10GE4	196	53	755 (740W PoE)	961
X440-G2-24t-10GE4-DC	77	23	134	39
X440-G2-48t-10GE4-DC	137	40	207	61
X440-G2-24x-10GE4	87	26	172	51
X440-G2-24fx-GE4	166	49	223	65
X440-G2-12t8fx-GE4	108	32	159	47
X440-G2-24t-GE4	76	22	130	38

¹ Idle no ports linked

² Fans high all ports 100% traffic

THE NON-POE EXTENDED TEMPERATURE SWITCHES (X440-G2-24FX-GE4, X440-G2-12T8FX-GE4, X440-G2-24T-GE4)

FIXED INTERNAL POWER SUPPLY	
Voltage Input Range	100-240 VAC ¹
Line Frequency Range	50 - 60 Hz +/- 5%
Power Supply Input Socket	IEC 320 C14
Power Cord Input Plug	IEC 320 C13
Operating Temperature	0° C to 60° C normal operation

THE 12, 24, AND 48 PORT 10/100/1000 MODELS (BOTH POE AND NON-POE)

FIXED INTERNAL POWER SUPPLY	
Voltage Input Range	100-240 VAC ¹
Line Frequency Range	50 - 60 Hz +/- 5%
Power Supply Input Socket	IEC 320 C14
Power Cord Input Plug	IEC 320 C13
Operating Temperature	0° C to 50° C normal operation

¹ - The power supplies will continue to operate +/- 10% of the rated input to accommodate temporary loss of input voltage regulation

SWITCH MODEL	POWER SUPPLY INPUT SOCKET	POWER CORD INPUT PLUG/ INPUT SOCKET	POWER SUPPLY CORD GAUGE	REDUNDANT POWER SUPPLY INPUT SOCKET
X440-G2-12t-10GE4	IEC 320 C14	IEC 320 C13/C14	Min 18AWG/0.75mm ²	Coaxial Barrel Connector
X440-G2-24t-10GE4	IEC 320 C14	IEC 320 C13/C14	Min 18AWG/0.75mm ²	2x7 terminal block
X440-G2-48t-10GE4	IEC 320 C14	IEC 320 C13/C14	Min 18AWG/0.75mm ²	2x7 terminal block
X440-G2-12p-10GE4	IEC 320 C14	IEC 320 C13/C14	Min 18AWG/0.75mm ²	2x7 terminal block
X440-G2-24p-10GE4	IEC 320 C14	IEC 320 C13/C14	Min 18AWG/0.75mm ²	2x7 terminal block
X440-G2-48p-10GE4	IEC 320 C14	IEC 320 C13/C14	Min 16AWG/1.25mm ² (100-125VAC), Min 18AWG/.75mm ² (200-240VAC)	2x7 terminal block
X440-G2-24t-10GE4-DC	#6 Terminal Block	#6, Crimp lugs, 16/14 AWG	Min 14AWG/2.0mm ²	2x7 terminal block
X440-G2-48t-10GE4-DC	#6 Terminal Block	#6, Crimp lugs, 16/14 AWG	Min 14AWG/2.0mm ²	2x7 terminal block
X440-G2-24x-10GE4	IEC 320 C14	IEC 320 C13/C14	Min 18AWG/0.75mm ²	2x7 terminal block
X440-G2-24fx-GE4	IEC 320 C14	IEC 320 C13/C14	Min 18AWG/0.75mm ²	2x7 terminal block
X440-G2-12t8fx-GE4	IEC 320 C14	IEC 320 C13/C14	Min 18AWG/0.75mm ²	2x7 terminal block
X440-G2-24t-GE4	IEC 320 C14	IEC 320 C13/C14	Min 18AWG/0.75mm ²	2x7 terminal block

POE-PLUS POWER BUDGET

SWITCH MODEL	INTERNAL POWER SUPPLY	EXTERNAL RPS
X440-G2-12p-10GE4	200 W	200 W - Redundant Power Only
X440-G2-24p-10GE4	380 W	380 W - Redundant Power Only
X440-G2-48p-10GE4	740 W	1440 W - Additive Power 740 W - Redundant Power

ENVIRONMENTAL SPECIFICATIONS

- 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 1.5 G

ENVIRONMENTAL COMPLIANCE

- EU RoHS - 2011/65/EU
- EU WEEE - 2012/19/EU
- China RoHS - SJ/T 11363-2006

OPERATING CONDITIONS

- Temp: 0° C to 50° C (32° F to 122° F) - all models
- Temp: 0° C to 60° C (32° F to 140° F) - extended temperature range models only (16539, 16540 and 16541)
- Humidity: 10% to 95% relative humidity, non-condensing
- Altitude: 0 to 3,000 meters (9,842 feet) - All switch models
- Shock (half sine): 30 m/s² (3 G), 11 ms, 6 shocks
- Random vibration: 3 to 500 Hz at 1.5 G rms

PACKAGING AND STORAGE SPECIFICATIONS

- Temp: -40° C to 70° C (-40° F to 158° F) Humidity: 10% to 95% relative humidity, non-condensing

- Packaged Shock (half sine): 180 m/s² (18 G), 6 ms, 600 shocks
- Packaged Vibration: 5 to 62 Hz at velocity 5 mm/s, 62 to 500 Hz at 0.2 G
- Packaged Random Vibration: 5 to 20 Hz at 1.0 ASD w/-3 dB/oct. from 20 to 200 Hz
- Packaged Drop Height: 14 drops minimum on sides and corners at 42 inches (<15 kg box)

REGULATORY AND SAFETY

North American ITE

- UL 60950-1 2nd Ed., Listed Device (U.S.)
- CSA 22.2 #60950-1-03 2nd Ed. (Canada)
- Complies with FCC 21CFR 1040.10 (U.S. Laser Safety)
- CDRH Letter of Approval (US FDA Approval)

European ITE

- EN 60950-1:2007 2nd Ed.
- EN 60825-1+A2:2001 (Lasers Safety)
- 2006/95/EC Low Voltage Directive

International ITE

- CB Report & Certificate per IEC 60950-1 2nd Ed. + National Differences
- AS/NZS 60950-1 (Australia /New Zealand)

EMI/EMC STANDARDS

North American EMC for ITE

- FCC CFR 47 part 15 Class A (USA)
- ICES-003 Class A (Canada)

European EMC Standards

- EN 55022:2006+A1:2007 Class A
- EN 55024:A2-2003 Class A includes IEC 61000-4-2, 3, 4, 5, 6, 11
- EN 61000-3-2,8-2006 (Harmonics)
- EN 61000-3-3 2008 (Flicker)
- ETSI EN 300 386 v1.4.1, 2008-04 (EMC Telecommunications)
- 2004/108/EC EMC Directive

INTERNATIONAL EMC CERTIFICATIONS

- CISPR 22: 2006 Ed 5.2, Class A (International Emissions)
- CISPR 24:A2:2003 Class A (International Immunity)
- IEC 61000-4-2:2008/EN 61000-4-2:2009 Electrostatic Discharge, 8kV Contact, 15 kV Air, Criteria A
- IEC 61000-4-3:2008/EN 61000-4-3:2006+A1:2008 Radiated Immunity 10V/m, Criteria A
- IEC 61000-4-4:2004 am1 ed.2./EN 61000-4-4:2004/A1:2010 Transient Burst, 1 kV, Criteria A
- IEC 61000-4-5:2005 /EN 61000-4-5:2006 Surge, 2 kV L-L, 2 kV L-G, Level 3, 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/EN 61000-4-11:2004 Power Dips & Interruptions, >30%, 25 periods, Criteria C

COUNTRY SPECIFIC

- VCCI Class A (Japan Emissions)
- ACMA RCM (Australia Emissions)
- CCC Mark
- KCC Mark, EMC Approval (Korea)

TELECOM STANDARDS

- CE 2.0 Compliant

IEEE 802.3 MEDIA ACCESS STANDARDS

- IEEE 802.3ab 1000BASE-T
- IEEE 802.3z 1000BASE-X
- IEEE 802.3ae 10GBASE-X
- IEEE 802.3at PoE-Plus
- IEEE 802.3az
- IEEE 802.3u, 100Base-FX

FAN AND ACOUSTIC NOISE

SWITCH MODEL	ACOUSTIC INFORMATION	
	BYSTANDER SOUND PRESSURE*	DECLARED SOUND POWER (LWAD)*
X440-G2-12t-10GE4	0 dB(A) fan off	0 bels fan off
X440-G2-24t-10GE4	28.1 dB(A)	4.3 bels
X440-G2-48t-10GE4	37.9 dB(A)	5.4 bels
X440-G2-12p-10GE4	0 dB(A) fan off	0 bels fan off
X440-G2-24p-10GE4	39.4 dB(A)	5.5 bels
X440-G2-48p-10GE4	48.7 dB(A)	6.4 bels
X440-G2-24t-10GE4-DC	28.1 dB(A)	4.3 bels
X440-G2-48t-10GE4-DC	37.9 dB(A)	5.4 bels
X440-G2-24x-10GE4	26.8 dB(A)	4.0 bels
X440-G2-24fx-GE4	24.7 dB(A)	3.9 bels
X440-G2-12t8fx-GE4	23.3 dB(A)	4.0 bels
X440-G2-24t-GE4	28.1 dB(A)	4.3 bels

*-At 25°C and 50% PoE Load where applicable

EXTERNAL REDUNDANT POWER SUPPLIES FOR NON-POE SWITCHES

All X440-G2 series non-PoE switches ship with one fixed internal power supply. If redundancy is required, an external RPS can be attached to the switch.

MODEL NUMBER	DESCRIPTION
RPS-90	External redundant power supply Unit 90 Watts with cable for X440-G2-12t-10GE4 , Power cord ordered separately, order 10947 C5 to C14 Converter to utilize a C13 power cord
STK-RPS-150PS	150 watt non-PoE redundant power supply for A, B, C, X450-G2 and X440-G2 switches, Power cord ordered separately
STK-RPS-150CH2	2-Slot modular shelf for rack-mounting 150W redundant power supplies (STK-RPS-150PS)
STK-RPS-150CH8	8-Slot modular shelf for rack-mounting 150W redundant power supplies (STK-RPS-150PS)
RPS-150XT	External redundant power supply unit 150 Watts with cable - Extended Temperature Range from 0 to +60 degrees Celsius, Power cord ordered separately
STK-RPS-1005CH3	3-Slot modular shelf for rack-mounting 150W extended temperature redundant power supplies (RPS-150XT) or 1005W PoE+ redundant power supplies (STK-RPS-1005PS)
EPS-C2	External Power System Chassis 2. Accepts up to three 750W AC PoE PSU 48V power supplies. Accepts up to 5 EPS-CBL-2x7 or up to 1 EPS-CBL-2x9 cables. Ships with one EPS-CBL-2x7 cable.
EPS-CBL-2x7	External Power System Cable (1M) that connects EPS-C2 to any X440 or X450-G2 non-PoE switch for providing redundant DC power.
750W AC PSU	AC Power Supply module for EPS-C2 Chassis Redundant Power Supply, Power cord ordered separately

EXTERNAL REDUNDANT POWER SUPPLIES FOR POE X440-G2 SWITCHES

All X440-G2 series PoE switches ship with fixed internal power supplies.

RPS USE TABLE	RPS-90	STK-RPS-150PS	RPS-150XT	EPS-C2	RPS-500p	STK-RPS-1005PS
12t	X					
24t, 24x, 48t, 24fx, 12tBfx		X	X	X	X	
12p and 24p				X	X	
48p						X

RPS MODEL	REDUNDANT POWER SUPPLY OUTPUT
RPS-90	Coaxial Barrel Connector
STK-RPS-150PS	1 terminal block of 2x7 pins - provides system power and up to 150 watts of power
RPS-150XT	1 terminal block of 2x7 pins - provides system power and up to 150 watts of power
EPS-C2	1 terminal block of 2x9 pins - used for other Summit switches 5 terminal blocks of 2x7 pins - used for Summit X440-G2's
RPS-500p	1 terminal block of 2x7 pins - provides system power and up to 380 watts of IEEE802.3at power
STK-RPS-1005PS	1 terminal block of 2x7 pins - provides system power and up to 740 watts of IEEE802.3at power

RPS MODEL	ALLOWABLE PSU	POWER CORD INPUT PLUG / SOCKET	POWER CORD GAUGE
RPS-90	Not Applicable	IEC 320 C5/C14	Min 18AWG/0.75mm ²
STK-RPS-150PS	Not Applicable	IEC 320 C13/C14	Min 18AWG/0.75mm ²
RPS-150XT	Not Applicable	IEC 320 C13/C14	Min 18AWG/0.75mm ²
EPS-C2	Summit 750W PoE AC PSU	IEC 320 C13/C14	Min 18AWG/0.75mm ²
RPS-500p	Not Applicable	IEC 320 C13/C14	Min 18AWG/0.75mm ²
STK-RPS-1005PS	Not Applicable	IEC 320 C13/C16	Min 16AWG/1.25mm ² (100-125VAC), Min 18AWG/.75mm ² (200-240VAC)

RPS MODEL	WEIGHT	DIMENSIONS
RPS-90	0.73lb (0.33kg)	Height: 1.06 inches (2.69cm) Width: 5.20 inches (13.21cm) Depth: 2.25 inches (5.72cm)
STK-RPS-150PS	3.85lb (1.75kg)	Height: 2.04 inches (5.2cm) Width: 7.7 inches (19.6cm) Depth: 10.1 inches (25.7cm)
RPS-150XT	3.22lb (1.46kg)	Height: 1.77 inches (4.50cm) Width: 6.07 inches (15.42cm) Depth: 13.00 inches (33.02cm)
EPS-C2	2.27lb (1.03 kg)	Height: 1RU, 1.73 inches (4.4 cm) Width: 17.4 inches (44.1 cm) Depth: 15.1 inches (38.4 cm)
RPS-500p	8.06lb (3.66 kg)	Height: 1RU, 1.73 inches (4.4 cm) Width: 17.4 inches (44.1 cm) Depth: 7.9 inches (20.1 cm)
STK-RPS-100SPS	4.63lb (2.1 kg)	Height: 1.77 inches (4.5cm) Width: 6.07 inches (15.42cm) Depth: 13.39 inches (34.0cm)

Warranty

- Ltd. Lifetime with eAHR - 2
- For warranty details, visit: <http://www.extremenetworks.com/go/warranty>

Ordering Information

PART NUMBER	NAME	DESCRIPTION
16530	X440-G2-12t-10GE4	X440-G2 12 10/100/1000BASE-T, 4 1GbE unpopulated SFP upgradable to 10GbE SFP+, 1 Fixed AC PSU, 1 RPS port, ExtremeXOS Edge license
16531	X440-G2-12p-10GE4	X440-G2 12 10/100/1000BASE-T POE+, 4 1GbE unpopulated SFP upgradable to 10GbE SFP+, 1 Fixed AC PSU, 1 RPS port, ExtremeXOS Edge license
16532	X440-G2-24t-10GE4	X440-G2 24 10/100/1000BASE-T, 4 SFP combo, 4 1GbE unpopulated SFP upgradable to 10GbE SFP+, 1 Fixed AC PSU, 1 RPS port, ExtremeXOS Edge license
16533	X440-G2-24p-10GE4	X440-G2 24 10/100/1000BASE-T POE+, 4 SFP combo, 4 1GbE unpopulated SFP upgradable to 10GbE SFP+, 1 Fixed AC PSU, 1 RPS port, ExtremeXOS Edge license
16534	X440-G2-48t-10GE4	X440-G2 48 10/100/1000BASE-T, 4 SFP combo, 4 1GbE unpopulated SFP upgradable to 10GbE SFP+ (2 combo/2 non-combo), 2 1GbE copper combo upgradable to 10GbE, 1 Fixed AC PSU, 1 RPS port, ExtremeXOS Edge license
16535	X440-G2-48p-10GE4	X440-G2 48 10/100/1000BASE-T POE+, 4 SFP combo, 4 1GbE unpopulated SFP upgradable to 10GbE SFP+ (2 combo/2 non-combo), 2 1GbE copper combo upgradable to 10GbE, 1 Fixed AC PSU, 1 RPS port, ExtremeXOS Edge license
16536	X440-G2-24t-10GE4-DC	X440-G2 24 10/100/1000BASE-T, 4 SFP combo, 4 1GbE unpopulated SFP upgradable to 10GbE SFP+, 1 Fixed DC PSU, 1 RPS port, ExtremeXOS Edge license
16537	X440-G2-48t-10GE4-DC	X440-G2 48 10/100/1000BASE-T, 4 SFP combo, 4 1GbE unpopulated SFP upgradable to 10GbE SFP+ (2 combo/2 non-combo), 2 1GbE copper combo upgradable to 10GbE, 1 Fixed DC PSU, 1 RPS port, ExtremeXOS Edge license
16538	X440-G2-24x-10GE4	X440-G2 24 unpopulated 1000BASE-X SFP (4 combo), 4 10/100/1000 combo, 4 1GbE unpopulated SFP upgradable to 10GbE SFP+, 1 Fixed AC PSU, 1 RPS port, ExtremeXOS Edge license
16539	X440-G2-24fx-GE4	X440-G2 24 fixed 100BASE-FX LC connectors, 4 1GBASE-X unpopulated SFP, 1 Fixed AC PSU, 1 RPS port, ExtremeXOS Edge license. 0°C to 60°C operation
16540	X440-G2-12t8fx-GE4	X440-G2 12 10/100/1000BASE-T plus 8 fixed 100BASE-FX LC connectors, 4 1GBASE-X unpopulated SFP, 1 Fixed AC PSU, 1 RPS port, ExtremeXOS Edge license. 0°C to 60°C operation
16541	X440-G2-24t-GE4	X440-G2 24 fixed 10/100/1000BASE-TX, 4 1GBASE-X unpopulated SFP, 1 Fixed AC PSU, 1 RPS port, ExtremeXOS Edge license, 0°C to 60°C operation
16521	X440 Adv. Edge License	ExtremeXOS Advanced Edge License for X440/X440-G2 series switches
16522	X440 OpenFlow Feature Pack	ExtremeXOS SDN - OpenFlow Feature Pack for X440/X440-G2 series switches
16523	X440 Multimedia(AVB) Feature Pack	ExtremeXOS Multimedia Service (Audio Video Bridging) Feature Pack for X440/X440-G2 series switches
16542	Dual 10GbE Upgrade License	License that converts the two non-stack 1GbE SFP ports to be 10GbE SFP+
16543	Quad 10GbE Upgrade License	License that converts four 1GbE SFP ports to be 10GbE SFP+
10301	10GBASE-SR SFP+	10GBASE-SR SFP+, 850nm, LC Connector, transmission length of up to 300m on MMF

PART NUMBER	NAME	DESCRIPTION
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
10303	SFP+ LRM Module	10 Gigabit Ethernet SFP+ module, 1310nm, legacy MMF 220m link, LC connector
10948	RPS-90	External Redundant Power Supply Unit 90 Watts with cable . Power cord ordered separately
10947	C5 to C14 Converter	Power dongle for converting an IEC C5 plug to IEC C14 plug - enables the use of to utilize a C13 power cord
STK-RPS-150PS	150W Non-PoE RPS	150 watt non-PoE redundant power supply for A, B, C and X450-G2 switches
STK-RPS-150CH2	2-Slot Modular Shelf	2-Slot Modular Shelf for rack mounting up to two150 watt (STK-RPS-150PS) external redundant power supplies
STK-RPS-150CH8	8-Slot Modular Shelf	8-Slot Modular Shelf for rack mounting up to eight 150 watt (STK-RPS-150PS) external redundant power supplies
10932	RPS-150 XT	External Redundant Power Supply Unit 150 Watts with cable - Extended Temperature Range from 0 to +60 degrees Celsius, Power cord ordered separately
10923	RPS-500p	External PoE+ Redundant Power Supply Unit 500 Watts with cable, Power cord ordered separately
STK-RPS-1005PS	1005 W RPS	1005 watt 802.3at PoE external redundant power supply for C5 PoE and X440-48p switches
STK-RPS-1005CH3	3-Slot Modular Shelf	3-Slot Modular Shelf for rack mounting up to three of any combination of extended temperature 150 watt (10932 - RPS-150 XT) or STK-RPS-1005PS external redundant power supplies
10936	EPS-C2	External Power System Chassis 2. Accepts up to three 750W AC PoE PSU 48V power supplies. Accepts up to 5 EPS-CBL-2x7 or up to 1 EPS-CBL-2x9 cables
10939	EPS-CBL-2x7	External Power System Cable (1M with 2x7 pin) that connects EPS to any X440 or X450-G2 for providing redundant power
10931	750W AC PSU	AC Power Supply module for EPS-C2 Chassis Redundant Power Supply
10051H	1000BASE-SX SFP, Hi	1000BASE-SX SFP, MMF 220 & 550 meters, LC connector, Industrial Temp
10052H	1000BASE-LX SFP, Hi	1000BASE-LX SFP, MMF 220 & 550 meters, SMF 10km, LC connector, Industrial Temp
10053H	1000BASE-ZX SFP, Hi	1000BASE-ZX SFP, SMF 70km, LC connector, Industrial Temp
10056H	1000BASE-BX-D BiDi SFP, Hi	1000BASE-BX-D SFP, 1490-nm TX/1310-nm RX wavelength, Industrial Temp
10057H	1000BASE-BX-U BiDi SFP, Hi	1000BASE-BX-U SFP, 1310-nm TX/1490-nm RX wavelength, Industrial Temp
10060	100FX/1000LX SFP ²	100FX/1000LX SFP, SMF, LC Connector (Requires MCP and 6dB Attenuator for 100FX-MMF Operation) ²
10070H	10/100/1000BASE-T SFP, Hi ¹	10/100/1000BASE-T, SFP, CAT 5 cable 100m, RJ-45 Connector, Industrial Temp ¹
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
MGBIC-BX120-D	1000BASE-BX-D BiDi SFP 120Km	1 Gb, 1000Base-BX120-D Single Fiber SM, Bidirectional, 1590nm Tx / 1490nm Rx, 120 Km, Simplex LC SFP (must be paired with MGBIC-BX120-U). -40°C to +60°C
MGBIC-BX120-U	1000BASE-BX-U BiDi SFP 120Km	1 Gb, 1000Base-BX120-U Single Fiber SM, Bidirectional, 1490nm Tx / 1590nm Rx, 120 Km, Simplex LC SFP (must be paired with MGBIC-BX120-D). -40°C to +60°C
10063	100FX SFP ¹	100Mb, 100BASE-FX, MMF 2Km, LC ¹
10067	100BASE-FX SFP ¹	100BASE-FX SFP module, MMF 2km link, LC-connector for Fast Ethernet SFP Port ¹
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 ³	10GBASE-CR SFP+ pre-terminated twin-ax copper cable with link lengths of 10m ³
10GB-ZR-SFPP	10GB 80KM SFP+	10Gb, 10GBASE-ZR, SM, 1550nm, 80Km, LC SFP+
10GB-BX40-D	10 GB, SINGLE FIBER SM, -D 40 KM	10Gb, Single Fiber SM, Bidirectional, 1330nm Tx / 1270nm RX, 40Km, Simplex LC SFP+ (must be paired with 10GB-BX40-U)
10GB-BX40-U	10 GB, SINGLE FIBER SM, -U 40 KM	10Gb, Single Fiber SM, Bidirectional, 1270nm Tx / 1330nm RX, 40Km, Simplex LC SFP+ (must be paired with 10GB-BX40-D)
10GB-BX10-D	10 GB, SINGLE FIBER SM, -D 10 KM	10Gb, Single Fiber SM, Bidirectional, 1330nm Tx / 1330nm RX, 40Km, Simplex LC SFP+ (must be paired with 10GB-BX10-U)
10GB-BX10-U	10 GB, SINGLE FIBER SM, -U 10 KM	10Gb, Single Fiber SM, Bidirectional, 1270nm Tx / 1330nm RX, 10Km, Simplex LC SFP+ (must be paired with 10GB-BX10-D)
10GB-F10-SFPP	10 GB, ACTIVE OPTICAL DAC, 10 M	10Gb, Active optical direct attach cable with 2 integrated SFP+ transceivers, 10m
10GB-F20-SFPP	10 GB, ACTIVE OPTICAL DAC, 20 M	10Gb, Active optical direct attach cable with 2 integrated SFP+ transceivers, 20m

PART NUMBER	NAME	DESCRIPTION
MGBIC-BX40-D	1000BASE-BX40-D BIDIRECTIONAL SFP	1Gb, 1000Base-BX40-D Single Fiber SM, Bidirectional, 1490nm Tx / 1310nm RX, 40Km, Simplex LC SFP (must be paired with MGBIC-BX40-U), -40°C to +60°C
MGBIC-BX40-U	1000BASE-BX40-U BIDIRECTIONAL SFP	1Gb, 1000Base-BX40-U Single Fiber SM, Bidirectional, 1310nm Tx / 1490nm RX, 40Km, Simplex LC SFP (must be paired with MGBIC-BX40-D), -40°C to +60°C
MGBIC-BX10-D	1000BASE-BX-D SFP - 10KM	1Gb, 1000Base-BX10-D Single Fiber SM, Bidirectional, 1490nm Tx / 1310nm RX, 10Km, Simplex LC SFP (must be paired with MGBIC-BX10-U)
MGBIC-BX10-U	1000BASE-BX-U SFP - 10KM	1Gb, 1000Base-BX10-U Single Fiber SM, Bidirectional, 1310nm Tx / 1490nm RX, 10Km, Simplex LC SFP (must be paired with MGBIC-BX10-D)
I-MGBIC-LC03	Industrial 1000Base-LX 1310nm MMF Transceiver	-40°C to +60°C, 1Gb, 1000BASE-LX, MM, 1310 nm, 2 km with 62.5 MMF, 1 km with 50 MMF, LC SFP
I-MGBIC-GSX	Industrial 1000Base-SX 850nm Transceiver	-40°C to +60°C, 1Gb, 1000Base-SX, IEEE 802.3 MM, 850nm Short Wave Length, 220/550 m, LC SFP
I-MGBIC-GLX	Industrial 1000Base-LX 1310nm SM Transceiver	-40°C to +60°C, 1Gb, 1000Base-LX, MM - 550m, SM - 10 km, 1310 nm Long Wave Length, LC SFP, LC SFP

¹ - Supported in 24 SFP ports in 16538, not supported on SFP combo ports or SFP/SFP+ uplink ports

² - Supported in 24 SFP ports in 16538, not supported on SFP combo ports, 1Gb Mode Only on SFP/SFP+ uplink port

³ - Supported on 48 port 10GbE ports only

ExtremeCloud Management - 16530, 16531, 16532, 16533, 16534 and 16535 switches are enabled for use with ExtremeCloud. For details and ordering part numbers for ExtremeCloud Management, see the [ExtremeCloud datasheet](#)



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