



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 1

List View

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

Procurement Folder: 847014

Procurement Type: Central Purchase Order

Vendor ID: VS0000035609

Legal Name: Vodanet Systems LLC

Alias/DBA: Network Devices Inc

Total Bid: \$41,304.00

Response Date: 03/17/2021

Response Time: 11:37

Responded By User ID: frankvodanet

First Name: Frank

Last Name: Durucan

Email: frank@vodanetsystems.c

Phone: 2015591474

SO Doc Code: CRFQ

SO Dept: 1500

SO Doc ID: AGO2100000002

Published Date: 3/12/21

Close Date: 3/22/21

Close Time: 13:30

Status: Closed

Solicitation Description: BLDG 6 Switches and Wireless Access Points

Total of Header Attachments: 1

Total of All Attachments: 1



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

State of West Virginia
Solicitation Response

Proc Folder: 847014
Solicitation Description: BLDG 6 Switches and Wireless Access Points
Proc Type: Central Purchase Order

Solicitation Closes	Solicitation Response	Version
2021-03-22 13:30	SR 1500 ESR03172100000006350	1

VENDOR
VS0000035609
Vodanet Systems LLC

Solicitation Number: CRFQ 1500 AGO2100000002
Total Bid: 41304
Response Date: 2021-03-17
Response Time: 11:37:11
Comments:

FOR INFORMATION CONTACT THE BUYER

Melissa Pettrey
(304) 558-0094
melissa.k.pettrey@wv.gov

Vendor 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	Please see the attached Exhibit A Pricing Page	1.00000	LS	41304.000000	41304.00

Comm Code	Manufacturer	Specification	Model #
43222612			

Commodity Line Comments: Juniper Network equivalents are quoted.

Extended Description:

BLDG 6 Switches and Wireless Access Points

Line	Comm Ln Desc	Qty	Unit Issue	Unit Price	Ln Total Or Contract Amount
2	Please see the attached Exhibit A Pricing Page	1.00000	LS	0.000000	0.00

Comm Code	Manufacturer	Specification	Model #
43222640			

Commodity Line Comments:

Extended Description:

Please see the attached Exhibit A Pricing Page



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

State of West Virginia
 Centralized Request for Quote
 Info Technology

Proc Folder: 847014			Reason for Modification:
Doc Description: BLDG 6 Switches and Wireless Access Points			
Proc Type: Central Purchase Order			
Date Issued	Solicitation Closes	Solicitation No	Version
2021-03-03	2021-03-18 13:30	CRFQ 1500 AGO2100000002	1

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

VENDOR
Vendor Customer Code: VS0000035609 Vendor Name : VODANET SYSTEMS LLC Address : 70 COMMERCIAL AVE, UNIT C Street : 70 COMMERCIAL AVE, UNIT C City : MOONACHIE State : NJ Country : USA Zip : 07074 Principal Contact : FRANK DURUCAN Vendor Contact Phone: 201-559-1474 Extension:

FOR INFORMATION CONTACT THE BUYER
Melissa Pettrey (304) 558-0094 melissa.k.pettrey@wv.gov

Vendor Signature X 	FEIN# 46-4978786	DATE 03/16/2021
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All offers subject to all terms and conditions contained in this solicitation

ADDITIONAL INFORMATION

Request for Quotation

The West Virginia Purchasing Division is soliciting bids on behalf of the West Virginia Attorney General office to establish a contract for the one time purchase of five (5) Cisco 9300 Switch or equal per specifications and terms and conditions as attached hereto. Any accessories needed to meet the following specifications, warranty, and support must be included in the bid total.

INVOICE TO	SHIP TO
ATTORNEY GENERAL'S OFFICE 1900 KANAWHA BLVD E BUILDING 1 RM E-26 CHARLESTON WV 25305 US	ATTORNEY GENERAL'S OFFICE 1900 KANAWHA BLVD E BUILDING 1 RM E-26 CHARLESTON WV 25305 US

Line	Comm Ln Desc	Qty	Unit Issue	Unit Price	Total Price
1	Please see the attached Exhibit A Pricing Page	1.00000	LS	41,304.00	41,304.00

Comm Code	Manufacturer	Specification	Model #
43222612			

Extended Description:

BLDG 6 Switches and Wireless Access Points

INVOICE TO	SHIP TO
ATTORNEY GENERAL'S OFFICE 1900 KANAWHA BLVD E BUILDING 1 RM E-26 CHARLESTON WV 25305 US	ATTORNEY GENERAL'S OFFICE 1900 KANAWHA BLVD E BUILDING 1 RM E-26 CHARLESTON WV 25305 US

Line	Comm Ln Desc	Qty	Unit Issue	Unit Price	Total Price
2	Please see the attached Exhibit A Pricing Page	1.00000	LS		

Comm Code	Manufacturer	Specification	Model #
43222640			

Extended Description:

Please see the attached Exhibit A Pricing Page

SCHEDULE OF EVENTS

Line	Event	Event Date
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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 **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 individual is permitted to represent more than one vendor at the pre-bid meeting. Any individual that does attempt to represent two or more vendors will be required to select one vendor to which the individual's attendance will be attributed. The vendors not selected will be deemed to have not attended the pre-bid meeting unless another individual attended on their behalf.

An attendance sheet provided at the pre-bid meeting shall serve as the official document verifying 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
Revised 02/10/2021

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: 03/09/2021 @10:00 AM

Submit Questions to: Melissa Pettrey, Senior buyer
2019 Washington Street, East
Charleston, WV 25305
Fax: (304) 558-4115 (Vendors should not use this fax number for bid submission)
Email: melissa.k.pettrey@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: BLDG 6 Switches and Wireless Access Points
BUYER: Melissa Pettrey, Senior Buyer
SOLICITATION NO.: CRFQ AGO210000002
BID OPENING DATE: 03/18/2021
BID OPENING TIME: 1:30 PM
FAX NUMBER: 304-558-3970

Revised 02/10/2021

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 a 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: 03/18/2021 @ 1:30 PM

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. ALTERNATE MODEL OR BRAND: Unless the box below is checked, 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.

This Solicitation is based upon a standardized commodity established under W. Va. Code § 5A-3-61. Vendors are expected to bid the standardized commodity identified. Failure to bid the standardized commodity will result in your firm's bid being rejected.

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 be requested in purchases of motor vehicles or construction and maintenance equipment and machinery used in highway and other infrastructure projects. Any request for preference must be submitted in writing with the bid, must specifically identify the preference requested with reference to the applicable subsection of West Virginia Code § 5A-3-37, and must include with the bid any information necessary to evaluate and confirm the applicability of the requested preference. A request form to help facilitate the request can be found at:
<http://www.state.wv.us/admin/purchase/vrc/Venpref.pdf>.

15A. RECIPROCAL PREFERENCE: The State of West Virginia applies a reciprocal preference to all solicitations for commodities and printing in accordance with W. Va. Code § 5A-3-37(b). In effect, non-resident vendors receiving a preference in their home states, will see that same preference granted to West Virginia resident vendors bidding against them in West Virginia. Any request for reciprocal preference must include with the bid any information necessary to evaluate and confirm the applicability of the preference. A request form to help facilitate the request can be found at: <http://www.state.wv.us/admin/purchase/vrc/Venpref.pdf>.

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 and viewed by the Purchasing Division staff immediately upon bid opening. The Purchasing Division will consider any file that cannot be immediately accessed and 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 to make a file viewable if those documents are required with the bid. A Vendor may be required to provide document passwords or remove access restrictions to allow the Purchasing Division to print or electronically save documents provided that those documents are viewable by the Purchasing Division prior to obtaining the password or removing the access restriction.

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.

22. INTERESTED PARTY DISCLOSURE: West Virginia Code § 6D-1-2 requires that the vendor submit to the Purchasing Division a disclosure of interested parties to the contract for all contracts with an actual or estimated value of at least \$1 Million. That disclosure must occur on the form prescribed and approved by the WV Ethics Commission prior to contract award. A copy of that form is included with this solicitation or can be obtained from the WV Ethics Commission. This requirement does not apply to publicly traded companies listed on a national or international stock exchange. A more detailed definition of interested parties can be obtained from the form referenced above.

23. WITH THE BID REQUIREMENTS: In instances where these specifications require documentation or other information with the bid, and a vendor fails to provide it with the bid, the Director of the Purchasing Division reserves the right to request those items after bid opening and prior to contract award pursuant to the authority to waive minor irregularities in bids or specifications under W. Va. CSR § 148-1-4.6. This authority does not apply to instances where state law mandates receipt with the bid.

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 the initial contract term extends until _____.

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 delivered to the Agency and then 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. Unless otherwise specified below, 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 the total number of months available in all renewal years combined. Automatic renewal of this Contract is prohibited. Renewals must be approved by the Vendor, Agency, Purchasing Division and Attorney General's office (Attorney General approval is as to form only)

Alternate Renewal Term – This contract may be renewed for _____ successive _____ year periods or shorter periods provided that they do not exceed the total number of months contained in all available renewals. Automatic renewal of this Contract is prohibited. Renewals must be approved by the Vendor, Agency, Purchasing Division and Attorney General's office (Attorney General approval is as to form only)

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 of the work covered by the preceding sentence, the vendor agrees that maintenance, monitoring, or warranty services will be provided for _____ year(s) thereafter.

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. AUTHORITY TO PROCEED: Vendor is authorized to begin performance of this contract on the date of encumbrance listed on the front page of the Award Document unless either the box for “Fixed Period Contract” or “Fixed Period Contract with Renewals” has been checked in Section 3 above. If either “Fixed Period Contract” or “Fixed Period Contract with Renewals” has been checked, Vendor must not begin work until it receives a separate notice to proceed from the State. The notice to proceed will then be incorporated into the contract via change order to memorialize the official date that work commenced.

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 of 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 100% of the contract. The performance bond must be received by the Purchasing Division prior to Contract award.

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. Notwithstanding the foregoing, West Virginia Code § 5-22-1 (d) mandates that a vendor provide a performance and labor/material payment bond for construction projects. Accordingly, substitutions for the performance and labor/material payment bonds for construction projects is not permitted.

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.

LICENSE(S) / CERTIFICATIONS / PERMITS: In addition to anything required under the Section of the General Terms and Conditions entitled Licensing, the apparent successful Vendor shall furnish proof of the following licenses, certifications, and/or permits upon request and in a form acceptable to the State. The request may be prior to or after contract award at the State's sole discretion.

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

8. INSURANCE: The apparent successful Vendor shall furnish proof of the insurance identified by a checkmark below and must include the State as an additional insured on each policy prior to Contract award. The insurance coverages identified below must be maintained throughout the life of this contract. Thirty (30) days prior to the expiration of the insurance policies, Vendor shall provide the Agency with proof that the insurance mandated herein has been continued. Vendor must also provide Agency with immediate notice of any changes in its insurance policies, including but not limited to, policy cancelation, policy reduction, or change in insurers. 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 in this section.

Vendor must maintain:

Commercial General Liability Insurance in at least an amount of: \$1,000,000 per occurrence.

Automobile Liability Insurance in at least an amount of: _____ per occurrence.

Professional/Malpractice/Errors and Omission Insurance in at least an amount of: _____ per occurrence. Notwithstanding the forgoing, Vendor's are not required to list the State as an additional insured for this type of policy.

Commercial Crime and Third Party Fidelity Insurance in an amount of: _____ per occurrence.

Cyber Liability Insurance in an amount of: \$10,000,000 per occurrence.

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

Pollution Insurance in an amount of: _____ per occurrence.

Aircraft Liability in an amount of: _____ per occurrence.

Notwithstanding anything contained in this section to the contrary, the Director of the Purchasing Division reserves the right to waive the requirement that the State be named as an additional insured on one or more of the Vendor's insurance policies if the Director finds that doing so is in the State's best interest.

9. 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.

10. [Reserved]

11. LIQUIDATED DAMAGES: 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. Vendor shall pay liquidated damages in the amount specified below or as described in the specifications:

_____ for _____

Liquidated Damages Contained in the Specifications

12. 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.

13. 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. Notwithstanding the foregoing, Vendor must extend any publicly advertised sale price to the State and invoice at the lower of the contract price or the publicly advertised sale price.

14. PAYMENT IN ARREARS: 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.

15. PAYMENT METHODS: Vendor must accept payment by electronic funds transfer and P-Card. (The State of West Virginia's Purchasing Card program, administered under contract by a banking institution, processes payment for goods and services through state designated credit cards.)

16. 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.

17. 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.

18. 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.

19. 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.

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

21. 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.

22. COMPLIANCE WITH LAWS: 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.

SUBCONTRACTOR COMPLIANCE: Vendor shall notify all subcontractors providing commodities or services related to this Contract that as subcontractors, they too are required to comply with all applicable laws, regulations, and ordinances. Notification under this provision must occur prior to the performance of any work under the contract by the subcontractor.

23. 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.

24. 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.

25. 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.

26. 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.

27. 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.

28. 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.

29. 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.

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. Obligations related to political subdivisions may include, but are not limited to, business licensing, business and occupation taxes, inspection compliance, permitting, etc. 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.

SUBCONTRACTOR COMPLIANCE: Vendor shall notify all subcontractors providing commodities or services related to this Contract that as subcontractors, they too are required to be licensed, in good standing, and up-to-date on all state and local obligations as described in this section. Obligations related to political subdivisions may include, but are not limited to, business licensing, business and occupation taxes, inspection compliance, permitting, etc. Notification under this provision must occur prior to the performance of any work under the contract by the subcontractor.

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 and 5-22-1(i), the State is prohibited from awarding a contract to any bidder that owes a debt to the State or a political subdivision of the State, Vendors are required to sign, notarize, and submit the Purchasing Affidavit to the Purchasing Division affirming under oath that it is not in default on any monetary obligation owed to the state or a political subdivision of the state.

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”), provided that both the Other Government Entity and the Vendor agree. 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. 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.division@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.

Revised 02/10/2021

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; or
- 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.

44. INTERESTED PARTY SUPPLEMENTAL DISCLOSURE: W. Va. Code § 6D-1-2 requires that for contracts with an actual or estimated value of at least \$1 million, the vendor must submit to the Agency a supplemental disclosure of interested parties reflecting any new or differing interested parties to the contract, which were not included in the original pre-award interested party disclosure, within 30 days following the completion or termination of the contract. A copy of that form is included with this solicitation or can be obtained from the WV Ethics Commission. This requirement does not apply to publicly traded companies listed on a national or international stock exchange. A more detailed definition of interested parties can be obtained from the form referenced above.

45. PROHIBITION AGAINST USED OR REFURBISHED: Unless expressly permitted in the solicitation published by the State, Vendor must provide new, unused commodities, and is prohibited from supplying used or refurbished commodities, in fulfilling its responsibilities under this Contract.

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.

Frank Durucan, Account Representative

(Name, Title)

Frank Durucan, Account Representative

(Printed Name and Title)

70 Commercial Ave, Unit C, Moonachie, NJ 07074

(Address)

201-559-1474

(Phone Number) / (Fax Number)

frank@vodanetsystems.com

(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.

Vodanet Systems LLC

(Company)

Albert Krakus Albert Krakus, President

(Authorized Signature) (Representative Name, Title)

Albert Krakus, President

(Printed Name and Title of Authorized Representative)

03/16/2021

(Date)

973-262-2605

(Phone Number) (Fax Number)

REQUEST FOR QUOTATION
CRFQ AGO210000002
Cisco or Equal Layer 3 Switch &
Wireless Access Points

SPECIFICATIONS

1. **PURPOSE AND SCOPE:** The West Virginia Purchasing Division is soliciting bids on behalf of the West Virginia Attorney General office to establish a contract for the one time purchase of five (5) Cisco 9300 Switch or equal. Any accessories needed to meet the following specifications, warranty, and support must be included in the bid total.

2. **DEFINITIONS:** The terms listed below shall have the meanings assigned to them below. Additional definitions can be found in section 2 of the General Terms and Conditions.
 - 2.1 “1U” stands for one rack mount unit.
 - 2.2 “802.3AT” is a standard for supplying 25.5W and a maximum of 30W via PoE.
 - 2.3 “BGP” stands for Border Gateway Protocol.
 - 2.4 “BPDU” stands for Bridge protocol data unit.
 - 2.5 “Contract Item” means Firewall, Layer 3 Switch, Router, and Wireless Access Point, accessories, support, and warranty as more fully described by these specifications. See Exhibit A pricing page for a list of components,
 - 2.6 “DSL” stands for Digital Subscriber Line.
 - 2.7 “EIGRP” stands for Enhanced Interior Gateway Routing Protocol.
 - 2.8 “EIA” stands for Electronic Industries Association.
 - 2.9 “FOB” stands for Free on Board.
 - 2.10 “Gb” stands for Gigabit.
 - 2.11 “GB” stands for Gigabyte.
 - 2.12 “Gbps” stands for Gigabits per Second.
 - 2.13 “GHz” stands for gigahertz. It is a unit of measurement for AC (alternating current) or EM (electromagnetic) wave frequencies equal to 1,000,000,000 (one billion) Hz (hertz).

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- 2.14 **“Hyper-V”** stands for Microsoft’s Native Hypervisor.
- 2.15 **“IEEE 802.1Q”** is the networking standard that supports virtual LANs (VLANs) on an Ethernet network. The standard defines a system of VLAN tagging for Ethernet frames and the accompanying procedures to be used by bridges and switches in handling such frames.
- 2.16 **“IOS”** stands for Internet Operating System.
- 2.17 **“IP”** stands for Internet Protocol.
- 2.18 **“IPS”** stands for Intrusion Prevention System.
- 2.19 **“IDS”** stands for Intrusion Detection System.
- 2.20 **“ISR”** stands for Integrated Services Router.
- 2.21 **“LAN”** stands for Local Area Network.
- 2.22 **“LC”** stands for Lucent Connector.
- 2.23 **“MB”** stands for Megabyte.
- 2.24 **“Mbps”** stands for megabits per second.
- 2.25 **“MPLS”** stands for Multiprotocol Label Switching.
- 2.26 **“NEMA”** stands for National Electrical Manufacturers Association.
- 2.27 **“Network Essentials”** is a license from Cisco that enables full Layer 2 access and some Layer 3 Inter-VLAN routing. It also enables the use of EIGRP Stub routing protocol.
- 2.28 **“PoE”** stands for Power over Ethernet. It is a technology for wired Ethernet local area networks that allows the electrical current necessary for the operation of each device to be carried by the data cables rather than by power cords.
- 2.29 **“POE+”** stands for Power over Ethernet plus and provides more power, greater efficiency, and has better reliability than standard PoE.

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- 2.30** “**Pricing Page**” means the pages, contained in wvOASIS or attached as Exhibit A, upon which Vendor should list its proposed price for the Contract Items in the manner requested.
- 2.31** “**PVST**” stands for Per-VLAN Spanning Tree.
- 2.32** “**PVRST+**” stands for Rapid Per-VLAN Spanning Tree Plus.
- 2.33** “**RAM**” stands for Random-Access Memory.
- 2.34** “**RJ-45**” stands for the standard eight position eight contact connector used to terminate Ethernet cables.
- 2.35** “**RMU**” stands for rack mount unit.
- 2.36** “**RU**” stands for rack unit.
- 2.37** “**SIP**” stands for Session Initiation Protocol, a communications protocol for signaling and controlling multimedia communication sessions, including voice over IP.
- 2.38** “**Solicitation**” means the official notice of an opportunity to supply the State with goods or services that is published by the Purchasing Division.
- 2.39** “**SSH**” stands for Secure Shell.
- 2.40** “**SSHv2**” stands for secure shell version 2.
- 2.41** “**TELNET**” is a network protocol that allows a user on one computer to log onto another computer that is part of the same network.
- 2.42** “**TFTP**” stands for Trivial File Transfer Protocol.
- 2.43** “**Throughput**” is the amount of material or items passing through a system.
- 2.44** “**USB**” stands for Universal Serial Bus.
- 2.45** “**VLAN**” stands for Virtual Local Area Network.

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Cisco or Equal Layer 3 Switch &
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- 2.46 “WAN” stands for Wide Area Network.
- 2.47 “Contract Item” means switches and wireless access point as more fully described by these specifications.
- 2.48 **Pricing Page**” means the pages, contained in wvOASIS or attached as Exhibit A, upon which Vendor should list its proposed price for the Contract Items.
- 2.49 “Solicitation” means the official notice of an opportunity to supply the State with goods or services that is published by the Purchasing Division.
3. **QUALIFICATIONS:** Vendor shall have the following minimum qualifications:
- 3.1 Vendor must be an approved reseller of the brand of equipment they are proposing.
- 3.2 Vendor should supply certificate of reseller license along their submitted bid response. This documentation will be required before award of a Purchase Order.
4. **GENERAL REQUIREMENTS:**
- 4.1 **Mandatory Contract Item Requirements:** Contract Item must meet or exceed the mandatory requirements listed below.
- 4.1.1 Vendor must provide Five (5) Layer 3 Switch Cisco C9300-48P-E or equal including hardware, warranty, and support meeting the following specifications:
- 4.1.1.1 Each Network Switch must be compatible with the Agency’s existing 1 Gbps and 10Gbps network connections via existing Cisco WS-C3850-24XS switches.
- 4.1.1.2 The Switch must have at least forty-eight (48) RJ-45 1Gbps Ethernet ports.

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- 4.1.1.3** The Switch must support PoE+ or equal and supply at least 437W of power via PoE.
- 4.1.1.4** The Switch must have at least one RJ-45 console port.
- 4.1.1.5** The Switch must be rack mountable and be no more than 1RU in height.
- 4.1.1.6** The Switch must include rackmount hardware and any additional accessories needed for mounting the unit.
- 4.1.1.7** The Switch must be able to back up configuration to external source via TFTP or similar protocol.
- 4.1.1.8** The Switch must include NEMA 5-15 power cables.
- 4.1.1.9** Each Network Switch must come with one (1) compatible Thirty (30) centimeter cable Cisco Stack Power CAB-SPWR-30CM or equal. Each Cisco Stack Power cable or equal must be compatible with the switches bid in this solicitation.
- 4.1.1.10** The Switch must natively support SSHv2.
- 4.1.1.11** The Switch must be capable of disabling telnet, if telnet is supported.
- 4.1.1.12** The Switch must support PVST and PVRST+ protocols.
- 4.1.1.13** The Switch must support IEEE 802.1Q encapsulation.
- 4.1.1.14** The Switch must support trunk connections.
- 4.1.1.15** The Switch must support native VLAN on any trunk connections.
- 4.1.1.16** The Switch must support at least fifteen VLANs.

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- 4.1.1.17** The Switch must support changing the default VLAN.
- 4.1.1.18** The Switch must support BPDU Protection.
- 4.1.1.19** The Switch must have a switching capacity of at least 256 Gbps.
- 4.1.1.20** The Switch must include Network Essentials or equal licensing.
- 4.1.1.21** The Switch must support EIGRP stub routing.
- 4.1.1.22** The Switch must be new, genuine, and factory sealed. Vendor must be manufacturer certified resellers of the equipment they are proposing. Refurbished or secondary market equipment will not be accepted. See 3.2 for certificate requirements.
- 4.1.1.23** The Switch must come from a vendor positioned in the leader tier in Gartner's 2019 Magic Quadrant for the Wired and Wireless LAN Access Infrastructure.
- 4.1.1.24** Vendors submitting equivalent brand must include information and specifications regarding the brand with their bid.
- 4.1.1.25** Vendor must provide at least three years of support and at least a three year warranty for each Network Switch.
 - 4.1.1.25.1** Manufacturer must provide dedicated representatives in technical support, offering toll-free access and e-mail contact references.
 - 4.1.1.25.2** Manufacturer must provide direct, technical access 24x7x365 to support each Network Switch.
 - 4.1.1.25.3** Vendor must include SMARTnet 8x5xNBD or equal support. This level of support provides access to all major and maintenance releases to software, support from the Cisco TAC (Technical Assistance Center) and subject to fault identification by Cisco (during working

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hours week days 9am to 5pm) replacement hardware delivered the next business day.

4.1.1.25.3.1 SMARTnet or equal must provide access to Cisco.com knowledge base and tools or equal.

4.1.1.25.3.2 SMARTnet or equal must have ongoing operating system software updates and upgrades supplied directly by the Original Equipment Manufacturer.

4.1.1.25.3.3 SMARTnet or must have proactive diagnostics and real-time alerts.

4.1.1.25.3.4 SMARTnet or equal must include providing online documents and tools to help troubleshoot and resolve technical issues. Agency must have the option of opening support cases both online and via phone.

4.1.1.25.4 Manufacturer's warranty for each Network Switch must be on-site and for a period of no less than three (3) years.

4.1.1.26 Layer 3 Switch including support, must include the parts listed below and on the Exhibit A pricing page or equal:

4.1.1.26.1 Quantity Five C9300-48P-E Cisco Catalyst Switch or equal.

4.1.1.26.2 Quantity Five CON-3SNT-C93004PE three years Cisco SMARTnet or equal.

4.1.1.27 Vendor must provide (5) Cisco Digital Network Architecture Essentials C9300-DNA-E-48-3y or equal for a term of three (3) years.

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Cisco or Equal Layer 3 Switch &
Wireless Access Points**

- 4.1.2** Vendor must provide Four (4) Cisco STACK-T1-50CM Stackwise-480 cable or equal
 - 4.1.2.1** The cable must be compatible with the switches bid in this solicitation
 - 4.1.2.2** The cable must be 50 centimeters (cm) in length
- 4.1.3** Vendor must provide One (1) Cisco STACK-T1-1M Stackwise-480 cable or equal
 - 4.1.3.1** The cable must be compatible with the switches bid in this solicitation
 - 4.1.3.2** The cable must be 1 meter (m) in length
- 4.1.4** Vendor must provide Two (2) Cisco C9300-NM-8X Network Modules or equal
 - 4.1.4.1** The module was be compatible with the switches bid in this solicitation
 - 4.1.4.2** The module must have at least Two (2) SFP+ or equal ports
 - 4.1.4.3** The SFP+ ports must be compatible with a SFP-H10GB-CU1M or equal Direct-Attach Cable
- 4.1.5** Vendor must provide Sixteen (16) Cisco Aironet 2802i Wireless Access Points AIR-AP2802I-B-K9C or equal meeting the following specifications:
 - 4.1.5.1** The Wireless Access Points must be compatible with the Wireless Controller bid in this solicitation.
 - 4.1.5.2** The Wireless Access Point must support at least 802.11ac Wave 2.

**REQUEST FOR QUOTATION
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Cisco or Equal Layer 3 Switch &
Wireless Access Points**

- 4.1.5.3** The Wireless Access Point must utilize internal antennas that are not visible.
- 4.1.5.4** The Wireless Access Point must support wireless networks using at least WPA2 with AES security.
- 4.1.5.5** The Wireless Access Point must be dual-band and utilize both 2.4GHz and 5GHz.
- 4.1.5.6** The Wireless Access Point must support at least 2x2 MIMO with at least two spatial streams.
- 4.1.5.7** The Wireless Access Point must support 802.3at PoE+.
- 4.1.5.8** The Wireless Access Point must have at least one (1) RJ-45 Ethernet port supporting at least 1Gbps.
- 4.1.5.9** The Wireless Access Point must have at least one (1) RJ-45 console port.
- 4.1.5.10** The Wireless Access Point must include a ceiling grid clip to enable it to be mounted to a drop-ceiling.
- 4.1.5.11** The Wireless Access Point must be new, genuine, and factory sealed. Vendor must be manufacturer certified resellers of the equipment they are proposing. Refurbished or secondary market equipment will not be accepted. See 3.2 for certificate requirements.
- 4.1.5.12** The Wireless Access Point must come from a vendor positioned in the leader tier in Gartner's 2019 Magic Quadrant for the Wired and Wireless LAN Access Infrastructure
- 4.1.5.13** Vendors submitting equivalent brand must include information and specifications regarding the brand with their bid.

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4.1.5.14 Wireless Access Point must include the parts listed below and on the Exhibit A pricing page or equal:

4.1.5.15 The Wireless Access Point must support FlexConnect or the equivalent to enable local separation of traffic

4.1.5.15.1 Quantity One AIR-AP2802I-B-K9C Cisco Aironet Wireless Access Point or equal

4.1.5.16 Vendor must provide sixteen (16) Cisco Digital Network Architecture Essentials AIR-DNA-E-3Y or equal for a term of three (3) years.

4.1.5.17 Vendor must provide one (1) Cisco network device mounting kit C9800L-RMNT or equal.

4.1.6 Vendor must provide One (1) Cisco Catalyst 9800-L-C Wireless Controller or equal

4.1.6.1 The Wireless Controller must be compatible with the Wireless Access Points bid in this solicitation.

4.1.6.2 The Wireless Controller must have at least one (1) RJ-45 1Gbps or faster Ethernet port.

4.1.6.3 The Wireless Controller must support at least 16 access points and include any required licenses

4.1.6.4 The Wireless Controller must natively support SSHv2.

4.1.6.5 The Wireless Controller must be capable of disabling telnet, if telnet is supported.

4.1.6.6 The Wireless Controller must have at least one RJ-45 console port.

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- 4.1.6.7** The Wireless Controller must be no more than 1RU in height.
- 4.1.6.8** The Wireless Controller should include rackmount hardware and any additional accessories needed for mounting the unit if the unit is rack mountable.
- 4.1.6.9** The Wireless Controller must be able to back up configuration to an external source.
- 4.1.6.10** The Wireless Controller must include NEMA 5-15 power cables.
- 4.1.6.11** The Wireless Controller must be new, genuine, and factory sealed. Vendor must be manufacturer certified resellers of the equipment they are proposing. Refurbished or secondary market equipment will not be accepted. See 3.2 for certificate requirements.
- 4.1.6.12** The Wireless Controller must come from a vendor positioned in the leader tier in Gartner's 2019 Magic Quadrant for the Wired and Wireless LAN Access Infrastructure.
- 4.1.6.13** Vendors submitting equivalent brand must include information and specifications regarding the brand with their bid.
- 4.1.6.14** Vendor must provide at least three years of support and at least a three year warranty for the Wireless Controller.
 - 4.1.6.14.1** Manufacturer must provide dedicated representatives in technical support, offering toll-free access and e-mail contact references.
 - 4.1.6.14.2** Manufacturer must provide direct, technical access 24x7x365 to support each Wireless Controller.
 - 4.1.6.14.3** Vendor must include SMARTnet 8x5xNBD or equal support. This level of support provides access to all major and maintenance releases to software, support from the Cisco TAC (Technical Assistance Center) and

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subject to fault identification by Cisco (during working hours week days 9am to 5pm) replacement hardware delivered the next business day.

4.1.6.14.3.1 SMARTnet or equal must provide access to Cisco.com knowledge base and tools or equal.

4.1.6.14.3.2 SMARTnet or equal must have ongoing operating system software updates and upgrades supplied directly by the Original Equipment Manufacturer.

4.1.6.14.3.3 SMARTnet or must have proactive diagnostics and real-time alerts.

4.1.6.14.3.4 SMARTnet or equal must include providing online documents and tools to help troubleshoot and resolve technical issues. Agency must have the option of opening support cases both online and via phone.

4.1.6.15 Manufacturer's warranty for each Wireless Controller must be on-site and for a period of no less than three (3) years.

4.1.6.16 Wireless Controller including support, must include the parts listed below and on the Exhibit A pricing page or equal:

4.1.6.16.1 Quantity One C9800-L-C-K9 Cisco Catalyst Wireless Controller or equal.

4.1.6.16.2 Quantity One CON-SNT-C9800LCL three years Cisco SMARTnet or equal.

4.1.7 Alternative 'Or Equal' Submission

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4.1.7.1 Vendor will assume any costs related to any required installation of new software, additional hardware and/or training related to the alternate submission.

5. CONTRACT AWARD:

5.1 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 total cost as shown on the Pricing Pages.

5.2 Pricing Page: Vendor should complete the Exhibit A pricing page by entering a unit cost and extended cost for each line on Exhibit A. A total bid amount should be entered at the bottom of the extended cost column. Total pricing should be entered electronically in wvOASIS on commodity line 1 or entered in the Total Bid Amount line on the Exhibit A pricing page if the bid is being hand delivered. Vendor should complete the Pricing Page in full 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

5.2.1 Vendor should provide with their bid a copy of any and all Software/Hardware Terms and Conditions or licenses that the State of West Virginia or the Agency will have to agree to or accept as a part of this solicitation. **This information will be required before a Purchase Order is issued.**

5.2.2 Vendor should provide with their bid a copy of any and all Maintenance Terms and Conditions or licenses that the State of West Virginia or the Agency will be required to agree to or accept as a part of this solicitation. **This information will be required before a Purchase Order is issued.**

5.2.3 If the vendor is bidding alternate parts, they should be entered into Exhibit A under the Alternate part number column. Failure to properly and fully

REQUEST FOR QUOTATION
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complete the Exhibit A pricing page may be grounds for the disqualification of your bid. Vendor should provide any product brochures with their submitted bid response. Product brochures and a properly completed Exhibit A may be required before award of the contract.

6. PAYMENT:

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

7. DELIVERY AND RETURN:

7.1 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 fifteen (15) working days after receiving a purchase order or notice to proceed. Contract Items must be delivered to Agency at 1900 Kanawha Blvd, East Building 1, Room E26, Charleston, WV 25305.

7.2 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.

7.3 Delivery Payment/Risk of Loss: Vendor shall deliver the Contract Items F.O.B. destination to the Agency's location.

7.4 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

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shall either be replaced, or the Agency shall receive a full credit or refund for the purchase price, at the Agency's discretion.

- 7.5 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.

8 VENDOR DEFAULT:

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

- 8.1.1** Failure to provide Contract Items in accordance with the requirements contained herein.
- 8.1.2** Failure to comply with other specifications and requirements contained herein.
- 8.1.3** Failure to comply with any laws, rules, and ordinances applicable to the Contract Services provided under this Contract.
- 8.1.4** Failure to remedy deficient performance upon request.

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

- 8.2.1** Immediate cancellation of the Contract.
- 8.2.2** Immediate cancellation of one or more release orders issued under this Contract.
- 8.2.3** Any other remedies available in law or equity.

Exhibit A Pricing Page
REVISED 03/12/2021

Specification number	Product Number	Description	Alternate Part # and Description of or equal Products	Unit of Measure	QTY	Unit Cost	Extended Cost
4.1.1 Layer 3 Switch							
4.1.1	C9300-48P-E or equal	Cisco Catalyst Layer 3 Switch or equal	EX4300-48P	ea	5	3,695.00	18,475.00
4.1.1.9	CAB-SPWR-30CM or equal	Cisco StackPower Poer Cable or equal	N/A	ea	5	0.00	0.00
4.1.1.25	CON-3SNT-C93004PE or equal	Three years Cisco SMARTnet 8x5xNBD Support and warranty or equal	SVC-ND-EX4300P48	ea	5	1,179.00	5,895.00
4.1.1.27	C9300-DNA-E-48-3Y or equal	Ciso Digital Network Architecture Essentials or equal	SUB-EX48-2S-3Y-N	ea	5	740.00	3,700.00
4.1.2	STACK-T1-50CM or equal	Cisco Stackwise 480 Cable 50cm or equal	EX-QSFP-40GE-DAC-50CM	ea	4	60.00	240.00
4.1.3	STACK-T1-1M or equal	Cisco Stackwise 480 Cable 1m or equal	QFX-QSFP-DAC-1M	ea	1	229.00	229.00
4.1.4	C9300-NM-8X or equal	Cisco Network Module or equal	EX-UM-4X4SFP	ea	2	695.00	1,390.00
						SWITCH TOTAL	29,929.00
4.1.5 Wireless Access Point							
4.1.5	AIR-AP2802I-B-K9C or equal	Cisco Aironet 2802I - wireless access point or equal	AP32-US	ea	16	515.00	8,240.00
4.1.5.16	AIR-DNA-E-3Y or equal	Ciso Digital Network Architecture Essentials or equal	SUB-1S-3Y	ea	16	195.00	3,120.00
4.1.5.17	C9800L-RMNT or equal	Cisco network device mounting kit or equal	APBRU	ea	1	15.00	15.00
4.1.5.18	SMARTnet 8x5xNBD	Three Years Cisco SMARTnet 8x5xNBD Support and warranty or equal	N/A (Included)	ea	1	0.00	0.00
4.1.6	9800-L-c or equal	Cisco Catalyst 9800-L-C Wireless Controler or equal	N/A (Included)	ea	1	0.00	0.00
4.1.6.14	SMARTnet 8x5xNBD	Three Years Cisco SMARTnet 8x5xNBD Support and warranty or equal	N/A (Included)	ea	1	0.00	0.00
						WIRELESS ACCESS POINTS TOTAL	11,375.00
						BID GRAND TOTAL	41,304.00

Vendor Name: Vodanet Systems LLC

Address: 70 Commercial Ave, Unit C, Moonachie, NJ 07074

Telephone: 201-559-1474

STATE OF WEST VIRGINIA
Purchasing Division

PURCHASING AFFIDAVIT

CONSTRUCTION CONTRACTS: Under W. Va. Code § 5-22-1(i), the contracting public entity shall not award a construction contract to any bidder that is known to be in default on any monetary obligation owed to the state or a political subdivision of the state, including, but not limited to, obligations related to payroll taxes, property taxes, sales and use taxes, fire service fees, or other fines or fees.

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

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

DEFINITIONS:

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

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

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

AFFIRMATION: By signing this form, the vendor's authorized signer affirms and acknowledges under penalty of law for false swearing (*W. Va. Code §61-5-3*) that: (1) for construction contracts, the vendor is not in default on any monetary obligation owed to the state or a political subdivision of the state, and (2) for all other contracts, 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: _____

Authorized Signature: _____ Date: _____

State of _____

County of _____, to-wit:

Taken, subscribed, and sworn to before me this ____ day of _____, 20__.

My Commission expires _____, 20__.

AFFIX SEAL HERE

NOTARY PUBLIC _____



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

State of West Virginia
 Centralized Request for Quote
 Info Technology

Proc Folder: 847014		Reason for Modification:	
Doc Description: BLDG 6 Switches and Wireless Access Points		Addendum No. 1	
Proc Type: Central Purchase Order			
Date Issued	Solicitation Closes	Solicitation No	Version
2021-03-12	2021-03-22 13:30	CRFQ 1500 AGO2100000002	2

BID RECEIVING LOCATION

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

VENDOR

Vendor Customer Code:
Vendor Name :
Address :
Street :
City :
State : **Country :** **Zip :**
Principal Contact :
Vendor Contact Phone: **Extension:**

FOR INFORMATION CONTACT THE BUYER

Melissa Pettrey
 (304) 558-0094
 melissa.k.pettrey@wv.gov

Vendor Signature X **FEIN#** **DATE**

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

ADDITIONAL INFORMATION

Addendum No. 1

Addendum No. 1 is issued to publish and distribute the attached information to the vendor community.

Request for Quotation

The West Virginia Purchasing Division is soliciting bids on behalf of the West Virginia Attorney General office to establish a contract for the one time purchase of five (5) Cisco 9300 Switch or equal per specifications and terms and conditions as attached hereto. Any accessories needed to meet the following specifications, warranty, and support must be included in the bid total.

INVOICE TO		SHIP TO	
ATTORNEY GENERAL'S OFFICE 1900 KANAWHA BLVD E BUILDING 1 RM E-26 CHARLESTON WV 25305 US		ATTORNEY GENERAL'S OFFICE 1900 KANAWHA BLVD E BUILDING 1 RM E-26 CHARLESTON WV 25305 US	

Line	Comm Ln Desc	Qty	Unit Issue	Unit Price	Total Price
1	Please see the attached Exhibit A Pricing Page	1.00000	LS		

Comm Code	Manufacturer	Specification	Model #
43222612			

Extended Description:
BLDG 6 Switches and Wireless Access Points

INVOICE TO		SHIP TO	
ATTORNEY GENERAL'S OFFICE 1900 KANAWHA BLVD E BUILDING 1 RM E-26 CHARLESTON WV 25305 US		ATTORNEY GENERAL'S OFFICE 1900 KANAWHA BLVD E BUILDING 1 RM E-26 CHARLESTON WV 25305 US	

Line	Comm Ln Desc	Qty	Unit Issue	Unit Price	Total Price
2	Please see the attached Exhibit A Pricing Page	1.00000	LS		

Comm Code	Manufacturer	Specification	Model #
43222640			

Extended Description:
Please see the attached Exhibit A Pricing Page

SOLICITATION NUMBER: CRFQ AGO 2100000002

Addendum Number: 1

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

Applicable Addendum Category:

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

Description of Modification to Solicitation:

1. To move the bid opening date to 03/22/2021 @ 1:30 PM
2. To provide responses to vendor questions.
3. Add additional information to the specifications per this document.

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

Terms and Conditions:

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

ADDENDUM ACKNOWLEDGEMENTFORM
SOLICITATION NO.: AGO210000002

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

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

Addendum Numbers Received:

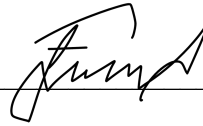
(Check the box next to each addendum received)

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

I understand that failure to confirm the receipt of addenda may be cause for rejection of this bid. I further understand that 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.

Vodanet Systems LLC

Company



Authorized Signature

03/16/2021

Date

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

Vendor Questions

Q: The RFQ has requested 3yr Smartnet support for all items except the Access Points. Would the AG's office like Smartnet on the Access Points, 3yrs NBD like the other items or would they prefer to waive Smartnet on the Access Points altogether?

A: Yes, we do want Smartnet on the access points. The specification are hereby modified as seen below and has been reflected in a modified pricing page also.

4.1.5.18 Vendor must provide at least three years of support and at least a three year warranty for the Wireless Access Points.

4.1.5.18.1 Manufacturer must provide dedicated representatives in technical support, offering toll-free access and e-mail contact references.

4.1.5.18.2 Manufacturer must provide direct, technical access 24x7x365 to support each Wireless Access Point.

4.1.5.18.3 Vendor must include SMARTnet 8x5xNBD or equal support. This level of support provides access to all major and maintenance releases to software, support from the Cisco TAC (Technical Assistance Center) and subject to fault identification by Cisco (during working hours week days 9am to 5pm) replacement hardware delivered the next business day.

4.1.5.18.3.1 SMARTnet or equal must provide access to Cisco.com knowledge base and tools or equal.

4.1.5.18.3.2 SMARTnet or equal must have ongoing operating system software updates and upgrades supplied directly by the Original Equipment Manufacturer.

4.1.5.18.3.3 SMARTnet or must have proactive diagnostics and real-time alerts.

4.1.5.18.3.4 SMARTnet or equal must include providing online documents and tools to help troubleshoot and resolve technical issues. Agency must have the option of opening support cases both online and via phone.

4.1.5.19 Manufacturer's warranty for each Wireless Access Point must be on-site and for a period of no less than three (3) years.

4.1.5.20 Wireless Access Points including support, must include the parts listed below and on the Exhibit A pricing page or equal

4.1.5.20.1 Quantity Sixteen (16) Cisco Aironet 2802i Wireless Access Points AIR-AP2802I-B-K9C or equal

Q: The Cisco DNA for the C9300 Switches (PN# C9300-DNA-E-48-3Y) mandates a corresponding Smartnet subscription to the DNA line item(s). There is a dollar value affiliated with this, but the specific Smartnet line item for DNA is not listed on the RFQ Pricing Page. Would they prefer we bundle the cost of the Smartnet subscription into the cost of the DNA item, or will the bid need revised to add that line item; CON-SSTCM-C93E48 ; SOLN SUPP SW SUBC9300 DNA Essentials ?

A: This can be bundled as part of the pricing on item 4.1.1.25 on the pricing page

Q: What is the Cisco Smart Account domain that the AG's office would like to use for licensing assignment?

A: wvago.gov

VENDORS SHOULD USE THE REVISED EXHIBIT A PRICING PAGE, DATED 03/12/2021.

JUNIPER EQUIVALENT SKU MAP

Cisco SKU	Description	Juniper Networks Equivalent	Description
C9300-48P-E	Network Essentials - switch - L3 - managed - 48 x 10/100/1000 (PoE+) - rack-mountable - PoE+ (437 W)	EX4300-48P	Switch - Layer 3 - managed - 48-port 10/100/1000BASE-T PoE-plus + 1100 W AC PS (provides 950 W PoE+ power)
CAB-SPWR-30CM	Power cable - 1 ft	N/A	N/A
CON-3SNT-C93004PE	Cisco SMARTnet - Extended service agreement - replacement - 3 years - 8x5 - response time: NBD	SVC-ND-EX4300P48	Juniper Care - Extended Service Agreement - replacement - 3 years - 24x7 TAC - response time: NBD
C9300-DNA-E-48-3Y	Term License (3 years) - 48 ports	SUB-EX48-2S-3Y-N	3 Year Wired Assurance and Virtual Network Assistant (VNA) Subscription for EX48 port switches
STACK-T1-50CM	Stacking cable - 1.6 ft	EX-QSFP-40GE-DAC-50CM	QSFP+ to QSFP+ 40GbE Direct Attach Copper (twinax copper cable) 50 cm passive
STACK-T1-1M	Stacking cable - 3.3 ft	QFX-QSFP-DAC-1M	QSFP+ to QSFP+ 40GbE Direct Attach Copper (twinax copper cable) 1 m passive
C9300-NM-8X	Expansion module - 10 Gigabit SFP+ x 8	EX-UM-4X4SFP	Expansion Module - EX4300 4-port 1GbE/10GbE SFP+
AIR-AP2802I-B-K9C	Wireless access point - 802.11ac Wave 2 - Wi-Fi - Dual Band	AP32-US	Superior Performance Multigigabit WiFi 6 802.11ax Access Point (6 stream) with Bluetooth Low Energy, with built-in Internal Antenna. For US only
AIR-DNA-E-3Y	Term License (3 years)	SUB-1S-3Y	Subscription for 1 service (specify SUB-MAN, SUB-ENG, SUB-AST, SUB-VNA, SUB-PMA) for one access point for 3 year: includes software updates, upgrades, cloud function subscription and limited lifetime warranty benefits on access points
C9800L-RMNT	Network device mounting kit - for Catalyst 9800-L Wireless Controller	N/A (Included)	
CON-3SNT-AIRAP28B	Cisco SMARTnet - Extended service agreement - replacement - 3 years - 8x5 - response time: NBD	N/A (Included)	Mist wireless controller is cloud based, which is included with SUB-1S-3Y subscription. This subscription also includes support services for AP32 access point. So, CON-3SNT-AIRAP28B, C9800-L-C-K9, CON-3SNT-C9800LCL and C9800L-RMNT are included with no additional cost.
C9800-L-C-K9	Network management device - 10 GigE, 802.11ac Wave 2, 802.11ac Wave 1 - Wi-Fi 6 - 1U - rack-mountable	N/A (Included)	
CON-3SNT-C9800LCL	Extended service agreement - replacement - 3 years - 8x5 - response time: NBD - for P/N: C9800-L-C-K9	N/A (Included)	

Juniper Networks is a Leader

2020 Gartner Magic Quadrant
Wired and Wireless LAN Access Infrastructure



Rob Bannister

P: 757-376-7024

E: rbannister@juniper.net

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Juniper Networks is a Leader

2020 Magic Quadrant for Wired and Wireless LAN Access Infrastructure

Figure 1. Magic Quadrant for Wired and Wireless LAN Access Infrastructure



Juniper Networks is positioned **highest** for **execution** in the Leaders' Quadrant.

"In our opinion, this report validates the unique advantages of the Juniper AI-driven enterprise, including rich AIOps functionality and proactive self-driving automation for optimized user experiences."

- Jeff Aaron, VP of Enterprise Marketing at Juniper

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Gartner Magic Quadrant for Wired and Wireless LAN Access Infrastructure by Bill Menezes, Christian Canales, Tim Zimmerman, Mike Toussaint, 4 November 2020. This graphic was published by Gartner, Inc. as part of a larger research document and should be evaluated in the context of the entire document. The Gartner document is available upon request from Juniper Networks. Gartner does not endorse any vendor, product or service depicted in its research publications, and does not advise technology users to select only those vendors with the highest ratings or other designation. Gartner research publications consist of the opinions of Gartner's research organization and should not be construed as statements of fact. Gartner disclaims all warranties, expressed or implied, with respect to this research, including any warranties of merchantability or fitness for a particular purpose. Gartner does not endorse any vendor, product or service depicted in its research publications, and does not advise technology users to select only those vendors with the highest ratings or other designation. Gartner research publications consist of the opinions of Gartner's research organization and should not be construed as statements of fact. Gartner disclaims all warranties, expressed or implied, with respect to this research, including any warranties of merchantability or fitness for a particular purpose.

Gartner Peer Insights –Customer Reviews Say it All

"The EX series is very versatile. We use them in almost every conceivable manner. They are solid and reliable switches."

– [NETWORK ENGINEER](#)

"Never looking back. Deployment of Mist APs has been a real treat."

– [LEAD NETWORK ENGINEER](#)

Mist's APs were super simple to install and integrate into our existing infrastructure. Marvis AI is extremely powerful and provides insights that we didn't know were issues. Things have just worked out of the box.

–[NETWORK ENGINEER](#)



[WIRED AND WIRELESS LAN ACCESS INFRASTRUCTURE](#)

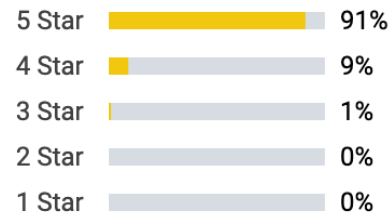
[APRIL 2019](#)



Juniper received the highest ratings of any other vendor in this



4.9 ★★★★★ 161 Ratings



Juniper Networks

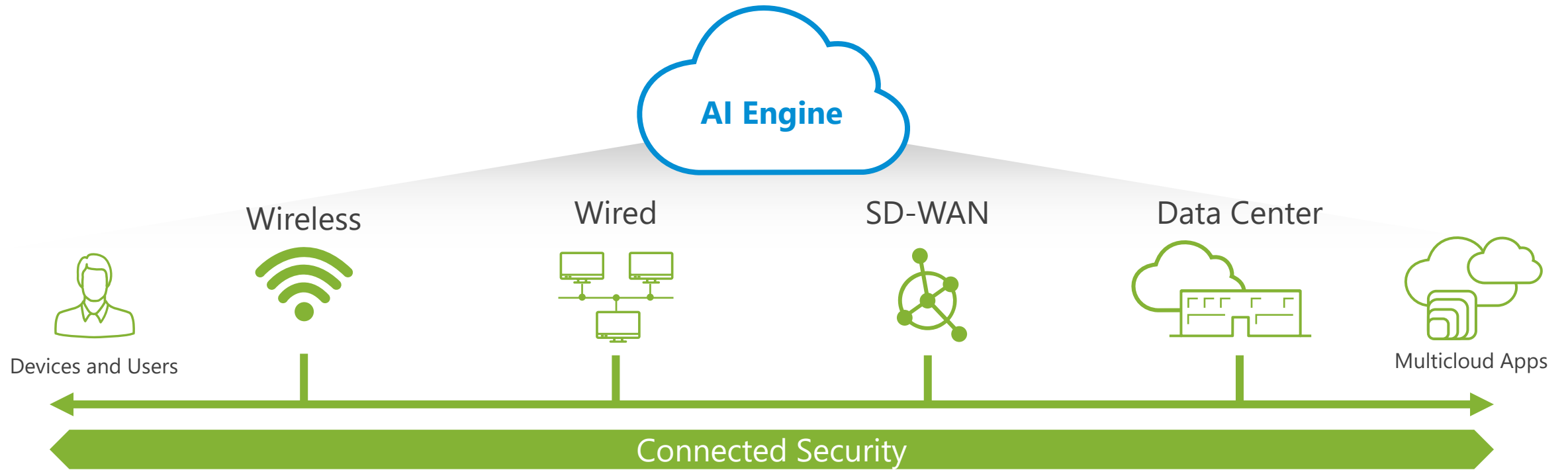
Products: Mist Systems Wireless Access Points, EX Series Switches, Mist Wi-Fi Assurance Service, Mist BLE Engagement Location Based Services

"The perfect WiFi you couldn't have even dreamed of two years ago."

From the first steps of PoC to the half a year in production we haven't just been satisfied but many times it has provided more than we could have even wished for. Back in the day WiFi was considered good if you didn't ...

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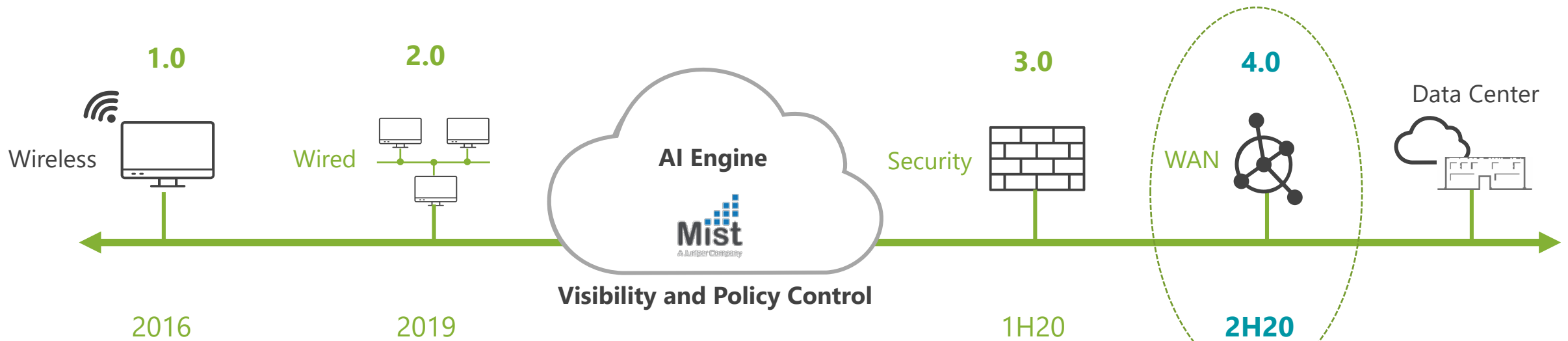
Our AI-Driven Enterprise Mission



The Juniper AI-Driven Enterprise – Version 4.0

Key tenets of the AI-driven Enterprise

- Focus is on **user experiences**
- AI-driven automation, insight and actions
 - Across Wired/ Wireless/Security/WAN
- Modern cloud for agility, resiliency and scale
- AIOps

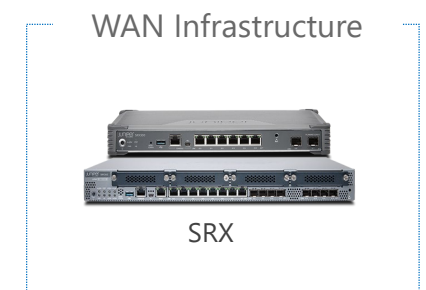
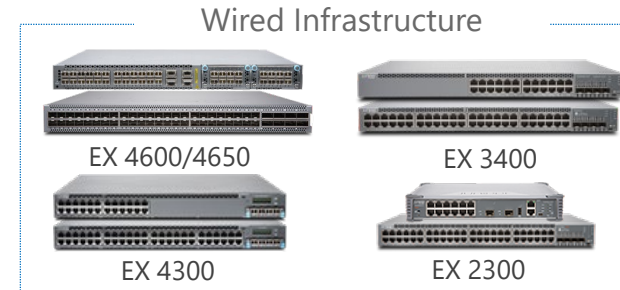
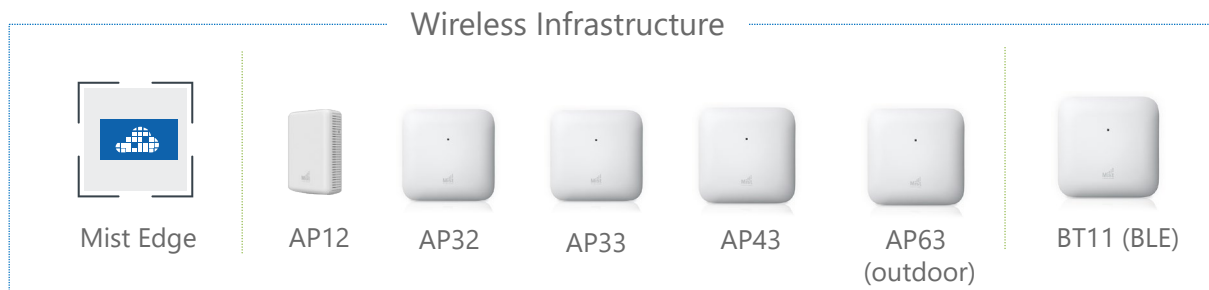
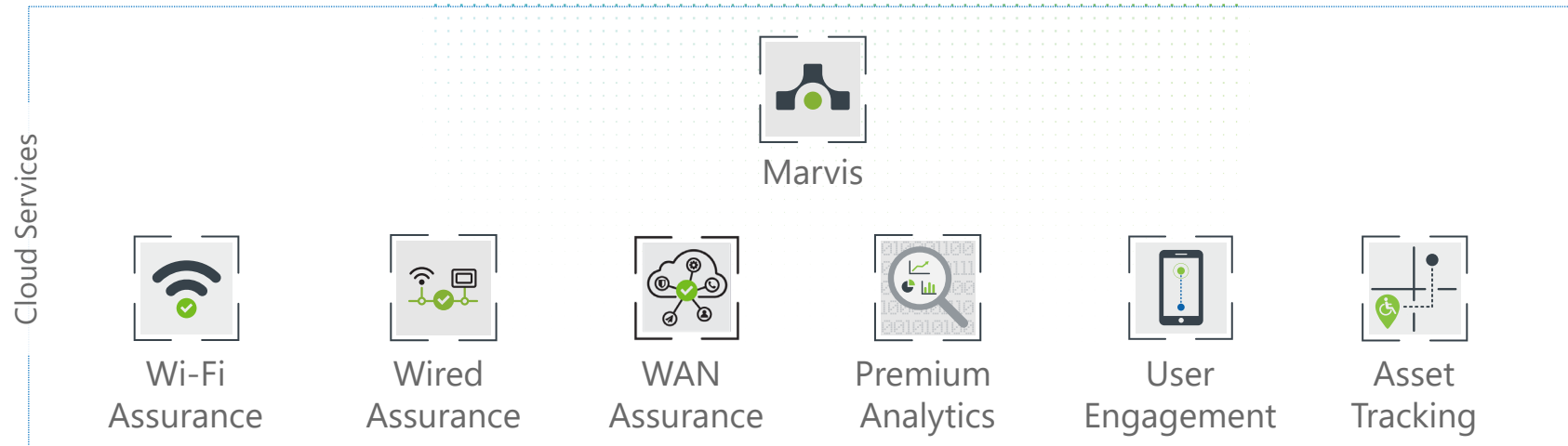


Mist Unveils Cloud-Based Wireless Networking Platform to Deliver Amazing Mobile Experiences
 Cupertino, CA, June 28, 2016
 Mist, a pioneer in cutting-edge wireless technologies for delivering amazing mobile experiences for enterprises, today unveiled the first two services launched on the Mist cloud platform: Mist business-critical Wi-Fi and Mist's patented Virtual Bluetooth Low Energy™ (VBLE). Available today, Mist products are already in use by many medium to large organizations around the world, including Fortune 500 organizations.
 Mist is the first extensible, programmable microservices cloud architecture for the indoor wireless technologies of Wi-Fi and Bluetooth Low Energy (BLE). A Mist wireless network understands and adapts to each user, how they are moving, the devices they are carrying and the content they are consuming at a scale never before possible. Mist's cloud platform enables the first new approach to wireless in nearly a decade, applying data science and machine learning to transform and assure mobile user experience.
 "The explosive growth of mobile users, apps, and connected devices presents big challenges for legacy wireless networks. The core technology in wireless networks today simply wasn't built to handle the rapid rate of change in the mobile and cloud era or the sheer scale of the Internet of Things," said Mist Co-founder and CTO Bob Frisvold. "Our products deliver an experience beyond just connectivity and allow us to drive the transition from the Connectivity Era to the Experience Era."

Juniper Networks Brings AI-driven Simplicity and Reliability to Enterprise Networks with New Mist Wired Assurance Service and Marvis™ Actions
 November 11, 2019 at 7:43 AM EST
 Mist's award-winning AI engine and Cloud delivers on the vision of self-driving networks for wired and wireless networks.
 SUNNYVALE, Calif., Nov. 11, 2019 (GLOBE NEWSWIRE) — Mist Systems, a Juniper Networks (NYSE: ANET) company, today announced the first AI-Driven Self-Driving Network™ for the enterprise, which leverages Mist AI engine and microservices cloud to streamline IT operations, simplify troubleshooting across wired/wireless domains and deliver optimized experiences to network users. With the addition of these unique

Juniper Networks Expands Connected Security Portfolio with Encrypted Traffic Analysis for Juniper Advanced Threat Prevention and Sencintel for Mist Wireless
 February 24, 2020 at 7:43 AM EST
 Juniper delivers on the benefits of a Threat-Aware Network by securing more traffic, in more areas of the network.
 SUNNYVALE, Calif., Feb. 24, 2020 (GLOBE NEWSWIRE) — Juniper Networks (NYSE: ANET), a leader in secure, AI-driven networks, today announced encrypted traffic analysis for Juniper Advanced Threat Prevention (ATP) Cloud and Sencintel Series firewalls, as well as the integration of Sencintel to the Mist platform for wireless access. With these additions to the Juniper Connected Security solution portfolio, Juniper delivers a

AI-Driven Enterprise Solution



The AI-Driven Enterprise is Here... and Driving Real Value!



DARTMOUTH

Network resolved
75% of all
helpdesk
tickets on its own



97% improvement
in point-of-sale errors
across 1,500 stores

servicenow

98% reduction in
end-user trouble
tickets, down from
hundreds a month



Cut all Wi-Fi issues
across school
district by **50%**

9 of the Forbes 10
40% of the Forbes 1000

6 of the top 10 global retailers
17 of the 20 largest global banks
14 of the top 20 world's most prominent
universities

Additional Resources

Weekly Live Demo

North America - 10:00 AM PT / 1:00 PM ET

Europe - 9:00 BST / 10:00 CET

Asia Pacific - 10:00 AM AET / 12:00 PM NZT

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Wired & Wireless Wednesday

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LIVE ON THURSDAYS

4 of the Fortune 10 switched
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Transformation Thursdays: AI- Driven Enterprise Demo

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Thank you

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EX4300 LINE OF ETHERNET SWITCHES

Product Overview

The EX4300 line of Ethernet switches delivers the performance, flexibility, and scale required for both campus and data center Gigabit Ethernet (GbE) access switch environments. When deployed in a Virtual Chassis configuration, the EX4300 delivers the operational simplicity and higher logical scale that businesses demand. Combining compact, pay-as-you-grow economics and low power and cooling with the performance, availability, and port densities of chassis-based platforms, the EX4300 enables businesses to deploy with speed and agility to increase revenue and improve productivity. The EX4300 is onboarded, provisioned, and managed in the Juniper Mist Cloud Architecture. Mist Wired Assurance delivers better experiences for connected devices through AI-powered automation and service levels.

Product Description

The Juniper Networks® EX4300 line of Ethernet switches with Virtual Chassis technology combines the carrier-class reliability of modular systems with the economics and flexibility of stackable platforms, delivering a high-performance, scalable solution for data center, campus, and branch office environments. Both 1GbE access and multigigabit switch options are available.

Offering a full suite of Layer 2 and Layer 3 switching capabilities, the EX4300 enables a variety of deployments, including campus, branch, and data center access. A single 24-port or 48-port EX4300 switch can be deployed initially. As requirements grow, Juniper's Virtual Chassis technology allows any combination of up to 10 EX4300 and/or EX4600 switches to be seamlessly interconnected and managed as a single device, delivering a scalable, pay-as-you-grow solution for expanding network environments. A pair of 32-port EX4300 fiber switches can also be deployed as a consolidated aggregation or small core switch. Additionally, the EX4300 can integrate with the Juniper Networks QFX5100 line of 10GbE and 40GbE data center access switches in a single stack or Virtual Chassis configuration, enabling nondisruptive 10GbE server upgrades and simplified management of a mixed access environment.

The EX4300 switches can be interconnected over multiple 40GbE quad small form-factor pluggable plus (QSFP+) transceiver ports to form a 320 gigabit per second (Gbps) backplane. A flexible uplink module that supports both 1GbE and 10GbE options is also available, enabling high-speed connectivity to aggregation- or core-layer switches which connect multiple floors or buildings.

All EX4300 switches include high availability (HA) features such as redundant, hot-swappable internal power supplies and field-replaceable fans to ensure maximum uptime. In addition, Power over Ethernet (PoE)-enabled EX4300 switch models offer standards-based 802.3at PoE+ for delivering up to 30 watts on all ports to support high-density IP telephony and 802.11n wireless access point deployments.

Additionally, a multigigabit model, the EX4300-48MP, supports IEEE 802.3bz-compliant 100 Mbps, 1 Gbps, 2.5 Gbps, 5 Gbps, and 10 Gbps speeds on access ports. This enables 802.11ac Wave 2 access points, which require higher bandwidth, to connect to the switch. The EX4300 multigigabit switch also supports up to 95 watts of power on any of the access ports, enabling PoE++ devices requiring more than 30 watts to connect to and draw power from the switch.

The EX4300 multigigabit switch also enables higher levels of Media Access Control Security (MACsec) AES256 encryption on all access and uplink ports, protecting customer traffic from unauthorized access. The EX4300-48MP includes four dedicated 40GbE QSFP+ transceiver ports that can be used as Virtual Chassis ports to create a 320 Gbps backplane.

Chassis-Like Features in an Expandable Form Factor

The fixed-configuration EX4300 switches include a number of high availability features typically associated with chassis-based solutions, including the following:

- Hot-swappable fans
- Modular Juniper Networks Junos® operating system (consistent with chassis systems)
- Dual Routing Engines (REs) with graceful Routing Engine switchover (GRES) in a Virtual Chassis configuration
- Single management interface
- Easy, centralized software upgrades
- Scalability from 24 to 480 10/100/1000BASE-T ports and 24 to 240 100/1000/2500/5000/10000BASE-T ports, with up to 40 10GbE uplinks and 40 40GbE uplinks (up to 40 10GbE uplinks, 20 40GbE uplinks, or 20 100GbE uplinks on multigigabit models, in addition to four dedicated 40 Gbps Virtual Chassis ports per switch)

Each EX4300 switch includes a single ASIC-based Packet Forwarding Engine, the EX-PFE. The integrated Routing Engine (RE) delivers all control plane functionality. The EX4300 also leverages the same modular Junos OS as other Juniper Networks switches, routers, and security devices, ensuring a consistent implementation and operation of control plane features across the Juniper Networks infrastructure.

Architecture and Key Components

The EX4300 switches are single rack unit (1 U) devices that deliver a compact solution for crowded wiring closets and access switch locations where space and power are at a premium. Each EX4300 supports standard 40GbE QSFP+ ports which are preconfigured to support high-speed Virtual Chassis backplane connections; on the 1GbE access switches, these ports can also serve as uplinks to upstream aggregation devices. In addition, each EX4300 supports an optional front panel uplink module offering 1GbE or 10GbE ports for high-speed backbone or link aggregation connections between wiring closets and upstream aggregation switches; the multigigabit model offers a choice between a 4-port 10GbE SFP+ uplink module or a 2-port 40GbE QSFP+/2-port 100GbE QSFP28 uplink module. Uplink modules can be installed without powering down the switch, enabling users to add high-speed connectivity at any time or migrate from one uplink type to the other, delivering the ultimate in flexible, high-performance interconnectivity.

The 1GbE access EX4300 models also feature a front panel LCD that offers a flexible interface for performing device bring-up and configuration rollbacks, reporting switch alarm and LED status, or restoring the switch to its default settings. When deployed as a member of a Virtual Chassis configuration, the LCD also displays the switch's chassis "slot number" and RE status for rapid identification and problem resolution.

The four integrated rear panel 40GbE QSFP+ ports support EX4300 Virtual Chassis deployment over a 320 Gbps virtual backplane. When deployed in close proximity such as in wiring closets or in top-of-rack data center applications, the EX4300 switches can be securely connected using standard 40GbE QSFP+ direct attach copper (DAC) cables (available in 50 cm, 1 m, 3 m, and 5 m lengths).

Switches deployed in Virtual Chassis configurations spread over larger areas can be interconnected using optical QSFP+ transceivers such as the QSFP+ SR4, which supports distances up to 150 m.

A dedicated rear panel RJ-45 port is available for out-of-band management, while a rear panel USB port can be used to easily upload Junos OS and configuration files. In addition, a dedicated front panel USB console port and a rear panel RJ-45 console port offer flexible out-of-band console options.

Cloud Management with Juniper Mist Wired Assurance

Juniper Mist Wired Assurance, a cloud-based service driven by Mist AI to claim, configure, manage, and troubleshoot the EX4300, delivers AI-powered automation and service levels to ensure a better experience for connected devices. Wired Assurance leverages rich Junos switch telemetry data to simplify operations, reduce mean time to repair, and improve visibility. Wired Assurance offers the following features.

Day 0/Day 1: Simplified Onboarding and Provisioning

- Single-click activation adds true plug-and-play capabilities to the cloud-ready, ZTP-enabled EX4300 driven by Mist AI.
- Configuration models use global templates for bulk rollouts while retaining the flexibility to apply custom site- or switch-specific attributes.
- Device, port, and interface profiles allows for the manual provisioning of colored ports or auto-provisioning of colorless ports.
- Open APIs support third-party integrations such as ServiceNow and Splunk to automate troubleshooting, ticketing, and more.

Day 2 and Beyond: AI-Driven Operations

- Wired service level expectation (SLEs) allow you to set, monitor, and measure wired user experiences such as throughput, successful connections, and switch health with pre- and post-connection performance metrics.
- AI-driven switch insights reveal exactly how switches are performing, including detailed device-level metrics such as CPU, memory utilization, and Virtual Chassis status.

The addition of Marvis, a complementary Virtual Network Assistant driven by Mist AI, lets you start building a self-driving network that simplifies network operations and streamlines troubleshooting via automatic fixes for EX Series switches or recommended actions for external systems.

EVPN-VXLAN Technology

The EX4300-48MP embraces open standards and extends the industry-standard Ethernet VPN (EVPN)-Virtual Extensible LAN (VXLAN) technology already supported for campus fabric IP Clos networks. An IP Clos network between the distribution and the core layers can exist in two modes: centrally routed bridging overlay or edge routed bridging overlay.

With enterprise applications moving to the cloud, it has become necessary to deploy IP fabrics as enterprise fabrics with L2 extensions using VXLAN. The EX4300-48MP is capable of both L2 and L3 VXLAN gateway services, allowing you to deploy networks that provide L2 adjacencies for applications over L3 fabrics. EVPN-VXLAN offers a scalable way to build and interconnect multiple campuses, delivering:

- Greater network efficiency
- Compliance with industry standards
- Scalability across all network layers
- Faster convergence
- Flexible and secure architecture

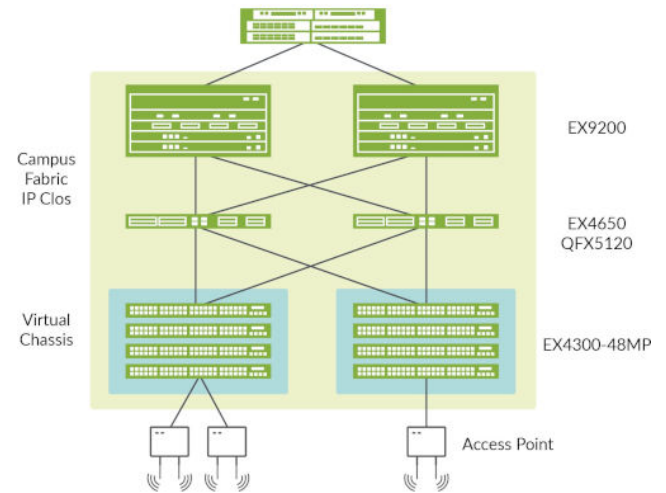


Figure 1: Campus Fabric: IP Clos with EX4300-MP

Virtual Chassis Technology

Up to 10 EX4300 switches can be interconnected using Virtual Chassis technology, creating a single logical device supporting up to 480 10/100/1000BASE-T ports, plus up to 40 10GbE or 40 40GbE uplink ports. For mixed 1GbE and 10GbE access environments, the EX4300 can be interconnected with the EX4600 enterprise campus and QFX5100 high-performance data center access switches. EX4300 Virtual Chassis configurations can be created to support a variety of port and density options for data center, campus, and branch deployments. Virtual Chassis connections can be formed using any of the 40GbE ports or 10GbE ports using standard DAC cables and optics. The EX4300 does not support Virtual Chassis technology on the GbE copper or fiber ports.

With the EX4300 multigigabit model, up to 10 switches can be interconnected using dedicated 40GbE ports through Virtual Chassis technology, creating a single logical device supporting up to 240 10/100/1000BASE-T ports and 240 100/1000/2500/5000/10000BASE-T ports, with up to 40 10GbE uplinks, 20 40GbE uplinks, or 20 100GbE uplinks. The multigigabit EX4300 can also participate in a 10-member mixed-mode Virtual Chassis configuration with other 1GbE EX4300 access switches.

Virtual Chassis Deployments in Campus Wiring Closets

In campus wiring closets, flexible topologies can be created using standard QSFP+ optics on the 40GbE ports to extend the VirtualChassis configuration across long distances spanning multiple wiring closets, floors, or even buildings while using 10GbE or 40GbE for uplink connectivity. EX4300 fiber-based switches can also be used for campus aggregation or small core deployments.

Virtual Chassis Deployments in the Data Center

When deployed in a Virtual Chassis configuration in the data center, all EX4300 switches are monitored and managed as a single device, enabling enterprises to separate physical topology from logical groupings of endpoints and allowing more efficient resource utilization. Highly resilient topologies can also be created using the 40GbE DAC cables.

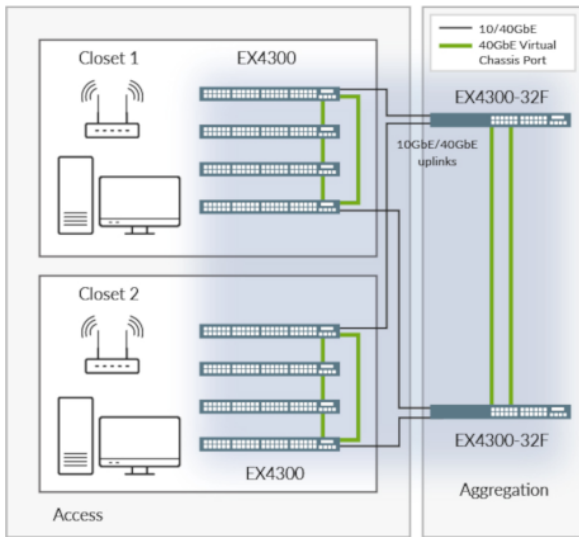


Figure 2: Using Virtual Chassis technology, up to 10 EX4300 switches can be interconnected to create a single logical device spanning an entire building.

Mesh Virtual Chassis Configurations for the Data Center

In data center top-of-rack deployments, a full mesh five-switch Virtual Chassis configuration can be created where every switch member is just one hop away from every other member, delivering the lowest possible latency. A mesh spanning distances of up to 150 meters can be created using standard QSFP+ optics on the 40GbE ports (DAC cables up to 3 m in length are available for shorter distances), while 10GbE ports can be used as uplinks to connect to upstream aggregation or core devices.

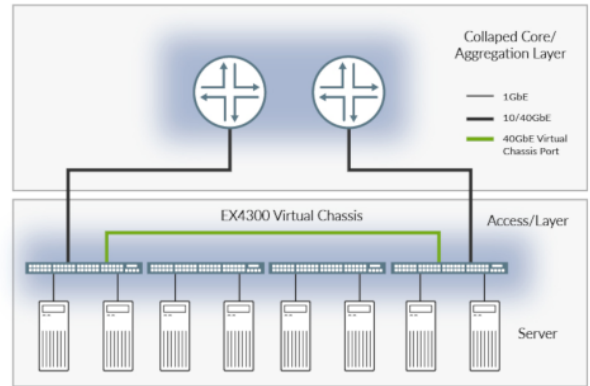


Figure 3: The EX4300 Ethernet Switch with Virtual Chassis technology delivers a high-performance, scalable, and highly reliable solution for the data center.

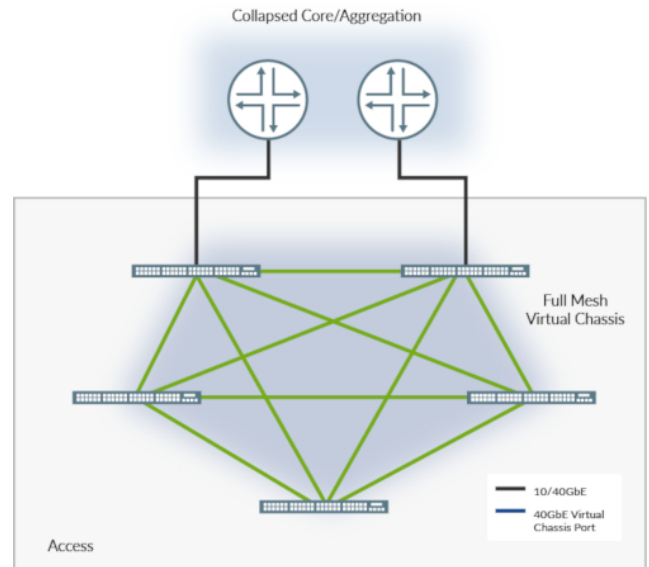


Figure 4: EX4300 switches in a full mesh Virtual Chassis configuration for the data center.

Virtual Chassis Fabric Switching Architecture

Existing Virtual Chassis technology is further scaled and enhanced to support a spine-and-leaf topology that is ideal for high-performance and low-latency data center deployments. In its first instance, this topology, called Virtual Chassis Fabric, enables up to 20 switches to be deployed in a spine-and-leaf configuration, with two to four QFX5100 switches in the spine and up to 18 QFX5100 or EX4300 switches as leaf nodes. This architecture provides any-rack-to-any-rack deterministic throughput and low latency, while significantly simplifying network operations through a single point of management. A Virtual Chassis Fabric configuration supports mixed 1GbE, 10GbE, and 40GbE servers¹.

¹The EX4300 multigigabit switch is not supported in the Virtual Chassis Fabric configuration

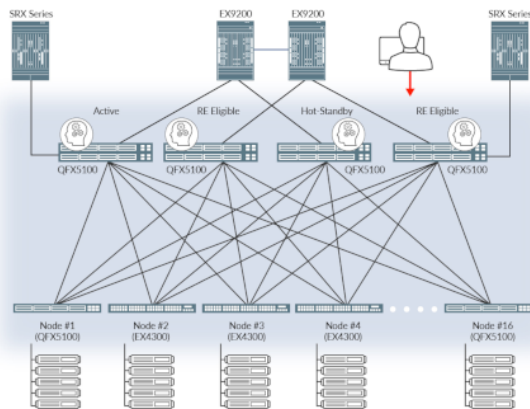


Figure 5: EX4300, QFX3500, QFX3600, and QFX5100 at the access layer of a Virtual Chassis Fabric configuration.

Features and Benefits

Wired Service-Level Expectations

The Wired Assurance feature provides operational visibility into the wired experience with service-level expectations (SLEs) for EX Series Switches. Pre- and post-connection performance metrics help you monitor successful connects and switch health throughout the system, using Mist AI to measure and manage networks and simplify troubleshooting.

Chassis-Class Availability

The EX4300 line of Ethernet switches delivers high availability through redundant power supplies and fans, GRES, and nonstop bridging and routing when deployed in a Virtual Chassis configuration.

In a Virtual Chassis configuration, each EX4300 switch is capable of functioning as a Routing Engine. When two or more EX4300 switches are interconnected, a single control plane is shared among all Virtual Chassis member switches. When two EX4300 switches are interconnected, Junos OS automatically initiates an election process to assign a primary (active) and backup (hot-standby) RE. An integrated L2 and L3 GRES feature maintains uninterrupted

access to applications, services, and IP communications in the unlikely event of a primary RE failure.

When more than two switches are interconnected in a Virtual Chassis configuration, the remaining switch elements act as line cards and are available to assume the backup RE position should the designated primary fail. Primary, backup, and line card priority status can be assigned to dictate the order of ascension; this N+1 RE redundancy, coupled with the GRES, nonstop routing (NSR), and nonstop bridging (NSB) capabilities of Junos OS, assures a smooth transfer of control plane functions following unexpected failures.

The EX4300 implements the same slot/module/port numbering schema as other Juniper Networks chassis-based products when numbering Virtual Chassis ports, providing true chassis-like operations. By using a consistent operating system and a single configuration file, all switches in a Virtual Chassis configuration are treated as a single device, simplifying overall system maintenance and management.

In a mixed Virtual Chassis configuration with both EX4300 1GbE access and multigigabit switches, the EX4300 multigigabit switches must assume the role of the RE, while the 1GbE access EX4300 switches can only act as line cards.

Individually, the EX4300 offers a number of HA features that are typically associated with modular chassis-based switches. When combined with the field-proven Junos OS and L2/L3 failover capabilities, these features provide the EX4300 with true carrier-class reliability.

- **Redundant power supplies:** The EX4300 line of Ethernet switches supports internal redundant, load-sharing, hot-swappable, and field-replaceable power supplies to maintain uninterrupted operations. Thanks to its compact footprint, the EX4300 requires significantly less power than chassis-based switches delivering equivalent port densities. The EX4300 1GbE access switches offer both AC and DC options, while the EX4300 multigigabit switch supports only AC power supplies.
- **Hot-swappable fans:** The EX4300 includes hot-swappable fans, providing sufficient cooling even if one of the fans were to fail.
- **Nonstop bridging and nonstop routing:** NSB and NSR on the EX4300 ensure that control plane protocols, states, and tables are synchronized between primary and standby REs to prevent protocol flaps or convergence issues following a Routing Engine failover.

- **Redundant trunk group (RTG):** To avoid the complexities of Spanning Tree Protocol (STP) without sacrificing network resiliency, the EX4300 employs redundant trunk groups to provide the necessary port redundancy and simplify switch configuration.
- **Cross-member link aggregation:** Cross-member link aggregation allows redundant link aggregation connections between devices in a single Virtual Chassis configuration, providing an additional level of reliability and availability.
- **Carrier-class hardware:** The EX4300 leverages a purpose-built packet forwarding engine ASIC, the EX-PFE, which integrates much of the same intellectual property used in Juniper's carrier-class routers. As a result, the EX4300 delivers the same predictable, scalable functionality found in the world's largest networks.
- **IPv4 and IPv6 routing support:** IPv4 and IPv6 Layer 3 routing (OSPF and BGP) is available with an Enhanced license, enabling highly resilient networks.

Carrier-Class Operating System

The EX4300 runs on Junos OS, the same operating system software used by other Juniper Networks switches, routers, and security devices.

By utilizing a common operating system, Juniper delivers a consistent implementation and operation of control plane features across all products. To maintain that consistency, Junos OS adheres to a highly disciplined development process that uses a single source code, follows a single quarterly release train, and employs a highly available modular architecture that prevents isolated failures from bringing an entire system down.

These attributes are fundamental to the core value of the software, enabling all products powered by Junos OS to be updated simultaneously with the same software release. All features are fully regression tested, making each new release a true superset of the previous version. Customers can deploy the software with complete confidence that all existing capabilities will be maintained and operate in the same way.

Converged Networks

The EX4300 line of Ethernet switches provides the highest levels of availability for the most demanding converged data, voice, and video environments, delivering the most reliable platform for unifying enterprise communications.

The EX4300 supports rich quality of service (QoS) functionality for prioritizing data, voice, and video traffic. The switches support 12 QoS queues on every port, enabling them to maintain multilevel, end-to-end traffic prioritizations. The EX4300 also supports a wide range of policy options, including priority and weighted deficit round-robin (WDRR) queuing.

By providing 15.4 watts of Class 3 802.3af PoE on all ports to power voice over IP (VoIP) telephones, closed-circuit security cameras, wireless access points, and other IP-enabled devices, the EX4300 delivers a future-proofed solution for converging disparate networks onto a single IP infrastructure. The EX4300 switches also support standards-based 802.3at PoE+, which delivers up to 30 watts per port for powering networked devices such as multiple radio IEEE 802.11n wireless access points and video phones that may require more power than available with IEEE 802.3af. The EX4300 multigigabit switch supports pre-standard IEEE 802.3bt PoE++, which delivers up to 95 watts per port for powering devices requiring more than the 30 watts of power provided by PoE+.

Link Layer Discovery Protocol–Media Endpoint Discovery (LLDP-MED)-based granular PoE/PoE+ management allows the EX4300 to negotiate PoE/PoE+ usage down to a fraction of a watt on powered devices, enabling more efficient PoE utilization across the switch.

To ease deployment, the EX4300 supports the industry-standard LLDP and LLDP-MED, which enable the switches to automatically discover Ethernet-enabled devices, determine their power requirements, and assign virtual LAN (VLAN) parameters.

The EX4300 supports the IEEE 802.3az standard for Energy Efficient Ethernet (EEE) functionality, reducing power consumption of copper physical layers (PHY) during periods of low link utilization.

Security

The EX4300 provides a full complement of port security features, including Dynamic Host Configuration Protocol (DHCP) snooping, dynamic ARP inspection (DAI), IP source guard, and media access control (MAC) limiting (per port and per VLAN) to defend against internal and external spoofing, man-in-the-middle and denial-of-service (DoS) attacks.

MACsec

EX4300 switches support IEEE 802.1AE MACsec, providing support for link-layer data confidentiality, data integrity, and data origin authentication. The MACsec feature enables the EX4300 to support 88 Gbps of near line-rate hardware-based traffic encryption on all GbE and 10GbE ports, including the base unit and optional uplink modules. The multigigabit EX4300 model supports the MACsec AES 256 standard for encrypting traffic on all access and uplink ports.

Defined by IEEE 802.1AE, MACsec provides secure, encrypted communication at the link layer that is capable of identifying and preventing threats from denial of service (DoS) and intrusion attacks, as well as man-in-the-middle, masquerading, passive wiretapping, and playback attacks launched from behind the firewall. When MACsec is deployed on switch ports, all traffic is encrypted on the wire but traffic inside the switch is not. This allows the switch to apply all network policies such as QoS, deep packet inspection, and sFlow to each packet without compromising the security of packets on the wire.

Hop-by-hop encryption enables MACsec to secure communications while maintaining network intelligence. In addition, Ethernet-based WAN networks can use MACsec to provide link security over long haul connections. MACsec is transparent to Layer 3 and higher layer protocols and is not limited to IP traffic; it works with any type of wired or wireless traffic carried over Ethernet links.

Simplified Operations

When employing Virtual Chassis technology, the EX4300 dramatically simplifies network management. Up to 10 interconnected EX4300 switches can be managed as a single device. Each Virtual Chassis group uses a single Junos OS image file and a single configuration file, reducing the overall number of units to monitor and manage. When Junos OS is upgraded on the primary switch in a Virtual Chassis configuration, the software is automatically upgraded on all other member switches at the same time.

The EX4300 also includes port profiles that allow network administrators to automatically configure ports with security, QoS, and other parameters based on the type of device connected to the port. Six preconfigured profiles are available, including default, desktop, desktop plus IP phone, wireless access point, routed uplink, and L2 uplink. Users can select from the existing profiles or create their own and apply them through the command line interface (CLI), Junos Web interface, or management system.

Flex Licensing

Juniper Flex licensing offers a common, simple, and flexible licensing model for EX Series access switches, enabling customers to purchase features based on their network and business needs.

Flex licensing is offered in Standard, Advanced, and Premium tiers. Standard tier features are available with the Junos OS image that ships with EX Series switches. Additional features can be unlocked with the purchase of a Flex Advanced or Flex Premium license.

The Flex Advanced and Premium licenses for the EX Series platforms are class based, determined by the number of access ports on the switch. Class 1 (C1) switches have 12 ports, Class 2 (C2) switches have 24 ports, and Class 3 (C3) switches have 32 or 48 ports.

The EX4300 switches support both subscription and perpetual Flex licenses. Subscription licenses are offered for three- and five-year terms. In addition to Junos features, the Flex Advanced and Premium subscription licenses include Juniper Mist Wired Assurance. Flex Advanced and Premium subscription licenses also allow portability across the same tier and class of switches, ensuring investment protection for the customer.

For a complete list of features supported by the Flex Standard, Advanced, and Premium tiers, or to learn more about Junos EX Series licenses, please visit https://www.juniper.net/documentation/en_US/release-independent/licensing/topics/topic-map/understanding_software_licenses.html.

Warranty

For warranty information, please visit www.juniper.net/support/warranty.

Product Options

Ten EX4300 switch models are available (see Table 1 below).

Table 1. EX4300 Line of Ethernet Switches

Model/Product SKU	Access Port Configuration	PoE / PoE+ Ports	PoE Budget	10GbE Ports (max. with module)	40GbE Ports (max. with module)	100GbE Ports (max. with module)	Power Supply Rating	Airflow
EX4300-24T	24-port 10/100/1000BASE-T	0	0 W	0 (4)	4	0	350 W AC	AFO (Front-to-back airflow)
EX4300-24P	24-port 10/100/1000BASE-T	24	550 W	0 (4)	4	0	715 W AC	AFO (Front-to-back airflow)
EX4300-48T	48-port 10/100/1000BASE-T	0	0 W	0 (4)	4	0	350 W AC	AFO (Front-to-back airflow)
EX4300-48P	48-port 10/100/1000BASE-T	48	900 W	0 (4)	4	0	1100 W AC	AFO (Front-to-back airflow)
EX4300-48T-AFI	48-port 10/100/1000BASE-T	0	0 W	0 (4)	4	0	350 W AC	AFI (Back-to-front airflow)
EX4300-48T-DC	48-port 10/100/1000BASE-T	0	0 W	0 (4)	4	0	550 W DC	AFO (Front-to-back airflow)
EX4300-48T-DC-AFI	48-port 10/100/1000BASE-T	0	0 W	0 (4)	4	0	550 W DC	AFI (Back-to-front airflow)
EX4300-48MP	24-port 10/100/1000BASE-T, 24-port 100/1000/2500/5000/10000BASE-T	48	1100	24 (28)	4* (2+4*)	0 (2)	1400 W AC	AFO (Front-to-back airflow)
EX4300-32F	32-port 100/1000BASE-X	0	0 W	4 (12)	2 (4)	0	350 W AC	AFO (Front-to-back airflow)
EX4300-32F-DC	32-port 100/1000BASE-X	0	0 W	4 (12)	2 (4)	0	550 W DC	AFO (Front-to-back airflow)

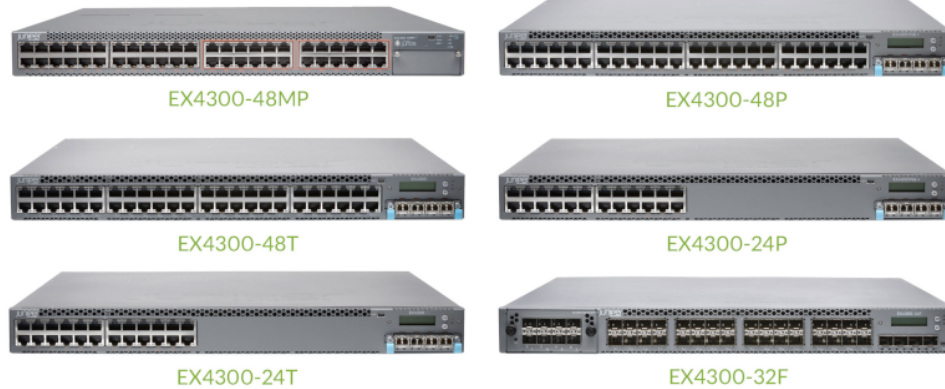
*Dedicated Virtual Chassis ports cannot be used in Ethernet mode

The EX4300 also offers spare chassis options without power supplies or fans, providing customers with the flexibility to create custom SKUs. The supportability matrix for the EX4300 spare chassis SKUs is shown in Table 2. See Ordering Information section for registration details.

Table 2. Supportability Matrix for EX4300 Spare Chassis SKUs

Spare Chassis SKU	Description	PSU-350-AC-AFO + EX4300-FAN	JPSU-715-AC-AFO + EX4300-FAN	JPSU-1100-AC-AFO + EX4300-FAN	JPSU-1400-AC-AFO + EX4300-FAN	JPSU-550-DC-AFO + EX4300-FAN	JPSU-350-AC-AFI + EX4300-FAN-AFI	JPSU-550-DC-AFI + EX4300-FAN-AFI
EX4300-48T-S	Spare chassis, 48-port 10/100/1000BASE-T	P EX4300-48T	X	Y	X	P EX4300-48T-DC	P EX4300-48T-AFI	P EX4300-48T-DC-AFI
EX4300-48P-S	Spare chassis, 48-port 10/100/1000BASE-T PoE+	Y	Y	P EX4300-48P	X	Y	Y	Y
EX4300-48MP-S	Spare chassis, 24-port 10/100/1000BASE-T, 24-port 100/1000/2500/5000/10000BASE-T 95 W PoE	X	Y	Y	Y	X	X	X
EX4300-24T-S	Spare chassis, 24-port 10/100/1000BASE-T	P EX4300-24T	X	Y	X	Y	Y	Y
EX4300-24P-S	Spare chassis, 24-port 10/100/1000BASE-T PoE+	Y	P EX4300-24P	Y	X	Y	Y	Y
EX4300-32F-S	Spare chassis, 32-port 100/1000BASE-X SFP, 4x10GBASE-X SFP+, 2x40GBASE-X QSFP+	P EX4300-32F	X	Y	X	P EX4300-32F-DC	Y	Y

Note: P: supported as a SKU; Y: supported combination; X: unsupported combination



EX4300 Specifications

Physical Specifications

Backplane

- 320 Gbps Virtual Chassis interconnect to combine up to 10 units as a single logical device

Uplink Module Options

- EX4300-32F/EX4300-32F-DC: 8-port dual-mode 10GbE/1GbE module with pluggable SFP+/SFP optics
- EX4300-32F/EX4300-32F-DC: 2-port dual-mode 40GbE module with pluggable QSFP+ optics
- EX4300-48MP: 4-port dual-mode 10GbE/1GbE module with pluggable SFP+/SFP optics or 2-port QSFP+/1-port QSFP28 module
- Others: 4-port dual-mode 10GbE/1GbE module with pluggable SFP+/SFP optics

Power Options

- Power supplies: Autosensing; 100-120 V/200-240 V; AC 350 W AFO, 350 W AFI, 715 W AFO, and 1100 W AFO dual load-sharing hot-swappable internal redundant power supplies
- Maximum current inrush: 50 amps
- EX4300-48MP: 100-120 V/200-240 V; AC 715 W AFO, 1100 W AFO, 1400 W AFO dual load-sharing hot-swappable internal redundant power supplies
- DC power supply: 550 W DC AFO and 550 W DC AFI; input voltage range 43.5-60 V max (+/- 0.5 V); dual input feed, dual load-sharing hot-swappable internal redundant power supplies
- Minimum number of PSUs required for fully loaded chassis: 1 per switch

Dimensions (W x H x D)

- EX4300-24P, -24T, -48P, -48T:
 - Base unit: 17.36 x 1.72 x 16.38 in (44.1 x 4.37 x 41.6 cm)
 - With power supply installed: 17.36 x 1.72 x 17.51 in (44.1 x 4.37 x 44.47 cm)
 - With power supply and front module installed: 17.36 x 1.72 x 18 in (44.1 x 4.37 x 45.73 cm)
- EX4300-32F:
 - Base unit: 17.36 x 1.72 x 17.87 in (44.1 x 4.37 x 45.4 cm)
 - With power supply installed: 17.36 x 1.72 x 19 in (44.1 x 4.37 x 48.28 cm)
 - With power supply and front module installed: 17.36 x 1.72 x 19.31 in (44.1 x 4.37 x 49.1 cm)
- EX4300-48MP:
 - Base unit: 17.36 x 1.72 x 18.39 in (44.1 x 4.37 x 46.7 cm)
 - With power supply installed: 17.36 x 1.72 x 19.63 in (44.1 x 4.37 x 49.99 cm)
 - With power supply and front module installed: 17.36 x 1.72 x 20.06 in (44.1 x 4.37 x 50.96 cm)

System Weight

- EX4300 switch (with no power supply or fan module): 13 lb (5.9 kg)
- EX4300 switch (with single power supply and two fan modules): 16.1 lb (7.3 kg)
- 350 W AC power supply: 2.4 lb (1.1 kg)
- 715 W AC power supply: 2.4 lb (1.1 kg)
- 1100 W AC power supply: 2.4 lb (1.1 kg)
- 550 W DC power supply: 2.4 lb (1.1 kg)
- SFP+ uplink module: 0.44 lb (0.2 kg)
- Fan module: 0.33 lb (0.15 kg)

Environmental Ranges

- Operating temperature:
 - AFO models: 32° to 113° F (0° to 45° C)
 - AFI models: 32° to 95° F (0° to 35° C)
- Storage temperature: -40° to 158° F (-40° to 70° C)
- Operating altitude: up to 10,000 ft (3,049 m)
- Non-operating altitude: up to 16,000 ft (4,877 m)
- Relative humidity operating: 10% to 85% (noncondensing)
- Relative humidity non-operating: 0% to 95% (noncondensing)

Cooling

- Field-replaceable fans: 2
- Airflow: PSU-7.5 cubic feet per minute (CFM); fan-22 CFM
- Total maximum airflow throughput with two power supplies: 59 CFM

Hardware Specifications

Switching Engine Mode

- Store and forward

Memory

- DRAM: 8 GB with Error Correcting Code (ECC) on EX4300-48MP, 3 GB with ECC on EX4300-32F and EX4300-32F-DC; 2 GB with ECC on all other EX4300 switches
- Storage: 50 GB on EX4300-48MP, 4 GB on EX4300-32F and EX4300-32F-DC; 2 GB on all other EX4300 switches

CPU

- EX4300-48MP: 2.2 GHz Dual-Core Intel Broadwell CPU
- Other EX4300s: 1.5 GHz Dual-Core PowerPC CPU

GbE Port Density per System

- 24P/24T: 32 (24 host ports + four 40GbE ports + optional four-port 1/10GbE uplink module)
- 32F: 46 (32 host ports + four 10GbE ports + two 40GbE ports + optional eight-port 1/10GbE uplink module or two-port 40GbE uplink module)
- 48P/48T/48MP: 56 (48 host ports + four 40GbE ports + optional four-port 1/10GbE uplink module)
- 10GbE port density per system:
 - 32F: 4 (fixed) + 8 (uplink module)
 - 48MP: 24 (fixed) + 4 (uplink module)
 - All others: 4 (uplink module)
- 40GbE port density per system:
 - 32F: 2 (fixed) + 2 (uplink module)
 - 48MP: 4 (fixed) + 2 (uplink module)
 - All others: 4 (fixed)
- 100GbE port density per system:
 - 48MP: 2 (uplink module)

Supported Optics

- GbE SFP optic/connector type: LC SFP fiber supporting SX (multimode), LX (single-mode)
- 10GbE SFP+ optic/connector type: 10GbE SFP+ LC connector, SR (multimode), USR (multimode), LR (single-mode), ER (single-mode), LRM (multimode), and DAC (direct-attach copper)
- 40 GbE QSFP+ optic/connector type: 40GbE QSFP+ LC connector type, SR (multimode), DAC (direct-attach copper)
- 100 GbE QSFP28 optic type: 100GbE QSFP SR4, LR4, DAC (direct-attach copper)

Physical Layer

- Time domain reflectometry (TDR) for detecting cable breaks and shorts: 24P/24T and 48P/48T only
- Auto medium-dependent interface/medium-dependent interface crossover (MDI/MDIX) support: 24P/24T and 48P/48T/48MP only (all ports)
- Port speed downshift/setting maximum advertised speed on 10/100/1000BASE-T ports: 24P/24T and 48P/48T/48MP only, on all ports
- Digital optical monitoring for optical ports

Packet Switching Capacities (Maximum with 64 Byte Packets)

- 24P/24T: 224 Gbps (unidirectional)/448 Gbps (bidirectional)
- 48P/48T: 248 Gbps (unidirectional)/496 Gbps (bidirectional)
- 48MP: 464 Gbps (unidirectional)/928 Gbps (bidirectional)
- 32F: 232 Gbps (unidirectional)/464 Gbps (bidirectional)

Software Specifications

Security

- MAC limiting (per port and per VLAN)
- Allowed MAC addresses configurable per port
- Dynamic ARP inspection (DAI)
- IP source guard
- Local proxy ARP
- Static ARP support
- DHCP snooping
- Captive portal
- Persistent MAC address configurations
- Distributed denial of service (DDoS) protection (CPU control path flooding protection)

Layer 2/Layer 3 Throughput (Mpps) (Maximum with 64 Byte Packets)

- EX4300-24P/24T: 333 Mpps (wire speed)
- EX4300-48P/48T: 369 Mpps (wire speed)
- EX4300-48MP: 714 Mpps
- EX4300-32F: 345 Mpps (wire speed)

Layer 2 Switching

- Maximum MAC addresses per system: 64,000
- Jumbo frames: 9216 Bytes
- Number of VLANs supported: 4093
- Range of possible VLAN IDs: 1 to 4094
- Virtual Spanning Tree (VST) instances: 510
- Port-based VLAN
- Voice VLAN
- Physical port redundancy: Redundant trunk group (RTG)
- Compatible with Per-VLAN Spanning Tree Plus (PVST+)
- Routed VLAN Interface (RVI)
- Uplink Failure Detection (UFD)
- ITU-T G.8032: Ethernet Ring Protection Switching
- IEEE 802.1AB: Link Layer Discovery Protocol (LLDP)
- LLDP-MED with VoIP integration
- Default VLAN and multiple VLAN range support
- MAC learning deactivate
- Persistent MAC learning (sticky MAC)
- MAC notification
- Private VLANs (PVLANS)
- Explicit congestion notification (ECN)
- Layer 2 protocol tunneling (L2PT)
- IEEE 802.1ak: Multiple VLAN Registration Protocol (MVRP)
- IEEE 802.1p: CoS prioritization
- IEEE 802.1Q: VLAN tagging
- IEEE 802.1X: Port Access Control
- IEEE 802.1ak: Multiple Registration Protocol
- IEEE 802.3: 10BASE-T
- IEEE 802.3u: 100BASE-T
- IEEE 802.3ab: 1000BASE-T
- IEEE 802.3z: 1000BASE-X
- IEEE 802.3ae: 10-Gigabit Ethernet
- IEEE 802.3ba: 40-Gigabit Ethernet
- IEEE 802.3af: Power over Ethernet
- IEEE 802.3at: Power over Ethernet Plus
- IEEE 802.3x: Pause Frames/Flow Control
- IEEE 802.3ah: Ethernet in the First Mile

Spanning Tree

- IEEE 802.1D: Spanning Tree Protocol
- IEEE 802.1s: Multiple instances of Spanning Tree Protocol (MSTP)
- Number of MST instances supported: 64
- Number of VLAN Spanning Tree Protocol (VSTP) instances supported: 510
- IEEE 802.1w: Rapid reconfiguration of Spanning Tree Protocol

Link Aggregation

- IEEE 802.3ad: Link Aggregation Control Protocol
- 802.3ad (LACP) support:
 - Number of LAGs supported: 128
 - Maximum number of ports per LAG: 16
- LAG load-sharing algorithm bridged or routed (unicast or multicast) traffic:
 - IP: S/D IP
 - TCP/UDP: S/D IP, S/D Port
 - Non-IP: S/D MAC
- Tagged ports support in LAG

Layer 3 Features: IPv4

- Maximum number of ARP entries: 64,000
- Maximum number of IPv4 unicast routes in hardware: 16,000 prefixes; 32,000 host routes
- Maximum number of IPv4 multicast routes in hardware: 8000 multicast groups; 16,000 multicast routes
- Routing protocols: RIPv1/v2, OSPF, BGP, IS-IS
- Static routing
- Routing policy
- Bidirectional Forwarding Detection (BFD)
- L3 redundancy: Virtual Router Redundancy Protocol (VRRP)
- VRF-Lite

Layer 3 Features: IPv6

- Maximum number of Neighbor Discovery (ND) entries: 32,000
- Maximum number of IPv6 unicast routes in hardware: 4000 prefixes; 15,000 host routes
- Maximum number of IPv6 multicast routes in hardware: 8000 multicast groups; 16,000 multicast routes
- Routing protocols: RIPng, OSPFv3, IPv6, ISIS
- Static routing

Access Control Lists (ACLs) (Junos OS Firewall Filters)

- Port-based ACL (PACL): Ingress and egress
- VLAN-based ACL (VACL): Ingress and egress
- Router-based ACL (RACL): Ingress and egress
- ACL entries (ACE) in hardware per system:
 - Port-based ACL (PACL) ingress: 3072
 - VLAN-based ACL (VACL) ingress: 3500
 - Router-based ACL (RACL) ingress: 7000
 - Egress shared across PAACL and VACL: 512
 - Egress across RAACL: 1024
 - ACL counter for denied packets
- ACL counter for permitted packets
- Ability to add/remove/change ACL entries in middle of list (ACL editing)
- L2-L4 ACL

Access Security

- 802.1X port-based
- 802.1X multiple supplicants
- 802.1X with VLAN assignment
- 802.1X with authentication bypass access (based on host MAC address)
- 802.1X with VoIP VLAN support
- 802.1X dynamic ACL based on RADIUS attributes
- 802.1X Supported Extensible Authentication Protocol (EAP types): Message Digest 5 (MD5), Transport Layer Security (TLS), Tunneled TLS (TTLS), Protected Extensible Authenticated Protocol (PEAP)
- MAC authentication (RADIUS)
- Control plane DoS protection
- Radius functionality over IPv6 for authentication, authorization, and accounting (AAA)
- DHCPv6 snooping
- IPv6 neighbor discovery
- IPv6 source guard
- IPv6 RA guard
- IPv6 Neighbor Discovery Inspection
- Media Access Control security (MACsec)

High Availability

- Redundant, hot-swappable power supplies
- Redundant, field-replaceable, hot-swappable fans
- Graceful Routing Engine switchover (GRES) for Layer 2 hitless forwarding and Layer 3 protocols on RE failover
- Graceful protocol restart (OSPF, BGP)
- Layer 2 hitless forwarding on RE failover
- Nonstop bridging: LACP, xSTP
- Nonstop routing: PIM, OSPF v2 and v3, RIP v2, RIPnG, BGP, BGPv6, ISIS, IGMP v1, v2, v3
- Online insertion and removal (OIR) uplink module

Quality of Service

- L2 QoS
- L3 QoS
- Ingress policing: 1 rate 2 color
- Hardware queues per port: 12
- Scheduling methods (egress): Strict priority (SP), WDRR
- 802.1p, DiffCode (DSCP)/IP precedence trust and marking
- L2-L4 classification criteria: Interface, MAC address, Ethertype, 802.1p, VLAN, IP address, DSCP/IP precedence, TCP/UDP port numbers, and more
- Congestion avoidance capabilities: Tail drop, weighted random early detection (WRED)

Multicast

- IGMP: v1, v2, v3
- IGMP snooping
- Multicast Listener Discovery (MLD) snooping
- PIM-SM, PIM-SSM, PIM-DM

Services and Manageability

- Juniper Mist Wired Assurance
- Junos OS CLI
- Junos Web interface (J-Web)
- Junos Space Management Applications
- Junos Space Network Director
- Junos Space Service Now for automated fault detection, simplified trouble ticket management, and streamlined operations
- Out-of-band management: Serial; 10/100/1000BASE-T Ethernet
- ASCII configuration
- Rescue configuration
- Configuration rollback
- Image rollback
- LCD management
- Element management tools: Juniper Networks Network and Security Manager (NSM)
- Remote performance monitoring
- Proactive services support via Advanced Insight Solutions (AIS)
- SNMP: v1, v2c, v3
- RMON (RFC 2819) Groups 1, 2, 3, 9
- Network Time Protocol (NTP)
- DHCP server
- DHCP client and DHCP proxy
- DHCP relay and helper
- DHCP local server support
- RADIUS
- TACACS+
- SSHv2
- Secure copy
- HTTP/HTTPS
- Domain Name System (DNS) resolver
- System logging
- Temperature sensor
- Configuration backup via FTP/secure copy

Supported RFCs

- RFC 768 UDP
- RFC 783 TFTP
- RFC 791 IP
- RFC 792 ICMP
- RFC 793 TCP

- RFC 826 ARP
 - RFC 854 Telnet client and server
 - RFC 894 IP over Ethernet
 - RFC 903 RARP
 - RFC 906 TFTP Bootstrap
 - RFC 951, 1542 BootP
 - RFC 1027 Proxy ARP
 - RFC 1058 RIP v1
 - RFC 1112 IGMP v1
 - RFC 1122 Host Requirements
 - RFC 1195 Use of OSI IS-IS for Routing in TCP/IP and Dual Environments (TCP/IP transport only)
 - RFC 1256 IPv4 ICMP Router Discovery (IRDP)
 - RFC 1492 TACACS+RFC 1519 CIDR
 - RFC 1587 OSPF NSSA Option
 - RFC 1591 DNS
 - RFC 1812 Requirements for IP Version 4 Routers
 - RFC 1981 Path MTU Discovery for IPv6
 - RFC 2030 SNTP, Simple Network Time Protocol
 - RFC 2068 HTTP server
 - RFC 2080 RIPng for IPv6
 - RFC 2131 BOOTP/DHCP relay agent and DHCP server
 - RFC 2138 RADIUS Authentication
 - RFC 2139 RADIUS Accounting
 - RFC 2154 OSPF w/Digital Signatures (password, MD-5)
 - RFC 2236 IGMP v2
 - RFC 2267 Network Ingress Filtering
 - RFC 2328 OSPF v2 (edge-mode)
 - RFC 2338 VRRP
 - RFC 2362 PIM-SM (edge-mode)
 - RFC 2370 OSPF Opaque LSA Option
 - RFC 2453 RIP v2
 - RFC 2460 Internet Protocol, Version 6 (IPv6) Specification
 - RFC 2461 Neighbor Discovery for IP Version 6 (IPv6)
 - RFC 2463 Internet Control Message Protocol (ICMPv6) for the Internet Protocol Version 6 (IPv6) Specification
 - RFC 2464 Transmission of IPv6 Packets over Ethernet Networks
 - RFC 2474 DiffServ Precedence, including 12 queues/port
 - RFC 2475 DiffServ Core and Edge Router Functions
 - RFC 2526 Reserved IPv6 Subnet Anycast Addresses
 - RFC 2597 DiffServ Assured Forwarding (AF)
 - RFC 2598 DiffServ Expedited Forwarding (EF)
 - RFC 2740 OSPF for IPv6
 - RFC 2925 MIB for Remote Ping, Trace
 - RFC 3176 sFlow
 - RFC 3376 IGMP v3
 - RFC 3484 Default Address Selection for Internet Protocol Version 6 (IPv6)
 - RFC 3513 Internet Protocol Version 6 (IPv6) Addressing Architecture
 - RFC 3569 draft-ietf-ssm-arch-06.txt PIM-SSM PIM Source Specific Multicast
 - RFC 3579 RADIUS EAP support for 802.1x
 - RFC 3618 Multicast Source Discovery Protocol (MSDP)
 - RFC 3623 OSPF Graceful Restart
 - RFC 4213 Basic Transition Mechanisms for IPv6 Hosts and Routers
 - RFC 4291 IPv6 Addressing Architecture
 - RFC 4443 ICMPv6 for the IPv6 Specification
 - RFC 4541 IBMP and MLD snooping services
 - RFC 4552 OSPFv3 Authentication
 - RFC 4861 Neighbor Discovery for IPv6
 - RFC 4862 IPv6 Stateless Address Autoconfiguration
 - RFC 4915 MT-OSPF
 - RFC 5095 Deprecation of Type 0 Routing Headers
 - RFC 5176 Dynamic Authorization Extensions to RADIUS
 - RFC 5798 VRRPv3 for IPv6
 - Draft-ietf-bfd-base-05.txt Bidirectional Forwarding Detection
 - Draft-ietf-idr-restart-10.txt Graceful Restart Mechanism
 - Draft-ietf-isis-restart-02 Restart Signaling for IS-IS
 - Draft-ietf-isis-wg-multi-topology-11 Multi Topology (MT) Routing in IS-IS for BGP
 - Internet draft-ietf-isis-ipv6-06.txt, Routing IPv6 with IS-IS
 - LLDP Media Endpoint Discovery (LLDP-MED), ANSI/TIA-1057, draft 08
 - PIM-DM Draft IETF PIM Dense Mode draft-ietf-idmr-pim-dm-05.txt, draft-ietf-pim-dm-new-v2-04.txt
- Supported MIBs**
- RFC 1155 SMI
 - RFC 1157 SNMPv1
 - RFC 1212, RFC 1213, RFC 1215 MIB-II, Ethernet-Like MIB and TRAPs
 - RFC 1493 Bridge MIB
 - RFC 1643 Ethernet MIB
 - RFC 1657 BGP-4 MIB
 - RFC 1724 RIPv2 MIB
 - RFC 1850 OSPFv2 MIB
 - RFC 1905 RFC 1907 SNMP v2c, SMIv2 and Revised MIB-II
 - RFC 2011 SNMPv2 for Internet Protocol using SMIv2
 - RFC 2012 SNMPv2 for transmission control protocol using SMIv2
 - RFC 2013 SNMPv2 for user datagram protocol using SMIv2
 - RFC 2096 IPv4 Forwarding Table MIB
 - RFC 2287 System Application Packages MIB

- RFC 2570–2575 SNMPv3, user based security, encryption, and authentication
- RFC 2576 Coexistence between SNMP Version 1, Version 2, and Version 3
- RFC 2578 SNMP Structure of Management Information MIB
- RFC 2579 SNMP Textual Conventions for SMIv2
- RFC 2665 Ethernet-like interface MIB
- RFC 2787 VRRP MIB
- RFC 2819 RMON MIB
- RFC 2863 Interface Group MIB
- RFC 2863 Interface MIB
- RFC 2922 LLDP MIB
- RFC 2925 Ping/Traceroute MIB
- RFC 2932 IPv4 Multicast MIB
- RFC 3413 SNMP Application MIB
- RFC 3414 User-based Security model for SNMPv3
- RFC 3415 View-based Access Control Model for SNMP
- RFC 3621 PoE-MIB (PoE switches only)
- RFC 4188 STP and Extensions MIB
- RFC 4363 Definitions of Managed Objects for Bridges with Traffic Classes, Multicast Filtering, and VLAN extensions
- RFC 5643 OSPF v3 MIB support
- Draft – blumenthal – aes – usm - 08
- Draft – reeder - snmpv3 – usm - 3desede -00
- Draft-ietf-bfd-mib-02.txt
- Draft-ietf-idmr-igmp-mib-13
- Draft-ietf-idmr-pim-mib-09
- Draft-ietf-idr-bgp4-mibv2-02.txt – Enhanced BGP-4 MIB
- Draft-ietf-isis-wg-mib-07

Troubleshooting

- Debugging: CLI via console, Telnet, or SSH
- Diagnostics: Show and debug command, statistics
- Traffic mirroring (port)
- Traffic mirroring (VLAN)
- IP tools: Extended ping and trace
- Juniper Networks commit and rollback

Traffic Monitoring

- ACL-based mirroring
- Mirroring destination ports per system: 4
 - LAG port monitoring
 - Multiple destination ports monitored to 1 mirror (N:1)
- Maximum number of mirroring sessions: 4
- Mirroring to remote destination (over L2): 1 destination VLAN

Safety and Compliance

Safety Certifications

- UL-UL60950-1 (First Edition)
- C-UL to CAN/CSA 22.2 No. 60950-1 (First Edition)
- TUV/GS to EN 60950-1, Amendment A1-A4, A11
- EN 60950-1 (2006 +A1:2009+A12:2010) Information Technology Equipment—Safety
- IEC 60950-1 (2005 +A1:2009) Information Technology Equipment—Safety

Electromagnetic Compatibility Certifications

- FCC 47CFR Part 15 Class A
- EN 55022 Class A
- ICES-003 Class A
- VCCI Class A
- AS/NZS CISPR 22 Class A
- CISPR 22 Class A
- EN 55024
- EN 300386
- CE

NEBS

- GR-1089-Core: EMC and Electrical Safety for Network Telecommunications Equipment

Environmental

- Reduction of Hazardous Substances (ROHS) 6/6

Telco

- CLEI code

Noise Specifications

- Noise measurements based on operational tests taken from bystander position (front) and performed at 23° C in compliance with ISO 7779.

Table 3. EX4300 Power Supply Ratings and Acoustic Noise in dBA

Product	Power Supply Rating	Acoustic Noise
EX4300-24T	350 W AC AFO	38.5
EX4300-48T	350 W AC AFO	37.8
EX4300-48T-AFI	350 W AC AFI	38.9
EX4300-24P	715 W AC AFO	39.7
EX4300-48P	1100 W AC AFO	51.0
EX4300-48MP	1400 W AC AFO	53.7
EX4300-48T-DC	550 W DC AFO	39.7
EX4300-48T-DC-AFI	550 W DC AFI	39.7
EX4300-32F	350 W AC AFO	39
EX4300-32F-DC	550 W DC AFO	41.2

Juniper Networks Service and Support

Juniper Networks is the leader in performance-enabling services that are designed to accelerate, extend, and optimize your high-performance network. Our services allow you to maximize operational efficiency while reducing costs and minimizing risk, achieving a faster time to value for your network. Juniper Networks ensures operational excellence by optimizing the network to maintain required levels of performance, reliability, and availability. For more details, please visit www.juniper.net/us/en/products-services.

Ordering Information

Product Number	Description
Switches¹	
EX4300-24T	24-port 10/100/1000BASE-T + 350 W AC PS (QSFP+ DAC for Virtual Chassis ordered separately)
EX4300-48T	48-port 10/100/1000BASE-T + 350 W AC PS (QSFP+ DAC for Virtual Chassis ordered separately)
EX4300-48T-AFI	48-port 10/100/1000BASE-T + 350 W AC PS (back-to-front airflow) (QSFP+ DAC for Virtual Chassis ordered separately)
EX4300-24P	24-port 10/100/1000BASE-T PoE-plus + 715 W AC PS (provides 565 W PoE+ power) (QSFP+ DAC for Virtual Chassis ordered separately)
EX4300-48P	48-port 10/100/1000BASE-T PoE-plus + 1100 W AC PS (provides 950 W PoE+ power) (QSFP+ DAC for Virtual Chassis ordered separately)
EX4300-48MP	24-port 10/100/1000BASE-T, 24-port 100/1000/2500/5000/10000BASE-T, 95 W PoE + 1400 W AC PS (provides up to 1100 W PoE+ power) (QSFP+ DAC for Virtual Chassis ordered separately)
EX4300-48T-DC	48-port 10/100/1000BASE-T + 550 W DC PS (QSFP+ DAC for Virtual Chassis ordered separately)
EX4300-48T-DC-AFI	48-port 10/100/1000BASE-T + 550 W DC PS (back-to-front airflow) (QSFP+ DAC for Virtual Chassis ordered separately)
EX4300-32F	32-port 100/1000BASE-X SFP, 4x10GBASE-X SFP+, 2x40GBASE-X QSFP+, and 350 W AC PS (optics sold separately)
EX4300-32F-DC	32-port 100/1000BASE-X SFP, 4x10GBASE-X SFP+, 2x40GBASE-X QSFP+, and 550 W DC PS (optics sold separately)
EX4300-24T-TAA	Trade Agreement Act-compliant EX4300, 24-port 10/100/1000BASE-T + 350 W AC PS (QSFP+ DAC for Virtual Chassis and optics ordered separately)
EX4300-48T-TAA	Trade Agreement Act-compliant EX4300, 48-port 10/100/1000BASE-T + 350 W AC PS (QSFP+ DAC for Virtual Chassis and optics ordered separately)
EX4300-48T-AFI-TAA	Trade Agreement Act-compliant EX4300, 48-port 10/100/1000BASE-T + 350 W AC PS (back-to-front airflow) (QSFP+ DAC for Virtual Chassis and optics ordered separately)
EX4300-48T-DC-TAA	Trade Agreement Act-compliant EX4300, 48-port 10/100/1000BASE-T + 550 W DC PS (QSFP+ DAC for Virtual Chassis and optics ordered separately)
EX4300-48T-DCI-TAA	Trade Agreement Act-compliant EX4300, 48-port 10/100/1000BASE-T + 550 W DC PS (back-to-front airflow) (QSFP+ DAC for Virtual Chassis and optics ordered separately)
EX4300-24P-TAA	Trade Agreement Act-compliant EX4300, 24-port 10/100/1000BASE-T PoE-plus + 715 W AC PS (provides 565 W PoE+ power) (QSFP+ DAC for Virtual Chassis and optics ordered separately)
EX4300-48P-TAA	Trade Agreement Act-compliant EX4300, 48-port 10/100/1000BASE-T PoE-plus + 1100 W AC PS (provides 950 W PoE+ power) (QSFP+ DAC for Virtual Chassis and optics ordered separately)
EX4300-32F-TAA	Trade Agreement Act-compliant EX4300, 32-port 100/1000BASE-X SFP, 4x10GBASE-X SFP+, 2x40GBASE-X QSFP+, and 350 W AC PS (optics sold separately)

Product Number	Description
EX4300-32F-	Trade Agreement Act-compliant EX4300,
DC-TAA	32-port 100/1000BASE-X SFP, 4x10GBASE-X SFP+, 2x40GBASE-X QSFP+, and 550 W DC PS (optics sold separately)
Mounting Options	
EX-4PST-RMK	Adjustable 4-post rack-mount kit for EX4200, EX4300, and EX3200
EX-WMK	EX4200, EX4300, and EX3200 wall-mount kit
EX-RMK	Rack-mount kit for EX2200, EX3200, EX4200, EX4300, and EX4550
Feature Licenses²	
EX4300-24-EFL	Enhanced Feature License (EFL) for EX4300-24T and EX4300-24P
EX4300-48-EFL	Enhanced Feature License (EFL) for EX4300-48T, EX4300-48T-AFI, EX4300-48T-DC, EX4300-48T-AFI-DC, EX4300-48P, and EX4300-48MP
EX4300-32F-EFL	Enhanced Feature License (EFL) for EX4300-32F and EX4300-32F-DC
EX4300-24-AFL	Advanced Feature License (AFL) for EX4300-24T and EX4300-24P
EX4300-48-AFL	Advanced Feature License (AFL) for EX4300-48T, EX4300-48T-AFI, EX4300-48T-DC, EX4300-48T-AFI-DC, EX4300-48P, and EX4300-48MP
EX4300-32F-AFL	Advanced Feature License (AFL) for EX4300-32F and EX4300-32F-DC
EX-QFX-MACSEC-ACC3	MACsec Software License for EX4300 and EX4200 access switches
Subscription Licenses	
S-EX-A-C2-3	Software, EX Series Advanced license, Class 2 (24 ports), includes Wired Assurance subscription for EX Series 24-port switches, 3 year
S-EX-A-C2-5	Software, EX Series Advanced license, Class 2 (24 ports), includes Wired Assurance subscription for EX Series 24-port switches, 5 year
S-EX-P-C2-3	Software, EX Series Premium license, Class 2 (24 ports), includes Wired Assurance subscription for EX Series 24-port switches, 3 year
S-EX-P-C2-5	Software, EX Series Premium license, Class 2 (24 ports), includes Wired Assurance subscription for EX Series 24-port switches, 5 year
S-EX-A-C3-3	Software, EX Series Advanced license, Class 3 (32 or 48 ports), includes Wired Assurance subscription for EX Series 48-port switches, 3 year
S-EX-A-C3-5	Software, EX Series Advanced license, Class 3 (32 or 48 ports), includes Wired Assurance subscription for EX Series 48-port switches, 5 year
S-EX-P-C3-3	Software, EX Series Premium license, Class 3 (32 or 48 ports), includes Wired Assurance subscription for EX Series 48-port switches, 3 year
S-EX-P-C3-5	Software, EX Series Premium license, Class 3 (32 or 48 ports), includes Wired Assurance subscription for EX Series 48-port switches, 5 year
S-EX-A-C2-3-COR	Software, EX Series Advanced license, Class 2 (24 ports), includes Wired Assurance subscription for EX Series 24-port switches, 3 year with SVC CORE support, 3 year
S-EX-A-C2-5-COR	Software, EX Series Advanced license, Class 2 (24 ports), includes Wired Assurance subscription for EX Series 24-port switches with SVC CORE support, 5 YEAR
S-EX-P-C2-3-COR	Software, EX Series Premium license, Class 2 (24 ports), includes Wired Assurance subscription for EX Series 24-port switches with SVC CORE support, 3 YEAR
S-EX-P-C2-5-COR	Software, EX Series Premium license, Class 2 (24 ports), includes Wired Assurance subscription for EX Series 24-port switches with SVC CORE support, 5 YEAR
S-EX-A-C3-3-COR	Software, EX Series Advanced license, Class 3 (32 or 48 ports), includes Wired Assurance subscription for EX Series 48-port switches, 3 year with SVC CORE support, 3 YEAR
S-EX-A-C3-5-COR	Software, EX Series Advanced license, Class 3 (32 or 48 ports), includes Wired Assurance subscription for EX Series 48-port switches, 3 year with SVC CORE support, 5 YEAR

Product Number	Description
S-EX-P-C3-3-COR	Software, EX Series Premium license, Class 3 (32 or 48 ports), includes Wired Assurance subscription for EX Series 48-port switches, 3 year with SVC CORE support, 3 YEAR
S-EX-P-C3-5-COR	Software, EX Series Premium license, Class 3 (32 or 48 ports), includes Wired Assurance subscription for EX Series 48-port switches, 3 year with SVC CORE support, 5 YEAR
Perpetual Licenses	
S-EX-A-C2-P	Software, EX Series Advanced license, Class 2 (24 ports), Perpetual license for EX4300 24-port switches
S-EX-P-C2-P	Software, EX Series Premium license, Class 2 (24 ports), Perpetual license for EX4300 24-port switches
S-EX-A-C3-P	Software, EX Series Advanced license, Class 3 (32 or 48 ports), Perpetual license for EX4300 48-port switches
S-EX-P-C3-P	Software, EX Series Premium license, Class 3 (32 or 48 ports), Perpetual license for EX4300 48-port switches
EX-QFX-MACSEC-ACC4	MACsec software license for EX3400, EX4300, and EX4200 access switches
Uplink Modules	
EX-UM-4X4SFP	EX4300 4-port 1GbE/10GbE SFP+ Uplink Module for EX4300-24T, EX4300-48T, EX4300-48T-AFI, EX4300-48T-DC, EX4300-48T-DC-AFI, EX4300-24P and EX4300-48P
EX-UM-8X8SFP	EX4300 8-port 1GbE/10GbE SFP+ Uplink Module for EX4300-32F and EX4300-32F-DC
EX-UM-2QSFP	EX4300 2-port 40GbE QSFP+ Uplink Module for EX4300-32F and EX4300-32F-DC
EX-UM-4SFPP-MR	EX4300MP 4-port 1GbE/10GbE SFP+ Uplink Module for EX4300-48MP
EX-UM-2QSFP-MR	EX4300MP 2-port 40GbE QSFP+/2-port 100GbE QSPF28 Uplink Module for EX4300-48MP
Power Supplies	
JPSU-350-AC-AFO	EX4300 350 W AC power supply (power cord needs to be ordered separately) (front-to-back airflow)
JPSU-350-AC-AFI	EX4300 350 W AC power supply with airflow in (power cord needs to be ordered separately) (back-to-front airflow)
JPSU-715-AC-AFO	EX4300 715 W AC power supply (power cord needs to be ordered separately) (front-to-back airflow)
JPSU-1100-AC-AFO	EX4300 1100 W AC power supply (power cord needs to be ordered separately) (front-to-back airflow)
JPSU-1400-AC-AFO	EX4300 1400 W AC power supply for EX4300-48MP (power cord needs to be ordered separately) (front-to-back airflow)
JPSU-550-DC-AFO	EX4300 550 W DC power supply (power cord needs to be ordered separately) (front-to-back airflow)
JPSU-550-DC-AFI	EX4300 550 W DC power supply with air flow in (power cord needs to be ordered separately) (back-to-front airflow)
Fans	
EX4300-FAN	Spare fan with front-to-back airflow
EX4300-FAN-AFI	Spare fan with back-to-front airflow
EX4300-48MP-FAN	Spare fan with front-to-back airflow for EX4300-48MP
Spare Chassis	
EX4300-24P-S	Spare chassis, 24-port 10/100/1000BASE-T PoE-plus (optics, power supplies, and fans sold separately)
EX4300-24T-S	Spare chassis, 24-port 10/100/1000BASE-T (optics, power supplies, and fans sold separately)
EX4300-32F-S	Spare chassis, 32-port 1000BASE-X SFP, 4x10GBASE-X SFP+, 2x40GBASE-X QSFP+ (optics, power supplies, and fans sold separately)
EX4300-48P-S	Spare chassis, 48-port 10/100/1000BASE-T PoE-plus (optics, power supplies, and fans sold separately)
EX4300-48T-S	Spare chassis, 48-port 10/100/1000BASE-T (optics, power supplies, and fans sold separately)

Product Number	Description
EX4300-48MP-S	Spare chassis, 24-port 10/100/1000BASE-T, 48-port 100/1000/2500/5000/10000BASE-T, 95 W PoE (optics, power supplies, and fans sold separately)
Pluggable Optics	
EX-QSFP-40GE-DAC-50CM	QSFP+ to QSFP+ 40GbE Direct Attach Copper (twinax copper cable) 50 cm passive
QFX-QSFP-40G-SR4	QSFP+ 40GBASE-SR4 40GbE optics, 850 nm for up to 150 m transmission on multimode fiber-optic (MMF)
QFX-QSFP-DAC-1M	QSFP+ to QSFP+ 40GbE Direct Attach Copper (twinax copper cable) 1 m passive
QFX-QSFP-DAC-3M	QSFP+ to QSFP+ 40GbE Direct Attach Copper (twinax copper cable) 3 m passive
JNP-QSFP-DAC-5M	QSFP+ to QSFP+ 40GbE Direct Attach Copper (twinax copper cable) 5 m passive
EX-SFP-1FE-FX	SFP 100BASE-FX; LC connector; 1310 nm; 2 km reach on multimode fiber (supported on EX4300-32F and EX4300-32F-DC 100BASE-X fixed ports only)
EX-SFP-1GE-SX	SFP 1000BASE-SX; LC connector; 850 nm; 550 m reach on multimode fiber
EX-SFP-1GE-LX	SFP 1000BASE-LX; LC connector; 1310 nm; 10 km reach on single-mode fiber
EX-SFP-1GE-T	SFP 10/100/1000BASE-T copper; RJ-45 connector; 100 m reach on unshielded twisted pair (UTP) (supported on EX4300-32F and EX4300-32F-DC 1000BASE-X fixed ports only)
EX-SFP-10GE-SR	SFP+ 10GBASE-SR; LC connector; 850 nm; 300 m reach on 50 microns multimode fiber; 33 m on 62.5 microns multimode fiber
EX-SFP-10GE-LRM	SFP+ 10GBASE-LRM; LC connector; 1310 nm; 220 m reach on multimode fiber
EX-SFP-10GE-LR	SFP+ 10GBASE-LR; LC connector; 1310 nm; 10 km reach on single-mode fiber
EX-SFP-10GE-DAC-xM	SFP+ 10GbE Direct Attach Copper (twinax copper cable), where "x" denotes 1, 3, 5, or 7 meter lengths
EX-SFP-10GE-ER	SFP+ 10GBASE-ER 10GbE optics, 1550 nm for 40 km transmission on single-mode fiber
EX-SFP-10GE-USR	SFP+ 10GbE ultra short reach optics, 850 nm for 10 m on OM1, 20 m on OM2, 100 m on OM3 multimode fiber
EX-SFP-GE10KT13R14	SFP 1000BASE-BX; Tx 1310 nm/Rx 1490 nm for 10 km transmission on single-strand, single-mode fiber
EX-SFP-GE10KT14R13	SFP 1000BASE-BX; Tx 1490 nm/Rx 1310 nm for 10 km transmission on single-strand, single-mode fiber
EX-SFP-GE10KT13R15	SFP 1000BASE-BX; Tx 1310 nm/Rx 1550 nm for 10 km transmission on single-strand, single-mode fiber
EX-SFP-GE10KT15R13	SFP 1000BASE-BX; Tx 1550 nm/Rx 1310 nm for 10 km transmission on single-strand, single-mode fiber

*Each switch ships standard with one power supply (including a power cord for the country to which it is being shipped), RJ-45 cable, RJ-45-to-DB-9 serial port adapter, and a 19 in. rack-mount kit. A second power supply is optional to provide resiliency. The appropriate power cord accompanying that power supply needs to be ordered separately. Virtual Chassis cables must be ordered separately and can be for any of the optics supported (40GbE DAC is recommended for Virtual Chassis connections).

* EFL includes license for OSPFv4/v6, PIM-SM/SSM/DM, IGMP v1/v2/v3, and VRF-Lite. AFL includes license for IS-IS and BGP (EFL needs to be purchased and installed separately before installing AFL).

* Not available in Russia and CIS countries.

About Juniper Networks

Juniper Networks brings simplicity to networking with products, solutions and services that connect the world. Through engineering innovation, we remove the constraints and complexities of networking in the cloud era to solve the toughest challenges our customers and partners face daily. At Juniper Networks, we believe that the network is a resource for sharing knowledge and human advancement that changes the world. We are committed to imagining groundbreaking ways to deliver automated, scalable and secure networks to move at the speed of business.

Corporate and Sales Headquarters

Juniper Networks, Inc.
1133 Innovation Way
Sunnyvale, CA 94089 USA

Phone: 888.JUNIPER (888.586.4737)

or +1.408.745.2000

www.juniper.net

APAC and EMEA Headquarters

Juniper Networks International B.V. Boeing
Avenue 240 1119 PZ Schiphol-Rijk
Amsterdam, The Netherlands

Phone: +31.0.207.125.700





AP32 ACCESS POINT SERIES

High Performance 802.11ax (Wi-Fi 6) Driven by Mist AI Automates Network Operation

The AP32 series driven by Mist AI automates network operations and boosts Wi-Fi performance to automate network operation and boost Wi-Fi performance, delivering an aggregate data rate up to 3.0 Gbps concurrently on both 2.4GHz and 5GHz radios. Managed by Juniper Mist Cloud Architecture, the AP32 series delivers unprecedented user experiences at a lower cost for retail, warehouse, school, clinic and home office environments.

JUNIPER AI-DRIVEN NETWORK

Juniper brings true innovation to the wireless space with the world's first AI-driven Wireless LAN (WLAN).

The Juniper AI-Driven Network makes Wi-Fi predictable, reliable and measurable with unprecedented visibility into the user experience through customizable Service Level Expectation (SLE) metrics. Time consuming manual IT tasks are replaced with AI-driven proactive automation and self-healing, lowering Wi-Fi operational costs and saving substantial time and money.

All operations are managed via the open and programmable microservices with Juniper Mist Cloud Architecture. This delivers maximum scalability and performance while also bringing DevOps agility to wireless networking and location services.

THE JUNIPER MIST CLOUD ARCHITECTURE

Juniper's Mist AI leverages a cloud-native microservices architecture in order to bring unparalleled agility, scale and resiliency to your network. It leverages an AI engine to lower OpEx and deliver unprecedented insight by using data science to analyze large amounts of rich metadata collected from Juniper Access Points driven by Mist AI.

JUNIPER ACCESS POINT FAMILY

The Mist enterprise-grade access point family consists of:

- AP32, AP33 and AP43 Series that support 802.11ax (Wi-Fi 6), Bluetooth® LE and IoT
- AP21, AP41 and AP61 Series that support 802.11ac Wave 2, Bluetooth LE and IoT
- BT11 that supports Bluetooth LE

These access points are all built on a real-time microservices platform and are managed by the Juniper Mist cloud.



The table below compares the supported major functions of the Juniper Wi-Fi 6 access points to help in selecting the model(s).

	AP43	AP63	AP33	AP32	AP12
Deployment	Indoor	Outdoor	Indoor	Indoor	Indoor Wall Plate
Wi-Fi Standard	802.11ax (Wi-Fi 6) 4x4 : 4SS	802.11ax (Wi-Fi 6) 4x4 : 4SS	802.11ax (Wi-Fi 6) 5GHz: 4x4 : 4SS 2.4GHz: 2x2 : 2SS	802.11ax (Wi-Fi 6) 5GHz: 4x4 : 4SS 2.4GHz: 2x2 : 2SS	802.11ax (Wi-Fi 6) 2x2 : 2SS
Wi-Fi Tri-Radio	✓	✓	✓	✓	✓
Antenna Options	Internal/ External	Internal/ External	Internal	Internal/ External	Internal
Virtual BLE	✓	✓	✓	–	–
IoT Interface	✓	–	–	–	–
IoT Sensors	Humidity, Pressure, Temperature	–	–	–	–
Warranty	Limited Lifetime	One Year	Limited Lifetime	Limited Lifetime	Limited Lifetime

SERVICES AVAILABLE FOR THE JUNIPER AP32

WI-FI CLOUD SERVICES

Juniper Mist Wi-Fi Assurance



For IT and NOC Teams

- Predictable and Measurable Wi-Fi
- Service Level Expectations (SLE)
- WxLAN Policy Fabric for Role-Based Access
- Customizable Guest Wi-Fi Portal
- Radio Resource Management

Marvis Virtual Assistant



For IT Helpdesk Teams

- AI-powered Virtual Network Assistant
- Natural Language Processing Interface
- Anomaly Detection
- Client SLE Visibility and Enforcement
- Data Science Driven Root Cause Analysis

BLUETOOTH LE CLOUD SERVICES

Juniper Mist Asset Visibility



For Process & Resource Improvement Teams

- Identify Assets by Name and View Location
- Zonal/Room Accuracy for 3rd Party Tags
- Historical Analytics for Asset Tags

- Telemetry for Asset Tags (temp., motion, ...)
- APIs for Viewing Assets and Analytics

ANALYTICS CLOUD SERVICES

Juniper Mist Premium Analytics



For Network Teams

- Base Features are Included with Wi-Fi Assurance, Mobile Engagement, and Asset Visibility Subscriptions
- End-to-end Network Visibility
- Orchestrated Networking and Application Performance Queries
- Simplified Network Transparency

For Business Teams

- Base Features are Included with Wi-Fi Assurance, Mobile Engagement, and Asset Visibility Subscriptions
- Customer Segmentation and Reporting Based on Visitor Telemetry
- Customized* Dwell and 3rd Party Reporting for Traffic and Trend Analysis
- Correlate Customer-Guest Traffic and Trend Analysis

*Juniper Mist Premium Analytics service subscription is needed

ACCESS POINT FEATURES

High Performance Wi-Fi

The AP32 series are 6 stream access points. They support 4x4:4SS in the 5GHz band, delivering a maximum data rate of 2,400 Mbps for high bandwidth applications; and 2x2:2SS in the 2.4 GHz band, delivering a maximum data rate of 575 Mbps. The integrated 3rd radio functions as a network, location, and security sensor, a synthetic test client radio, as well as a spectrum monitor.

By adding 802.11ax Orthogonal Frequency Division Multiple Access (OFDMA), Multi-User Multiple Input Multiple Output (MU-MIMO) and BSS Coloring technologies into the AP32 Series, performance is boosted to unprecedented levels to support new bandwidth-hungry applications and soaring device densities.

AI for AX

With the new features that 802.11ax (Wi-Fi 6) introduces to boost performance and efficiency, the complexity of configuring and operating an access point has soared. Juniper is applying its industry-leading Mist AI technology to automate and optimize these features with its AI for AX capabilities. We are leveraging AI in order to optimize BSS Coloring, to improve data transmission scheduling within OFDMA and MU-MIMO and to assign clients to the best radio to boost the overall performance of the network.

Boosts Spectral Efficiency

OFDMA improves spectral efficiency so that an increasing density of devices can be supported on the network, especially with IoT devices that often utilize smaller data packets than mobile devices and hence increase the burden and contention on the network. Additionally, BSS Coloring improves the co-existence of overlapping BSS' and allows spatial reuse within a given channel by reducing the packet collisions. This helps you improve spectral efficiency for dense networks where channel reuse is increasing.

Automatic RF optimization

Radio resource management (RRM) automates dynamic channel and power assignment, taking Wi-Fi and external sources of interference into account with its dedicated sensor radio. The AI engine continuously monitors the coverage and capacity SLE metrics to learn and optimize the RF environment. The RRM learning algorithm uses hysteresis on a 24-hour window to conduct a site-wide rebalancing for optimal channel and power assignment.

Unprecedented Insight and Action

A dedicated dual band 3rd radio collects data for Juniper's patent-pending Proactive Analytics and Correlation Engine (PACE), which leverages machine learning to analyze user experience, correlate problems and automatically detect the root cause of problems. These metrics are used to monitor service level expectations and provide proactive recommendations to ensure problems don't occur (or are fixed as quickly as possible when they do). This radio also is able to function as a synthetic test client to proactively detect and mitigate network anomalies.

Dynamic Packet Capture

The Juniper Mist platform automatically captures packets and streams them to the cloud when major issues are detected. This saves IT time and effort and eliminates the need for truck rolls with sniffers to reproduce and capture data for troubleshooting.

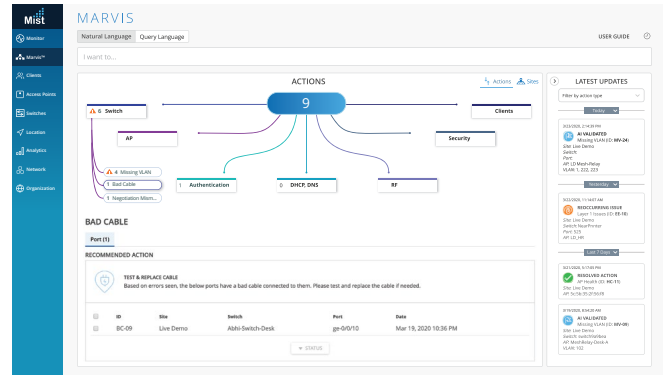
Client Events		47 Total	31 Good	7 Neutral	9 Bad
Association	Scanner 2	12:25:50.827 AM, Jun 30			
Fast BSS Assoc Failure	Scanner 2	12:25:48.458 AM, Jun 30			
IP Assigned	Scanner 2	12:25:47.595 AM, Jun 30			
DNS OK	Scanner 2	12:25:45.023 AM, Jun 30			
Default Gateway ARP Success	Scanner 2	12:25:42.837 AM, Jun 30			
DHCP Stuck - Bind Failure	Scanner 2	12:25:39.847 AM, Jun 30			
Authorization	Scanner 2	12:25:38.287 AM, Jun 30			
DNS OK	Scanner 2	12:25:38.104 AM, Jun 30			
Fast Roaming 802.11R	Scanner 2	12:25:37.098 AM, Jun 30			
Reassociation	Scanner 2	12:25:36.098 AM, Jun 30			

AP	Main	Server IP Address	10.1.1.1
Reason	Failing DHCP DISCOVER from 5d5d25:10:10:d2 on vlan 1 with Xid 123456778- No DHCP Request seen from client in response to the Offer from the Server	BSSID	5d5d25:10:10:d2
		SSID	Network 1
		Subnet	10.1.1.1/16
		Transaction ID	92234945

Download Packet Capture

Marvis Virtual Network Assistant

The NLP-based assistant, Marvis, simplifies troubleshooting and collection of insights for your network by leveraging AI and data science to proactively identify issues, determine the root causes and scope of impact and to gain insight into your network and users by eliminating the need to manually hunt through endless dashboards and CLI commands.

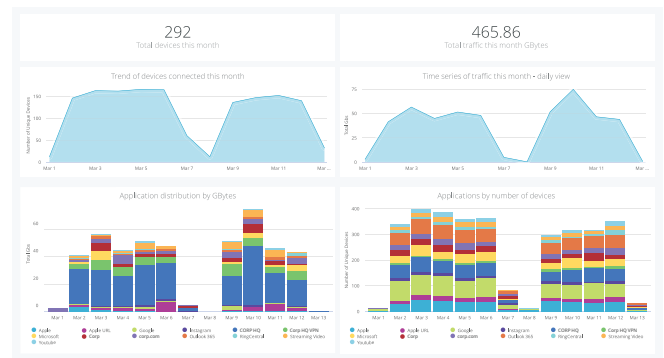


Effortless, Cloud-based Setup and Updates

The AP32 Series automatically connects to the Juniper Mist cloud, downloads its configuration, and joins the appropriate network. Firmware updates are retrieved and installed automatically, ensuring that the network is always up to date with new features, bug fixes, and security updates.

Premium Analytics

Juniper Mist Wi-Fi Assurance, Engagement and Asset Tracking services include a base analytics capability for analyzing up to 30 days of data which enables you to simplify the process of extracting network insights from data and analytics across your enterprise. To extend these capabilities for more dynamic insights like motion paths* and other 3rd Party* data, along with the option to generate customized reports, the Juniper Mist Premium Analytics service is available as an additional subscription.



Improves Battery Efficiency for IoT Devices

By incorporating the 802.11ax target wake time (TWT) capability and Bluetooth 5.0, battery life for IoT devices can be extended as new IoT devices enter the network.

Dynamic Debugging

Constantly monitor services running on the AP32 Series and send alerts whenever a service behaves abnormally. Dynamic debugging relieves IT of having to worry about an AP going offline or any services running on becoming unavailable.

*Juniper Mist Premium Analytics service subscription is needed

SPECIFICATIONS	
Wi-Fi Standard	802.11ax (Wi-Fi 6), including support for OFDMA, 1024-QAM, MU MIMO, Target Wake Time (TWT), Spatial Frequency Reuse (BSS Coloring). Backwards compatibility with 802.11a/b/g/n/ac
Combined Highest Supported Data Rates	3.0 Gbps
2.4 GHz	2x2 : 2 802.11b/g/n/ac up to 400 Mbps data rate; 2x2 : 2 802.11ax up to 575 Mbps data rate
5 GHz	4x4 : 4 802.11ax up to 2,400 Mbps data rate
MIMO Operation	Four spatial stream Single User (SU) MIMO for up to 2,400 Mbps wireless data rate to individual 4x4 HE80 Four spatial stream Multi User (MU) MIMO for up to 2,400 Mbps wireless data rate to up to four MU-MIMO capable client devices simultaneously
Dedicated Third Radio	2.4GHz and 5GHz dual-band WIDS/WIPS, spectrum analysis, synthetic client and location analytics radio
Internal Antennas	Two 2.4GHz omni-directional antennas with 4 dBi peak gain Four 5GHz omni-directional antennas with 6 dBi peak gain
Bluetooth 5.0	Omni-directional Bluetooth Antenna Supports superbeacon mode with iBeacon and Eddystone
Beam Forming	Transmit Beamforming and Maximal Ratio Combining
Power Options	802.3at PoE, 802.3bt PoE
Dimensions	202 x 202 x 44 mm (7.95 x 7.95 x 1.73 in)
Weight	0.83 kg (1.83 lbs) excluding mount and accessories AP32E: 0.81 kg (1.78 lbs) excluding mount and accessories
Operating Temperature	Internal antenna: 0° to 40° C External antenna: -20° to 50° C
Operating Humidity	10% to 90% maximum relative humidity, non-condensing
Operating Altitude	3,048 m (10,000 ft)

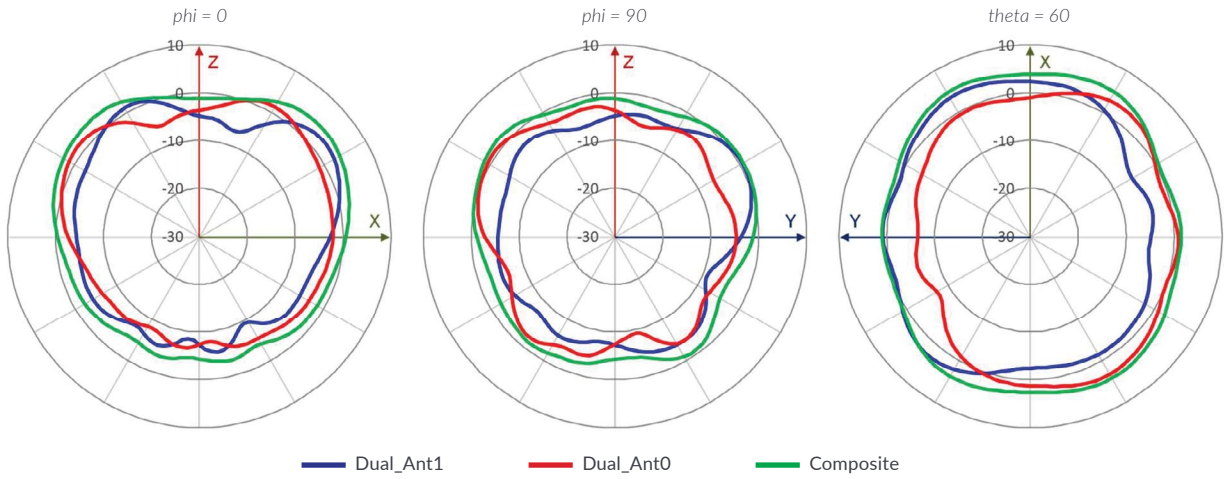
I/O AND INDICATORS	
USB	USB2.0 support interface
Eth0	100/1000Base-T, 2.5GBase-T (802.3bz); RJ45; PoE PD
Eth1	10/100/1000Base-T; RJ45
External Antennas (AP32E)	Five RP-SMA: four for Wi-Fi data; one for sensor. Male connectors
Reset	Reset to the factory default settings
Indicators	One multi-color status LED

MOUNTING BRACKETS	
APBR-U*	Universal Bracket
APBR-T58	3/8" Threaded Rod
APBR-M16	16mm Threaded Rod (M16-2)
APBR-ADP-CR9	9/16" T-Rail
APBR-ADP-RT15	15/16" T-Rail
APBR-ADP-WS15	1 1/2" T-Rail
APBR-ADP-T12	1/2" Threaded Rod

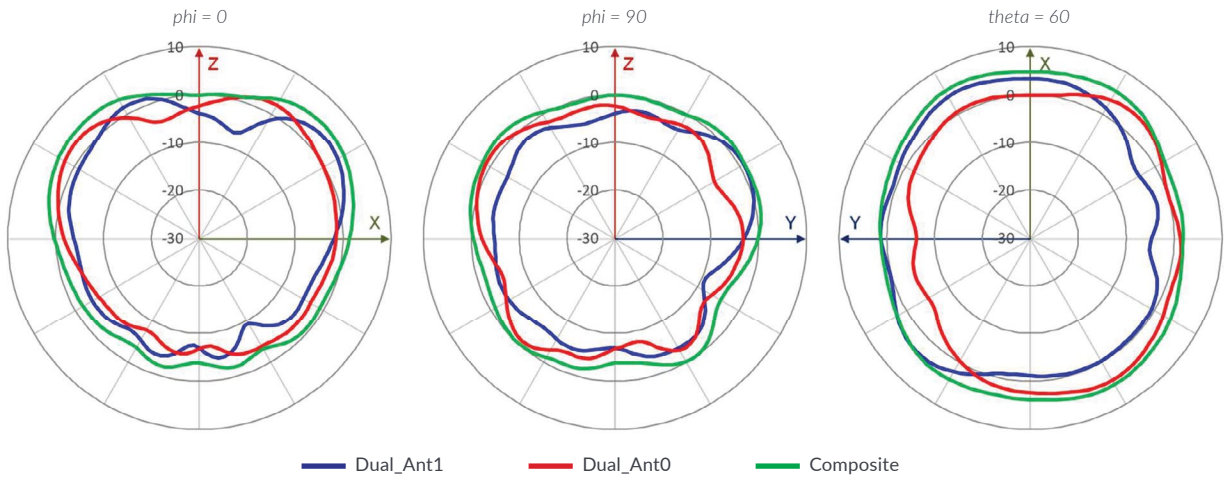
*The AP package includes one Universal Bracket. APBR-U is available separately as an accessory.

AP32 WI-FI ANTENNA PLOTS

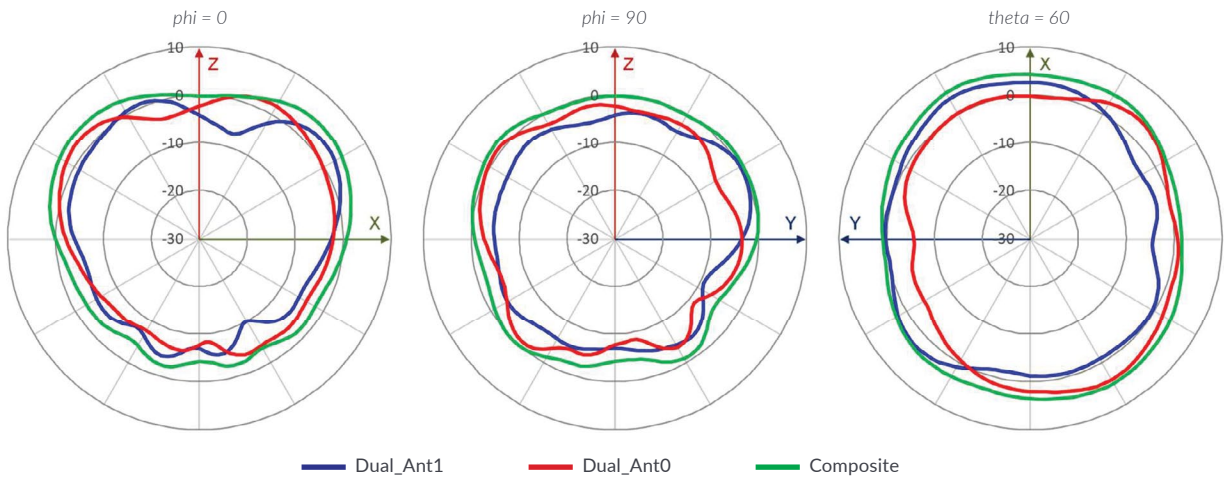
Wi-Fi @ 2400MHz (R1)



Wi-Fi @ 2450MHz (R1)

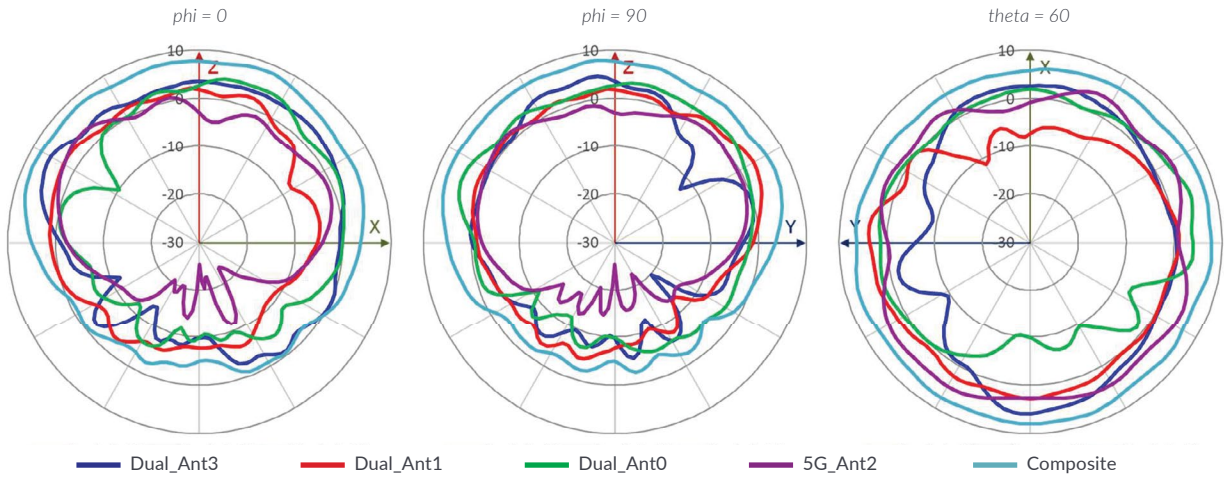


Wi-Fi @ 2500MHz (R1)

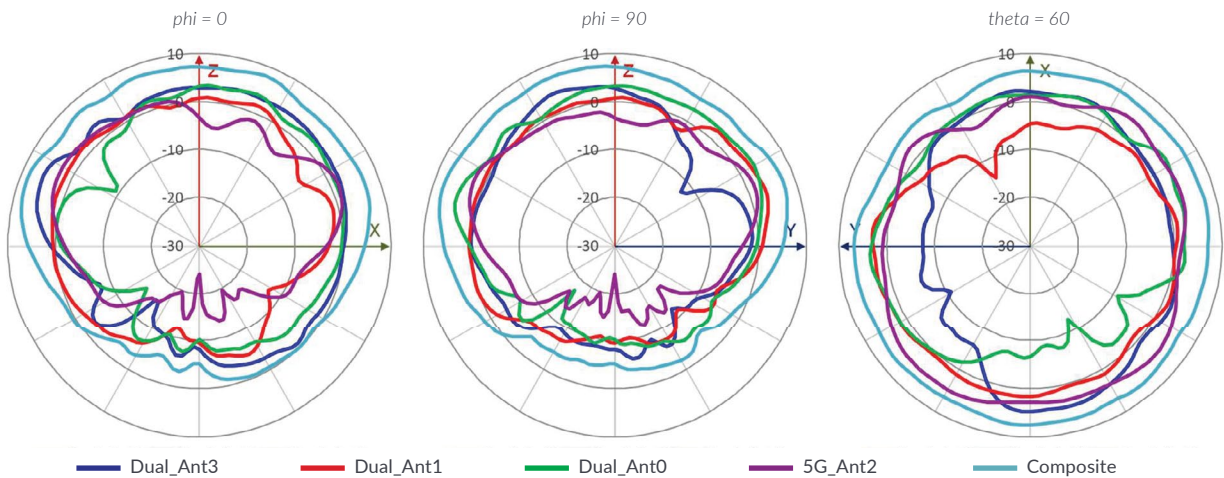


AP32 WI-FI ANTENNA PLOTS

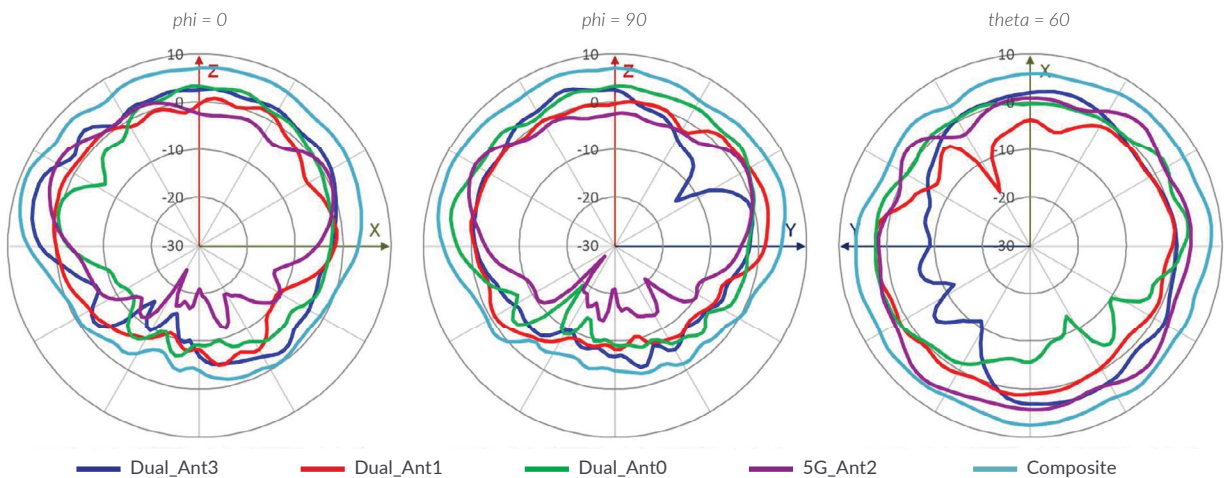
Wi-Fi @ 5150MHz (R0)



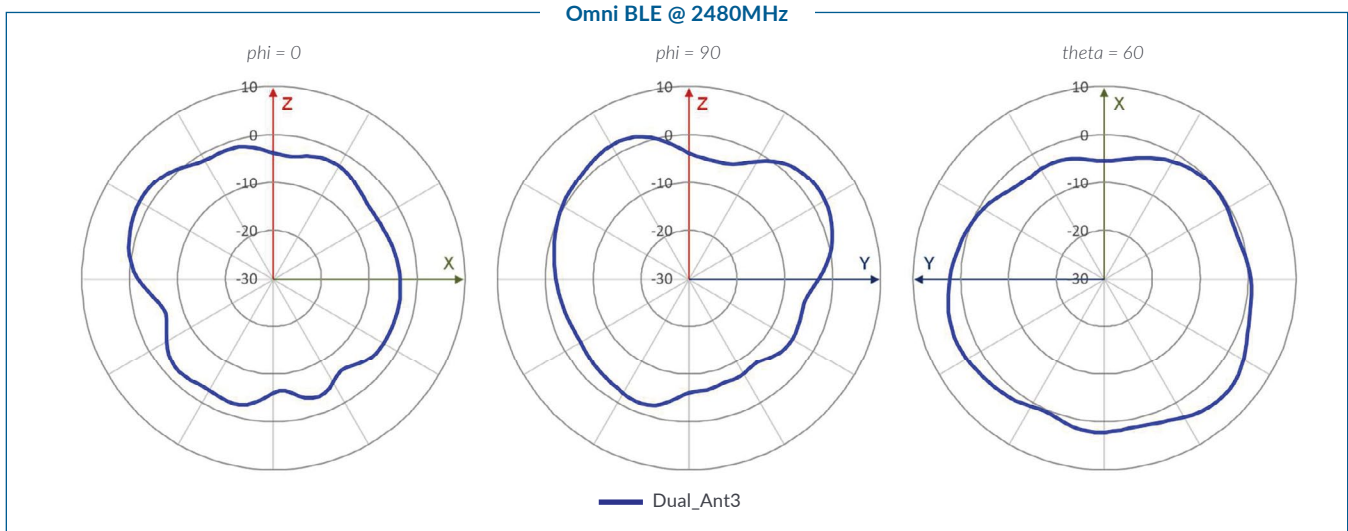
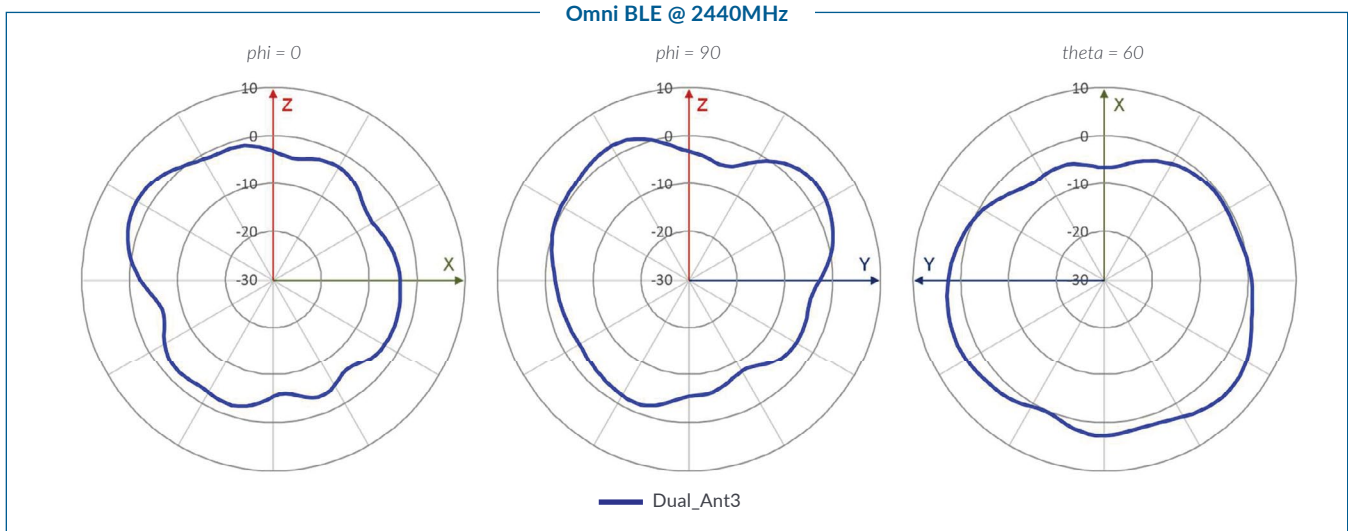
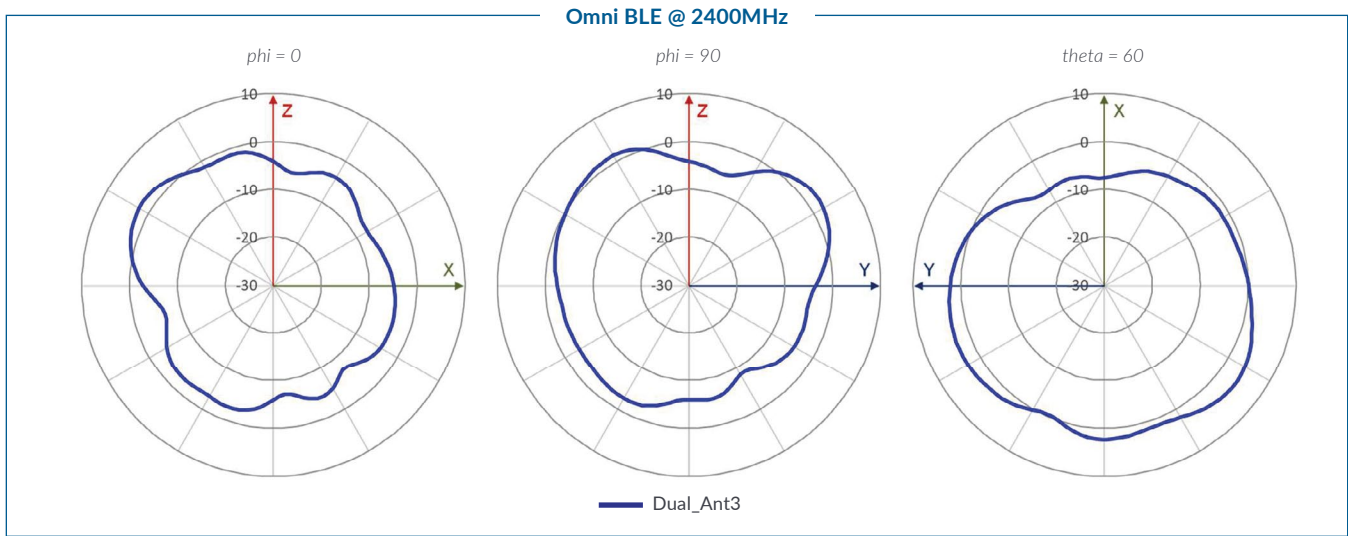
Wi-Fi @ 5550MHz (R0)



Wi-Fi @ 5850MHz (R0)



AP32 OMNI BLE ANTENNA PLOTS





Estimate

Date	Estimate #
3/16/2021	19587

70 Commercial Ave
Unit C
Moonachie, NJ 07074

Name / Address
Attorney General's Office 1900 KANAWHA BLVD E BUILDING 1 RM E-26 CHARLESTON, WV 25305

				Project
Item	Description	Qty	Cost	Total
EX4300-48P-NEW	Juniper EX Series EX4300-48P Switch - L3 - managed	5	3,695.00	18,475.00
SVC-ND-EX4300P48	- 48 x 10/100/1000 (PoE+) + 4 x 40 Gigabit QSFP+ Juniper Care - 3 Year - Service - 12 x 5 Next Business Day - Service Depot - Exchange - Physical Service	5	1,179.00	5,895.00
SUB-EX48-2S-3Y-N	3 Year Wired Assurance and Virtual Network Assistant (VNA) Subscription for EX48 port switches	5	740.00	3,700.00
EX-QSFP-40GE-DAC-50CM-...	QSFP+ 40 Gigabit Ethernet Direct Attach Copper (Twinax Copper Cable) for 50cm Transmission	4	60.00	240.00
QFX-QSFP-DAC-1M-NEW	Juniper QFX-QSFP-DAC-1M 40G QSFP+ Cable	1	229.00	229.00
EX-UM-4X4SFP-NEW	Juniper EX4300 4-Port 1GbE/10GbE SFP+ Uplink Module - For Data Networking, Optical Network - 4 x SFP (mini-GBIC)/SFP+ 4 x Expansion Slots	2	695.00	1,390.00
AP32-US-NEW	MODULE Superior Performance Multigigabit WiFi 6 802.11ax Access Point (6 stream) with Bluetooth Low Energy, with built-in Internal Antenna. For US only	16	515.00	8,240.00
SUB-1S-3Y	Subscription for 1 service (specify SUB-MAN, SUB-ENG, SUB-AST, SUB-VNA, SUB-PMA) for one access point for 3 year: includes software updates, upgrades, cloud function subscription and limited lifetime warranty benefits on access points	16	195.00	3,120.00
APBRU-NEW	Universal AP Bracket for T-Rail and Drywall mounting for Indoor Access Points - included with AP	1	15.00	15.00
			Total	\$41,304.00

Customer Signature _____

PARTNER
ADVANTAGE
Reseller Partner

VODANET SYSTEMS LLC

JUNIPER NETWORKS
RESELLER PARTNER



Helda Lopes
Vice President, Marketing

August 2020

This certificate is valid for up to one year from the signature date and certification can be withdrawn at any time. Juniper Networks can confirm the validity or otherwise of this certificate. Juniper Business Use Only

JUNIPER
NETWORKS

Engineering
Simplicity

IMPORTANT -- READ THIS AGREEMENT BEFORE ACCESSING OR USING ANY JUNIPER HARDWARE, SOFTWARE, CLOUD SERVICES OR SERVICES.

YOU SHALL HAVE NO RIGHT TO ACCESS OR USE ANY JUNIPER PRODUCTS OR SERVICES UNLESS (I) YOU RECEIVED SUCH PRODUCTS OR SERVICES FROM JUNIPER OR ANOTHER APPROVED SOURCE AND (II) YOU CONSENT TO BE BOUND BY ALL TERMS OF THIS AGREEMENT, WHICH CONSENT IS EVIDENCED BY ANY OF THE FOLLOWING: CLICKING A BOX INDICATING ACCEPTANCE; ACCESSING OR USING JUNIPER PRODUCTS OR SERVICES; OR EXECUTING AN AGREEMENT OR ORDER FORM THAT REFERENCES THIS AGREEMENT.

IF YOU ARE ENTERING INTO THIS AGREEMENT ON BEHALF OF A COMPANY OR OTHER LEGAL ENTITY, YOU REPRESENT THAT YOU HAVE THE AUTHORITY TO BIND SUCH ENTITY AND ITS AFFILIATES TO THESE TERMS AND CONDITIONS, IN WHICH CASE THE TERMS "COMPANY" AND/OR "END USER" (AS APPLICABLE) IN THIS AGREEMENT SHALL REFER TO SUCH ENTITY AND ITS AFFILIATES. IF YOU DO NOT HAVE SUCH AUTHORITY OR DO NOT AGREE WITH THESE TERMS AND CONDITIONS, YOU MUST NOT ACCEPT THIS AGREEMENT AND MAY NOT ACCESS OR USE JUNIPER PRODUCTS OR SERVICES.

MASTER PURCHASE AND LICENSE AGREEMENT

This Master Purchase and License Agreement (the "**Agreement**") is entered into between Juniper and the party accepting these terms ("**Company**" or "**End User**") (each individually, a "**Party**", and collectively, the "**Parties**"), and consists of the General Terms and Conditions set forth below, the Online Policies, Guidelines and Procedures, and the following Schedule(s) and/or Special Terms attached to the General Terms and Conditions, all of which are incorporated, as applicable, into this Agreement by this reference:

- Channel Schedule: Terms and Conditions Applicable to resellers only;
- End User Schedule: Terms and Conditions Applicable to End Users only;
- Glossary: The glossary of defined terms; and
- Special Terms: Supplemental terms and conditions applicable to specific transactions, including, but not limited to, Agency Terms, System Integrator Terms, or Federal Terms.

GENERAL TERMS AND CONDITIONS

1. Scope. These General Terms and Conditions ("**GTC**") set forth terms and conditions for the purchase and/or licensing of Hardware, Software, Services, and/or Cloud Services by the Company during the Agreement Term.

2. Precedence. In the event of any conflict, the following documents that are listed higher in order have precedence and apply in place of any substantially similar terms and conditions of a document lower in the order:

- The GTC and the Glossary;
- The terms and conditions of the applicable Schedule;
- The terms and conditions of any applicable Special Terms;
- The terms and conditions of an attachment to one of the above;
- The terms and conditions of Descriptive Content; and
- The terms and conditions of any Online Policies, Guidelines and Procedures.

3. Term. This Agreement is effective from the date of Company's acceptance (the "**Effective Date**") and will have an initial term until the twelve (12) months immediately following the Effective Date ("**Initial Term**"). After the Initial Term, this Agreement shall automatically renew for successive one-year terms ("**Renewal Term**") (collectively, the "**Agreement Term**"); unless, however, before this Agreement automatically renews, either party gives no less than ninety (90) days' notice to the other party, that the Agreement will terminate at end of the then current-term.

4. Transactional Terms.

The following terms apply as indicated within the applicable Schedule(s).

a) **Payment.** All payments due hereunder must be made net thirty (30) days from the date of invoice. Juniper may require other payment arrangements and may further require a credit check. Unless otherwise stated herein, payments shall be made in U.S. dollars. Accounts past due are subject to a monthly charge of 1.5% or the maximum amount permitted by law, whichever is less, based on the outstanding overdue balance.

b) **Ordering.** Company must comply with the Purchase Order Requirements. Company's non-compliance with the Purchase Order Requirements may result in Juniper's rejection of Company's Purchase Order. Juniper will confirm its ability to meet Company's requested delivery dates or propose alternative dates. The planned delivery date is referred to as the "**Scheduled Delivery Date.**"

c) **Cancellations and Rescheduling.** Unless revisions are required by Juniper, Company may not cancel, reschedule, or otherwise modify Purchase Orders, in whole or in part, less than thirty (30) days prior to the Scheduled Delivery Date. Should a request for a cancellation or rescheduling received thirty (30) days or less prior to the Scheduled Delivery Date be approved by Juniper (in its sole discretion), the Hardware, Software, Cloud Services and/or Services will be subject to an order cancellation charge equal to ten percent (10%) of the purchase price.

d) **Delivery.** Except for purchases made indirectly through Authorized Resellers, Company understands and agrees that the terms below in this Section, as supplemented by the additional delivery terms posted in the Shipping Terms Exhibit as set forth at <https://www.juniper.net/Shipping-Terms-Exhibit> (the "**Shipping Terms Exhibit**"), are the sole and exclusive terms of delivery and supersede all additional or inconsistent terms of any Purchase Order or other ordering document.

e) **Taxes.** All prices payable under this Agreement are exclusive of Taxes and are paid net of any applicable withholding tax. The Company shall be responsible for paying Taxes arising from purchases of Hardware, Software, Cloud Services and/or Service. If applicable, valid exemption documentation for each taxing jurisdiction shall be provided to Juniper prior to invoicing. The Company shall: (i) promptly notify Juniper if its exemption is revoked or modified; (ii) render reasonable assistance to Juniper by promptly providing valid tax receipts and other required documentation of the payment of any withholding taxes; (iii) promptly provide any applications for reduced tax rates; and (iv) promptly notify and assist Juniper in any audit or tax proceeding, related to transactions hereunder; (v) comply with all applicable tax laws and regulations; and (vi), fully indemnify, defend and otherwise pay or reimburse Juniper for all costs and damages related to any liability incurred by Juniper as a result of the Company's non-compliance or delay with its responsibilities herein. Neither party shall be liable for taxes or assessments on the other Party's net income, gross income, capital, net worth, franchise, privilege, property, or any similar taxes or assessments.

5. Company Affiliates. Company guarantees the payment and performance of and shall remain liable for, and shall defend and indemnify Juniper against, any and all acts or omissions in violation of the terms of this Agreement by any Affiliate of the Company. If at any point during the Agreement Term, any Affiliate of the Company no longer meets the definition of an Affiliate, such Affiliate shall no longer be able to purchase under the terms of this Agreement.

6. Confidentiality

a) Scope. “Confidential Information” means all information disclosed, directly or indirectly, to the other party (the “Receiving Party”) and labeled as confidential or proprietary, stated at the time of oral disclosure to be confidential or proprietary, or by the nature of the information and the circumstances of the disclosure, the Receiving Party should reasonably infer to be confidential or proprietary. Confidential Information does not include information which: (i) is or becomes generally known through no fault of the Receiving Party; (ii) is known to the Receiving Party at the time of receipt, as evidenced by the Receiving Party’s records; (iii) is hereafter furnished to the Receiving Party by a third party as a matter of right and without restriction on disclosure; or (iv) is independently developed, as evidenced by contemporaneous records by the Receiving Party without use of or reference to such Confidential Information.

b) Protection. The Receiving Party will use a reasonable degree of care to maintain all Confidential Information to accomplish the purposes of this Agreement or as otherwise agreed in writing by the disclosing Party. The Receiving Party will not disclose to any third party nor use Confidential Information for any unauthorized purpose. The Receiving Party may only disclose Confidential Information: (i) to its employees and representatives that have a need to know to accomplish the purposes of this Agreement; and (ii) in response to a valid order of a court or other governmental body or as otherwise required by law to be disclosed, provided the Receiving Party, to the extent legally permissible, gives sufficient notice to the disclosing party to enable the disclosing party to take protective measures. Except as otherwise expressly set forth in this Agreement, no rights or licenses to intellectual property in Confidential Information is granted by either Party under this Agreement, whether express, implied or otherwise, to the other Party. The obligations imposed on the Receiving Party shall survive the expiration or termination of this Agreement.

c) Injunctive Relief. In the event of a threatened or actual breach of this Section 6, the non-breaching party shall be entitled to seek immediate injunctive or other equitable relief, in addition to, and not in lieu of, any other available remedies.

7. Data Protection. All data collected, processed, and/or used in connection with this Agreement is subject to the Juniper Privacy Policy. Juniper shall maintain appropriate administrative, physical, and technical safeguards for protection of the security, confidentiality, and integrity of End User Data as described in the User Guides and/or the applicable Documentation. To the extent End User Data includes Personal Data, as defined in the Data Protection Agreement (“DPA”) located at <https://www.juniper.net/us/en/privacy-policy/customer-dpa/>, the terms of the DPA are hereby incorporated by reference and shall apply.

8. Intellectual Property. Subject to the express rights and licenses granted by Juniper in this Agreement, Company acknowledges and agrees that: (i) any and all intellectual property rights in or to the Hardware, Software, Services, and/or Cloud Services are the sole and exclusive property of Juniper or its licensors; (ii) Company shall not acquire any ownership interest in any such intellectual property rights under this Agreement; and (iii) if Company acquires any intellectual property rights in or relating to any product or Services sold or licensed under this Agreement

(including any rights in any derivative works or patent improvements relating thereto), by operation of Law, or otherwise, such rights are deemed and are hereby irrevocably assigned to Juniper, without further action by either Party.

9. Company's Indemnity

a) Except to the extent caused by the gross negligence or willful misconduct of Juniper, its employees or agents, Company will indemnify, defend and hold harmless Juniper and its directors, officers, employees, shareholders, agents, and affiliates (the "Indemnitees") from any and all losses, damages, liabilities, judgments, settlements, interest, penalties, fines, costs, and expenses of whatever kind, including attorney's fees, arising out of any third-party claims arising out of or resulting from the following (whether actual or alleged): (i) fraud, misrepresentation, gross negligence, willful misconduct, or breach of or noncompliance with any provision of this Agreement; (ii) any false or inaccurate representation regarding an export license or the applicability or inapplicability of a license requirement or exception; (iii) violation of any applicable Laws, including without limitation any customs, export control, or sanctions laws or regulations; and/or (iv) any obligation for which Company maintains insurance.

THE INDEMNIFICATION OBLIGATIONS SET FORTH ABOVE SHALL APPLY IN EACH CASE WHETHER OR NOT CONTRIBUTED TO, OR CAUSED IN PART BY, THE ACTIVE OR PASSIVE NEGLIGENCE OR FAULT (OTHER THAN GROSS NEGLIGENCE OR WILLFUL MISCONDUCT) OF JUNIPER, ITS EMPLOYEES, OR AGENTS.

b) Notwithstanding anything to the contrary set forth above in this Section, (i) an Indemnitee may participate, at its own expense, in any defense and settlement directly or through counsel of its choice, and (ii) Company will not enter into any settlement agreement on terms that would diminish the rights provided to the Indemnitee, accept any liability, or increase the obligations assumed by the Indemnitee under this Agreement, without the prior written consent of the Indemnitee.

10. Intellectual Property Indemnity

a) Obligations. Subject to Section 11 below and the provisions of this Section 10, Juniper shall indemnify and defend any suit brought against Company to the extent that it is based upon a claim that a Juniper Hardware, Software, Service, and/or Cloud Service sold or licensed to Company under this Agreement infringes any third-party United States patent, copyright, or trademark ("IP Claims") and will pay all damages and costs that a court finally awards against Company as a result of such claim; provided, that Company: (i) as soon as possible but in any event within thirty (30) days of becoming aware of such claim (whether or not a claim has been filed): (1) gives Juniper written notice of such claim, and (2) furnishes Juniper with a copy of each communication, notice or other document relating to the claim; (ii) gives Juniper complete control of the defense and settlement of such claim; and (iii) gives all reasonable information and assistance in the defense or settlement of such claim at Company's expense. It is incumbent on Company to provide notice to Juniper as soon as it becomes aware of any potential claim, in order for Juniper to mitigate any potential damages.

b) Remedy. Should a Juniper Hardware, Software, Service, and/or Cloud Service become, or in Juniper's opinion, likely become the subject of an IP Claim, Juniper, at its option, may either: (i) procure for Company the right to continue using the Juniper Hardware, Software, Service, and/or Cloud Service, or (ii) replace or modify the allegedly infringing item to make it non-infringing provided material functionality is maintained. If, in Juniper's sole opinion, neither of the foregoing alternatives is commercially reasonable, Juniper will grant Company a refund of the purchase price of the relevant Hardware, Software, Service, and/or Cloud Service depreciated on

a five-year straight-line basis provided that Company, at Juniper's option, either returns the Product to Juniper, certifies the destruction thereof, or ceases to use the Service.

c) Exclusions. Juniper shall have no obligation or liability for, and Company shall indemnify Juniper and its Affiliates against, any claim of infringement which is based, in whole or in part, upon (i) the combination, operation or use of the Hardware, Software, Service, and/or Cloud Service with any hardware, software or service supplied by a party other than Juniper; (ii) any alteration or modification of the Hardware, Software, Service and/or Cloud Service which is not pre-approved by Juniper in writing; (iii) any non-Juniper hardware, software, or service; (iv) any specifications, designs or instructions provided to Juniper by or on behalf of Company; (v) Company's failure to promptly implement an update or modification to the Hardware, Software and/or Service (e.g., install a Supported Release) provided by Juniper; or (vi) use of the Hardware, Software, Service and/or Cloud Service in a manner other than which it was designed or in a manner other than as specified by Juniper; or (vii) any circumstance for which Company is obligated to indemnify any Indemnitee. Juniper shall not be obligated or responsible for any settlement entered into or damages arising from admissions by Company without Juniper's prior written consent.

THE INFRINGEMENT INDEMNITY SET FORTH IN THIS SECTION STATES JUNIPER'S ENTIRE LIABILITY AND OBLIGATION AND COMPANY'S SOLE REMEDY FOR CLAIMS OF INFRINGEMENT OR MISAPPROPRIATION OF THIRD-PARTY PATENT, COPYRIGHT, TRADEMARK, AND/OR OTHER INTELLECTUAL PROPERTY RIGHTS.

11. Limitation of Liability

IN NO EVENT SHALL JUNIPER OR ITS AFFILIATES HAVE ANY LIABILITY FOR ANY LOST PROFITS, LOSS OF DATA OR COSTS OF PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES, OR FOR ANY SPECIAL, INDIRECT, OR CONSEQUENTIAL DAMAGES ARISING OUT OF, OR IN CONNECTION WITH, THIS AGREEMENT, UNDER ANY THEORY OF LIABILITY, INCLUDING, WITHOUT LIMITATION, INDEMNIFICATION. THOSE RESULTING FROM THE USE OF HARDWARE, SOFTWARE, SERVICES, AND/OR CLOUD SERVICES PURCHASED HEREUNDER, OR THE FAILURE OF HARDWARE, SOFTWARE, SERVICES, AND/OR CLOUD SERVICES TO PERFORM, OR FOR ANY OTHER REASON. THESE LIMITATIONS SHALL APPLY NOTWITHSTANDING THE FAILURE OF THE ESSENTIAL PURPOSE OF ANY EXCLUSIVE OR LIMITED REMEDY. JUNIPER SHALL NOT HAVE ANY LIABILITY FOR THE ACTS OR OMISSIONS OF ANY THIRD PARTY (OTHER THAN FOR JUNIPER'S SUBCONTRACTORS).

JUNIPER'S AND ITS AFFILIATES' AGGREGATE LIABILITY ARISING OUT OF, OR IN CONNECTION WITH, THIS AGREEMENT AND/OR SALE OR LICENSING OF HARDWARE, SOFTWARE, SERVICES, AND/OR CLOUD SERVICES SHALL BE LIMITED TO THE GREATER OF \$100,000 OR THE AMOUNT PAID BY COMPANY FOR THE HARDWARE, SOFTWARE, SERVICES, AND/OR CLOUD SERVICES IN THE TWELVE MONTHS PRECEDING THE CLAIM IN QUESTION UP TO A MAXIMUM OF \$2,000,000.

12. Warranty Disclaimer. Except as expressly set forth in this Agreement, and to the extent permitted by applicable Law, Juniper (on behalf of itself and its Affiliates) EXPRESSLY DISCLAIMS ALL REPRESENTATIONS AND WARRANTIES, WHETHER EXPRESS, IMPLIED, STATUTORY, OR OTHERWISE, WITH REGARD TO THE HARDWARE, SOFTWARE, SERVICES, AND CLOUD SERVICES, INCLUDING WITHOUT LIMITATION ALL IMPLIED WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE, AND NON-INFRINGEMENT OF PROPRIETARY RIGHTS, ALL WARRANTIES ARISING FROM COURSE OF DEALING,

USAGE, OR TRADE PRACTICE, AND ALL WARRANTIES THAT THE HARDWARE, SOFTWARE, SERVICES, OR CLOUD SERVICES WILL MEET THE REQUIREMENTS OF COMPANY OR ANY OTHER PERSON OR ENTITY, BE AVAILABLE OR OPERATE WITHOUT INTERRUPTION, ACHIEVE ANY INTENDED RESULT, OR BE COMPATIBLE OR WORK WITH ANY SOFTWARE, SYSTEM, PRODUCT, OR SERVICE.

13. Termination

a) Termination for Convenience. Except for End Users, either Party may terminate this Agreement, in whole or in part (excluding the GTC), for its convenience upon thirty (30) days prior written notice to the other Party. Juniper will be entitled to payment for Purchase Orders that include Hardware, Software, and/or Cloud Services, that are accepted and shipped to, delivered to, or received by Company as of the date of termination. If Company terminates this Agreement, then Company will not be entitled to a refund or credit for any months remaining for any purchased Services. In the event that, following the termination of this Agreement and prior to the execution of any subsequent purchase or license agreement between the Parties, Company places Purchase Orders and Juniper accepts such Purchase Orders, then any such Purchase Orders shall be governed by the terms and conditions of this Agreement notwithstanding the earlier termination of this Agreement; provided, however, that acceptance by Juniper of any such Purchase Order will not be considered an extension of the term of this Agreement nor a renewal thereof.

b) Termination for Breach. If either Party breaches a provision of this Agreement and fails to cure such breach within 30 days after receiving written notice of the breach from the other Party, then the non-breaching Party shall have the right to terminate this Agreement at any time; provided if a breach cannot be cured within 30 days but is capable of cure, the breaching party shall not be in default if, within 30 days of receiving notice of breach, in good faith, it begins and continues to attempt to cure the breach. In such case, the breaching party shall have a reasonable time to cure the breach before being in default. Juniper shall be entitled to all such sums as are due in accordance with this Agreement for the delivered Hardware, Software, and Cloud Services, as well as Services performed and rendered up to the date of termination, such sums due and payable in accordance with the Agreement.

c) Survival of Provisions. With the exception of Section 10 above, the terms of the GTC shall survive termination hereof for any reason.

14. Services Suspension and Termination Rights. Except for Cloud Services, Juniper may suspend any unpaid Services with thirty (30) days' notice to the Company. Where the Company continues to be in default, Juniper may in addition to any other remedy, terminate those Services with or without notice to Company (or to any End User) in which case, Juniper will have no liability for ceasing the Services.

15. Miscellaneous

a) Governing Law. This Agreement shall be interpreted and governed by the laws of the State of California without regard to its conflict of laws principles or to the U.N. Convention on Contracts for the International Sale of Goods, the application of which is hereby excluded. For any disputes arising out of this Agreement, the Parties consent to the personal and exclusive jurisdiction of, and venue in, the state and federal courts within Santa Clara County, California.

b) Compliance with Laws; Export Requirements.

Company and its personnel shall always comply with the Compliance Rules.

In the course of Company's purchase, resale, or use (as applicable) of Hardware, Software, Cloud Services and/or Services, Company shall comply strictly with all export and import laws. In addition, Company shall fulfill the additional duties regarding export and import controls and trade sanctions as described in the applicable sections of the Export Notes attached as part of the Shipping Terms Exhibit (<https://www.juniper.net/assets/us/en/local/pdf/additional-resources/juniper-networks-shipping-terms-exhibit.pdf>.)

Company shall not directly or indirectly export, re-export, transfer, divert, release, or import Hardware, Software, Cloud Services and/or Services, to any other person or entity (nor make any use thereof) except with all required government approvals, permits, and licenses or as otherwise permitted under U.S. and other applicable Laws. Without limiting the foregoing, Company shall not export or re-export, directly or indirectly, any Hardware, Software, Cloud Services and/or Services to any Group E country (currently Syria, Cuba, Iran, North Korea) (Supp 1 to EAR Part 740) or the region of Crimea.

c) Force Majeure. Except for Company's payment obligations contained herein, neither Party will be responsible for any failure or delay in performance due to causes beyond its reasonable control, provided such Party promptly notifies the other Party in writing of such event.

d) Assignment. Company may not assign or delegate or otherwise transfer its licenses, rights, or duties under this Agreement except with the prior written consent of Juniper. Any attempted prohibited assignment will be void. Juniper may assign, sub-contract or delegate any or all of its rights and/or its obligations under this Agreement to any Affiliate of Juniper without the consent of Company. Subject to the foregoing, this Agreement shall be binding upon and inure to the benefit of the Parties hereto and their successors and assigns.

e) Notices. Any notices related to this Agreement must be in writing and sent by registered mail or receipted courier service, in the case of: (i) Juniper, to the Address Details; and (ii) the Company, to the address provided by the Company. Juniper may permit other notification methods as described in the Onboarding Information. Notices may also be posted on the relevant Juniper website.

f) Audit. Company will maintain accurate and legible records for a period of three years after the termination or expiration of the Agreement, and will grant to Juniper, or its designee, reasonable access to and copies of, any information reasonably requested by Juniper to verify compliance with the terms of this Agreement.

g) Severability; Remedies; Waiver. In the event that any one or more provisions contained herein shall be held by a court of competent jurisdiction to be invalid, illegal, or unenforceable in any respect, the validity, legality, and enforceability of the remaining provisions contained herein shall not in any way be affected or impaired. Except as otherwise expressly provided herein, the remedies contained herein are cumulative and in addition to any other remedies at law or equity. A Party's failure to enforce any provision of this Agreement shall not constitute a waiver of any future enforcement of that or any other provision of this Agreement.

h) No Third-Party Beneficiaries. With the exception of Section 2 (e) of the End User Schedule, this Agreement does not constitute a third party beneficiary contract and, unless expressly and specifically stated in this Agreement, shall not be construed to be for the benefit of any person or entity not a party hereto, and no such person or entity shall have any license, right, or claim in connection with this Agreement.

i) Guidelines and Policies. Juniper may at any time modify any Online Policies, Guidelines and Procedures effective when posted to the applicable site, provided that no such modification shall affect the provision of

Hardware, Software, Cloud Services and/or Services under any Purchase Order accepted by Juniper prior to the effective date of such modification. By ordering Hardware, Software, Cloud Services and/or Services under this Agreement, Company understands that it is bound by Juniper's then-current version of its Online Policies, Guidelines and Procedures.

j) Entire Agreement; Amendment. The terms and conditions contained in the Agreement, including the GTC and applicable Schedule(s), any Special Terms, Attachments, Online Policies, Guidelines and Procedures incorporated by reference herein, constitute the entire agreement between the Parties and supersede all previous and/or contemporaneous agreements and understandings, whether oral or written, between the Parties hereto with respect to the subject matter of this Agreement. No waiver, consent, modification, amendment or change of the terms contained herein shall be binding unless in writing and signed by the relevant authorized representatives of each of the Parties.

16. The English Version of Agreement Governs

The English language version of this Agreement constitutes the entire understanding and contract between the Parties and supersedes all prior agreements, commitments or representations between the Parties, whether oral or written, as well as any downloaded or translated version of this Agreement, whether or not such downloaded or translated version is signed (including by digital or other electronic means) by either Party. Any copy of this Agreement made by reliable means (for example, photocopy or facsimile) is considered an original.

END USER SCHEDULE

(Applies to all of End User's purchases of Hardware, Software, Cloud Services and/or Services for internal use)

1. Scope of Agreement. This End User Schedule is between Juniper and the End User that licenses the right to use the Software and/or access the Cloud Services, and purchases the Hardware and/or Services as part of a solution (collectively, "**Juniper Solutions**"), either (i) directly from Juniper, and/or (ii) indirectly through Authorized Resellers, solely for internal use and not for resale. The applicable sections below will govern the licensing and/or purchase of the applicable Juniper Solutions.

2. Terms for all Juniper Solutions

a) Transactional Terms. Section 4 of the GTC applies to direct Orders only and does not apply to End User orders from an Authorized Reseller.

b) Pricing. Unless purchasing or licensing via an Authorized Reseller, or as otherwise negotiated on a deal by deal basis and set forth in a Quote or Purchase Order acknowledgement, the purchase price for the Hardware, Software, Cloud Services, and/or Services is as set forth in Juniper's then current price list effective at the time an End User Purchase Order is accepted by Juniper.

c) Use of Third Party Products / Applicable Terms. For non-Juniper branded products and/or services delivered in connection with this End User Schedule, such third-party products and/or services shall be separately governed and licensed by the applicable third-party product and/or services terms and conditions. Such third-party terms and conditions shall supersede this End User Schedule for non-Juniper branded products and/or services. For

the avoidance of doubt, the third-party supplier of non-Juniper branded products and services shall be solely responsible for support, warranties, indemnities and other terms and conditions applicable to such products and services.

d) End of Life / End of Service. Juniper will provide End of Life (“EOL”) and End of Service (“EOS”) notifications to End User for discontinued Hardware, Software, Cloud Services, and/or Services, either directly or through an announcement posted on the Juniper website, in accordance with Juniper’s EOL/EOS Policies.

e) Third Party Licensors. To the extent that Juniper has embedded any third party software or components in any Juniper Solution, that third party licensor may enforce its license rights against the End User under the terms of this Agreement.

f) End of Entitlement. Upon cessation of the right to Use of Software or Cloud Services, End User shall promptly permanently delete, destroy or return all copies of the Software and any Confidential Information to Juniper, and End User shall, provide written certification that it has complied with this paragraph 2(f), if requested by Juniper.

3. Specific Terms for Hardware

a) Hardware Warranty Policy. The terms and conditions of the Juniper Product Warranty are available at <https://support.juniper.net/support/warranty/>.

b) Title Transfer. If End User decides to transfer title to its Juniper Platform, then it must remove all Software and/or Embedded Software before transferring title. All transferred Juniper Platforms and subsequent Software licensing are subject to the Service and Support Inspection and Reinstatement Policy.

4. Specific Terms for Services

a) Support Services (Maintenance Services, Advanced Services, Education Services). The following terms in this Section constitute the End User Support Agreement (“EUSA”) as referred to in the applicable Descriptive Content.

i. Service Term. Subject to Juniper’s acceptance of a valid Purchase Order from End User or an Authorized Reseller, the term of the applicable Service Contract will begin on: (1) the date of Purchase Order acceptance if the Purchase Order does not include the associated Hardware (if any) or the Service Contract is for Software only; (2) the date the Hardware is deemed delivered by Juniper if the Purchase Order for the Service Contract includes associated Hardware; or (3) the date as agreed to in writing between the Parties (including as quoted by Juniper and listed in the Purchase Order), if any, in which event such date shall supersede any date determined under (1) or (2).

ii. Renewal Term. The start date of the Service Contract following the initial Services term of the Services (and any subsequent renewal terms) will begin on the day after the immediately preceding Service Contract expired.

iii. Renewal Process. Subject to then applicable EOL/EOS Policies, no less than sixty (60) days prior to the expiration of the initial and subsequent Service Contract term, a notice of expiration and a Quote for the fees for the new Service Contract term will be provided by Juniper to End User or an Authorized Reseller. If End User wishes to purchase further Services, then End User shall provide a Purchase Order to Juniper or an Authorized Reseller, as per the Quote, to match the quotation on or before the expiration date of the then-current Service Contract term. Upon Juniper’s receipt of such Order, End User or an Authorized Reseller placing the Order shall be invoiced in accordance with the terms of this End User Schedule.

iv. Subcontracting. Juniper may subcontract with, or assign to, its Affiliates or other third parties the obligations for performance of any Services.

v. Descriptive Content. Scope and details of Support Service-specific terms are specified in the applicable Descriptive Content that is attached to or referred to in a Schedule or Quote, or is made available through the then-current Juniper website. The version of the applicable document that is effective as of the date of the applicable Quote, shall be deemed incorporated by reference into the Purchase Order.

vi. True Up. End User must promptly True Up any unpurchased Support Services rendered by Juniper.

b) Professional Services. End User may request on an “as-needed”, non-exclusive basis Professional Services. Where Juniper agrees to provide such Professional Services the Parties will mutually agree on a SOW, which shall include at a minimum: (i) a reasonably detailed description of the project or Professional Services to be performed; (ii) a schedule and completion date; (iii) the position description of who will perform the applicable Professional Services; (iv) an acceptance procedure for the Professional Services rendered; (v) a compensation and payment schedule; and (vi) the identity of the End User who will receive the benefit of the Professional Services. Where the Professional Services are provided to End User through an Authorized Reseller, the Authorized Reseller will deliver such services under a SOW as agreed between End User and such Authorized Reseller.

i. End User Obligations. End User: (1) shall be responsible for the accuracy and completeness of the information End User provides to Juniper; (2) agrees to provide all necessary direction and cooperation to enable Juniper to provide the Professional Services; and (3) agrees to provide instructions in a manner reasonably requested by Juniper and Juniper shall be entitled to act on any such instructions, whether provided verbally, electronically, or in writing by a person known to Juniper and that Juniper reasonably believes to be authorized to act on End User’s behalf or End User’s designee.

ii. Juniper Obligations. Juniper: (1) will not be responsible for any delays or liability arising from missing, delayed, incomplete, inaccurate or outdated information provided by End User, or if End User does not provide adequate access to its employees, agents, and other representatives necessary for Juniper to perform the Professional Services; and (2) represents and warrants that the Professional Services will be provided in a professional and workmanlike manner and performed in accordance with generally accepted industry standards; and (3) will be solely responsible for securing suitably trained and experienced personnel to perform Professional Services hereunder.

5. Specific Terms for Software and Cloud Services

a) License and Right to Use. Subject to the terms and conditions of this End User Schedule, Juniper grants End User a non-exclusive, non-transferable (subject to Section 5 b) below): (i) license to Use the Software, and (ii) right to Use the Cloud Services, during the License Term and/or Subscription Term, as applicable, for up to the Licensed Units. Licenses or rights to Use the Software and/or Cloud Services that are not expressly granted in this End User Schedule shall not arise by implication or otherwise and are hereby expressly reserved. End User shall have no right or license in the Software, nor a right to Use the Cloud Services, unless End User rightfully acquired the Software or purchased the right to Use the Cloud Services from an Approved Source. Unless expressly authorized by Juniper, Use of the Software and/or Cloud Services may not exceed the Licensed Units for such Software and/or Cloud Services.

b) General Restrictions. Unless expressly authorized by Juniper, or except to the extent transfer may not be legally restricted under applicable Law, End User shall not sublicense, transfer, or assign, whether voluntarily or by operation of law, any right or license in or to the Software and/or Cloud Services to any other person or legal entity, including an End User Affiliate, even if End User transfers title to the Juniper Platform or when a lease to any Juniper Platform ceases. Any such attempted sublicense, transfer, or assignment shall be void. Further, End User shall not: (i) directly or indirectly, decompile, disassemble, reverse engineer, modify, unbundle, detach or separate any part of or embed within, or create derivative works based on, any Software and/or Cloud Services; (ii) sell, resell, rent or lease any Software and/or Cloud Services; (iii) unless expressly authorized by Juniper, make any copies of Software and/or Cloud Services except as reasonably necessary for archival and "cold" back-up purposes, but not for failover or "warm" back-up purposes; (iv) remove (or, if the license includes the right to make copies of the Software, fail to include in those copies) any readme files, notices, disclaimers, marks, or labels included in or on the Software and/or any Juniper Platform as delivered by Juniper or any Juniper Authorized Reseller; and (v) Use or allow Use of the Software or Cloud Services in violation of any applicable Law or to support or facilitate any illegal activity.

c) Fulfillment Email and License Activation. To download purchased Software, or Use Cloud Services, End User must register with Juniper by name as the end user of the Software or Cloud Services. Juniper will send a Fulfillment Email to End User's email that is registered with Juniper or as provided by the End User on the Purchase Order. Juniper shall not be liable for acts and omissions of the Authorized Reseller, including but not limited to, the Authorized Reseller's failure to include End User's proper email address on the Purchase Order to Juniper. The Fulfillment Email will provide End User, or the Authorized Reseller, with details on how to activate and Use the Software or Cloud Services that End User has purchased.

d) Subscription Term. The applicable Subscription Term will be listed in the SKU. The Subscription start date will commence on the date of the Fulfillment Email. The Subscription will end at the expiration of the Subscription Term. Unless agreed to in writing, the Subscription will not automatically renew. For any new Subscription: (i) new Subscriptions can be purchased at any time, provided that such purchases are not for retroactive coverage; and (ii) upon End User's timely renewal of a Subscription, the start date of End User's renewed Subscription Term will be the day following the expiration of its then-current Subscription Term.

e) Expired Subscription Renewals. For all Subscriptions that have lapsed: (i) Subscription renewals will be backdated to the day following the end of the expired Subscription term; and (ii) after a thirty (30) day lapse, access to the Software and/or Cloud Services may be disabled, Cloud Service functionality may be reduced or limited to read only access, and/or End User's right to Use will be revoked. If access is disabled due to a lapse of thirty (30) days, then End User must purchase a new Subscription to resume the Cloud Service. Expired Subscription renewals are subject to the Service and Support Inspection and Reinstatement Policy.

f) Non-Commercial Purposes/Trial Terms. Software or Cloud Services that are licensed for non-commercial purposes, including but not limited to trial, demonstration, education, or for End User's internal testing and lab purposes ("**Non-commercial Purposes**") are provided by Juniper "AS IS WITH ALL FAULTS AND WITHOUT EXPRESS OR IMPLIED WARRANTIES, CONDITIONS, OR REMEDIES and shall be offered free of charge until the earlier of: (i) cancellation of the free trial of Software or Cloud Services in Juniper's sole discretion and without notice; (ii) expiration of the free trial of Software or Cloud Services, time-limited by Juniper under additional trial terms; (iii) if applicable, the Client Software, is no longer a supported release under an active Service Contract under the terms of this End User Schedule or, to the extent applicable, an accepted agreement for Software

support and Maintenance Services between End User and Juniper; or (iv) the start date of any purchased Software or Cloud Services ordered by End User. In no event shall Juniper have any obligation to continue nor any obligation to renew any Software License or Cloud Service Subscription used for Non-commercial Purposes. Software and/or Cloud Services that have been licensed for Non-commercial Purposes shall not be Used in a production environment. Additional trial terms and conditions may appear on an applicable Juniper registration web page. Any such additional terms and conditions are incorporated into this End User Schedule by reference and are legally binding.

g) Federal Government End User Provisions. The Software and Cloud Services herein constitute “commercial items” and include “commercial computer software” and “commercial computer software documentation.” Pursuant to Federal Acquisition Regulations 12.211 and 12.212 or Defense Federal Acquisition Regulation Supplement 227.7102-1 and 227.7202-3, as applicable, and Department of Defense transactions DFAR 252.227-7015, as applicable, the U.S. Government shall have only the license rights in technical data, computer software, and computer software documentation specified in this Agreement, and no Authorized Reseller may agree to grant End User any rights in Juniper’s technical data inconsistent with this Agreement. Any provisions within this Agreement that are inconsistent with federal procurement regulations are not enforceable against the U.S. Government. If a government agency has a need for rights not conveyed under these terms, it must negotiate with Juniper to determine if there are acceptable terms for transferring such rights, and a mutually acceptable written addendum specifically conveying such rights must be included in any applicable contract or agreement.

h) Data Protection. In connection with End User’s use of Software and/or Cloud Services, Juniper collects and uses Processed Data in accordance with the Juniper Privacy Policy. By using the Software and/or Cloud Services, End User agrees to allow Juniper to collect and use Processed Data as contemplated in this Agreement.

i) Software Warranty and Performance. The terms and conditions of the Juniper Product Warranty applicable to Software are available at <https://support.juniper.net/support/warranty/>. During the Subscription Term, Juniper will provide the Cloud Services with commercially reasonable care in material conformance with the Documentation and Descriptive Content.

6. Supplemental terms for Software

a) Scope. The terms in this Section apply solely to End User’s licensing of Software.

b) Software Use. End User may Use the Software on any device that supports it, EXCEPT: (i) Software under an Embedded Software License; (ii) for operating system Software that is licensed and purchased separately from the Juniper Platform, which, assuming such operating system Software is under an effective warranty or Maintenance Services agreement, may only be Used on a replacement Juniper Platform (obtained from Juniper or an Authorized Reseller) in the event of a Hardware failure (with prompt written notice to Juniper); (iii) for Software and its Updates that End User accesses through a Commercial Cloud Service provider acting as an Authorized Reseller or other Juniper-authorized Commercial Cloud Service provider, in which case End User shall be entitled to access and Use only such Software Instance(s) as may be provisioned for End User in the Commercial Cloud Service environment and End User’s right to Use shall be solely through the Commercial Cloud Service; or (iv) as otherwise agreed to in a written amendment to this End User Schedule or as set forth in any custom terms between the Parties).

- c) Software Updates. Juniper grants End User a license and right to use, solely during the Perpetual License term or Subscription Term, Updates made available as part of Maintenance Services contracted for such Software license or Juniper Platform (for Embedded Software Licenses and its associated Feature Set Licenses), for up to the Licensed Units. Each Update, if any, shall be subject to the same terms and conditions as the Software to which such Update pertains.
- d) Source Code. In the limited event that licensed Software includes source code, such source code is provided for reference purposes only unless expressly licensed otherwise by Juniper or its licensors.
- e) Perpetual Licensing. Subject to End User's compliance with the terms of this End User Schedule, Software with a Perpetual License will be licensed to End User for a perpetual License term. The perpetual License term will commence on the date that: (i) for Embedded Software or bundled Software with a Hardware component, the Hardware component is delivered; or (ii) in all other cases, Juniper sends End User the associated Fulfillment Email.
- f) License Compliance Management. End User shall track its Use of Juniper Software in order to True Up unlicensed use and/or use of a specific Juniper Licensing model. Such tracking may be managed by: (i) the Juniper Agile Licensing ("JAL") License Manager tool; (ii) a successor tool provided by Juniper; or (iii) by End User's manual tracking.
- g) Java Trademark Guidelines. End User must: (i) comply with the Java Trademark Guidelines; (ii) not do anything harmful to, or inconsistent with, the rights of the Java Rightsholder; and (iii) assist the Java Rightsholder in protecting and restoring its rights, to the extent that the Software contains Java.
- h) Use of Software with Third Party Cloud Services. End User's right of access and Use of the Software as part of a third party cloud service is subject to the ongoing validity and compliance with the applicable third party cloud service terms of use imposed by the third party cloud service provider. Termination, suspension, or unavailability of the third party cloud service is at End User's own risk and End User acknowledges that Juniper shall have no liability or duty arising out of any such termination, suspension or unavailability. For purposes of clarity, if End User uses the Software with a Juniper Cloud Service, then such Cloud Service will be subject to Section 7 of this Schedule below.

7. Supplemental terms for Cloud Services

- a) Cloud Service Subscriptions. If End User purchases Cloud Services, Juniper will provide End User with a Subscription for non-perpetual Cloud Services, that includes Support Services as defined in the applicable CSD. Juniper reserves all rights, title and interest in and to the Cloud Services, including all related intellectual property rights. No rights are granted to End User hereunder other than as expressly set forth herein.
- b) End User's Responsibilities. End User shall: (i) require its Users' compliance with this End User Schedule; (ii) if applicable, be solely responsible for the accuracy, quality, integrity and legality of End User Data and of the means by which End User acquired End User Data; (iii) prevent unauthorized Use of the Cloud Services, and notify Juniper promptly both orally and in writing of any such unauthorized Use; (iv) Use the Cloud Services only in accordance with the User Guides, CSDs, and applicable Laws; (v) obtain any and all third party consents necessary for the use and processing of End User Data in connection with Cloud Services as contemplated in this Agreement; (vi) if applicable, maintain the supported release of the Client Software and also maintain the Juniper Hardware and/or Software, if any, connected with the Cloud Service under the terms of the applicable

Descriptive Content; and (vii) Use the Cloud Services with only appropriately licensed and/or Juniper approved third party software and technology. If the Cloud Service is made available as a feature of a Juniper Solution, the Juniper Solution(s) is/are not provided as a part of the Cloud Service and must be purchased separately from Juniper or an Authorized Reseller. Unless the Cloud Service is a security Cloud Service, to the extent that the Cloud Service includes security features and functionalities, End User will not rely on the Cloud Service as End User's network's sole, complete, or timely source of protection from network security threats, including but not limited to, Malicious Code.

c) Additional Cloud Service Restrictions. End User shall not: (i) authorize or allow any person's or entity's direct or indirect access to the Cloud Services (or Use the Cloud Services) other than a User or Users acting for End User's sole benefit in furtherance of End User's internal business operations; (ii) Use the Cloud Services with third party products other than those for which the Cloud Services were purchased or otherwise intended to be used with the Cloud Services, as provided by Juniper in any of the applicable Documentation; (iii) Use the Cloud Services to store or transmit infringing, libelous, or otherwise unlawful or tortious material, or to store or transmit material in violation of third-party privacy rights; (iv) Use the Cloud Services to store or transmit Malicious Code (except to the extent that the Cloud Services include malware scanning, security screening or other threat detection features, such as the option for End User to submit custom threat feeds); (v) interfere with or disrupt the integrity or performance of the Cloud Services or third-party data contained therein; (vi) attempt to gain unauthorized access to the Cloud Services or their related systems or networks; (vii) permit any third party to access the Cloud Services except as permitted herein; or (viii) allow any individual, entity or organization to gain access to the Cloud Service if End User knows, or has reason to believe, that such individual, entity or organization is (or is acting on behalf of) either: (1) any individual, entity or organization identified as a sanctioned party on any list maintained and published by the U.S. Department of Treasury, Office of Foreign Asset Control, or on any similar list of sanctioned parties published by an agency of the US, the EU or any member country of the EU; or (2) an entity or organization 50% or more controlled, directly or indirectly, by a party so listed.

Juniper reserves the right, without liability, to disable End User's access to the Cloud Services in the event of any material breach by End User or its Users or anyone on End User's behalf, of the provisions set forth in this Section.

d) Network Connection. End User shall be solely responsible for procuring and maintaining End User's network connections and telecommunication links from End User's systems to Juniper's servers from which the Cloud Services are accessed. End User shall be solely liable for problems, conditions, delays, delivery failures and all other loss or damage arising from or relating to End User's network connections or telecommunications links, or internet connection.

e) Cloud Service Subscription Activations. For Cloud Services that are purchased as part of a Juniper Solution that includes Hardware, or purchased as standalone Cloud Services, the Subscription Term begins upon delivery of the Fulfillment Email to End User.

f) Cloud Service Subscription Cancellations. Pre-paid Subscriptions to Cloud Services are non-cancellable and non-refundable unless such cancellation is due to Juniper's uncured breach of these terms of this End User Schedule, in which case End User shall be entitled to a pro-rata refund taking into account the remaining term of such Cloud Services at the time of such cancellation.

g) Cloud Services Provided Through Software. Depending upon the Cloud Service purchased, as described within the applicable User Guides, the Cloud Services may be provided through licensed Software which is subject to the End User Software licensing terms in this End User Schedule.

h) Descriptive Content. The scope and details of Cloud Service-specific terms are specified in the applicable Descriptive Content that is attached to or referred to in a Schedule and/or Quote or is made available through the then-current Juniper website. The version of the applicable document that is effective as of the date of the applicable Quote, shall be deemed incorporated by reference into the Purchase Order.

GLOSSARY

A. Definitions applicable to the General Terms and Conditions

“Address Details” means the Juniper corporate address as set forth at <https://www.juniper.net/us/en/contact-us/corporate-counsel/>, but does not include any email address (if listed).

“Advanced Services” means the resident engineer services and resident consulting services, as well as other services posted at <https://support.juniper.net/support/guidelines/> and provided by Juniper.

“Affiliate” of a party means, any entity and its successors controlled by, controlling, or under common control with, such party, where "control" in any of the foregoing forms means ownership, either direct or indirect, of more than 50% of the equity interest entitled to vote for the election of directors or equivalent governing body. An entity shall be considered an Affiliate only so long as such entity continues to meet the foregoing definition.

“Agreement” has the meaning set forth in the Preamble.

“Agreement Term” has the meaning set forth in Section 3 of the GTC.

“Authorized Reseller” means a reseller of Juniper Hardware, Software, Services and/or Cloud Services that sells Juniper Hardware, Software, Services and/or Cloud Services contracts to End Users pursuant to a valid contract with Juniper to conduct such resale activities.

“Business Partner Code of Conduct” means the code of conduct which is located and accessible at <http://www.juniper.net/assets/us/en/local/pdf/additional-resources/business-partner-code-of-conduct.pdf>.

“Channel Schedule” means the terms and conditions applicable to Authorized Resellers only.

“Cloud Services” means online services provided over the Internet by Juniper to which Sections 5 and 7 of the End User Schedule applies.

“Codes” means: (a) Juniper’s Business Partner Code of Conduct; and (b) any other policies, guidelines or references that Juniper makes available to Company from time to time.

“Company” means the Party referenced in the Preamble purchasing and/or licensing Hardware, Software, Services and/or Cloud Services from Juniper hereunder.

“Compliance Rules” means: (a) Laws; (b) any legislation or regulation with respect to anti-bribery, anti-slavery, anti-corruption (including the U.S. Foreign Corrupt Practices Act and the UK Bribery Act) or anti-terrorism; and (c) any Codes.

“Confidential Information” has the meaning set forth in Section 6 of the GTC.

“CSD” or “Cloud Service Description” means a Cloud Service Description, including but not limited to: the incorporated Support Services with any Cloud Service, Juniper’s obligations in providing the Cloud Service, and Cloud Service specific privacy and data protection information posted at <http://www.juniper.net/support/guidelines.html> and referencing this Agreement as governing terms for the Cloud Services described therein.

“Descriptive Content” means materials, documentation, and information that describes the Hardware, Software, Services, and/or Cloud Services as made available by Juniper from time to time, and includes “Data Sheets,” “Service Description Document(s),” or “Cloud Service Description(s)”.

“Documentation” in any form whatsoever, means any Juniper manuals, materials, guides, specifications, tables, charts, diagrams, pictures, schematics, plans, methods, reports or testing procedures, and any information required for training or education purposes and includes any updates, changes, or derivatives of any of the foregoing.

“DPA” has the meaning set forth in Section 7 in the GTC.

“Education Services” means training and education services provided by Juniper.

“Effective Date” has the meaning set forth in Section 3 in the GTC.

“End User” means the person or organization that originally purchases, leases or licenses Hardware, Software, Services and/or Cloud Services from Juniper or an Authorized Reseller for use in such person’s or organization’s own business operations and not for further distribution or sale.

“End User Data” means all information submitted by Company to Juniper and may include third party data that Company submits to Juniper.

“End User Schedule” means the terms and conditions applicable to End Users only.

“Hardware” means the physical components of Juniper’s equipment delivered in connection with this Agreement.

“Indemnitees” has the meaning set forth in Section 9 of the GTC.

“IP Claims” has the meaning set forth in Section 10 of the GTC.

“Juniper” means, if Hardware, Software, Services and/or Cloud Services are shipped, rendered, delivered or deployed by Juniper or an Authorized Reseller to a location in: (a) North America, Central America or South America, Juniper Networks (U.S.), Inc; (b) United Kingdom, Juniper Networks (U.K.) Limited; (c) India, Juniper Networks Solution India Private Limited; (d) Australia, Juniper Networks Australia Pty Ltd; or where a location is not listed above, Juniper Networks International B.V., and in the case of on-site Services, exclusively means the local Juniper Contracting Entity.

“Juniper Contracting Entity” means the Affiliate of Juniper that is the Juniper signatory to the Statement of Work.

“Juniper Privacy Policy” means the Juniper Privacy Policy posted at the following URL: <https://www.juniper.net/us/en/privacy-policy/>.

“Laws” means laws, ordinances, codes, rules, standards, and regulations of any territory or jurisdiction.

“Maintenance Services” means the technical support services and maintenance provided by Juniper as fully described in the applicable SDD or CSD.

“Onboarding Information” means information that Juniper provides to the Company (as updated from time to time) for the purposes of transacting under this Agreement and, in the case where Company provides information to Juniper, may include End User Data.

“Online Policies, Guidelines and Procedures” means, without limitation, any policies, guidelines, or procedures, that are applicable to any Hardware, Software, Cloud Services, and Services, or that are referenced in this Agreement and that are posted at Juniper’s website, www.juniper.net.

“Party” and “Parties” have the meaning set forth in the Preamble.

“Professional Services” means plan, build, migration and optimization services set forth in a Statement of Work.

“Purchase Order” or “Order” means an Order issued to and accepted by Juniper which is fully authorized by a Company representative and subject to the terms and conditions of this Agreement.

“Purchase Order Requirements” means the Purchase Order Requirements located at <https://partners.juniper.net/partnercenter/sales/product-ordering/>.

“Preamble” means the terms and conditions contemplated before Section 1 of the GTC.

“Quote” means a Juniper quotation issued to the End User or the Authorized Reseller.

“Receiving Party” has the meaning set forth in Section 6 of the GTC.

“Schedule” means the Channel Schedule and/or the End User Schedule attached to these General Terms and Conditions.

“SDD” or “Services Description Document” means a Services Description Document posted at <http://www.juniper.net/support/guidelines.html> and referencing this Agreement as governing terms for the services described therein.

“Services” means collectively Maintenance Services, Advanced Services, Education Services, and Professional Services.

“Shipping Terms Exhibit” has the meaning set forth in Section 4 of the GTC.

“Special Terms” has the meaning set forth in Section 2 of the GTC.

“Software” means the Juniper machine-readable object code and accompanying activation keys, if any, made available under this Agreement, whether incorporated in the Hardware (e.g., firmware) or delivered

separately, and includes Software Releases and any Updates of that Software the End User is entitled to through Maintenance Services.

“Software Release” means a new production version of the Software.

“Statement of Work” or “SOW” means the scope and details of customized Professional Services documented in a mutually agreed to Statement of Work entered into in connection with this Agreement.

“Supported Release” means the version of the Software and certain prior versions of the Software as set forth in Juniper’s then current EOL/EOS Policies.

“Tax” or “Taxes” means all taxes, levies, imposts, all custom duties, tariffs, import fees, fines or other charges of whatsoever nature however imposed by any jurisdiction, country or any subdivision or authority thereof in any way connected with this Agreement or any instrument or agreement required hereunder, and all interest, penalties or similar liabilities with respect thereto, except such taxes as are imposed on or measured by a Party’s net income or property.

“Update” is defined in the Service Description Document that pertains to the Maintenance Services purchased or included with the Software, as applicable.

B. Definitions applicable to the End User Schedule

“Approved Source” means Juniper or an Authorized Reseller.

“Client Software” means the portion of the Software which enables End User to access, manage or utilize the Cloud Service.

“Commercial Cloud Service(s)” means a service offered and administered by Juniper, or an authorized third party, whereby End User may without downloading or otherwise taking delivery of a copy of the Software use and access Instances of Software running in a virtual machine environment resident in a networked cloud facility or group of facilities.

“Embedded Software” means the operating system Software pre-installed on the Juniper Platform, and is required for the proper functioning of the Juniper Platform and/or for the proper functioning of the cloud services purchased in connection with the Juniper Platform.

“Embedded Software Licenses” means the limited right to Use the Embedded Software and included in the purchase of the Juniper Platform but does not include the right to Use Separately Licensable Features and may not be used in excess of the Licensed Units identified in the SKU for the Juniper Platform. Embedded Software Licenses are Perpetual unless the Juniper Hardware is leased or provided for demonstration purposes, in which case the Embedded Software License term shall follow the lease term or demonstration period and shall terminate automatically upon the expiration of the lease term or demonstration period.

“Embargoed Region” means a country or region subject to comprehensive embargo under US or Netherlands law or regulation or that is classified under US Export Administration Regulations (EAR) as a Group E:1 or E:2 country (see US EAR Supplement No. 1 to Part 740). Regions qualifying under this definition of Embargoed Region as of January 2018 include Cuba, Iran, North Korea, Syria, and the region of Crimea.

“End User Data” means all information submitted by End User to the Cloud Services and may include third party data that End User submits to the Cloud Services.

“EOL/EOS Policies” means policies and guidelines published at <https://www.juniper.net/support/eol/#> pertaining to product end of life notifications, last order date, end of engineering support, end of support, and like product end of life milestones for Juniper Hardware, Software, Services, and/or Cloud Services.

“Feature Set License” means the limited right to Use solely the certain set of features and functionalities of the Software as described in the Fulfillment Email and SKU, regardless of whether any additional feature or functionality is unlocked and thus accessible to End User in the Software. Feature Set Licenses may also be combined with other Juniper Software licenses.

“Fulfillment Email” means the email document that confirms the End User’s purchase of the Software Licenses and/or the Cloud Service for the associated Subscription Term, SKU(s) and, if applicable, contains the activation code or license key, respectively for Software Licenses and/or the Cloud Service, and may be sent by Juniper to (a) the End User directly; or (b) the Authorized Reseller transacting with the End User.

“Instance” means each time the Software runs on any device.

“Java Rightsholder” means Oracle America, Inc.

“Java Trademark Guidelines” are available at <http://www.oracle.com/us/technologies/java/java-licensing-logo-guidelines-1908204.pdf>.

“Juniper Platform” means any Juniper-provided, but not any third-party-provided, Hardware.

“Juniper Solutions” has the meaning set forth in Section 1 of the End User Schedule.

“License Metric” means a unit of measurement that restricts the scope of use of the Software (e.g., Feature Set License, Instance, Network Element or Node, Session Socket or CPU Socket or Throughput or any other unit of measurement set forth in a SKU) or Fulfillment Email).

“License Term” means the period of time that the Software is licensed to be Used by End User, subject to the terms and conditions of this Agreement.

“Licensed Units” mean a number of units under a License Metric that limits the Use of the licensed Software or use of the Cloud Services (e.g. 10M, 50 Nodes, 1000 Sessions or any other units under a License Metric set forth in a SKU or Fulfillment Email) as set forth in the Fulfillment Email.

“Malicious Code” means viruses, worms, time bombs, trojan horses and other harmful or malicious code, files, scripts, agents, programs, or any identifying information or other metadata associated with them, such as suspected malicious website, URL, or IP addresses.

“Network Element” or “Node” means a physical or virtual device that is recognizable by the Software as a unique device that the Software may directly or indirectly administer, monitor, manage, provision, or configure.

“Non-commercial License” means Software that is used for Non-commercial Purposes.

“Non-commercial Purposes” has the meaning set forth in Section 7.

“Perpetual License” means a license that continues until the first to occur of termination by Juniper or End User’s violation of any term or condition of this Agreement, unless such violation is waived in writing by Juniper, and does not include a Subscription License or a Non-commercial License.

“Processed Data” means information about End User’s devices or systems generated or otherwise provided in connection with End User’s usage of the Cloud Service, as well as any network management information or configuration data generated or otherwise provided from the use of End User’s Processed Data with the Cloud Service.

“Separately Licensable Features” means specific features and functionalities of the Software that may only be Used if a Feature Set License is obtained and such features and functionalities are expressly set forth in a SKU) or Fulfillment Email.

“Session” means a stateful information exchange connection established for communication between two devices through a gateway.

“Service and Support Inspection and Reinstatement Policy” means Juniper’s Service and Support Inspection and Reinstatement Policy that can be accessed at <https://support.juniper.net/support/pdf/guidelines/990222.pdf>.

“Service Contract” means a contract for Support Services provided directly by Juniper to the End User as more fully described in the relevant Services Description Document (“SDD”) or Cloud Services Description (“CSD”) posted at <http://www.juniper.net/support/guidelines.html> (and any reference to the ‘End User Support Agreement or ‘EUSA’ in a SDD or CSD is a reference to the applicable terms and conditions within this Schedule), and itemized in a Quote and/or Purchase Order as applicable.

“SKU” means a stock-keeping unit or unique identifier for each distinct product and service that can be purchased and any summary description of such product or service associated therewith.

“Socket” or “CPU Socket” means a mechanical component that provides electrical connectivity between a microprocessor and a printed circuit board.

“Subscription” means a license to Use the Software and/or Cloud Services with accompanying Maintenance Services solely during a fixed Subscription Term, unless terminated earlier by Juniper pursuant to the terms and conditions of this Agreement.

“Subscription Term” means the period of time during which a Software subscription or Cloud Services subscription is active, as set forth in the Fulfillment Email.

“Support Services” means collectively Maintenance Services, Advanced Services, and Education Services.

“Throughput” means the maximum possible bits of inbound data traffic capable of being processed per second by an Instance of Software. A Throughput license may not be split across multiple Instances. Throughput licenses will be identified in the SKU description and Fulfillment Email in units of megabits per second (Mbps or M), gigabits per second (Gbps or G), or terabits per second (Tbps or T).

“True Up” means an End User accounting and payment for all deployments or Use of unpurchased or unlicensed Juniper Hardware, Software, Services and/or Cloud Services.

“Update” is defined in the Service Description Document that pertains to the Maintenance Services purchased or included with the Software, as applicable, and any End User rights to Use apply only to the: (a) active or deployed Update; or (b) then-current Update.

“Use” and “Used” means, in the case of: (a) Software, to install, utilize, access, activate, or view the Software in executable form; or (b) Cloud Service, to access or consume that Cloud Service.

“User Guide” means the online user guide, technical guide, data sheets, and/or CSD for the Cloud Services, accessible via a Juniper designated website as updated from time to time.

“Users” means individuals who: (a) are authorized by End User to use on End User’s behalf the Software or Cloud Services for which Subscriptions have been purchased by End User or as part of a free trial; and (b) include, without limitation, end users, employees, consultants, contractors and agents with which End User transacts business.