



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

Solicitation

NUMBER
COR61681

PAGE
1

ADDRESS CORRESPONDENCE TO ATTENTION OF:
TARA LYLE 304-558-2544

RFQ COPY

TYPE NAME/ADDRESS HERE

V
E
N
D
O
R

Vology, Inc.
4027 Tampa Road
Suite 3900
Oldsmar, Florida 34677

SHIP
TO
DIVISION OF CORRECTIONS
1409 GREENBRIER ST
CHARLESTON, WV
25311 304-558-8045

DATE PRINTED
03/13/2014

BID OPENING DATE: 04/03/2014

BID OPENING TIME 1:30PM

LINE	QUANTITY	UOP	CAT. NO.	ITEM NUMBER	UNIT PRICE	AMOUNT
THE WEST VIRGINIA PURCHASING DIVISION FOR THE AGENCY, WV DIVISION OF CORRECTIONS, IS SOLICITING BIDS TO PROVIDE NETWORK SWITCHES AND INTERFACE CONVERTERS, PER THE ATTACHED SPECIFICATIONS.						
ATTACHMENTS INCLUDE:						
1. INSTRUCTIONS TO VENDORS SUBMITTING BIDS						
2. GENERAL TERMS AND CONDITIONS						
3. COR61681 SPECIFICATIONS						
4. CERTIFICATION AND SIGNATURE PAGE						
5. PURCHASING AFFIDAVIT						
6. RESIDENT VENDOR PREFERENCE (RVP) FORM						
04/17/14 09:42:57AM West Virginia Purchasing Division						
0001	EA 45		205-16		see Appnx	B
NETWORK SWITCHES						
0002	EA 65		205-16		see Appnx	B
NETWORK SWITCHES						
0003	EA 220		205-16		see Appnx	B
INTERFACE CONVERTERS						

SIGNATURE	TELEPHONE (813) 990-6878	DATE 4/16/14
TITLE Gov. Account Mgr.	FEIN 59-3760915	ADDRESS CHANGES TO BE NOTED ABOVE

WHEN RESPONDING TO SOLICITATION, INSERT NAME AND ADDRESS IN SPACE ABOVE LABELED 'VENDOR'



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

Solicitation

NUMBER
COR61681

PAGE
2

ADDRESS CORRESPONDENCE TO ATTENTION OF
TARA LYLE 304-558-2544

RFQ COPY

TYPE NAME/ADDRESS HERE

V
E
N
D
O
R

Vology, Inc.
4027 Tampa Road
Suite 3900
Olathe, Florida 34677

DIVISION OF CORRECTIONS

S
H
I
P
T
O

1409 GREENBRIER ST
CHARLESTON, WV
25311 304-558-8045

DATE PRINTED
03/13/2014

BID OPENING DATE: 04/03/2014

BID OPENING TIME 1:30PM

LINE	QUANTITY	UOP	CAT. NO.	ITEM NUMBER	UNIT PRICE	AMOUNT
0004	EA 110 WARRANTY 24X4X7		939-22		Sec Appx	B
***** THIS IS THE END OF RFQ COR61681 ***** TOTAL:						213,048.16

SIGNATURE	TELEPHONE 813-990-6878	DATE 4/16/14
TITLE Gov. Asst. Mgr.	FEIN 593760415	ADDRESS CHANGES TO BE NOTED ABOVE

WHEN RESPONDING TO SOLICITATION, INSERT NAME AND ADDRESS IN SPACE ABOVE LABELED 'VENDOR'

INSTRUCTIONS TO VENDORS SUBMITTING BIDS

1. **REVIEW DOCUMENTS THOROUGHLY:** The attached documents contain a solicitation for bids. Please read these instructions and all documents attached in their entirety. These instructions provide critical information about requirements that if overlooked could lead to disqualification of a Vendor's bid. All bids must be submitted in accordance with the provisions contained in these instructions and the Solicitation. Failure to do so may result in disqualification of Vendor's bid.
2. **MANDATORY TERMS:** The Solicitation may contain mandatory provisions identified by the use of the words "must," "will," and "shall." Failure to comply with a mandatory term in the Solicitation will result in bid disqualification.
3. **PREBID MEETING:** The item identified below shall apply to this Solicitation.
 - ☒ A pre-bid meeting will not be held prior to bid opening.
 - ☐ A **NON-MANDATORY PRE-BID** meeting will be held at the following place and time:

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

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

An attendance sheet provided at the pre-bid meeting shall serve as the official document verifying attendance. The State will not accept any other form of proof or documentation to verify attendance. Any person attending the pre-bid meeting on behalf of a Vendor must list on the attendance sheet his or her name and the name of the Vendor he or she is representing. Additionally, the person attending the pre-bid meeting should include the Vendor's E-Mail address, phone number, and Fax number on the attendance sheet. It is the Vendor's responsibility to locate the attendance sheet and provide the required information. Failure to complete the attendance sheet as required may result in disqualification of Vendor's bid.

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

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

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

Question Submission Deadline: March 26, 2014 by 5:00 pm

Submit Questions to: Tara Lyle, File 32

2019 Washington Street, East
Charleston, WV 25305

Fax: 304-558-4115

Email: Tara.L.Lyle@wv.gov

5. **VERBAL COMMUNICATION:** Any verbal communication between the Vendor and any State personnel is not binding, including that made 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 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 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

The bid should contain the information listed below on the face of the envelope or the bid maynot be considered:

SEALED BID

BUYER: State of West Virginia Department of Administration

SOLICITATION NO.: COR61681

BID OPENING DATE: 04/17/2014

BID OPENING TIME: 1:30PM

FAX NUMBER: (813) 490-7090

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: ☐ 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 time stamped by the official Purchasing Division time clock.

Bid Opening Date and Time: April 3, 2014 at 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.

GENERAL TERMS AND CONDITIONS:

1. **CONTRACTUAL AGREEMENT:** Issuance of a Purchase Order 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 **"Contract"** means the binding agreement that is entered into between the State and the Vendor to provide the goods and services requested in the Solicitation.
 - 2.3 **"Director"** means the Director of the West Virginia Department of Administration, Purchasing Division.
 - 2.4 **"Purchasing Division"** means the West Virginia Department of Administration, Purchasing Division.
 - 2.5 **"Purchase Order"** 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 successful bidder and Contract holder.
 - 2.6 **"Solicitation"** means the official solicitation published by the Purchasing Division and identified by number on the first page thereof.
 - 2.7 **"State"** means the State of West Virginia and/or any of its agencies, commissions, boards, etc. as context requires.
 - 2.8 **"Vendor" or "Vendors"** means any entity submitting a bid in response to the Solicitation, the entity that has been selected as the lowest responsible bidder, or the entity that has been awarded the Contract as context requires.

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

☐ **Term Contract**

Initial Contract Term: This Contract becomes effective on

and extends for a period of _____ year(s).

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

Reasonable Time Extension: At the sole discretion of the Purchasing Division Director, and with approval from the Attorney General's office (Attorney General approval is as to form only), this Contract may be extended for a reasonable time after the initial Contract term or after any renewal term as may be necessary to obtain a new contract or renew this Contract. Any reasonable time extension shall not exceed twelve (12) months. Vendor may avoid a reasonable time extension by providing the Purchasing Division Director with written notice of Vendor's desire to terminate this Contract 30 days prior to the expiration of the then current term. During any reasonable time extension period, the Vendor may terminate this Contract for any reason upon giving the Purchasing Division Director 30 days written notice. Automatic extension of this Contract is prohibited. Notwithstanding the foregoing, Purchasing Division approval is not required on agency delegated or exempt purchases, but Attorney General approval may be required.

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

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

☐ **Other:** See attached.

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

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

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

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

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

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

6. **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.

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

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

- ☐ **BID BOND:** All Vendors shall furnish a bid bond in the amount of five percent (5%) of the total amount of the bid protecting the State of West Virginia. The bid bond must be submitted with the bid.
- ☐ **PERFORMANCE BOND:** The apparent successful Vendor shall provide a performance bond in the amount of _____. The performance bond must be issued and received by the Purchasing Division prior to Contract award. On construction contracts, the performance bond must be 100% of the Contract value.
- ☐ **LABOR/MATERIAL PAYMENT BOND:** The apparent successful Vendor shall provide a labor/material payment bond in the amount of 100% of the Contract value. The labor/material payment bond must be issued and delivered to the Purchasing Division prior to Contract award.

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

- ☐ **MAINTENANCE BOND:** The apparent successful Vendor shall provide a two (2) year maintenance bond covering the roofing system. The maintenance bond must be issued and delivered to the Purchasing Division prior to Contract award.
- ☐ **WORKERS' COMPENSATION INSURANCE:** The apparent successful Vendor shall have appropriate workers' compensation insurance and shall provide proof thereof upon request.
- ☐ **INSURANCE:** The apparent successful Vendor shall furnish proof of the following insurance prior to Contract award and shall list the state as a certificate holder:

☐ **Commercial General Liability Insurance:**
_____ or more.

☐ **Builders Risk Insurance:** builders risk – all risk insurance in an amount equal to 100% of the amount of the Contract.

☐
☐
☐
☐
☐

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

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

☐
☐
☐
☐

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

9. **LITIGATION BOND:** The Director reserves the right to require any Vendor that files a protest of an award to submit a litigation bond in the amount equal to one percent of the lowest bid submitted or \$5,000, whichever is greater. The entire amount of the bond shall be forfeited if the hearing officer determines that the protest was filed for frivolous or improper purpose, including but not limited to, the purpose of harassing, causing unnecessary delay, or needless expense for the Agency. All litigation bonds shall be made payable to the Purchasing Division. In lieu of a bond, the protester may submit a cashier's check or certified check payable to the Purchasing Division. Cashier's or certified checks will be deposited with and held by the State Treasurer's office. If it is determined that the protest has not been filed for frivolous or improper purpose, the bond or deposit shall be returned in its entirety.
10. **ALTERNATES:** Any model, brand, or specification listed herein establishes the acceptable level of quality only and is not intended to reflect a preference for, or in any way favor, a particular brand or vendor. Vendors may bid alternates to a listed model or brand provided that the alternate is at least equal to the model or brand and complies with the required specifications. The equality of any alternate being bid shall be determined by the State at its sole discretion. Any Vendor bidding an alternate model or brand should clearly identify the alternate items in its bid and should include manufacturer's specifications, industry literature, and/or any other relevant documentation demonstrating the equality of the alternate items. Failure to provide information for alternate items may be grounds for rejection of a Vendor's bid.
11. **EXCEPTIONS AND CLARIFICATIONS:** The Solicitation contains the specifications that shall form the basis of a contractual agreement. Vendor shall clearly mark any exceptions, clarifications, or

other proposed modifications in its bid. Exceptions to, clarifications of, or modifications of a requirement or term and condition of the Solicitation may result in bid disqualification.

12. LIQUIDATED DAMAGES: Vendor shall pay liquidated damages in the amount
for

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.

13. ACCEPTANCE/REJECTION: The State may accept or reject any bid in whole, or in part. Vendor's signature on its bid signifies acceptance of the terms and conditions contained in the Solicitation and Vendor agrees to be bound by the terms of the Contract, as reflected in the Purchase Order, upon receipt.

14. 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.

15. 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.

16. 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.

17. PAYMENT: Payment in advance is prohibited under this Contract. Payment may only be made after the delivery and acceptance of goods or services. The Vendor shall submit invoices, in arrears, to the Agency at the address on the face of the purchase order labeled "Invoice To."

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

19. DELIVERY: All quotations are considered freight on board destination ("F.O.B. destination") unless alternate shipping terms are clearly identified in the bid. Vendor's listing of shipping terms that contradict the shipping terms expressly required by this Solicitation may result in bid disqualification.

20. INTEREST: Interest attributable to late payment will only be permitted if authorized by the West Virginia Code. Presently, there is no provision in the law for interest on late payments.

21. PREFERENCE: Vendor Preference may only be granted upon written request and only in accordance with the West Virginia Code § 5A-3-37 and the West Virginia Code of State Rules. A Resident Vendor Certification form has been attached hereto to allow Vendor to apply for the preference. Vendor's

failure to submit the Resident Vendor Certification form with its bid will result in denial of Vendor Preference. Vendor Preference does not apply to construction projects.

22. **SMALL, WOMEN-OWNED, OR MINORITY-OWNED BUSINESSES:** For any solicitations publicly advertised for bid on or after July 1, 2012, 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 submission of its bid 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.
23. **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.
24. **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 cancel any purchase or Contract upon 30 days written notice to the Vendor in accordance with West Virginia Code of State Rules § 148-1-7.16.2.
25. **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.
26. **TIME:** Time is of the essence with regard to all matters of time and performance in this Contract.
27. **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.
28. **COMPLIANCE:** Vendor shall comply with all applicable federal, state, and local laws, regulations and ordinances. By submitting a bid, Vendors acknowledge that they have reviewed, understand, and will comply with all applicable law.
29. **PREVAILING WAGE:** On any contract for the construction of a public improvement, Vendor and any subcontractors utilized by Vendor shall pay a rate or rates of wages which shall not be less than the fair minimum rate or rates of wages (prevailing wage), as established by the West Virginia Division of Labor under West Virginia Code §§ 21-5A-1 et seq. and available at <http://www.sos.wv.gov/administrative-law/wagerates/Pages/default.aspx>. Vendor shall be responsible for ensuring compliance with prevailing wage requirements and determining when prevailing wage

requirements are applicable. The required contract provisions contained in West Virginia Code of State Rules § 42-7-3 are specifically incorporated herein by reference.

- 30. 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.
- 31. 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). **No Change shall be implemented by the Vendor until such time as the Vendor receives an approved written change order from the Purchasing Division.**
- 32. 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.
- 33. 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.
- 34. ASSIGNMENT:** Neither this Contract nor any monies due, or to become due hereunder, may be assigned by the Vendor without the express written consent of the Agency, the Purchasing Division, the Attorney General's office (as to form only), and any other government agency or office that may be required to approve such assignments. Notwithstanding the foregoing, Purchasing Division approval may or may not be required on certain agency delegated or exempt purchases.
- 35. 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.
- 36. 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.
- 37. BANKRUPTCY:** In the event the Vendor files for bankruptcy protection, the State of West Virginia may deem this Contract null and void, and terminate this Contract without notice.

38. [RESERVED]

39. 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>.

40. DISCLOSURE: Vendor's response to the Solicitation and the resulting Contract are considered public documents and will be disclosed to the public in accordance with the laws, rules, and policies governing the West Virginia Purchasing Division. Those laws include, but are not limited to, the Freedom of Information Act found in West Virginia Code § 29B-1-1 et seq.

If a Vendor considers any part of its bid to be exempt from public disclosure, Vendor must so indicate by specifically identifying the exempt information, identifying the exemption that applies, providing a detailed justification for the exemption, segregating the exempt information from the general bid information, and submitting the exempt information as part of its bid but in a segregated and clearly identifiable format. Failure to comply with the foregoing requirements will result in public disclosure of the Vendor's bid without further notice. A Vendor's act of marking all or nearly all of its bid as exempt is not sufficient to avoid disclosure and WILL NOT BE HONORED. Vendor's act of marking a bid or any part thereof as "confidential" or "proprietary" is not sufficient to avoid disclosure and WILL NOT BE HONORED. In addition, a legend or other statement indicating that all or substantially all of the bid is exempt from disclosure is not sufficient to avoid disclosure and WILL NOT BE HONORED. Vendor will be required to defend any claimed exemption for nondisclosure in the event of an administrative or judicial challenge to the State's nondisclosure. Vendor must indemnify the State for any costs incurred related to any exemptions claimed by Vendor. Any questions regarding the applicability of the various public records laws should be addressed to your own legal counsel prior to bid submission.

41. LICENSING: In accordance with West Virginia Code of State Rules §148-1-6.1.7, Vendor must be licensed and in good standing in accordance with any and all state and local laws and requirements by any state or local agency of West Virginia, including, but not limited to, the West Virginia Secretary of State's Office, the West Virginia Tax Department, West Virginia Insurance Commission, or any other state agency or political subdivision. Upon request, the Vendor must provide all necessary releases to obtain information to enable the Purchasing Division Director or the Agency to verify that the Vendor is licensed and in good standing with the above entities.

42. ANTITRUST: In submitting a bid to, signing a contract with, or accepting a Purchase Order 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.

- 43. VENDOR CERTIFICATIONS:** By signing its bid or entering into this Contract, Vendor certifies (1) that its bid was made without prior understanding, agreement, or connection with any corporation, firm, limited liability company, partnership, person or entity submitting a bid for the same material, supplies, equipment or services; (2) that its bid 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 RFQ in its entirety, understands the requirements, terms and conditions, and other information contained herein. Vendor's signature on its bid 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 on behalf of Vendor certifies that he or she is authorized by the Vendor to execute this bid 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.

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

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

- 45. 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.

- 46. 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.

- 47. PURCHASING AFFIDAVIT:** In accordance with West Virginia Code § 5A-3-10a, all Vendors are required to sign, notarize, and submit the Purchasing Affidavit stating that neither the Vendor nor a related party owe a debt to the State in excess of \$1,000. The affidavit must be submitted prior to award, but should be submitted with the Vendor's bid. A copy of the Purchasing Affidavit is included herewith.
- 48. ADDITIONAL AGENCY AND LOCAL GOVERNMENT USE:** This Contract may be utilized by and extends to 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"). This Contract shall be extended to the aforementioned Other Government Entities on the same prices, terms, and conditions as those offered and agreed to in this Contract. If the Vendor does not wish to extend the prices, terms, and conditions of its bid and subsequent contract to the Other Government Entities, the Vendor must clearly indicate such refusal in its bid. A refusal to extend this Contract to the Other Government Entities shall not impact or influence the award of this Contract in any manner.
- 49. CONFLICT OF INTEREST:** Vendor, its officers or members or employees, shall not presently have or acquire any 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.
- 50. REPORTS:** Vendor shall provide the Agency and/or the Purchasing Division with the following reports identified by a checked box below:
- ☒ Such reports as the Agency and/or the Purchasing Division may request. Requested reports may include, but are not limited to, quantities purchased, agencies utilizing the contract, total contract expenditures by agency, etc.
 - ☐ Quarterly reports detailing the total quantity of purchases in units and dollars, along with a listing of purchases by agency. Quarterly reports should be delivered to the Purchasing Division via email at purchasing.requisitions@wv.gov.
- 51. BACKGROUND CHECK:** In accordance with W. Va. Code § 15-2D-3, the Director of the Division of Protective Services shall require any service provider whose employees are regularly employed on the grounds or in the buildings of the Capitol complex or who have access to sensitive or critical information

to submit to a fingerprint-based state and federal background inquiry through the state repository. The service provider is responsible for any costs associated with the fingerprint-based state and federal background inquiry.

After the contract for such services has been approved, but before any such employees are permitted to be on the grounds or in the buildings of the Capitol complex or have access to sensitive or critical information, the service provider shall submit a list of all persons who will be physically present and working at the Capitol complex to the Director of the Division of Protective Services for purposes of verifying compliance with this provision.

The State reserves the right to prohibit a service provider's employees from accessing sensitive or critical information or to be present at the Capitol complex based upon results addressed from a criminal background check.

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

52. 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:

- a. 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
- b. 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.

53. 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.

SPECIFICATIONS

1. **PURPOSE AND SCOPE:** The West Virginia Purchasing Division is soliciting bids on behalf of WV Division of Corrections to establish a contract for the one time purchase of Cisco Catalyst 2960 Series Network Switches, or equal and Cisco Gigabit Interface Converters (GBIC), or equal .

Project Background: The State of West Virginia's Division of Corrections is in the process of upgrading its network infrastructure across the state to maintain compatibility with both current and anticipated technologies and services as provided by the Office of Technology. In order to accomplish that goal, a dynamic, standardized environment needs to be established to provide for efficient upgrade, repair, and expansion of the infrastructure as our facilities grow and change. To that end, the Division of Corrections is looking to replace all of the aging network switches across the state with new hardware, creating a platform for future growth, and maintaining the safety and security of our officers, staff and inmates, while minimizing cost to the State and to the Division.

2. **DEFINITIONS:** The terms listed below shall have the meanings assigned to them below. Additional definitions can be found in section 2 of the General Terms and Conditions.
 - 2.1. **"Contract Item"** means Cisco Catalyst 2960 Series Network Switches, or equal, and Cisco Gigabit Interface Converter (GBIC), or equal.
 - 2.2. **"Pricing Page"** means the pages upon which Vendor should list its proposed price for the Contract Items in the manner requested. The Pricing Page is either included on the last page of this RFQ or attached hereto as Exhibit A.
 - 2.3. **"RFQ"** means the official request for quotation published by the Purchasing Division and identified as COR61681.
 - 2.4. **"24x7x4"** means support available over the period of a full twenty-four hour day, seven day week, with a four hour time on repair or replacement.
 - 2.5. **"1RU"** means one rack unit in height.
 - 2.6. **"EIGRP"** stands for Enhanced Interior Gateway Routing Protocol.
 - 2.7. **"VTP"** stands for Virtual LAN Trunking Protocol.
 - 2.8. **"Power over Ethernet"** means that the switch provides power across data cables in accordance with IEEE 802.3a-2012

- 2.9. “SFP” stands for small form factor pluggable, a compact “hot-pluggable” transceiver that can be removed and replaced while the switch is in operation

3. GENERAL REQUIREMENTS:

- 3.1. Mandatory Contract Item Requirements:** Contract Item must meet or exceed the mandatory requirements listed below.

- 3.1.1. Cisco Catalyst 2960-SF 48 FE PoE 740W 4 x SFP LAN Base, or equal, WS-C2960S-F48FPS-L, 48 Ethernet 10/100 ports with Power-Over-Ethernet (PoE) and 4 SFP-based Gigabit Ethernet ports: 1RU.
- 3.1.2. Cisco Catalyst 2960-SF 24 FE PoE 370W 2 x SFP LAN Base, or equal, WS-C2960S-F24PS-L, 24 Ethernet 10/100 ports with Power-Over-Ethernet (PoE) and 2 SFP-based Gigabit Ethernet ports: 1RU.
- 3.1.3. Cisco GLC-SX-MM SFP transceiver, or equal, at two per switch ordered.
- 3.1.4. Switches must support either by default, or with a firmware upgrade, Enhanced Interior Gateway Routing Protocol (EIGRP), and Virtual Local Area Network Trunking Protocol (VTP) as is or may be deployed by the WV Office of Technology. Switches must be able to support all existing Cisco Call Manager Voice over IP (VoIP) protocols as utilized by the WV Office of Technology.
- 3.1.5. The switches must be fully compatible and interoperable with the existing State of West Virginia hardware and system architecture currently in place. These switches will be a direct replacement for existing hardware that has reached manufacturer end-of-life.
- 3.1.6. Must provide Power-Over-Ethernet plus (PoE+) technology, providing 740 Watts for 48 ports or 370 Watts for 24 ports, at up to 30 Watts per port.
- 3.1.7. All items shall be new, so that they have the full manufacturer’s warranty available to them. Used or refurbished products will not be accepted.
- 3.1.8. Vendor must provide a warranty Cisco Smart Net 24x7x4 (24 hours per day, seven days per week, 4-hour response time), or equal, on hardware and software for a minimum period of one year.
 - 3.1.8.1. Coverage must include all hardware and software parts. No parts shall be excluded.

REQUEST FOR QUOTATION
COR61681 - Network Switches and Interface Converters

000021

- 3.1.8.2. Support must provide for Smart Call Home or equal, where the switch will self-diagnose and alert administrators of issues that require attention and/or remediation.
- 3.1.8.3. Service SLA for the Warranty will be on a 365 days per year, 24-hours per day, x7 days per week x 4 hour response window requirement, with automatic escalation if the initial remediation window is not met.
- 3.1.8.4. Warranty service shall include unlimited access to updates for the life of the product, limited only by the feature set of the hardware and software.
- 3.1.8.5. Warranty service shall include unlimited 24 hour per day x 7 days per week access to a Technical Assistance Center support service, to include issue triage assistance if requested.
- 3.1.8.6. Communication methods with the Technical Assistance Center will include email, phone, web-based collaboration and face-to-face via conferencing software.
- 3.1.8.7. Warranty service shall include unlimited online access to documents and software, as well as any support community, wiki, or other social media that pertains to the operation, programming, or maintenance of the hardware and software contained in the product.
- 3.1.8.8. Warranty service shall include unlimited online access to any web portal, automated tools, or service request management tools.

4. CONTRACT AWARD:

- 4.1. **Contract Award:** The Contract is intended to provide Agencies with a purchase price for the Contract Items. The Contract shall be awarded to the Vendor that provides the Contract Items meeting the required specifications for the lowest overall total cost as shown on the Pricing Pages.
- 4.2. **Pricing Page:** Vendor should complete the Pricing Page by multiplying unit prices by the requested quantities to equal an extended price per item. 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.

Notwithstanding the foregoing, the Purchasing Division may correct errors as it deems appropriate. Vendor should type or electronically enter the information into the Pricing Page to prevent errors in the evaluation.

5. PAYMENT:

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

6. DELIVERY AND RETURN:

6.1. Shipment and Delivery: Vendor shall ship the Contract Items immediately after being awarded this Contract and receiving a purchase order or notice to proceed. Vendor shall deliver the Contract Items within 30 working days after receiving a purchase order or notice to proceed. Contract Items must be delivered to Agency at 1409 Greenbrier Street, Charleston, WV 25311.

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

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

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

6.4. Return of Unacceptable Items: If the Agency deems the Contract Items to be unacceptable, the Contract Items shall be returned to Vendor at Vendor's expense and with no restocking charge. Vendor shall either make arrangements for the return within five (5) days of being notified that items are unacceptable, or permit the Agency to arrange for the return and reimburse Agency for delivery expenses. If the original packaging cannot be utilized for the return, Vendor will supply the Agency with appropriate return packaging upon request. All returns of unacceptable items shall be F.O.B. the Agency's location. The returned product shall either be replaced, or the Agency shall receive a full credit or refund for the purchase price, at the Agency's discretion.

6.5. Return Due to Agency Error: Items ordered in error by the Agency will be returned for credit within 30 days of receipt, F.O.B. Vendor's location. Vendor shall not charge a restocking fee if returned products are in a resalable condition. Items shall be deemed to be in a resalable condition if they are unused and in the original packaging. Any restocking fee for items not in a resalable condition shall be the lower of the Vendor's customary restocking fee or 5% of the total invoiced value of the returned items.

COR61681 - Network Switches/Interface Converter

Item #	Brand, Model Number and/or Product Code	Description	Unit of Measure	Quantity	Unit Price	Extended Amount
3.1.1		Cisco Catalyst 2960-SF 48 FE PoE 740W 4 x SFP LAN Base, or equal, WS-C2960S-F48FPS-L	Each	45	1713.18	77093.10
3.1.2		Cisco Catalyst 2960-SF 24 FE PoE 370W 2 x SFP LAN Base, or equal, WS-C2960S-F24PS-L	Each	65	1100.00	71500.00
3.1.3		Cisco SFP Gigabit Ethernet Interface Converter (GBIC), or equal, GLC-SX-MM	Each	220	147.17	32377.40
3.1.8		Cisco Smartnet 24x4x7, or equal, Warranty, one year term	Each	110	260.96	28,705.60

OVERALL TOTAL COST:

213,098.16

Bidder/Vendor Information:

Name: Vology
 Address: 4027 Tampa Rd. Suite 3900
Oldsmar, FL 34677
 Phone No.: 813-490-6878
 Fax No.: 813-490-7090
 Email Address: BWEAVER@Vology.com
 Authorized Signature: [Signature]

Failure to use this form may result in disqualification

000023

CERTIFICATION AND SIGNATURE PAGE

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

Vology
(Company)


(Authorized Signature)

Beau Weaver, Gov. Account Mgr.
(Representative Name, Title)

813-490-6878 813-490-7090
(Phone Number) (Fax Number)

4/16/14
(Date)

RFQ No. COR61681STATE OF WEST VIRGINIA
Purchasing Division**PURCHASING AFFIDAVIT**

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

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

DEFINITIONS:

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

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

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

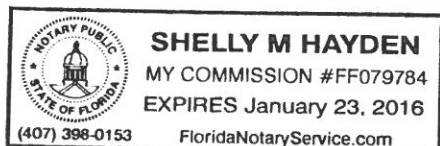
AFFIRMATION: By signing this form, the vendor's authorized signer affirms and acknowledges under penalty of law for false swearing (W. Va. Code §61-5-3) that neither vendor nor any related party owe a debt as defined above and that neither vendor nor any related party are in employer default as defined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

WITNESS THE FOLLOWING SIGNATURE:Vendor's Name: VologyAuthorized Signature: [Signature] Date: 4/16/14State of FloridaCounty of Pinellas, to-wit:Taken, subscribed, and sworn to before me this 16 day of April, 2014.My Commission expires January 23, 2016.

AFFIX SEAL HERE

NOTARY PUBLIC [Signature]

Purchasing Affidavit (Revised 07/01/2012)



State of West Virginia

VENDOR PREFERENCE CERTIFICATE

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

1. Application is made for 2.5% resident vendor preference for the reason checked:

- ____ Bidder is an individual resident vendor and has resided continuously in West Virginia for four (4) years immediately preceding the date of this certification; **or**,
 ____ Bidder is a partnership, association or corporation resident vendor and has maintained its headquarters or principal place of business continuously in West Virginia for four (4) years immediately preceding the date of this certification; **or** 80% of the ownership interest of Bidder is held by another individual, partnership, association or corporation resident vendor who has maintained its headquarters or principal place of business continuously in West Virginia for four (4) years immediately preceding the date of this certification; **or**,
 ____ Bidder is a nonresident vendor which has an affiliate or subsidiary which employs a minimum of one hundred state residents and which has maintained its headquarters or principal place of business within West Virginia continuously for the four (4) years immediately preceding the date of this certification; **or**,

2. Application is made for 2.5% resident vendor preference for the reason checked:

- ____ Bidder is a resident vendor who certifies that, during the life of the contract, on average at least 75% of the employees working on the project being bid are residents of West Virginia who have resided in the state continuously for the two years immediately preceding submission of this bid; **or**,

3. Application is made for 2.5% resident vendor preference for the reason checked:

- ____ Bidder is a nonresident vendor employing a minimum of one hundred state residents or is a nonresident vendor with an affiliate or subsidiary which maintains its headquarters or principal place of business within West Virginia employing a minimum of one hundred state residents who certifies that, during the life of the contract, on average at least 75% of the employees or Bidder's affiliate's or subsidiary's employees are residents of West Virginia who have resided in the state continuously for the two years immediately preceding submission of this bid; **or**,

4. Application is made for 5% resident vendor preference for the reason checked:

- ____ Bidder meets either the requirement of both subdivisions (1) and (2) or subdivision (1) and (3) as stated above; **or**,

5. Application is made for 3.5% resident vendor preference who is a veteran for the reason checked:

- ____ Bidder is an individual resident vendor who is a veteran of the United States armed forces, the reserves or the National Guard and has resided in West Virginia continuously for the four years immediately preceding the date on which the bid is submitted; **or**,

6. Application is made for 3.5% resident vendor preference who is a veteran for the reason checked:

- ____ Bidder is a resident vendor who is a veteran of the United States armed forces, the reserves or the National Guard, if, for purposes of producing or distributing the commodities or completing the project which is the subject of the vendor's bid and continuously over the entire term of the project, on average at least seventy-five percent of the vendor's employees are residents of West Virginia who have resided in the state continuously for the two immediately preceding years.

7. Application is made for preference as a non-resident small, women- and minority-owned business, in accordance with West Virginia Code §5A-3-59 and West Virginia Code of State Rules.

- ____ Bidder has been or expects to be approved prior to contract award by the Purchasing Division as a certified small, women- and minority-owned business.

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

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

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

Bidder: Vology

Signed: [Signature]

Date: 4/16/14

Title: Gov. Account Mgr.



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

Solicitation

NUMBER

COR61681

PAGE

1

ADDRESS CORRESPONDENCE TO ATTENTION OF:

TARA LYLE
304-558-2544

RFQ COPY

TYPE NAME/ADDRESS HERE

V
E
N
D
O
R

Vology, Inc.
4027 Tampa Road
Suite 3900
Oldsmar, Florida 34677

S
H
I
P
T
O

DIVISION OF CORRECTIONS

1409 GREENBRIER ST

CHARLESTON, WV
25311

304-558-8045

DATE PRINTED

04/01/2014

BID OPENING DATE:

04/17/2014

BID OPENING TIME

1:30PM

LINE	QUANTITY	UOP	CAT NO.	ITEM NUMBER	UNIT PRICE	AMOUNT
				ADDENDUM NO. 1		
				SEE ATTACHED PAGES.		
				END OF ADDENDUM NO. 1		
0001	45	EA		205-16		
				NETWORK SWITCHES		
0002	65	EA		205-16		
				NETWORK SWITCHES		
0003	220	EA		205-16		
				INTERFACE CONVERTERS		
0004	110	EA		939-22		
				WARRANTY 24X4X7		

SIGNATURE

TELEPHONE

813-490-6878

DATE

4/16/14

TITLE

Gov. Account Mgr.

FEIN

59-3760415

ADDRESS CHANGES TO BE NOTED ABOVE

WHEN RESPONDING TO SOLICITATION, INSERT NAME AND ADDRESS IN SPACE ABOVE LABELED 'VENDOR'

0000002

SOLICITATION NUMBER: COR61681
Addendum Number: 1

The purpose of this addendum is to modify the solicitation identified as COR61681 ("Solicitation") to reflect the change(s) identified and described below.

Applicable Addendum Category:

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

Description of Modification to Solicitation:

1. The bid opening date has moved from 04/03/2014 to 04/17/2014. The bid opening time remains at 1:30 pm.
2. Responses to vendor questions will be issued under separate addendum.

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 ACKNOWLEDGEMENT FORM
SOLICITATION NO.: COR61681

000000.3

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.

Vology
Company


Authorized Signature

4/16/14
Date

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



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

Solicitation

NUMBER
COR61681

PAGE
1

ADDRESS CORRESPONDENCE TO ATTENTION OF:
TARA LYLE 304-558-2544

RFQ COPY

TYPE NAME/ADDRESS HERE

V
E
N
D
O
R

Vology, Inc.
4027 Tampa Road
Suite 3900
Oldsmar, Florida 34677

S
H
I
P
T
O

DIVISION OF CORRECTIONS

1409 GREENBRIER ST

CHARLESTON, WV

25311

304-558-8045

DATE PRINTED
04/04/2014

BID OPENING DATE: 04/17/2014

BID OPENING TIME 1:30PM

LINE	QUANTITY	UOP	CAT. NO.	ITEM NUMBER	UNIT PRICE	AMOUNT
				ADDENDUM NO. 2		
				SEE ATTACHED PAGES.		
				END OF ADDENDUM NO. 2		
0001	45	EA		205-16		
				NETWORK SWITCHES		
0002	65	EA		205-16		
				NETWORK SWITCHES		
0003	220	EA		205-16		
				INTERFACE CONVERTERS		
0004	110	EA		939-22		
				WARRANTY 24X4X7		

SIGNATURE

TELEPHONE

813-490-6878

DATE

4/16/14

TITLE

Gov. Account Mgr.

FEIN

57-3760415

ADDRESS CHANGES TO BE NOTED ABOVE

WHEN RESPONDING TO SOLICITATION, INSERT NAME AND ADDRESS IN SPACE ABOVE LABELED 'VENDOR'

SOLICITATION NUMBER: COR61681**Addendum Number: 2**

The purpose of this addendum is to modify the solicitation identified as COR61681 ("Solicitation") to reflect the change(s) identified and described below.

Applicable Addendum Category:

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

Description of Modification to Solicitation:

1. The bid opening date remains 04/17/2014 at 1:30 pm.
2. Responses to vendor questions attached.

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

Terms and Conditions:

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

ATTACHMENT A**Questions:**

Q1: The Cisco L2 switches or equal specified in the bid don't support Cisco's proprietary routing protocol EIGRP because these are Layer 2 switches. Is this an oversight or is there a different requirement such as Layer 3 switches?

A1: This was an oversight. The Agency hereby deletes the requirement for Enhanced Interior Gateway Routing Protocol (EIGRP).

Delete Section 3.1.4 in its entirety and replace with the following:

3.1.4. Switches must support either by default, or with a firmware upgrade, Virtual Local Area Network Trunking Protocol (VTP), or equal, as is or may be deployed by the WV Office of Technology. Switches must be able to support all existing Cisco Call Manager Voice over IP (VoIP) protocols as utilized by the WV Office of Technology.

Q2: Virtual Local Area Network Trunking Protocol (VTP) is also a proprietary Cisco ONLY protocol. Cisco can also support the Industry Standard Generic VLAN registration Protocol (GVRP). If the goal is to automatically propagate VLANs across a trunk port is the Standard Protocol acceptable since they both do the same thing? This way bids would not lock out every other manufacturer except Cisco and will drive competitive pricing and innovation.

A2: VTP and GVRP do indeed do many of the same things, however, the long term plan for the infrastructure requires that we have a structure that will quickly propagate changes across the entire framework. GVRP will only dynamically add VLANs to aid in trunking, and does not synchronize between switches.

The Agency requires an infrastructure that will automatically synchronize and replicate VLAN changes from switch to switch across the LAN, reducing programming and implementation time. It is for this reason that Virtual Local Area Network Trunking Protocol (VTP), or equal, is a mandatory requirement of this RFQ.

Q3: Section 3.1.8: SmartNet 24X7X4 is very expensive and will add approximately \$600 to every switch. Many manufacturers provide advanced replacement, firmware and bug fixes, and GTAC phone support included in the cost of the switch. Is this an oversight or actually required?

A3: Warranty requirements remain as stated. Warranty must meet all requirements stated in Section 3.1.8.1 through 3.1.8.8 of the RFQ.

Q4: It appears that the switches specified are WS-C2960S-F48FPS-L are a 10/100 mbps switch. Question: Does the State really want 10/100/1000 mbps current switch technology since most networking devices come equipped with 1000 mbps interfaces?

A4: The 10/100 mbps switch technology meets our current and anticipated requirements.

Q5a: I would just like to confirm that the quantity of 110 for item 3.1.8 on page 000023 is for extended service agreements for items 3.1.1 and 3.1.2.

A5a: The quantity of 110 items for item 3.1.8 is for the items listed in 3.1.1. and 3.1.2.

Q5b: It appears that there is a different part number for the extended service agreement for each of these, so I wanted to confirm the item numbers which I show as the following:

- Item 3.1.1 - Quantity 45 - Mfg. Part: WS-C2960S-F48FPS-L
- Item 3.1.2 - Quantity 65 - Mfg. Part: WS-C2960S-F24PS-L
- Item 3.1.8 - Quantity 45 - Mfg. Part: CON-SNTP-WSC2960F
- Item 3.1.8 - Quantity 65 - Mfg. Part: CON-SNTP-WSC29PS

A5b: The Mfg. Part Numbers you listed are correct.

Q6: The bid below specifies EIGRP although other parts show openness to equivalent technologies. Can you confirm if we can bid? Our Partners do not want to do the bid package unless we are sure to be considered.

<http://www.state.wv.us/admin/purchase/rfq/fy2014/COR61681.pdf>

A6: See A1, the Agency hereby deletes the requirement for Enhanced Interior Gateway Routing Protocol (EIGRP).

ADDENDUM ACKNOWLEDGEMENT FORM
SOLICITATION NO.: COR61681

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 checked="" 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.

Vology
Company


Authorized Signature

4/16/14
Date

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

Appnx #A

Item #	Brand	Description	Alternate Brand
3.1.1	Cisco	Cisco Catalyst 2960-SF 48 FE PoE 740W 4 x SFP LAN Base, or equal, WS-C2960S-F48FPS-L	Brocade
3.1.2	Cisco	Cisco Catalyst 2960-SF 24 FE PoE 370W 2 x SFP LAN Base, or equal, WS-C2960S-F24PS-L	Brocade
3.1.3	Cisco	Cisco SFP Gigabit Ethernet Interface Converter (GBIC), or equal, GLC-SX-MM	Brocade
3.1.4	Cisco	Cisco Smartnet 24x4x7, or equal, Warranty, one year term	Brocade
N/A	N/A	N/A	Brocade
N/A	N/A	N/A	Brocade
N/A	N/A	N/A	Brocade
N/A	N/A	N/A	Brocade

Appnx #A

Alternate Description	Unit of Measure	Quantity	List Price	Unit Price
ICX 6450 48 GigE PoE Switch, 48-port 1G Switch PoE+ 780W, 2x1G SFP+ (upgradable to 10G) & 2x1G/10G SFP+ Uplink/Stacking Ports, ICX6450-48P	Each	45	\$ 5,295.00	\$ 5,295.00
ICX 6450 24 GigE PoE Switch, 24-port 1G Switch PoE+ 390W, 2x1G SFP+ (upgradable to 10G) & 2x1G/10G SFP+ Uplink/Stacking Ports, ICX6450-24P	Each	65	\$ 3,395.00	\$ 3,395.00
1000Base-SX SFP optic, MMF, LC connector, Optical Monitoring Capable, part number E1MG-SX-OM	Each	220	\$ 525.00	\$ 525.00
ESSENTIAL 4HR PARTS ONLY SUPPORT, ICX 6430 24P & 48P, ICX6430-SVL-4P-1	Each	110	\$ 380.00	\$ 380.00
IP management SW license for up to 50 devices; required for initial purchase of IP only management; minimum of one year support is required, BR-NTWADV-IP-BASE	Each	1	\$ 5,500.00	\$ 5,500.00
Adds IP management SW license FOR 100 devices; Pre-requisite are IP-BASE or INM Upgrade or IP Extension; minimum of one year support is required, BR-NTWADV-IP-100	Each	1	\$ 2,200.00	\$ 2,200.00
ESSENTIAL APP SUPPORT 24X7, BR-NTWADV-IP-BASE	Each	1	\$ 990.00	\$ 990.00
ESSENTIAL APP SUPPORT 24X7, BR-NTWADV-IP-100	Each	1	\$ 395.00	\$ 395.00

Brocade Network Advisor will satisfy the Call Home Requirement

Brocade Network Advisor along with GRVP will satisfy the VLAN propagation Requirement.

Project Total

Exteded Amount	
\$	238,275.00
\$	220,675.00
\$	115,500.00
\$	41,800.00
\$	5,500.00
\$	2,200.00
\$	990.00
\$	395.00

\$ 625,335.00



Vology
4027 Tampa Road, Suite 3900
Oldsmar, FL 34677
(813)-852-6400 office (813)-490-7090 fax

APPX #B

SALES QUOTE

SQ-440616

4/16/2014

APPX #B

Customer			Contact	Ship To			
West Virginia Division of Corrections 1409 Greenbrier St Charleston , WV 25311 US 304-558-2036			Lyle,Tara 1409 Greenbrier St Charleston , WV 25311 US 304-558-2036	West Virginia Division of Corrections 1409 Greenbrier St Charleston , WV 25311 US 1 3045582036			
Account	Terms	Due Date	Account Manager		Schedule Date	Ship VIA	P.O. #
111338	Net 30	5/2/2014	Beau Weaver Ph# (813) 490-6878	bweaver@vology.com (813) 490-7090	5/2/2014	UPS Ground	

Line #	Manufacturer/ Model / Description	Product Condition	Qty	Unit Price	Extended Amount
1	Brocade / ICX6450-48P / 48-port 1G Switch, 2x1G SFP+ (upgradable to 10G) & 2x1G/10G SFP+ Uplink/Stacking Ports	New	45	1,713.18	77,093.10
2	Brocade / ICX6450-24P / 24-port 1G switch PoE+ 390W, 2x1G SFP+ (upgradable to 10G) & 2x1G/10G SFP+ uplink/stacking	New	65	1,100.00	71,500.00
3	Brocade / E1MG-SX-OM / 1000Base-SX SFP optic, MMF, LC connector, Optical Monitoring Capable	New	220	147.17	32,377.40
4	Brocade / BR-NTWADV-IP-BASE / IP management SW license for up to 50 devices; required for initial purchase of IP only management; minimum of one year support is required	New	1	1,728.68	1,728.68
5	Brocade / BR-NTWADV-IP-100 / Adds IP management SW license for 100 devices; pre-requisite is BR-NTWADV-IP-BASE, BR-NTWADV-IP-BASE-DC, BR-NTWADV-INM-UPG, BR-NTWADV-ENT or BR-NTWADV-PLU; minimum of one year support is required.	New	1	691.47	691.47
6	Brocade / ICX6450-SVL-4P-1 / Brocade Essential Direct Support 4-Hour Parts - Extended service agreement - parts - 1 year - on-site - 4 h - for ICX 6450-24P, 6450-48P	New	45	260.96	11,743.20
7	Brocade / ICX6450-SVL-4P-1 / Brocade Essential Direct Support 4-Hour Parts - Extended service agreement - parts - 1 year - on-site - 4 h - for ICX 6450-24P, 6450-48P	New	65	260.96	16,962.40
8	Brocade / BNALB-SVL-SW-1 / SW MAINTENANCE, BR-NTWADV-IP-BASE	New	1	680.39	680.39
9	Brocade / BNALC-SVL-SW-1 / SW MAINTENANCE, BR-NTWADV-IP-100	New	1	271.52	271.52
10	Free Shipping				
Estimated Monthly Lease Payment Option Only \$0.00 / month + tax for a 36 months **				SubTotal:	\$213,048.16
				Est. Freight	\$0.00
Memo : Solicitation Number: COR61681				Total Amount	\$213,048.16

DON'T FORGET We stock a full line of
CABLES, GBICs and ACCESSORIES
INCLUDE with this ORDER & SAVE!

****Leasing information:** For US based sales only. Not for international shipments. The monthly payment provided is an estimate only, excludes all applicable taxes and is non-binding on both parties herein. The actual rate and payment is based upon the credit quality of the customer as determined solely by Summit Funding Group, Inc. For more information and additional financing options including payment deferrals, please contact your account manager.

All certified pre-owned products have passed our 5 Star Certification Process and is backed by our 5 year Warranty. (End-User Customers only) For detailed information regarding our 5 year warranty, 5 Star Certified Process and returns please visit our website at <http://www.vology.com/services-solutions/warranty-solutions>. For all other products, Vology makes no claim as to the warranty of any products or services in this quotation. Only the written warranty offered by the equipment manufacturer or service provider will apply. This agreement will expire 7 days from the quote date above. Prices are subject to change without notice. Unless noted, this quote does not include shipping charges or taxes.

Check out how the products you order are processed - Video Tour
www.vology.com/company/vology-virtual-tour

Accept this quote - Signature: _____

Purchase Order #: _____

Brocade Campus LAN Switching Product Warranty and Support Overview	Brocade ICX 6610 FCX FSX 800 FSX 1600	Brocade ICX 6430 ICX 6450	Brocade FWS	Brocade FGS FLS FES FESX Super X	Optics with Brocade ICX 6610 FCX FSX 800 FSX 1600	Optics with Brocade ICX 6430 ICX 6450	External Power Supply ICX 6400- ESP 1500
WARRANTY							
Brocade Assurance Limited Lifetime Warranty ¹	✓	✓	✓				
Limited Lifetime Warranty ¹				✓			
Standard Limited Warranty ¹ (13 months from ship)					✓	✓	✓
HARDWARE DEFECT REPLACEMENT DURING WARRANTY							
Advanced Replacement Next Business Day ¹	✓	✓	✓				
Repair or Replace 30-days				✓	✓	✓	✓
ACCESS TO SOFTWARE DEFECT DOWNLOADS DURING WARRANTY							
Included through the product end of support date ¹	✓	✓					
Included for the firmware release current at time of purchase or any previous release. Brocade's Knowledge Portal.			✓				
Accessible for 90-days from ship				✓			
ACCESS TO SOFTWARE MAINTENANCE UPDATES DURING WARRANTY							
Included through the product end of support date ¹	✓	✓					
Optional Essential Support contracts required			✓	✓			
ACCESS TO SOFTWARE UPGRADES							
Optional L3 license upgrades are available for purchase	✓	✓	✓	✓			
ACCESS TO NEW SOFTWARE FEATURES							
Optional Essential Support contracts are required	✓	✓	✓	✓			
ACCESS TO TECHNICAL SUPPORT							
Included for 90-days 8x5	✓				✓		
Included for 3-years 8x5		✓				✓	✓
Optional Essential Support contracts are required			✓	✓			

¹ See detailed information at www.brocade.com/warranty.

General Questions and Answers

Q Is an Essential Support contract required to download software updates?

A For the Brocade® FastIron® and ICX® switches, an Essential Support contract is not required to download software defect repairs and software maintenance updates posted on Brocade.com. However, it should be noted that a support contract is required to download software maintenance updates for licensed Advanced routing images (Brocade ICX 6610, Brocade FCX®).

Q Do the enterprise campus switches include downloading of minor and major software releases or revisions?

A The Brocade FastIron and ICX switches include downloading of software defect repairs and software maintenance updates that are incorporated in minor software releases and new software releases.

Q What is a software maintenance update or release?

A End users with Brocade FCX, Brocade FastIron SX 800/1600, and Brocade ICX 6610, ICX 6450, and ICX 6430 products will be provided access to software maintenance updates and software defect repairs to maintain the compliance of the software with published specifications, release notes, and industry-standards compliance. A software maintenance update or release may include defect repairs and limited platform-specific improvements to ensure that the product features available to the device on the original purchase date continue to function in the customer network.

Q Are software upgrades included with the Brocade FastIron and ICX campus products?

A For the Brocade FastIron and ICX switches, “software upgrades” mean moving from the FastIron Base features image to a Premium or Advanced routing image, or moving from a Premium to an Advanced routing image. These forms of software upgrades require the purchase of an upgrade license and are not included with the products. Optional software upgrades are available for purchase.

Q Are new features and functionality included with the software downloads?

A Brocade does not guarantee that any new features or functionality will be developed and made available to the end user in future software revisions or releases. A current Essential Support contract inclusive of software downloads is required to gain access to new features and functionality for the software license level that is purchased for and installed on the device.

Q Are power supplies and fans covered under the warranty?

A Internal and hot-swappable power supplies and fans purchased with the Brocade FastIron and ICX switches are covered under the product warranty.

BROCADE NETWORK ADVISOR

NETWORK MANAGEMENT

Simplified Network Management for Today's Increasingly Dynamic Networks

HIGHLIGHTS

- Simplifies operations by providing an intuitive Graphical User Interface (GUI) and customizable dashboards
- Reduces Total Cost of Ownership (TCO) by providing proactive performance analysis and troubleshooting capabilities
- Unifies network management across Storage Area Networks (SANs) and IP networks
- Accelerates data center automation through enhanced support for Brocade VCS Fabric technology
- Integrates seamlessly with industry-leading management solutions from Microsoft, VMware, EMC, HP, and IBM, maximizing the value of IT investments

Today's IT organizations are under pressure to reduce costs, free up resources, and accelerate the introduction of private, public, and hybrid clouds for service delivery. Many are standardizing their operational processes and policies, and seeking ways to more proactively address availability and performance issues. During this transition, the network is increasingly becoming a focus area for both reducing unexpected downtimes and ongoing operational costs, while enabling greater IT and business agility.

Brocade® Network Advisor helps organizations simplify daily network operations and focus on strategic IT initiatives. This software management tool features customizable dashboards that enable organizations to identify network problems quickly and optimize their network resources. It also unifies management for the entire Brocade IP and SAN portfolio as well as integrates with third-party solutions, reducing the number of tools that organizations need to gain visibility and control. With its feature-rich, easy-to-use interface, Brocade Network Advisor automates repetitive tasks while helping organizations proactively manage their networks.

KEY FEATURES FOR MORE EFFECTIVE NETWORK MANAGEMENT

Brocade Network Advisor is a simple yet powerful tool that helps organizations manage the entire network lifecycle, including monitoring, diagnostics, change management, troubleshooting, and remediation.

Simplified Daily Network Operations

Brocade Network Advisor saves administrators valuable time and enables greater IT and business agility through several key capabilities, including:

- **Intelligent dashboards:** Organizations can proactively identify problem areas and prevent network downtime with a customizable, at-a-glance summary of all discovered Brocade devices and third-party IP devices (see Figure 1).
- **Easy-to-use interface:** Administrators can rapidly identify problem areas and troubleshoot use cases with performance dashboards and drill-down options.
- **Performance and historical data reporting:** Organizations gain visibility into in-depth performance measures and historical data for advanced troubleshooting and performance management (see Figure 2).

BROCADE

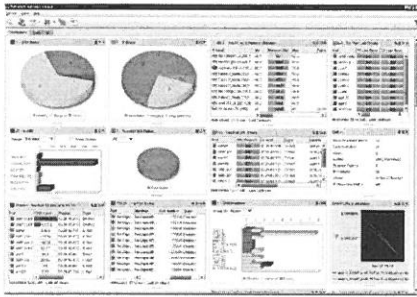


Figure 1. Brocade Network Advisor provides a customizable dashboard of storage and IP networks.

- **Network time and scope:** Administrators can set all dashboard widgets by network type and/or time scope to easily troubleshoot and correlate errors.
- **Virtual Machine (VM) visibility:** Network administrators gain visibility into virtual environments within SAN and IP networks through integration with VMware vCenter.
- **Role-Based Access Control (RBAC):** Organizations can define granular administrator roles and privileges to support the needs of different SAN and IP network teams.
- **Event management:** Administrators can receive SNMP traps, syslog event messages, and customizable event alerts for reporting, analysis, monitoring, and remediation.
- **Advanced Call Home:** Brocade Network Advisor can automatically collect diagnostic information and send notifications for faster fault diagnosis, isolation, and remote support operations.

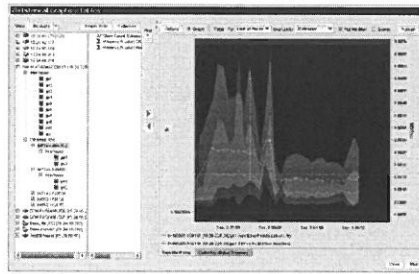


Figure 2. Brocade Network Advisor enables historical data visibility.

End-to-End Network Management

With Brocade Network Advisor, organizations can reduce operational expenditures by leveraging the same management solution for their entire SAN and IP network infrastructure. This enables better coordination between storage and data networking administrators for provisioning, troubleshooting, and reporting. Brocade Network Advisor manages:

- IP and SAN networks
- MPLS services
- Brocade application delivery switches
- Virtual IP (VIP)
- SSL certificates
- Global Server Load Balancing (GSLB)

Flexibility through Partner Integration

Brocade Network Advisor provides deep integration with a wide range of third-party network management solutions to bridge operational gaps across server, network, and storage administrators. For instance, Brocade Network Advisor integrates with VMware vCenter and Microsoft System Center Operations Manager (SCOM) to provide end-to-end network visibility.

Network administrators also can manage Brocade devices with third-party applications through the Brocade SMI Agent, which is based on the Storage Management Initiative-Specification (SMI-S). The SMI Agent provides out-of-the-box support for leading data center orchestration frameworks, such as:

- IBM TotalStorage Productivity Center and Systems Director
- HP VirtualConnect Enterprise Manager and Storage Provisioning Manager
- EMC Next-Generation Resource Management Suite

ADVANCED MANAGEMENT FOR VCS FABRICS

Brocade Network Advisor allows organizations to maximize their Brocade VCS® Fabric technology investments by enabling advanced management of Brocade VCS fabrics and Brocade VDX® switches. Brocade Network Advisor complements the simplicity and automation inherent in Brocade VCS fabrics with management

capabilities for the entire network lifecycle—including configuration, fault isolation, network performance, and diagnostics.

Brocade Network Advisor enables administrators to easily define and implement network policies and services within VCS fabric domains. Key features include:

- **Flexible management options:**

Administrators can manage a VCS fabric as a single entity or logical chassis, or they can drill-down to individual Brocade VDX switches (see Figure 3).

- **VCS fabric visibility:** Brocade Network Advisor provides end-to-end visibility from the data center edge to hosts and VMs, as well as across multiple VCS fabrics and at individual node levels.

- **VCS fabric diagnostics:** Organizations can visualize traffic paths, measure network latency, and perform fault isolation via hop-by-hop inspection to pinpoint bottlenecks.

- **sFlow-based monitoring:** Brocade Network Advisor leverages sFlow data and integrates with VMware vCenter to enable VM-level monitoring and provide application performance insights.

- **VLAN management:** Administrators can create, edit, and delete VLANs, reducing the time spent on manual tasks.

- **Firmware management:** Brocade Network Advisor supports upgrading firmware for the entire VCS fabric or for a subset of Brocade VDX switches within the fabric.

- **VCS Virtual Fabric management:** Users can edit and delete virtual fabrics within Brocade Network Advisor, and creation is supported with C-Tag configuration.

Automatic Migration of Port Profiles Management

Brocade Network Advisor enables VM automation by simplifying management of Automatic Migration of Port Profiles (AMPP) configurations. Organizations can:

- Create, read, inventory, delete, associate, and disassociate port profiles to VMs, simplifying port profile management for network administrators.
- Rapidly associate between port profiles and VMware port groups managed by a single or multiple VMware vCenter servers. This is particularly beneficial when thousands of VMs are involved.
- Perform integrity checks of the port profiles across Brocade VDX switch configurations, either in the same fabric or across different VCS fabrics.

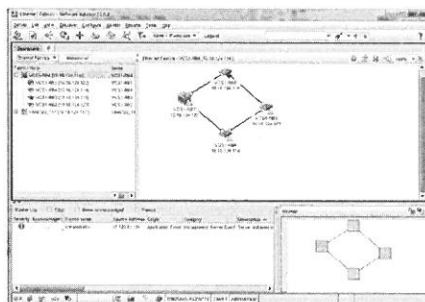


Figure 3. Brocade Network Advisor provides deep visibility with VCS fabric topology maps.

DATA CENTER SAN NETWORKS

Brocade Network Advisor simplifies management of data center fabrics with its performance dashboards, easy-to-use interface, and automation features. With Brocade Network Advisor, storage and server administrators can proactively manage their SAN environments to support non-stop networking, address issues before they impact operations, and minimize manual tasks. Key capabilities include:

- **Configuration management:**

Organizations can automate manual operations with configuration wizards for Fibre Channel SANs, FICON® and cascaded FICON environments, Fibre Channel over IP (FCIP) tunnels, Fibre Channel over Ethernet (FCoE) network environments, Host Bus Adapters (HBAs), and Converged Network Adapters (CNAs).

- **Policy Monitor management:**

Brocade Network Advisor can proactively validate SAN configurations with best-practices templates.

- **Top Talkers:** Organizations can identify devices or ports with the most demanding traffic flows for proactive capacity planning.

- **VM-to-storage visibility:** Brocade

Network Advisor integrates with leading virtualization solutions such as VMware vCenter to provide VM-to-LUN visibility and management.

Brocade Fabric Vision Technology

Brocade Network Advisor integrates with Brocade Fabric Vision technology to provide unprecedented visibility and insight across the storage network. Brocade Network Advisor supports the following Brocade Fabric Vision technology features:

- **Monitoring and Alerting Policy Suite (MAPS):** Configures and monitors data center fabrics based on a set of user-defined policies.
- **Flow Vision:** Identifies, monitors, and analyzes application-level data flows to maximize network performance.
- **Single-dialog bulk configuration:** Reduces time spent on repetitive tasks by deploying MAPS policies and rules across the fabric from a single dialog.
- **Brocade ClearLink Diagnostics:** Runs diagnostic tests on optics and cables to quickly identify and isolate potential fabric issues.
- **Bottleneck Detection:** Automatically monitors and detects network congestion in the fabric, and identifies which devices or hosts are impacted by a bottlenecked port.
- **Brocade SAN Analytics Management Pack for vCOPS:** Delivers SAN health, risk, and efficiency insights to VMware vCenter Operations Manager, enabling faster recovery and better VM performance (see Figure 4).

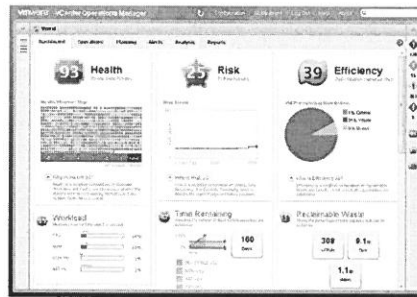


Figure 4. View of SAN health through VMware vCenter Operations Manager.

ENTERPRISE CAMPUS NETWORKS

Brocade Network Advisor provides management for increasingly complex enterprise campus networks that support services such as video conferencing, real-time collaboration, and distance learning. Brocade Network Advisor helps network administrators deliver highly available wired and wireless networks by enabling them to:

- Centralize management of Brocade wired and wireless solutions, including Access Points (APs) and wireless controllers
- Discover, manage, and deploy configurations to dynamically updated groups of devices
- Check end-to-end VLAN consistency and gain other insights using CLI Manager and policy monitoring capabilities
- Receive alerts when users deviate from customizable configuration policies, ensuring compliance standards are maintained
- Create and export reports for wired products and APs using pre-built or customized templates

Metro and Carrier Ethernet Networks

Brocade Network Advisor helps service providers address the exponential growth in network traffic by helping to reduce operational costs, prevent bandwidth over-provisioning, and improve user service provisioning. Key features include:

- Discovery, monitoring, deployment, management, and configuration capabilities for metro and Carrier Ethernet networks
- Comprehensive MPLS service management with support for MPLS Virtual Private LAN Services (VPLS), Label Switched Path (LSP), Local VPLS, Virtual Leased Line (VLL), and Local VLL services
- The ability to detect, isolate, and report Ethernet faults with full support for the IEEE 802.1ag Connectivity Fault Management (CFM) set of standards

SUPPORTED TECHNOLOGIES AND PLATFORMS

Brocade Network Advisor supports the entire Brocade portfolio, unifying network management under a single tool. For a complete list of supported Brocade products, refer to the *Brocade Network Advisor Installation and Migration Guide*.

Supported platforms and hardware, include:

- Brocade ServerIron® ADX® Series Application Delivery Switches
- Brocade Converged Network Adapters (CNAs)
- Brocade DCX® Backbones
- Brocade FastIron® SX Series
- Brocade FastIron WS Series
- Brocade Host Bus Adapters (HBAs)
- Brocade ICX® switches
- Brocade MLX® Series
- Brocade MLXe Core Routers
- Brocade Mobility Access Points
- Brocade Mobility controllers
- Brocade NetIron® CER 2000 Series
- Brocade SAN switches
- Brocade VDX switches
- Brocade Vyatta® vRouters

BROCADE GLOBAL SERVICES

Brocade Global Services has the expertise to help organizations build scalable, efficient cloud infrastructures. Leveraging 15 years of expertise in storage, networking, and virtualization, Brocade Global Services delivers world-class professional services, technical support, and education services, enabling organizations to maximize their Brocade investments, accelerate new technology deployments, and optimize the performance of networking infrastructures.

Training and Education

Brocade Global Education Services offers Web-based training and instructor-led courses to share product information, tips, and best practices—and to provide hands-on experience with Brocade Network Advisor.

AFFORDABLE ACQUISITION OPTIONS

Brocade Capital Solutions helps organizations easily address their IT requirements by offering flexible network acquisition and support alternatives. Organizations can select from purchase, lease, Brocade Network Subscription, and Brocade Subscription Plus options to align network acquisition with their unique capital requirements and risk profiles. To learn more, visit www.Brocade.com/CapitalSolutions.

MAXIMIZING INVESTMENTS

To help optimize technology investments, Brocade and its partners offer complete solutions that include professional services, technical support, and education. For more information, contact a Brocade sales partner or visit www.brocade.com.

System Requirements

Brocade Network Advisor software and documentation are available via download. For details on the recommended system specifications, refer to the Brocade Network Advisor Installation and Migration Guide.

Ordering Information

Brocade Network Advisor comes in several packages, providing organizations with the flexibility to choose what best meets their network requirements. Package options include SAN-only, IP-only, SAN+IP, and SMI Agent-only.

Ease of Upgrade

Brocade Network Advisor also provides a non-disruptive path for organizations that are upgrading from Brocade IronView® Network Manager (INM) or Brocade Data Center Fabric Manager (DCFM®).

SYSTEM REQUIREMENTS FOR 64-BIT WINDOWS AND LINUX SYSTEMS

Small Network

Intel Core 2 Duo, 2 GHz or equivalent,
8 GB RAM, 20 GB disk

Medium Network

Intel Core 2 Duo Dual-CPU, 2.4 GHz or
equivalent, 8 to 16 GB¹ RAM, 60 GB disk

Large Network

Intel Core 2 Duo Dual-CPU, 2.4 GHz or
equivalent, 8 to 16 GB¹ RAM, 80 GB disk

¹ 16 GB RAM is required for SAN+IP bundle and medium or large networks.

BROCADE NETWORK ADVISOR LICENSES

License	License Description
SAN Professional Plus	SAN management, supports up to 2,560 switch ports and 36 fabrics
SAN Enterprise	SAN management, supports up to 9,000 switch ports and 36 fabrics
IP Base ²	IP management, supports multiple VCS fabrics, up to 50 IP devices
SAN Professional Plus with IP	SAN+IP management, supports up to 2,560 SAN switch ports, 36 SAN fabrics, and 150 IP devices
SAN Enterprise with IP	SAN+IP management, supports up to 9,000 SAN switch ports, 36 SAN fabrics, and 550 IP devices

² Additional licenses can be purchased for MPLS management and increased IP device support.

SUPPORTED SERVER AND CLIENT OPERATING SYSTEMS

	Operating System	Supported Package
x86 32-bit	<ul style="list-style-type: none">Windows Server 2008 StandardWindows 7 EnterpriseRed Hat Enterprise Linux 6.1, 6.2, 6.3 AdvOracle Enterprise Linux 6.1, 6.2, 6.3	<ul style="list-style-type: none">For small and medium configurationsSAN-onlyIP-onlySMI Agent-only
x86 64-bit	<ul style="list-style-type: none">Windows Server 2008 R2 Standard, Data Center, and Enterprise EditionsWindows Server 2012 Standard, Data Center, and Enterprise EditionsWindows 7 EnterpriseWindows 8 Enterprise	<ul style="list-style-type: none">For large configurationsSAN+IPSAN-onlyIP-onlySMI Agent-only

Corporate Headquarters

San Jose, CA USA

T: +1-408-333-8000

info@brocade.com

European Headquarters

Geneva, Switzerland

T: +41-22-799-56-40

emea-info@brocade.com

Asia Pacific Headquarters

Singapore

T: +65-6538-4700

apac-info@brocade.com

© 2014 Brocade Communications Systems, Inc. All Rights Reserved. 02/14 GA-DS-1514-09

ADX, AnyIO, Brocade, Brocade Assurance, the B-wing symbol, DCX, Fabric OS, HyperEdge, ICX, MLX, MyBrocade, OpenScript, VCS, VDX, and Vyatta are registered trademarks, and The Effortless Network and The On-Demand Data Center are trademarks of Brocade Communications Systems, Inc., in the United States and/or in other countries. Other brands, products, or service names mentioned may be trademarks of others.

Notice: This document is for informational purposes only and does not set forth any warranty, expressed or implied, concerning any equipment, equipment feature, or service offered or to be offered by Brocade. Brocade reserves the right to make changes to this document at any time, without notice, and assumes no responsibility for its use. This informational document describes features that may not be currently available. Contact a Brocade sales office for information on feature and product availability. Export of technical data contained in this document may require an export license from the United States government.



BROCADE ICX 6430 AND 6450 SWITCHES

ENTERPRISE LAN SWITCHING

Enterprise-Class Stackable Switching at an Entry-Level Price

HIGHLIGHTS

- Offers enterprise-class stackable switching at an entry-level price, allowing organizations to buy what they need now and easily scale as demand grows and new technologies emerge
- Delivers unprecedented feature/price value for enterprise applications, including Unified Communications (UC) and mobility, with 10 Gigabit Ethernet (GbE) and PoE/PoE+
- Provides unmatched availability for low-cost switching with redundant uplink/stacking ports, hitless stacking failover, and configurable power redundancy
- Simplifies network operations and protects investments with the Brocade HyperEdge Architecture, enabling consolidated network management and advanced services sharing across heterogeneous switches
- Offers an attractive 12-port, compact, and enterprise-class fanless switch model for deployments outside the wiring closet
- Includes the Brocade Assurance Limited Lifetime Warranty and three years of technical support

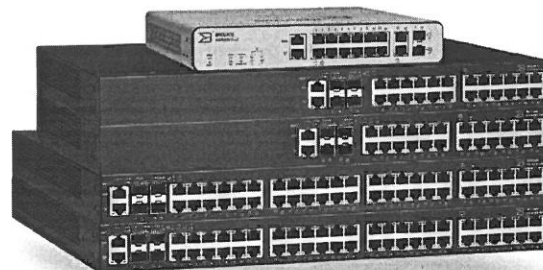
Today's organizations expect their enterprise campus LANs to deliver more services to more users at a lower cost. These services include next-generation business applications as well as anytime, anywhere access for mobile devices. At the same time, campus LANs must be able to scale easily to meet future demands and efficiently evolve within dynamic business environments.

Brocade® ICX® 6430 and 6450 Switches provide enterprise-class stackable LAN switching solutions to meet the growing demands of campus networks. Designed for small to medium-size enterprises, branch offices, and distributed campuses, these intelligent, scalable edge switches deliver enterprise-class functionality at an affordable price—without compromising on performance and reliability. The Brocade ICX 6430 and 6450 are available

in 12-, 24-, and 48-port 10/100/1000 Mbps models and 1 Gigabit Ethernet (GbE) or 10 GbE dual-purpose uplink/stacking ports (see Figures 1 and 2)—with or without IEEE 802.3af Power over Ethernet (PoE) and 802.3at Power over Ethernet Plus (PoE+)—to support enterprise edge networking, wireless mobility, and IP communications.

BUILT FOR MAXIMUM COST-EFFICIENCY AND INVESTMENT PROTECTION

With Brocade ICX 6430 and 6450 Switches, organizations can buy only what they need today and easily scale user ports and services as their network requirements evolve. Brocade offers maximum investment protection through flexible software licensing options that bring advanced services and performance to lower-cost ports.



BROCADE

In particular, the Brocade HyperEdge™ Architecture allows premium switch features and services to be shared with entry-level switches (Brocade ICX 6450 only). The Brocade ICX switches also are hardware-capable for easy software implementation (software available in a future release) of emerging security (IEEE 802.1AE MACsec) and energy savings (IEEE 802.3az EEE) standards, helping to protect today's investments while supporting tomorrow's needs.

Brocade ICX 6430 and 6450 Switches come with three years of technical support from the Brocade Technical Assistance Center and software maintenance updates. With these capabilities, organizations gain peace of mind while freeing up IT budget and resources to grow their businesses.

AUTOMATED DEPLOYMENT AND MANAGEMENT

Brocade ICX 6430 and 6450 Switches help simplify network deployment and management by enabling auto-discovery of new Brocade ICX switches within the stack. IT organizations can auto-configure switches using pre-set instructions on the network. To further simplify management, these stacked switches collectively utilize only a single IP address and offer transparent forwarding across the stack.

By embedding sFlow capabilities into the Brocade ICX 6450, Brocade delivers an “always-on” monitoring technology that operates with wire-speed performance. sFlow dramatically reduces implementation complexity compared to traditional network monitoring solutions that rely on mirrored ports, probes, and line-tap technologies.

HIGH AVAILABILITY AND RESILIENCY

Brocade Ethernet switch stacking technology helps IT organizations meet growing user demand by delivering high availability through real-time state synchronization across the stack and instantaneous hitless failover support. In addition, organizations can use hot-insertion and removal of stack members to avoid interrupting network service when adding or replacing a switch. High-performance Link Aggregation Groups (LAGs) increase 10 GbE uplink bandwidth and redundancy to the core, giving users uninterrupted high performance to support the most demanding applications. Brocade ICX 6430 and 6450 Switches also offer an external power supply for added resiliency and increased PoE/PoE+ port availability (see Figure 3).

STACKING TECHNOLOGY FOR THE MOST DEMANDING CAMPUS LAN ENVIRONMENTS

Brocade Ethernet switch stacking technology makes it possible to stack up to eight Brocade ICX 6450 Switches into a single logical switch, providing simple and robust expandability for future growth at the network edge. This stacked switch has only a single IP address to simplify management and offers transparent forwarding across a pool of up to 384 1 GbE ports and 32 10 GbE ports. When new switches join the stack, they automatically inherit the stack's existing configuration file, enabling true plug-and-play network expansion. Flexible licensing of 1 GbE to 10 GbE ports for uplink and stacking allows organizations to optimize network performance based on specific

requirements. Brocade stacking technology also delivers high availability, enabling instantaneous hitless failover to a standby stack controller if the master stack controller fails. In addition, organizations can use hot-insertion and removal of stack members to avoid interrupting network services.

For networks with lower bandwidth requirements, the Brocade ICX 6430 offers the same rugged stacking capability (except the Brocade ICX 6430-C) at a reduced price, providing a lower-density solution of up to 192 1 GbE access ports with 16 1 GbE uplink and stacking ports, and a maximum stack height of four switches.

Built to Power Next-Generation Edge Devices

The Brocade ICX 6430 and 6450 can deliver both PoE power and data across network connections, providing a single-cable solution for the latest edge devices (see Figure 4). Brocade ICX switches are compatible with industry-standard Voice over IP (VoIP) equipment as well as legacy IP phones. In addition, they support the PoE+ standard (IEEE 802.3at) to provide up to Class 4 (30 watts) power to each device. This high-powered solution simplifies wiring for next-generation edge devices, such as video conferencing and VoIP phones, surveillance cameras, and 802.11n wireless Access Points (APs). The PoE capability reduces the number of power receptacles and power adapters while increasing reliability and wiring flexibility. The Brocade ICX 6450 can provide PoE power to all ports and PoE+ (30 watts) to all ports when an external power supply is deployed.

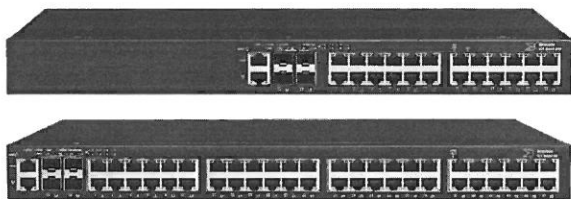


Figure 1.

Brocade ICX 6450 Switches support four dual-mode 1 GbE/10 GbE SFP/SFP+ ports for uplink and stacking, and up to 48 1 GbE RJ-45 ports. Brocade ICX 6430-24 and 6430-48 Switches support four 1 GbE SFP ports for uplink and stacking to provide a cost-optimized solution for lower-traffic networks.

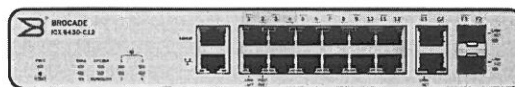


Figure 2.

The Brocade ICX 6430-C Compact Switch supports two 1 GbE RJ-45 and two 1 GbE SFP ports for uplink and 12 1 GbE RJ-45 ports with four PoE/PoE+ capable ports in a compact and fanless design—ideal for deployment outside the wiring closet.

Plug-and-Play Operations for Powered Devices

Brocade ICX switches support the IEEE 802.1AB Link Layer Discovery Protocol (LLDP) and ANSI TIA 1057 Link Layer Discovery Protocol-Media Endpoint Discovery (LLDP-MED) standards that enable organizations to deploy interoperable multivendor solutions for Unified Communications (UC). Configuring IP endpoints such as VoIP phones can be a complex task, requiring manual and time-consuming configuration. LLDP and LLDP-MED provide a standard, open method for configuring, discovering, and managing network infrastructure.

The LLDP protocols also reduce operational costs by simplifying and automating network operations. For example, LLDP-MED provides an open protocol for configuring Quality of Service (QoS), security policies, Virtual LAN (VLAN) assignments, PoE power levels, and service priorities.

Compact Switch Solution for Deployment Outside the Wiring Closet

The Brocade ICX 6430-C Compact Switch offers enterprise-class LAN switching capabilities, performance, reliability, security, and manageability in a small form factor with fanless operation for deployment outside the wiring closet. It is ideal for deployment in classrooms, retail locations,

factories, small offices, workgroup, and space-constrained environments. The Brocade ICX 6430-C is available in a 12-port 10/100/1000 Mbps model with IEEE 802.3af PoE and 802.3at PoE+ support on four ports plus four additional 1 GbE uplink ports.

In the enterprise, the Brocade ICX 6430-C Compact Switch can be used to extend the reach of the network outside the wiring closet, bringing connectivity to more users and supporting additional wireless AP deployment without running more wires. To simplify deployment in-situ, the Brocade ICX 6430-C offers flexible mounting options, such as wall brackets and a magnetic mount kit.

Cost-Optimized Cooling Options

The Brocade ICX 6430 48-port and Brocade ICX 6450 24- and 48-port switches offer industry-standard side-to-back airflow with quiet fans at less than 40 dB (except the Brocade ICX 6450-48P). The Brocade ICX 6430-C and 6430-24 Switches are available in a fanless configuration, helping to minimize sound and costs for deployments where users are present, such as classrooms and open office environments.

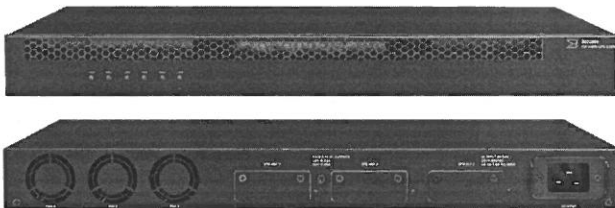


Figure 3.

The optional Brocade ICX 6400-EPS1500 is an external power supply source to provide additional power to the Brocade ICX switches (except the Brocade ICX 6430-C and 6430-24). It also can be used for system power redundancy and increased PoE/PoE+ power budget to enable additional PoE/PoE+ ports. Each Brocade ICX 6400-EPS1500 can connect up to three Brocade ICX 6430 and 6450 Switches.

BROCADE HYPEREDGE ARCHITECTURE

The Brocade HyperEdge Architecture brings campus networks into the modern era to better support mobility, security, and application agility. This evolutionary architecture integrates innovative wired and wireless technologies to streamline application deployment, simplify network management, and reduce operating costs.

The HyperEdge Architecture enables organizations to build networks that are:

- **Agile:** By eliminating Spanning Tree Protocol (STP) between HyperEdge Domain switches through a flatter Layer 2 design, the HyperEdge Architecture increases link utilization and reduces application deployment complexity. The Distributed AP Forwarding functionality of Brocade wireless Access Points (APs) efficiently secures and directs mobile traffic at the network edge without tunneling data back to a central controller at the network core.
- **Automated:** By grouping premium and entry-level switches with intelligent wireless APs into a consolidated management domain, HyperEdge Domains eliminate the need to provision and manage devices individually—simplifying network deployment and management.
- **Cost-effective:** The HyperEdge Architecture enables the propagation of advanced features and services from premium switches to entry-level switches, allowing IT organizations to purchase only what they need today and add intelligent services as the business evolves. Further cost savings is achieved with Brocade wireless solutions using controller-less or controller-shared license deployment options.

Basic Layer 3 Capabilities

Brocade ICX 6450 Switches offer an upgrade option to bring Layer 3 capabilities to the network edge, reducing complexity and enhancing the reliability of enterprise networks.

Data Center ToR Server Connectivity

The Brocade ICX 6430 and 6450 are designed to fit in server racks by consuming only one rack unit. In data center environments where most servers are 1 GbE-capable, the Brocade ICX 6430 and 6450 provide a compact and cost-effective 1 GbE Top-of-Rack (ToR) switch by simply connecting the 1 GbE Network Interface Cards (NICs) in the servers to the Brocade ICX 6430 and 6450 1 GbE ports (see Figure 5). This configuration uses 10 GbE links (Brocade ICX 6450) or 1 GbE links (Brocade ICX 6430) to connect to Brocade ICX data center aggregation switches.

SIMPLIFIED, SECURE STANDARDS-BASED MANAGEMENT AND MONITORING

Brocade ICX 6430 and 6450 Switches provide simplified, standards-based management capabilities that help organizations reduce administrative time and effort while securing their networks.

sFlow-based “Always-On” Network Monitoring

sFlow is a standards-based network export protocol (RFC 3176) that addresses many of the challenges that network managers face

today. By embedding sFlow into the Brocade ICX 6450 Switches, Brocade delivers an “always-on” technology that operates with wire-speed performance. sFlow dramatically reduces implementation costs compared to traditional network monitoring solutions that rely on mirrored ports, probes, and line-tap technologies. Moreover, sFlow gives organizations a full, enterprise-wide monitoring capability for every port in the network.

Simplified Deployment with Auto-Configuration

Brocade ICX 6430 and 6450 Switches support auto-configuration, simplifying deployment with a truly plug-and-play experience. Organizations can use this feature to automate IP address and feature configuration without requiring a highly trained network engineer onsite. When the switches power up, they automatically receive an IP address and configuration from DHCP and Trivial File Transport Protocol (TFTP) servers. At this time, the switches can also automatically receive a software update to be at the same code revision as currently installed switches.

Open-Standards Management

Brocade ICX 6430 and 6450 Switches include an industry-standard Command Line Interface (CLI) and support Secure Shell (SSHv2), Secure Copy (SCP), and SNMPv3 to restrict and encrypt management communications to the system. In addition, support for Terminal Access Controller Access Control System (TACACS/TACACS+)

and RADIUS authentication helps ensure secure operator access. Embedded Web management is also provided through a GUI-based device interface, and organizations can use Brocade Network Advisor to achieve full device and network management visibility.

Out-of-Band Management

Brocade ICX 6430 and 6450 Switches include a 10/100/1000 Mbps RJ-45 Ethernet port dedicated for out-of-band management, providing a remote path to manage the switches, regardless of the status or configuration of the data ports.

UNIFIED WIRED/WIRELESS NETWORK MANAGEMENT WITH BROCADE NETWORK ADVISOR

Managing enterprise campus networks continues to become more complex due to the growth in services that rely on wired and wireless networks. Services such as Internet, e-mail, video conferencing, real-time collaboration, and distance learning all have specific configuration and management requirements. At the same time, organizations face increasing demand to provide uninterrupted services for high-quality voice and Unified Communications (UC), wireless mobility, and multimedia applications.

To reduce complexity and the time spent managing these environments, the easy-to-use Brocade Network Advisor discovers, manages, and deploys configurations to groups of IP devices. By using the Brocade Network Advisor Device Configuration Manager tool, organizations can configure Virtual LANs (VLANs) within the network, manage wireless access point realms, or execute CLI commands on specific IP devices or groups of IP devices. sFlow-based proactive monitoring is ideal for performing network-wide troubleshooting, generating traffic reports, and gaining visibility into network activity from the edge to the core. Brocade Network Advisor centralizes management of the entire family of Brocade wired and wireless products, including the Brocade ICX switches.

WARRANTY

Brocade ICX 6430 and 6450 Switches are covered by the Brocade Assurance Limited Lifetime Warranty. For details, visit www.brocade.com/warranty.

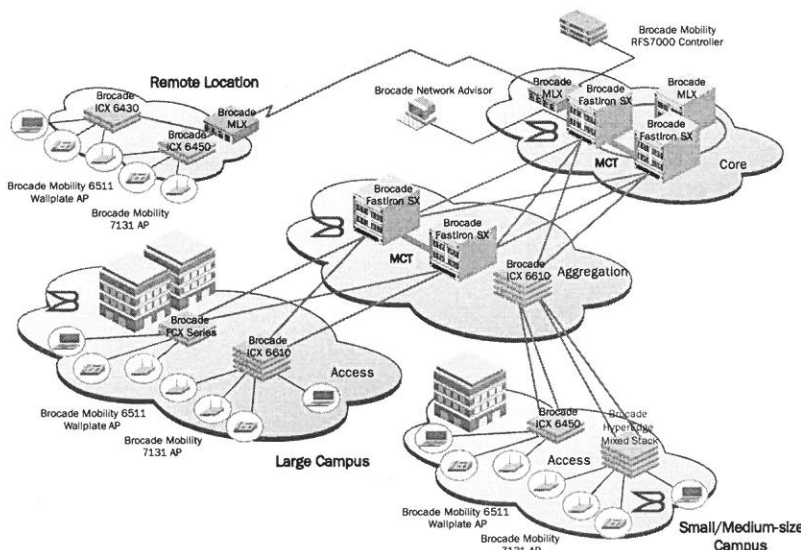


Figure 4.

Brocade ICX 6430 and 6450 Switches are suitable for a wide range of small to medium-size enterprises and branch office deployments at the network access layer.

BEST-IN-CLASS SUPPORT

Brocade ICX 6430 and 6450 Switches are supported by next-business-day advance replacement where available, as well as software defect repairs and maintenance updates. In an effort to further improve service levels and operational efficiency, Brocade includes three years of technical support for Brocade ICX 6430 and 6450 Switches, providing direct access to the Brocade Technical Assistance Center during normal 8x5 business hours.

BROCADE GLOBAL SERVICES

Brocade Global Services has the expertise to help organizations build scalable, efficient cloud infrastructures. Leveraging 15 years of expertise in storage, networking, and virtualization, Brocade Global Services delivers world-class professional services,

technical support, network monitoring services, and education, enabling organizations to maximize their Brocade investments, accelerate new technology deployments, and optimize the performance of networking infrastructures.

CLOUD-OPTIMIZED NETWORK ACQUISITION

Brocade helps organizations easily address their information technology requirements by offering flexible network acquisition and support alternatives to meet their financial needs. Organizations can select from purchase, lease, and Brocade Network Subscription options to align network acquisition with their unique capital requirements and risk profiles. To learn more, visit www.Brocade.com/CapitalSolutions.

MAXIMIZING INVESTMENTS

To help optimize technology investments, Brocade and its partners offer complete solutions that include professional services, technical support, and education. For more information, contact a Brocade sales partner or visit www.brocade.com.

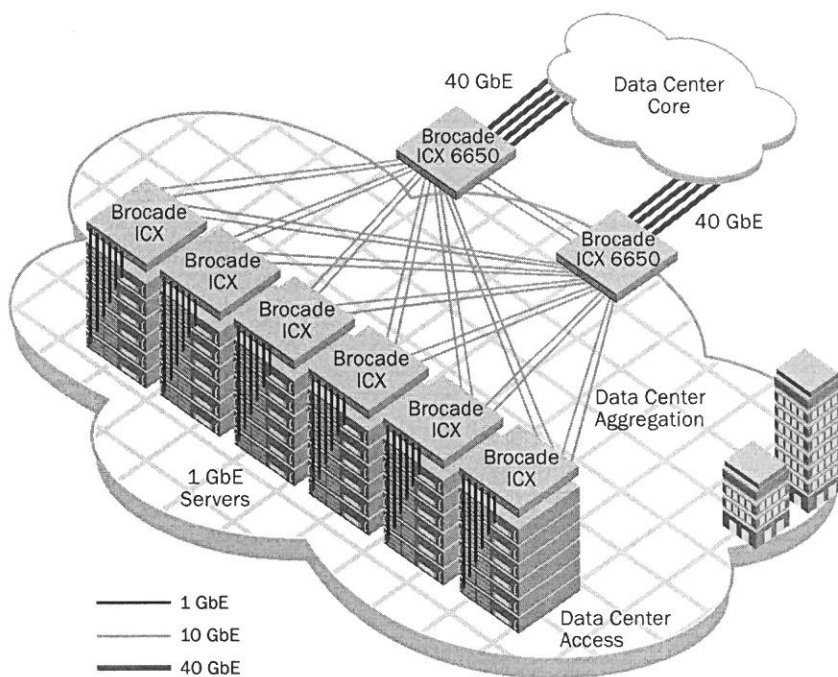


Figure 5.

Brocade ICX 6430 and 6450 Switches provide ToR access while Brocade ICX 6650 Switches provide data center aggregation.

BROCADE ICX 6430/6450 FEATURE AND MODEL SPECIFICATIONS

	Brocade ICX 6430					Brocade ICX 6450			
	6430-C12	6430-24	6430-24P	6430-48	6430-48P	6450-24	6450-24P	6450-48	6450-48P
10/100/1000 Mbps RJ-45 ports	12	24	24	48	48	24	24	48	48
10/100/1000 Mbps RJ-45 uplink ports	2								
1 GbE SFP ports (uplink/stacking)	2*	4	4	4	4				
1/10 GbE SFP/SFP+ ports (uplink/stacking)						4 (Optional 2-port license)	4 (Optional 2-port license)	4 (Optional 2-port license)	4 (Optional 2-port license)
Stacking bandwidth (data rate, full duplex)		4 Gbps	4 Gbps	4 Gbps	4 Gbps	40 Gbps	40 Gbps	40 Gbps	40 Gbps
Units per stack		4	4	4	4	8	8	8	8
Internal AC power supply rating	100 W	36 W	525 W	65 W	525 W	65 W	525 W	100 W	880 W
External power supply (redundant power and PoE power)			Optional 525 W	Optional 525 W	Optional 525 W	Optional 525 W	Optional 525 W	Optional 525 W	Optional 525 W × 2
PoE/PoE+ power budget (internal power supply)	68 W		390 W		390 W		390 W		780 W
PoE Class 3 ports (internal power supply)	4		24		24		24		48
PoE+ ports (internal power supply)	2		12		12		12		24
Max PoE Class 3 ports (with internal and external power supplies)	4		24		48		24		48
Max PoE+ ports (with internal and external power supplies)	2		24		24		24		48
Base software	Layer 2	Layer 2	Layer 2	Layer 2	Layer 2	Layer 3 with static routes	Layer 3 with static routes	Layer 3 with static routes	Layer 3 with static routes
Layer 3 routing (RIP, OSPF)						Optional	Optional	Optional	Optional
Switching capacity (data rate, full duplex)	32 Gbps	56 Gbps	56 Gbps	104 Gbps	104 Gbps	128 Gbps	128 Gbps	176 Gbps	176 Gbps
Forwarding capacity (data rate, full duplex)	24 Mpps	42 Mpps	42 Mpps	77 Mpps	77 Mpps	96 Mpps	96 Mpps	132 Mpps	132 Mpps

* Stacking is not supported on the Brocade ICX 6430-C12. 100Base-FX is supported on the Brocade ICX 6430-C12.

BROCADE ICX 6430/6450 SPECIFICATIONS

System Architecture

Connector options	<p>10/100/1000 Mbps ports: RJ-45</p> <p>Brocade ICX 6430: 1 Gbps SFP ports for uplink/stacking: SX, LX, TX, LHA, LHB, direct-attached copper cable (Twinax) for stacking</p> <p>Brocade ICX 6430-C: 100 Mbps/1 Gbps SFP ports for uplink: FX, SX, LX, TX, LHA, LHB; 10/100/1000 Mbps RJ-45 ports for uplink</p> <p>Brocade ICX 6450: 1/10 Gbps SFP+ ports for uplink/stacking: USR, SR, LR, ER, LRM, direct-attached copper cable (Twinax) for stacking</p> <p>Out-of-band Ethernet management: 10/100/1000 Mbps RJ-45</p> <p>Console management: RJ-45 serial</p> <p>External power connector: Redundant system power supply and extended PoE power supply</p>
Maximum MAC addresses	<p>Brocade ICX 6430, 6430-C: 8000</p> <p>Brocade ICX 6450: 16,000</p>
Maximum VLANs	<p>Brocade ICX 6430-C: 1024</p> <p>Brocade ICX 6430, 6450: 4096</p>
Maximum STP (spanning trees)	<p>Brocade ICX 6430, 6430-C: 32</p> <p>Brocade ICX 6450: 253</p>
Maximum routes (in hardware)	<p>Brocade ICX 6450: 12,000 (IPv4)</p> <p>Brocade ICX 6450: 1070 (IPv6)</p>
Trunking	<p>Brocade ICX 6430</p> <p>Maximum ports per trunk: 8</p> <p>Maximum trunk groups: 29</p> <p>Brocade ICX 6430-C</p> <p>Maximum ports per trunk: 8</p> <p>Maximum trunk groups: 16</p> <p>Brocade ICX 6450</p> <p>Maximum ports per trunk: 8</p> <p>Maximum trunk groups: 124</p>
Priority queues	<p>Brocade ICX 6430, 6430-C: 4</p> <p>Brocade ICX 6450: 8</p>
Maximum jumbo frame size	9216 bytes
Layer 2 switching	<ul style="list-style-type: none"> • 802.1s Multiple Spanning Tree • 802.1X Authentication • Auto MDI/MDIX • BPDU Guard, Root Guard • Dual-Mode VLANs • MAC-based VLANs, Dynamic MAC-based VLAN activation • Dynamic VLAN Assignment • Dynamic Voice VLAN Assignment • Fast Port Span • GARP VLAN Registration Protocol • IGMP Snooping (v1/v2/v3) • IGMP Proxy for Static Groups • IGMP v2/v3 Fast Leave • IGMP Tracking • Inter-Packet Gap (IPG) adjustment • Link Fault Signaling (LFS) • MAC Address Locking, MAC Port Security • MAC-Layer Filtering, Filtering on source and destination MAC address

Layer 2 switching (continued)	<ul style="list-style-type: none"> • MAC Learning Disable • MLD Snooping (v1/v2) • Multi-device Authentication • Per-VLAN Spanning Tree (PVST/PVST+/PVRST) • Mirroring: Port-based, ACL-based, MAC Filter-based, and VLAN-based • Port Loop Detection • Private VLAN • Protected Link Groups • Protocol VLAN (802.1v), Subnet VLAN • Remote Fault Notification (RFN) • Single-instance Spanning Tree • Single-link LACP • Trunk Groups • Uni-Directional Link Detection (UDLD)
IPv6 support	<ul style="list-style-type: none"> • Host functionality management • Hardware support for IPv6 • IPv6 static routing (Brocade ICX 6450 only)
Base Layer 3 routing (Brocade ICX 6450)	<ul style="list-style-type: none"> • IPv4 and IPv6 Static Routes • Port-based Access Control Lists • Host Routes • Virtual Interfaces, up to 255 virtual interfaces • Routed Interfaces • Route-only Support • IP helper • Routing Between Directly Connected Subnets • ECMP • Layer 3/Layer 4 ACLs
Premium Layer 3 routing (Brocade ICX 6450)	<ul style="list-style-type: none"> • OSPF v2 • RIP v1/v2 • Virtual Route Redundancy Protocol (VRRP) • VRRP-E
Metro features (except Brocade ICX 6430-C)	<ul style="list-style-type: none"> • Metro-Ring Protocol MRP (v1, v2) • Virtual Switch Redundancy Protocol (VSRP) • VLAN Stacking (Q-in-Q) • VRRP • Topology Groups
Quality of Service (QoS)	<ul style="list-style-type: none"> • ACL Mapping and Marking of ToS/DSCP • ACL Mapping and Marking of 802.1p • ACL Mapping to Priority Queue • ACL Mapping to ToS/DSCP • Classifying and Limiting Flows Based on TCP Flags • DHCP Relay • DiffServ Support • Honoring DSCP and 802.1p • MAC Address Mapping to Priority Queue • Priority Queue Management using Weighted Round Robin (WRR), • Strict Priority (SP), and a combination of WRR and SP

IEEE standards compliance	<ul style="list-style-type: none"> • 802.1AB LLDP/LLDP-MED • 802.1D-2004 MAC Bridging • 802.1p Mapping to Priority Queue • 802.1Q with Tagging • 802.1s Multiple Spanning Tree • 802.1w Rapid Spanning Tree (RSTP) • 802.1X Port-based Network Access Control • 802.3 10BASE-T • 802.3ab 1000BASE-T • 802.3ad Link Aggregation (Dynamic and Static) • 802.3ae 10 Gigabit Ethernet • 802.3af Power over Ethernet • 802.3at Power over Ethernet Plus • 802.3u 100BASE-TX • 802.3x Flow Control • 802.3z 1000BASE-SX/LX • 802.3 MAU MIB (RFC 2239) • 802.1AE-MACsec (HW-capable): Brocade ICX 6450 only • 802.3az-2010 - EEE (HW-capable)
Traffic management	<ul style="list-style-type: none"> • ACL-based inbound rate limiting and traffic policies • Broadcast, multicast, and unknown unicast rate limiting • Inbound rate limiting per port • Outbound rate limiting per port and per queue
High availability	<ul style="list-style-type: none"> • Redundant external power supply • Layer 3 VRRP protocol redundancy • Real-time state synchronization across the stack • Hitless failover from master to standby stack controller • Protected link groups • Hot insertion and removal of stacked units

Management

Management and control	<ul style="list-style-type: none"> • Auto Configuration • Brocade HyperEdge technology (Brocade ICX 6450 only) • Configuration Logging • Digital Optical Monitoring (DOM) • Display Log Messages on Multiple Terminals • Embedded Web Management • Embedded DHCP Server • Industry-standard Command Line Interface (CLI) • Key-based activation of optional software features • Integration with HP OpenView for Sun Solaris, HP-UX, IBM AIX, and Windows • Brocade Network Advisor support • MIB Support for MRP, Port Security, MAC Authentication, MAC-based VLANs • Out-of-band Ethernet Management • RFC 783 TFTP • RFC 854 TELNET Client and Server • RFC 951 Bootp • RFC 1157 SNMPv1/v2c • RFC 1213 MIB-II • RFC 1493 Bridge MIB • RFC 1516 Repeater MIB • RFC 1573 SNMP MIB II • RFC 1643 Ethernet Interface MIB • RFC 1643 Ethernet MIB • RFC 1724 RIP v1/v2 MIB • RFC 1757 RMON MIB • RFC 2068 Embedded HTTP • RFC 2131 DHCP Server and DHCP Relay • RFC 2570 SNMPv3 Intro to Framework • RFC 2571 Architecture for Describing SNMP Framework • RFC 2572 SNMP Message Processing and Dispatching • RFC 2573 SNMPv3 Applications • RFC 2574 SNMPv3 User-based Security Model • RFC 2575 SNMP View-based Access Control Model SNMP • RFC 2818 Embedded HTTPS • RFC 3176 sFlow (Brocade ICX 6450 only) • SNTP Simple Network Time Protocol • Multiple Syslog Servers
------------------------	--

Embedded security	<ul style="list-style-type: none"> • 802.1X Accounting • MAC authentication • DHCP snooping • Dynamic ARP inspection • Bi-level Access Mode (Standard and EXEC Level) • EAP pass-through support • Packet filtering on TCP Flags • IEEE 802.1X username export in sFlow • Protection against Denial of Service (DoS) attacks
-------------------	---

Secure management	<ul style="list-style-type: none"> • Authentication, Authorization, and Accounting (AAA) • Advanced Encryption Standard (AES) with SSHv2 • Bi-level Access Mode (Standard and EXEC Level) • RADIUS/TACACS/TACACS+ • Secure Copy (SCP) • Secure Shell (SSHv2) • Username/password • Web authentication
-------------------	---

Physical Specifications

Dimensions	<ul style="list-style-type: none"> • Brocade ICX 6430-C12 model: 1.7 in. (H) × 10.6 in. (W) × 8.4 in. (D) 4.34 cm (H) × 26.92 cm (W) × 21.33 cm (D) • All 24-port models: 1.7 in. (H) × 17.44 in. (W) × 9.45 in. (D) 4.34 cm (H) × 44.3 cm (W) × 24 cm (D) • All 48-port models: 1.7 in. (H) × 17.44 in. (W) × 14.57 in. (D) 4.34 cm (H) × 44.3 cm (W) × 37 cm (D) • ICX6400-EPS1500: 1.7 in. (H) × 17.44 in. (W) × 14.57 in. (D) 4.34 cm (H) × 44.3 cm (W) × 37 cm (D)
------------	---

Weight	<ul style="list-style-type: none"> • Brocade ICX 6430-C12: 4 lb (1.81 kg) • Brocade ICX 6430-24: 7.58 lb (3.44 kg) • Brocade ICX 6430-24P: 10.08 lb (4.57 kg) • Brocade ICX 6430-48: 11.09 lb (5.03 kg) • Brocade ICX 6430-48P: 13.8 lb (6.26 kg) • Brocade ICX 6450-24: 7.39 lb (3.35 kg) • Brocade ICX 6450-24P: 10.03 lb (4.55 kg) • Brocade ICX 6450-48: 11.07 lb (5.02 kg) • Brocade ICX 6450-48P: 14.11 lb (6.4 kg) • Brocade ICX 6400-EPS1500: 14.85 lb (6.75 kg)
--------	--

Environment

Temperature	<ul style="list-style-type: none"> • Operating temperature: 0°C to 45°C / 32°F to 113°F (Brocade ICX 6430-C12: 0°C to 40°C / 32°F to 104°F) • Storage temperature: -40°C to 70°C / -40°F to 158°F
-------------	---

Humidity	<ul style="list-style-type: none"> • Relative humidity: 5% to 95%, non-condensing
----------	--

Storage altitude	<ul style="list-style-type: none"> • 10,000 ft (3000 m) maximum
------------------	--

Acoustic (25 °C)	<ul style="list-style-type: none"> • Brocade ICX 6430-C12: Fanless (ambient) • Brocade ICX 6430-24: Fanless (ambient) • Brocade ICX 6430-24P: 39.2 dBA • Brocade ICX 6430-48: 37.2 dBA • Brocade ICX 6430-48P: 39.3 dBA • Brocade ICX 6450-24: 37.9 dBA • Brocade ICX 6450-24P: 39.2 dBA • Brocade ICX 6450-48: 37.2 dBA • Brocade ICX 6450-48P: 55.5 dBA • Brocade ICX 6400-EPS1500: 60.9 dBA
------------------	--

Vibration	<ul style="list-style-type: none"> • IEC 68-2-36, IEC 68-2-6
-----------	---

Shock and drop	<ul style="list-style-type: none"> • IEC 68-2-27 • IEC 68-2-32
----------------	--

MTBF (25 °C, CL: 60%)	<ul style="list-style-type: none"> • Brocade ICX 6430-C12: 1,124,442 hours • Brocade ICX 6430-24: 1,229,732 hours • Brocade ICX 6430-24P: 505,469 hours • Brocade ICX 6430-48: 748,262 hours • Brocade ICX 6430-48P: 384,288 hours • Brocade ICX 6450-24: 906,243 hours • Brocade ICX 6450-24P: 485,749 hours • Brocade ICX 6450-48: 756,081 hours • Brocade ICX 6450-48P: 397,590 hours • Brocade ICX 6400-EPS1500: 789,923 hours
-----------------------	--

Power	
Power supplies	<ul style="list-style-type: none"> Integrated AC power supply for system and PoE power External 1500 W AC power supply for redundant system power and extended PoE power
Power inlet (Max current rating at 100 V input)	<ul style="list-style-type: none"> Brocade ICX 6430-C12: 1.5 Amp Brocade ICX 6430-24: 0.9 Amp Brocade ICX 6430-24P: 6 Amp Brocade ICX 6430-48: 1.5 Amp Brocade ICX 6430-48P: 6 Amp Brocade ICX 6450-24: 1.5 Amp Brocade ICX 6450-24P: 6 Amp Brocade ICX 6450-48: 2 Amp Brocade ICX 6450-48P: 10 Amp Brocade ICX 6400-EPS1500: 16 Amp
Input voltage	<ul style="list-style-type: none"> Universal 100 to 240 VAC
AC power cord current rating	<ul style="list-style-type: none"> Brocade ICX 6430-C12: 10 Amp, 100 to 240 V Brocade ICX 6430 and 6450 switches: 13 Amp, 100 to 240 V Brocade ICX 6400-EPS1500: 20 Amp, 100 to 240 V
DC power cord current rating	<ul style="list-style-type: none"> Brocade ICX 6400-EPS1500: 5.6 Amp at 12 V rail; 6.85 Amp at 54 V rail Brocade ICX 6400-EPS1500: 3 DC cables included; cable length: 3 feet
Input line frequency	<ul style="list-style-type: none"> 50 to 60 Hz
Heat dissipation (no PoE load)	<ul style="list-style-type: none"> Brocade ICX 6430-C12: 62 BTU/hr Brocade ICX 6430-24: 67 BTU/hr Brocade ICX 6430-24P: 104 BTU/hr Brocade ICX 6430-48: 128 BTU/hr Brocade ICX 6430-48P: 132 BTU/hr Brocade ICX 6450-24: 124 BTU/hr Brocade ICX 6450-24P: 129 BTU/hr Brocade ICX 6450-48: 186 BTU/hr Brocade ICX 6450-48P: 192 BTU/hr

Regulatory Compliance and Safety Approvals	
Electromagnetic compatibility	<ul style="list-style-type: none"> FCC Part 15, Subpart B, Class A ICES-003: 2004 VCCI—Technical Requirement (V-3/2011.04)/ Class A EN 55022: 2006+A1: 2007 Class A EN 61000-3-2: 2006+A1:2009+A2:2009 Class A EN 61000-3-3: 2008 EN 61000-6-1: 2007 EN 61000-6-3: 2007 EN 55024: 1998+A1:2001+A2:2003 EN 300 386 (V1.4.1): 2008 IEC 61000-4-2: 2008 ED. 2.0 IEC 61000-4-3: 2006+A1:2007+A2:2010 ED. 3.2 IEC 61000-4-4: 2004+A1:2010 ED. 2.0 IEC 61000-4-5: 2005 ED. 2.0 IEC 61000-4-6: 2008 ED. 3.0 IEC 61000-4-8: 2009 ED. 2.0 IEC 61000-4-11: 2004 ED. 2.0
Safety	<ul style="list-style-type: none"> CAN/CSA-C22.2 NO. 60950-1-07; UL 60950-1 2nd Edition; IEC 60950-1 2nd Edition; EN 60950-1:2006 Safety of Information Technology Equipment; EN 60825-1 Safety of Laser Products—Part 1: Equipment Classification, Requirements and User's Guide; EN 60825-2 Safety of Laser Products—Part 2: Safety of Optical Fibre Communication Systems
Environmental regulatory compliance	<ul style="list-style-type: none"> RoHS-compliant (6 of 6); WEEE-compliant

Measured Power Utilization			
Models	Idle ¹	5% Throughput ²	100% Throughput ³
Brocade ICX 6430-C12	10 W	56 W	93 W
Brocade ICX 6430-24	7 W	19 W	20 W
Brocade ICX 6430-24P	9 W	391 W	396 W
Brocade ICX 6430-48	15 W	37 W	38 W
Brocade ICX 6430-48P	16 W	401 W	403 W
Brocade ICX 6450-24	20 W	29 W	37 W
Brocade ICX 6450-24P	21 W	395 W	400 W
Brocade ICX 6450-48	30 W	51 W	55 W
Brocade ICX 6450-48P	31 W	771 W	776 W

¹ All ports are disconnected with no PoE load.

² 5 percent traffic load on all ports connected with maximum possible PoE loads (if equipped).

³ 100 percent traffic load on all ports connected with maximum possible PoE loads (if equipped).

BROCADE ICX 6430/6450 ORDERING INFORMATION

Part Number	Description
ICX6430-C12	12-port 1 GbE compact switch (4 PoE+), 2×100 Mbps/1 GbE SFP and 2×100 Mbps/1 GbE copper uplinks, fanless
ICX6430-24	24-port 1 GbE switch, 4×1 GbE SFP uplink/stacking ports, fanless
ICX6430-24P	24-port 1 GbE switch PoE+ 390 W, 4×1 GbE SFP uplink/stacking ports
ICX6430-48	48-port 1 GbE switch, 4×1 GbE SFP uplink/stacking ports
ICX6430-48P	48-port 1 GbE switch PoE+ 390 W, 4×1 GbE SFP uplink/stacking ports
ICX6450-24	24-port 1 GbE switch, 2×1 GbE SFP+ (upgradable to 10 GbE) and 2×1 GbE/10 GbE SFP+ uplink/stacking ports
ICX6450-24P	24-port 1 GbE switch PoE+ 390 W, 2×1 GbE SFP+ (upgradable to 10 GbE) and 2×1 GbE/10 GbE SFP+ uplink/stacking ports
ICX6450-48	48-port 1 GbE switch, 2×1 GbE SFP+ (upgradable to 10 GbE) and 2×1 GbE/10 GbE SFP+ uplink/stacking ports
ICX6450-48P	48-port 1 GbE switch PoE+ 780 W, 2×1 GbE SFP+ (upgradable to 10 GbE) and 2×1 GbE/10 GbE SFP+ uplink/stacking ports
Accessories and Options	
ICX6450-PREM-LIC	Brocade ICX 6450 premium license (Layer 3 features)
ICX6450-2X10G-LIC-POD	Brocade ICX 6450 2×10 GbE capacity-based license; upgrade 1 GbE uplink/stacking ports to 1GbE/10 GbE
ICX6400-EPS1500	Brocade ICX 6430/6450 1500 W external power supply for RPS/EPS (connect up to three switches)
ICX6400-RMK	Brocade ICX 6400 two-post rack mount kit, spare
ICX6400-C12-RMK	Brocade ICX 6400-C compact switch 2-post rack mount kit
ICX6400-C12-MGNT	Brocade ICX 6400-C compact switch magnet mount kit
10G-SFPP-TWX-0101	Direct-attached SFP+ copper cable, 1 m, one-pack, stacking cable
10G-SFPP-TWX-0301	Direct-attached SFP+ copper cable, 3 m, one-pack, stacking cable
10G-SFPP-TWX-0501	Direct-attached SFP+ copper cable, 5 m, one-pack, stacking cable
1G-SFP-TWX-0101	Direct-attached 1 Gbps SFP copper cable, 1 m, stacking cable
1G-SFP-TWX-0501	Direct-attached 1 Gbps SFP copper cable, 5 m, stacking cable
10G-SFPP-USR	10GE USR SFP+ optic (LC), target range 100 m over MMF, one-pack
10G-SFPP-SR	10GBASE-SR, SFP+ optic (LC), target range 300 m over MMF
10G-SFPP-LR	10GBASE-LR, SFP+ optic (LC), for up to 10 km over SMF
10G-SFPP-ER	10GBASE-ER SFP+ optic (LC), for up to 40 km over SMF
10G-SFPP-LRM	10GBASE-LRM, 1310 nm SFP+ optic (LC), TAR
E1MG-TX	1000BASE-TX SFP copper, RJ-45 connector
E1MG-SX-OM	1000BASE-SX SFP optic, MMF, LC connector, optical monitoring-capable
E1MG-LX-OM	1000BASE-LX SFP optic, SMF, LC connector, optical monitoring-capable
E1MG-LHA-OM	1000BASE-LHA SFP optic, SMF, LC connector, optical monitoring-capable; 80 km
E1MG-LHB	1000BASE-LHB SFP optic, SMF, LC connector, 150 km maximum reach
E1MG-100FX-OM	100BASE-FX SFP optic MMF, LC connector, optical monitoring-capable (Brocade ICX 6400-C only)

Corporate Headquarters

San Jose, CA USA
T: +1-408-333-8000
info@brocade.com

European Headquarters

Geneva, Switzerland
T: +41-22-799-56-40
emea-info@brocade.com

Asia Pacific Headquarters

Singapore
T: +65-6538-4700
apac-info@brocade.com

© 2013 Brocade Communications Systems, Inc. All Rights Reserved. 04/13 GA-DS-1654-02

ADX, AnyIO, Brocade, Brocade Assurance, the B-wing symbol, DCX, Fabric OS, ICX, MLX, MyBrocade, OpenScript, VCS, VDX, and Vyatta are registered trademarks, and HyperEdge, The Effortless Network, and The On-Demand Data Center are trademarks of Brocade Communications Systems, Inc., in the United States and/or in other countries. Other brands, products, or service names mentioned may be trademarks of their respective owners.

Notice: This document is for informational purposes only and does not set forth any warranty, expressed or implied, concerning any equipment, equipment feature, or service offered or to be offered by Brocade. Brocade reserves the right to make changes to this document at any time, without notice, and assumes no responsibility for its use. This informational document describes features that may not be currently available. Contact a Brocade sales office for information on feature and product availability. Export of technical data contained in this document may require an export license from the United States government.





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

Solicitation

NUMBER
COR61681

PAGE
1

ADDRESS CORRESPONDENCE TO ATTENTION OF:
TARA LYLE 304-558-2544

RFQ COPY
TYPE NAME/ADDRESS HERE

V
E
N
D
O
R

DIVISION OF CORRECTIONS
1409 GREENBRIER ST
CHARLESTON, WV
25311 304-558-8045

DATE PRINTED
04/04/2014

BID OPENING DATE: 04/17/2014

BID OPENING TIME 1:30PM

LINE	QUANTITY	UOP	CAT. NO.	ITEM NUMBER	UNIT PRICE	AMOUNT
				04/14/14 10:06:49AM West Virginia Purchasing Division		
ADDENDUM NO. 2						
SEE ATTACHED PAGES.						
END OF ADDENDUM NO. 2						
0001	EA 45		205-16		See original Bid	
NETWORK SWITCHES						
0002	EA 65		205-16			
NETWORK SWITCHES						
0003	EA 220		205-16			
INTERFACE CONVERTERS						
0004	EA 110		939-22			
WARRANTY 24X4X7						

SIGNATURE

TELEPHONE (813) 490-6878

DATE 4/9/14

TITLE Gov Account Mgr.

FEIN 59-3760415

ADDRESS CHANGES TO BE NOTED ABOVE

WHEN RESPONDING TO SOLICITATION, INSERT NAME AND ADDRESS IN SPACE ABOVE LABELED 'VENDOR'

SOLICITATION NUMBER: COR61681
Addendum Number: 2

The purpose of this addendum is to modify the solicitation identified as COR61681 ("Solicitation") to reflect the change(s) identified and described below.

Applicable Addendum Category:

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

Description of Modification to Solicitation:

1. The bid opening date remains 04/17/2014 at 1:30 pm.
2. Responses to vendor questions attached.

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

Terms and Conditions:

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

ATTACHMENT A**Questions:**

Q1: The Cisco L2 switches or equal specified in the bid don't support Cisco's proprietary routing protocol EIGRP because these are Layer 2 switches. Is this an oversight or is there a different requirement such as Layer 3 switches?

A1: This was an oversight. The Agency hereby deletes the requirement for Enhanced Interior Gateway Routing Protocol (EIGRP).

Delete Section 3.1.4 in its entirety and replace with the following:

3.1.4. Switches must support either by default, or with a firmware upgrade, Virtual Local Area Network Trunking Protocol (VTP), or equal, as is or may be deployed by the WV Office of Technology. Switches must be able to support all existing Cisco Call Manager Voice over IP (VoIP) protocols as utilized by the WV Office of Technology.

Q2: Virtual Local Area Network Trunking Protocol (VTP) is also a proprietary Cisco ONLY protocol. Cisco can also support the Industry Standard Generic VLAN registration Protocol (GVRP). If the goal is to automatically propagate VLANs across a trunk port is the Standard Protocol acceptable since they both do the same thing? This way bids would not lock out every other manufacturer except Cisco and will drive competitive pricing and innovation.

A2: VTP and GVRP do indeed do many of the same things, however, the long term plan for the infrastructure requires that we have a structure that will quickly propagate changes across the entire framework. GVRP will only dynamically add VLANs to aid in trunking, and does not synchronize between switches.

The Agency requires an infrastructure that will automatically synchronize and replicate VLAN changes from switch to switch across the LAN, reducing programming and implementation time. It is for this reason that Virtual Local Area Network Trunking Protocol (VTP), or equal, is a mandatory requirement of this RFQ.

Q3: Section 3.1.8: SmartNet 24X7X4 is very expensive and will add approximately \$600 to every switch. Many manufacturers provide advanced replacement, firmware and bug fixes, and GTAC phone support included in the cost of the switch. Is this an oversight or actually required?

A3: Warranty requirements remain as stated. Warranty must meet all requirements stated in Section 3.1.8.1 through 3.1.8.8 of the RFQ.

Q4: It appears that the switches specified are WS-C2960S-F48FPS-L are a 10/100 mbps switch. Question: Does the State really want 10/100/1000 mbps current switch technology since most networking devices come equipped with 1000 mbps interfaces?

A4: The 10/100 mbps switch technology meets our current and anticipated requirements.

Q5a: I would just like to confirm that the quantity of 110 for item 3.1.8 on page 000023 is for extended service agreements for items 3.1.1 and 3.1.2.

A5a: The quantity of 110 items for item 3.1.8 is for the items listed in 3.1.1. and 3.1.2.

Q5b: It appears that there is a different part number for the extended service agreement for each of these, so I wanted to confirm the item numbers which I show as the following:

- Item 3.1.1 - Quantity 45 - Mfg. Part: WS-C2960S-F48FPS-L
- Item 3.1.2 - Quantity 65 - Mfg. Part: WS-C2960S-F24PS-L
- Item 3.1.8 - Quantity 45 - Mfg. Part: CON-SNTP-WSC2960F
- Item 3.1.8 - Quantity 65 - Mfg. Part: CON-SNTP-WSC29PS

A5b: The Mfg. Part Numbers you listed are correct.

Q6: The bid below specifies EIGRP although other parts show openness to equivalent technologies. Can you confirm if we can bid? Our Partners do not want to do the bid package unless we are sure to be considered.

<http://www.state.wv.us/admin/purchase/rfq/fy2014/COR61681.pdf>

A6: See A1, the Agency hereby deletes the requirement for Enhanced Interior Gateway Routing Protocol (EIGRP).

ADDENDUM ACKNOWLEDGEMENT FORM
SOLICITATION NO.: COR61681

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

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

Addendum Numbers Received:


(Check the box next to each addendum received)

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

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

Vology

Company



Authorized Signature

4/9/14

Date

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



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

Solicitation

NUMBER
COR61681

PAGE
1

ADDRESS CORRESPONDENCE TO ATTENTION OF:
TARA LYLE 304-558-2544

RFQ COPY

TYPE NAME/ADDRESS HERE

VENDOR

Vology
4027 Tampa Rd. Suite 3900
Oldsmar, FL 34677

SHIP TO

DIVISION OF CORRECTIONS

1409 GREENBRIER ST

CHARLESTON, WV

25311

304-558-8045

DATE PRINTED
04/01/2014

BID OPENING DATE: 04/17/2014

BID OPENING TIME 1:30PM

LINE	QUANTITY	UOP	CAT. NO.	ITEM NUMBER	UNIT PRICE	AMOUNT
ADDENDUM NO. 1						
SEE ATTACHED PAGES.						
END OF ADDENDUM NO. 1						
0001	45	EA	205-16	NETWORK SWITCHES	1818.18	81818.10
0002	65	EA	205-16	NETWORK SWITCHES	1166.48	75821.20
0003	220	EA	205-16	INTERFACE CONVERTERS	147.17	32377.40
0004	110	EA	939-22	WARRANTY 24X4X7	260.96	28705.60

SIGNATURE

TELEPHONE

(813) 490-6878

DATE

4/4/14

TITLE

Gov. Account Mgr.

FEIN

59-3760415

ADDRESS CHANGES TO BE NOTED ABOVE

WHEN RESPONDING TO SOLICITATION, INSERT NAME AND ADDRESS IN SPACE ABOVE LABELED 'VENDOR'

SOLICITATION NUMBER: COR61681

0000002

Addendum Number: 1

The purpose of this addendum is to modify the solicitation identified as COR61681 ("Solicitation") to reflect the change(s) identified and described below.

Applicable Addendum Category:

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

Description of Modification to Solicitation:

1. The bid opening date has moved from 04/03/2014 to 04/17/2014. The bid opening time remains at 1:30 pm.
2. Responses to vendor questions will be issued under separate addendum.

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 ACKNOWLEDGEMENT FORM
SOLICITATION NO.: COR61681

000003

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.

Vology
Company


Authorized Signature

4/4/14
Date

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



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

Solicitation

NUMBER
COR61681

PAGE
1

ADDRESS CORRESPONDENCE TO ATTENTION OF:
TARA LYLE 304-558-2544

RFQ COPY

TYPE NAME/ADDRESS HERE

Volog
4027 Tampa Rd. Suite 3900
Oldsmar, FL.
34677

DIVISION OF CORRECTIONS

SHIP TO
1409 GREENBRIER ST
CHARLESTON, WV
25311 304-558-8045

DATE PRINTED
03/13/2014

BID OPENING DATE: 04/03/2014

BID OPENING TIME 1:30PM

LINE	QUANTITY	UOP	CAT. NO.	ITEM NUMBER	UNIT PRICE	AMOUNT
THE WEST VIRGINIA PURCHASING DIVISION FOR THE AGENCY, WV DIVISION OF CORRECTIONS, IS SOLICITING BIDS TO PROVIDE NETWORK SWITCHES AND INTERFACE CONVERTERS, PER THE ATTACHED SPECIFICATIONS.						
ATTACHMENTS INCLUDE:						
1. INSTRUCTIONS TO VENDORS SUBMITTING BIDS						
2. GENERAL TERMS AND CONDITIONS						
3. COR61681 SPECIFICATIONS						
4. CERTIFICATION AND SIGNATURE PAGE						
5. PURCHASING AFFIDAVIT						
6. RESIDENT VENDOR PREFERENCE (RVP) FORM						
04/03/14 10:14:52AM West Virginia Purchasing Division Bid Opening Delayed						
0001	45	EA		205-16	1818.18	81818.10
				NETWORK SWITCHES		
0002	65	EA		205-16	1166.48	75821.20
				NETWORK SWITCHES		
0003	220	EA		205-16	147.17	32377.40
				INTERFACE CONVERTERS		

SIGNATURE	TELEPHONE 813-490-6878	DATE 4/2/14
TITLE Gov. Account Mgr.	FEIN 59-3760415	ADDRESS CHANGES TO BE NOTED ABOVE

WHEN RESPONDING TO SOLICITATION, INSERT NAME AND ADDRESS IN SPACE ABOVE LABELED 'VENDOR'



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

Solicitation

NUMBER
COR61681

PAGE
2

ADDRESS CORRESPONDENCE TO ATTENTION OF
TARA LYLE 304-558-2544

RFQ COPY

TYPE NAME/ADDRESS HERE

Vology
4027 Tampa Rd. Suite 3900
Oldsmar, FL
34677

DIVISION OF CORRECTIONS

SHIP TO
1409 GREENBRIER ST
CHARLESTON, WV
25311 304-558-8045

DATE PRINTED
03/13/2014

BID OPENING DATE: 04/03/2014

BID OPENING TIME 1:30PM

LINE	QUANTITY	UOP	CAT. NO.	ITEM NUMBER	UNIT PRICE	AMOUNT
0004	EA			939-22	260.96	28705.60
	110					
	WARRANTY 24X4X7					
***** THIS IS THE END OF RFQ COR61681 ***** TOTAL:						222,317.56

SIGNATURE	TELEPHONE 813-490-6878	DATE 4/2/14
TITLE Gov. Account Mgr.	FEIN 59-3760415	ADDRESS CHANGES TO BE NOTED ABOVE

WHEN RESPONDING TO SOLICITATION, INSERT NAME AND ADDRESS IN SPACE ABOVE LABELED 'VENDOR'

INSTRUCTIONS TO VENDORS SUBMITTING BIDS

1. **REVIEW DOCUMENTS THOROUGHLY:** The attached documents contain a solicitation for bids. Please read these instructions and all documents attached in their entirety. These instructions provide critical information about requirements that if overlooked could lead to disqualification of a Vendor's bid. All bids must be submitted in accordance with the provisions contained in these instructions and the Solicitation. Failure to do so may result in disqualification of Vendor's bid.
2. **MANDATORY TERMS:** The Solicitation may contain mandatory provisions identified by the use of the words "must," "will," and "shall." Failure to comply with a mandatory term in the Solicitation will result in bid disqualification.
3. **PREBID MEETING:** The item identified below shall apply to this Solicitation.
 - ☒ A pre-bid meeting will not be held prior to bid opening.
 - ☐ A **NON-MANDATORY PRE-BID** meeting will be held at the following place and time:

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

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

An attendance sheet provided at the pre-bid meeting shall serve as the official document verifying attendance. The State will not accept any other form of proof or documentation to verify attendance. Any person attending the pre-bid meeting on behalf of a Vendor must list on the attendance sheet his or her name and the name of the Vendor he or she is representing. Additionally, the person attending the pre-bid meeting should include the Vendor's E-Mail address, phone number, and Fax number on the attendance sheet. It is the Vendor's responsibility to locate the attendance sheet and provide the required information. Failure to complete the attendance sheet as required may result in disqualification of Vendor's bid.

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

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

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

Question Submission Deadline: March 26, 2014 by 5:00 pm

Submit Questions to: Tara Lyle, File 32
2019 Washington Street, East
Charleston, WV 25305
Fax: 304-558-4115
Email: Tara.L.Lyle@wv.gov

5. **VERBAL COMMUNICATION:** Any verbal communication between the Vendor and any State personnel is not binding, including that made 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 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 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

The bid should contain the information listed below on the face of the envelope or the bid may not be considered:

SEALED BID

BUYER: _____

SOLICITATION NO.: _____

BID OPENING DATE: _____

BID OPENING TIME: _____

FAX NUMBER: _____

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: ☐ 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 time stamped by the official Purchasing Division time clock.

Bid Opening Date and Time: April 3, 2014 at 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.

GENERAL TERMS AND CONDITIONS:

1. **CONTRACTUAL AGREEMENT:** Issuance of a Purchase Order 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 **"Contract"** means the binding agreement that is entered into between the State and the Vendor to provide the goods and services requested in the Solicitation.
 - 2.3 **"Director"** means the Director of the West Virginia Department of Administration, Purchasing Division.
 - 2.4 **"Purchasing Division"** means the West Virginia Department of Administration, Purchasing Division.
 - 2.5 **"Purchase Order"** 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 successful bidder and Contract holder.
 - 2.6 **"Solicitation"** means the official solicitation published by the Purchasing Division and identified by number on the first page thereof.
 - 2.7 **"State"** means the State of West Virginia and/or any of its agencies, commissions, boards, etc. as context requires.
 - 2.8 **"Vendor" or "Vendors"** means any entity submitting a bid in response to the Solicitation, the entity that has been selected as the lowest responsible bidder, or the entity that has been awarded the Contract as context requires.

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

☐ **Term Contract**

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

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

Reasonable Time Extension: At the sole discretion of the Purchasing Division Director, and with approval from the Attorney General's office (Attorney General approval is as to form only), this Contract may be extended for a reasonable time after the initial Contract term or after any renewal term as may be necessary to obtain a new contract or renew this Contract. Any reasonable time extension shall not exceed twelve (12) months. Vendor may avoid a reasonable time extension by providing the Purchasing Division Director with written notice of Vendor's desire to terminate this Contract 30 days prior to the expiration of the then current term. During any reasonable time extension period, the Vendor may terminate this Contract for any reason upon giving the Purchasing Division Director 30 days written notice. Automatic extension of this Contract is prohibited. Notwithstanding the foregoing, Purchasing Division approval is not required on agency delegated or exempt purchases, but Attorney General approval may be required.

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

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

☐ **Other:** See attached.

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

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

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

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

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

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

6. **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.

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

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

- ☐ **BID BOND:** All Vendors shall furnish a bid bond in the amount of five percent (5%) of the total amount of the bid protecting the State of West Virginia. The bid bond must be submitted with the bid.
- ☐ **PERFORMANCE BOND:** The apparent successful Vendor shall provide a performance bond in the amount of . The performance bond must be issued and received by the Purchasing Division prior to Contract award. On construction contracts, the performance bond must be 100% of the Contract value.
- ☐ **LABOR/MATERIAL PAYMENT BOND:** The apparent successful Vendor shall provide a labor/material payment bond in the amount of 100% of the Contract value. The labor/material payment bond must be issued and delivered to the Purchasing Division prior to Contract award.

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

- ☐ **MAINTENANCE BOND:** The apparent successful Vendor shall provide a two (2) year maintenance bond covering the roofing system. The maintenance bond must be issued and delivered to the Purchasing Division prior to Contract award.
- ☐ **WORKERS' COMPENSATION INSURANCE:** The apparent successful Vendor shall have appropriate workers' compensation insurance and shall provide proof thereof upon request.
- ☐ **INSURANCE:** The apparent successful Vendor shall furnish proof of the following insurance prior to Contract award and shall list the state as a certificate holder:

☐ **Commercial General Liability Insurance:**
or more.

☐ **Builders Risk Insurance:** builders risk – all risk insurance in an amount equal to 100% of the amount of the Contract.

☐
☐
☐
☐
☐

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

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

☐
☐
☐
☐

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

9. **LITIGATION BOND:** The Director reserves the right to require any Vendor that files a protest of an award to submit a litigation bond in the amount equal to one percent of the lowest bid submitted or \$5,000, whichever is greater. The entire amount of the bond shall be forfeited if the hearing officer determines that the protest was filed for frivolous or improper purpose, including but not limited to, the purpose of harassing, causing unnecessary delay, or needless expense for the Agency. All litigation bonds shall be made payable to the Purchasing Division. In lieu of a bond, the protester may submit a cashier's check or certified check payable to the Purchasing Division. Cashier's or certified checks will be deposited with and held by the State Treasurer's office. If it is determined that the protest has not been filed for frivolous or improper purpose, the bond or deposit shall be returned in its entirety.
10. **ALTERNATES:** Any model, brand, or specification listed herein establishes the acceptable level of quality only and is not intended to reflect a preference for, or in any way favor, a particular brand or vendor. Vendors may bid alternates to a listed model or brand provided that the alternate is at least equal to the model or brand and complies with the required specifications. The equality of any alternate being bid shall be determined by the State at its sole discretion. Any Vendor bidding an alternate model or brand should clearly identify the alternate items in its bid and should include manufacturer's specifications, industry literature, and/or any other relevant documentation demonstrating the equality of the alternate items. Failure to provide information for alternate items may be grounds for rejection of a Vendor's bid.
11. **EXCEPTIONS AND CLARIFICATIONS:** The Solicitation contains the specifications that shall form the basis of a contractual agreement. Vendor shall clearly mark any exceptions, clarifications, or

other proposed modifications in its bid. Exceptions to, clarifications of, or modifications of a requirement or term and condition of the Solicitation may result in bid disqualification.

12. LIQUIDATED DAMAGES: Vendor shall pay liquidated damages in the amount
for

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.

13. ACCEPTANCE/REJECTION: The State may accept or reject any bid in whole, or in part. Vendor's signature on its bid signifies acceptance of the terms and conditions contained in the Solicitation and Vendor agrees to be bound by the terms of the Contract, as reflected in the Purchase Order, upon receipt.

14. 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.

15. 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.

16. 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.

17. PAYMENT: Payment in advance is prohibited under this Contract. Payment may only be made after the delivery and acceptance of goods or services. The Vendor shall submit invoices, in arrears, to the Agency at the address on the face of the purchase order labeled "Invoice To."

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

19. DELIVERY: All quotations are considered freight on board destination ("F.O.B. destination") unless alternate shipping terms are clearly identified in the bid. Vendor's listing of shipping terms that contradict the shipping terms expressly required by this Solicitation may result in bid disqualification.

20. INTEREST: Interest attributable to late payment will only be permitted if authorized by the West Virginia Code. Presently, there is no provision in the law for interest on late payments.

21. PREFERENCE: Vendor Preference may only be granted upon written request and only in accordance with the West Virginia Code § 5A-3-37 and the West Virginia Code of State Rules. A Resident Vendor Certification form has been attached hereto to allow Vendor to apply for the preference. Vendor's

failure to submit the Resident Vendor Certification form with its bid will result in denial of Vendor Preference. Vendor Preference does not apply to construction projects.

22. **SMALL, WOMEN-OWNED, OR MINORITY-OWNED BUSINESSES:** For any solicitations publicly advertised for bid on or after July 1, 2012, 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 submission of its bid 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.
23. **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.
24. **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 cancel any purchase or Contract upon 30 days written notice to the Vendor in accordance with West Virginia Code of State Rules § 148-1-7.16.2.
25. **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.
26. **TIME:** Time is of the essence with regard to all matters of time and performance in this Contract.
27. **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.
28. **COMPLIANCE:** Vendor shall comply with all applicable federal, state, and local laws, regulations and ordinances. By submitting a bid, Vendors acknowledge that they have reviewed, understand, and will comply with all applicable law.
29. **PREVAILING WAGE:** On any contract for the construction of a public improvement, Vendor and any subcontractors utilized by Vendor shall pay a rate or rates of wages which shall not be less than the fair minimum rate or rates of wages (prevailing wage), as established by the West Virginia Division of Labor under West Virginia Code §§ 21-5A-1 et seq. and available at <http://www.sos.wv.gov/administrative-law/wagerates/Pages/default.aspx>. Vendor shall be responsible for ensuring compliance with prevailing wage requirements and determining when prevailing wage

requirements are applicable. The required contract provisions contained in West Virginia Code of State Rules § 42-7-3 are specifically incorporated herein by reference.

- 30. 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.
- 31. 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). **No Change shall be implemented by the Vendor until such time as the Vendor receives an approved written change order from the Purchasing Division.**
- 32. 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.
- 33. 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.
- 34. ASSIGNMENT:** Neither this Contract nor any monies due, or to become due hereunder, may be assigned by the Vendor without the express written consent of the Agency, the Purchasing Division, the Attorney General's office (as to form only), and any other government agency or office that may be required to approve such assignments. Notwithstanding the foregoing, Purchasing Division approval may or may not be required on certain agency delegated or exempt purchases.
- 35. 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.
- 36. 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.
- 37. BANKRUPTCY:** In the event the Vendor files for bankruptcy protection, the State of West Virginia may deem this Contract null and void, and terminate this Contract without notice.

38. [RESERVED]

39. 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>.

40. DISCLOSURE: Vendor's response to the Solicitation and the resulting Contract are considered public documents and will be disclosed to the public in accordance with the laws, rules, and policies governing the West Virginia Purchasing Division. Those laws include, but are not limited to, the Freedom of Information Act found in West Virginia Code § 29B-1-1 et seq.

If a Vendor considers any part of its bid to be exempt from public disclosure, Vendor must so indicate by specifically identifying the exempt information, identifying the exemption that applies, providing a detailed justification for the exemption, segregating the exempt information from the general bid information, and submitting the exempt information as part of its bid but in a segregated and clearly identifiable format. Failure to comply with the foregoing requirements will result in public disclosure of the Vendor's bid without further notice. A Vendor's act of marking all or nearly all of its bid as exempt is not sufficient to avoid disclosure and WILL NOT BE HONORED. Vendor's act of marking a bid or any part thereof as "confidential" or "proprietary" is not sufficient to avoid disclosure and WILL NOT BE HONORED. In addition, a legend or other statement indicating that all or substantially all of the bid is exempt from disclosure is not sufficient to avoid disclosure and WILL NOT BE HONORED. Vendor will be required to defend any claimed exemption for nondisclosure in the event of an administrative or judicial challenge to the State's nondisclosure. Vendor must indemnify the State for any costs incurred related to any exemptions claimed by Vendor. Any questions regarding the applicability of the various public records laws should be addressed to your own legal counsel prior to bid submission.

41. LICENSING: In accordance with West Virginia Code of State Rules §148-1-6.1.7, Vendor must be licensed and in good standing in accordance with any and all state and local laws and requirements by any state or local agency of West Virginia, including, but not limited to, the West Virginia Secretary of State's Office, the West Virginia Tax Department, West Virginia Insurance Commission, or any other state agency or political subdivision. Upon request, the Vendor must provide all necessary releases to obtain information to enable the Purchasing Division Director or the Agency to verify that the Vendor is licensed and in good standing with the above entities.

42. ANTITRUST: In submitting a bid to, signing a contract with, or accepting a Purchase Order 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.

- 43. VENDOR CERTIFICATIONS:** By signing its bid or entering into this Contract, Vendor certifies (1) that its bid was made without prior understanding, agreement, or connection with any corporation, firm, limited liability company, partnership, person or entity submitting a bid for the same material, supplies, equipment or services; (2) that its bid 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 RFQ in its entirety, understands the requirements, terms and conditions, and other information contained herein. Vendor's signature on its bid 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 on behalf of Vendor certifies that he or she is authorized by the Vendor to execute this bid 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.

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

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

- 45. 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.

- 46. 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.

- 47. PURCHASING AFFIDAVIT:** In accordance with West Virginia Code § 5A-3-10a, all Vendors are required to sign, notarize, and submit the Purchasing Affidavit stating that neither the Vendor nor a related party owe a debt to the State in excess of \$1,000. The affidavit must be submitted prior to award, but should be submitted with the Vendor's bid. A copy of the Purchasing Affidavit is included herewith.
- 48. ADDITIONAL AGENCY AND LOCAL GOVERNMENT USE:** This Contract may be utilized by and extends to 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"). This Contract shall be extended to the aforementioned Other Government Entities on the same prices, terms, and conditions as those offered and agreed to in this Contract. If the Vendor does not wish to extend the prices, terms, and conditions of its bid and subsequent contract to the Other Government Entities, the Vendor must clearly indicate such refusal in its bid. A refusal to extend this Contract to the Other Government Entities shall not impact or influence the award of this Contract in any manner.
- 49. CONFLICT OF INTEREST:** Vendor, its officers or members or employees, shall not presently have or acquire any 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.
- 50. REPORTS:** Vendor shall provide the Agency and/or the Purchasing Division with the following reports identified by a checked box below:
- ☒ Such reports as the Agency and/or the Purchasing Division may request. Requested reports may include, but are not limited to, quantities purchased, agencies utilizing the contract, total contract expenditures by agency, etc.
 - ☐ Quarterly reports detailing the total quantity of purchases in units and dollars, along with a listing of purchases by agency. Quarterly reports should be delivered to the Purchasing Division via email at purchasing.requisitions@wv.gov.
- 51. BACKGROUND CHECK:** In accordance with W. Va. Code § 15-2D-3, the Director of the Division of Protective Services shall require any service provider whose employees are regularly employed on the grounds or in the buildings of the Capitol complex or who have access to sensitive or critical information

to submit to a fingerprint-based state and federal background inquiry through the state repository. The service provider is responsible for any costs associated with the fingerprint-based state and federal background inquiry.

After the contract for such services has been approved, but before any such employees are permitted to be on the grounds or in the buildings of the Capitol complex or have access to sensitive or critical information, the service provider shall submit a list of all persons who will be physically present and working at the Capitol complex to the Director of the Division of Protective Services for purposes of verifying compliance with this provision.

The State reserves the right to prohibit a service provider's employees from accessing sensitive or critical information or to be present at the Capitol complex based upon results addressed from a criminal background check.

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

52. 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:

- a. 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
- b. 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.

53. 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.

SPECIFICATIONS

1. **PURPOSE AND SCOPE:** The West Virginia Purchasing Division is soliciting bids on behalf of WV Division of Corrections to establish a contract for the one time purchase of Cisco Catalyst 2960 Series Network Switches, or equal and Cisco Gigabit Interface Converters (GBIC), or equal .

Project Background: The State of West Virginia's Division of Corrections is in the process of upgrading its network infrastructure across the state to maintain compatibility with both current and anticipated technologies and services as provided by the Office of Technology. In order to accomplish that goal, a dynamic, standardized environment needs to be established to provide for efficient upgrade, repair, and expansion of the infrastructure as our facilities grow and change. To that end, the Division of Corrections is looking to replace all of the aging network switches across the state with new hardware, creating a platform for future growth, and maintaining the safety and security of our officers, staff and inmates, while minimizing cost to the State and to the Division.

2. **DEFINITIONS:** The terms listed below shall have the meanings assigned to them below. Additional definitions can be found in section 2 of the General Terms and Conditions.
 - 2.1. **"Contract Item"** means Cisco Catalyst 2960 Series Network Switches, or equal, and Cisco Gigabit Interface Converter (GBIC), or equal.
 - 2.2. **"Pricing Page"** means the pages upon which Vendor should list its proposed price for the Contract Items in the manner requested. The Pricing Page is either included on the last page of this RFQ or attached hereto as Exhibit A.
 - 2.3. **"RFQ"** means the official request for quotation published by the Purchasing Division and identified as COR61681.
 - 2.4. **"24x7x4"** means support available over the period of a full twenty-four hour day, seven day week, with a four hour time on repair or replacement.
 - 2.5. **"1RU"** means one rack unit in height.
 - 2.6. **"EIGRP"** stands for Enhanced Interior Gateway Routing Protocol.
 - 2.7. **"VTP"** stands for Virtual LAN Trunking Protocol.
 - 2.8. **"Power over Ethernet"** means that the switch provides power across data cables in accordance with IEEE 802.3a-2012

REQUEST FOR QUOTATION
COR61681 - Network Switches and Interface Converters

- 2.9. “SFP” stands for small form factor pluggable, a compact “hot-pluggable” transceiver that can be removed and replaced while the switch is in operation

3. GENERAL REQUIREMENTS:

- 3.1. Mandatory Contract Item Requirements:** Contract Item must meet or exceed the mandatory requirements listed below.

- 3.1.1. Cisco Catalyst 2960-SF 48 FE PoE 740W 4 x SFP LAN Base, or equal, WS-C2960S-F48FPS-L, 48 Ethernet 10/100 ports with Power-Over-Ethernet (PoE) and 4 SFP-based Gigabit Ethernet ports: 1RU.
- 3.1.2. Cisco Catalyst 2960-SF 24 FE PoE 370W 2 x SFP LAN Base, or equal, WS-C2960S-F24PS-L, 24 Ethernet 10/100 ports with Power-Over-Ethernet (PoE) and 2 SFP-based Gigabit Ethernet ports: 1RU.
- 3.1.3. Cisco GLC-SX-MM SFP transceiver, or equal, at two per switch ordered.
- 3.1.4. Switches must support either by default, or with a firmware upgrade, Enhanced Interior Gateway Routing Protocol (EIGRP), and Virtual Local Area Network Trunking Protocol (VTP) as is or may be deployed by the WV Office of Technology. Switches must be able to support all existing Cisco Call Manager Voice over IP (VoIP) protocols as utilized by the WV Office of Technology.
- 3.1.5. The switches must be fully compatible and interoperable with the existing State of West Virginia hardware and system architecture currently in place. These switches will be a direct replacement for existing hardware that has reached manufacturer end-of-life.
- 3.1.6. Must provide Power-Over-Ethernet plus (PoE+) technology, providing 740 Watts for 48 ports or 370 Watts for 24 ports, at up to 30 Watts per port.
- 3.1.7. All items shall be new, so that they have the full manufacturer’s warranty available to them. Used or refurbished products will not be accepted.
- 3.1.8. Vendor must provide a warranty Cisco Smart Net 24x7x4 (24 hours per day, seven days per week, 4-hour response time), or equal, on hardware and software for a minimum period of one year.
 - 3.1.8.1. Coverage must include all hardware and software parts. No parts shall be excluded.

REQUEST FOR QUOTATION
COR61681 - Network Switches and Interface Converters

- 3.1.8.2. Support must provide for Smart Call Home or equal, where the switch will self-diagnose and alert administrators of issues that require attention and/or remediation.
- 3.1.8.3. Service SLA for the Warranty will be on a 365 days per year, 24-hours per day, x7 days per week x 4 hour response window requirement, with automatic escalation if the initial remediation window is not met.
- 3.1.8.4. Warranty service shall include unlimited access to updates for the life of the product, limited only by the feature set of the hardware and software.
- 3.1.8.5. Warranty service shall include unlimited 24 hour per day x 7 days per week access to a Technical Assistance Center support service, to include issue triage assistance if requested.
- 3.1.8.6. Communication methods with the Technical Assistance Center will include email, phone, web-based collaboration and face-to-face via conferencing software.
- 3.1.8.7. Warranty service shall include unlimited online access to documents and software, as well as any support community, wiki, or other social media that pertains to the operation, programming, or maintenance of the hardware and software contained in the product.
- 3.1.8.8. Warranty service shall include unlimited online access to any web portal, automated tools, or service request management tools.

4. CONTRACT AWARD:

- 4.1. **Contract Award:** The Contract is intended to provide Agencies with a purchase price for the Contract Items. The Contract shall be awarded to the Vendor that provides the Contract Items meeting the required specifications for the lowest overall total cost as shown on the Pricing Pages.
- 4.2. **Pricing Page:** Vendor should complete the Pricing Page by multiplying unit prices by the requested quantities to equal an extended price per item. 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.

Notwithstanding the foregoing, the Purchasing Division may correct errors as it deems appropriate. Vendor should type or electronically enter the information into the Pricing Page to prevent errors in the evaluation.

REQUEST FOR QUOTATION
COR61681 - Network Switches and Interface Converters

000022

5. PAYMENT:

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

6. DELIVERY AND RETURN:

6.1. Shipment and Delivery: Vendor shall ship the Contract Items immediately after being awarded this Contract and receiving a purchase order or notice to proceed. Vendor shall deliver the Contract Items within 30 working days after receiving a purchase order or notice to proceed. Contract Items must be delivered to Agency at 1409 Greenbrier Street, Charleston, WV 25311.

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

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

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

6.4. Return of Unacceptable Items: If the Agency deems the Contract Items to be unacceptable, the Contract Items shall be returned to Vendor at Vendor's expense and with no restocking charge. Vendor shall either make arrangements for the return within five (5) days of being notified that items are unacceptable, or permit the Agency to arrange for the return and reimburse Agency for delivery expenses. If the original packaging cannot be utilized for the return, Vendor will supply the Agency with appropriate return packaging upon request. All returns of unacceptable items shall be F.O.B. the Agency's location. The returned product shall either be replaced, or the Agency shall receive a full credit or refund for the purchase price, at the Agency's discretion.

6.5. Return Due to Agency Error: Items ordered in error by the Agency will be returned for credit within 30 days of receipt, F.O.B. Vendor's location. Vendor shall not charge a restocking fee if returned products are in a resalable condition. Items shall be deemed to be in a resalable condition if they are unused and in the original packaging. Any restocking fee for items not in a resalable condition shall be the lower of the Vendor's customary restocking fee or 5% of the total invoiced value of the returned items.

COR61681 - Network Switches/Interface Converter

Item #	Brand, Model Number and/or Product Code	Description	Unit of Measure	Quantity	Unit Price	Extended Amount
3.1.1	See Appx. "A"	Cisco Catalyst 2960-SF 48 FE PoE 740W 4 x SFP LAN Base, or equal, WS-C2960S-F48FPS-L	Each	45		
3.1.2	See Appx. "A"	Cisco Catalyst 2960-SF 24 FE PoE 370W 2 x SFP LAN Base, or equal, WS-C2960S-F24PS-L	Each	65		
3.1.3	See Appx. "A"	Cisco SFP Gigabit Ethernet Interface Converter (GBIC), or equal, GLC-SX-MM	Each	220		
3.1.8	See Appx. "A"	Cisco Smartnet 24x4x7, or equal, Warranty, one year term	Each	110		

OVERALL TOTAL COST:

Bidder/Vendor Information:

Name: Vology
 Address: 4027 Tampa Rd. Suite 3900
Oldsmar, FL 34677
 Phone No.: 813-490-6878
 Fax No.: 813-490-7090
 Email Address: BWEAVER@VOLOGY.COM
 Authorized Signature: [Signature]

Failure to use this form may result in disqualification

000023

Appx. A

Item #	Brand	Description	Alternate Brand
3.1.1	Cisco	Cisco Catalyst 2960-SF 48 FE PoE 740W 4 x SFP LAN Base, or equal, WS-C2960S-F48FPS-L	Brocade
3.1.2	Cisco	Cisco Catalyst 2960-SF 24 FE PoE 370W 2 x SFP LAN Base, or equal, WS-C2960S-F24PS-L	Brocade
3.1.3	Cisco	Cisco SFP Gigabit Ethernet Interface Converter (GBIC), or equal, GLC-SX-MM	Brocade
3.1.4	Cisco	Cisco Smartnet 24x4x7, or equal, Warranty, one year term	Brocade
N/A	N/A	N/A	Brocade
N/A	N/A	N/A	Brocade
N/A	N/A	N/A	Brocade
N/A	N/A	N/A	Brocade

Alternate Description	Unit of Measure	Quantity	List Price	Unit Price
ICX 6450 48 GigE PoE Switch, 48-port 1G Switch PoE+ 390W, 2x1G SFP+ (upgradable to 10G) & 2x1G/10G SFP+ Uplink/Stacking Ports, ICX6450-48P	Each	45	\$ 5,295.00	\$ 1,818.18
ICX 6450 24 GigE PoE Switch, 24-port 1G Switch PoE+ 390W, 2x1G SFP+ (upgradable to 10G) & 2x1G/10G SFP+ Uplink/Stacking Ports, ICX6450-24P	Each	65	\$ 3,395.00	\$ 1,166.48
1000Base-SX SFP optic, MMF, LC connector, Optical Monitoring Capable, part number E1MG-SX-OM	Each	220	\$ 525.00	\$ 147.17
ESSENTIAL 4HR PARTS ONLY SUPPORT, ICX 6430 24P & 48P, ICX6430-SVL-4P-1	Each	110	\$ 380.00	\$ 260.96
IP management SW license for up to 50 devices; required for initial purchase of IP only management; minimum of one year support is required, BR-NTWADV-IP-BASE	Each	1	\$ 5,500.00	\$ 1,888.11
Adds IP management SW license FOR 100 devices; Pre-requisite are IP-BASE or INM Upgrade or IP Extension; minimum of one year support is required, BR-NTWADV-IP-100	Each	1	\$ 2,200.00	\$ 755.24
ESSENTIAL APP SUPPORT 24X7, BR-NTWADV-IP-BASE - BNALC-SVL-SW-1	Each	1	\$ 990.00	\$ 680.39
ESSENTIAL APP SUPPORT 24X7, BR-NTWADV-IP-100 - BNALC-SVL-SW-1	Each	1	\$ 395.00	\$ 271.52

Project Total \$ 222,317.56

Exteded Amount	
\$	81,818.10
\$	75,821.20
\$	32,377.40
\$	28,705.60
\$	1,888.11
\$	755.24
\$	680.39
\$	271.52

\$	-
----	---

CERTIFICATION AND SIGNATURE PAGE

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

Vology

(Company)



(Authorized Signature)

Beau Weaver, Gov. Account Mgr.

(Representative Name, Title)

(813) 490-6878 (813) 490-7090

(Phone Number)

(Fax Number)

04/02/2014

(Date)

RFQ No. COR61681

STATE OF WEST VIRGINIA
Purchasing Division
PURCHASING AFFIDAVIT

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

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

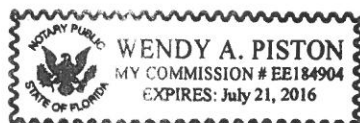
DEFINITIONS:

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

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

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

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

WITNESS THE FOLLOWING SIGNATURE:Vendor's Name: VologyAuthorized Signature: [Signature] Date: 4/2/2014State of FLORIDACounty of PINELLAS, to-wit:Taken, subscribed, and sworn to before me this 2 day of APRIL, 2014My Commission expires JULY 21, 2016.**AFFIX SEAL HERE****NOTARY PUBLIC**Wendy A Piston
Purchasing Affidavit (Revised 07/01/2012)

State of West Virginia

VENDOR PREFERENCE CERTIFICATE

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

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

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

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

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

Bidder: Vology

Signed: [Signature]

Date: 04/02/2014

Title: Gov Account Manager



Vology
4027 Tampa Road, Suite 3900
Oldsmar, FL 34677
(813)-852-6400 office (813)-490-7090 fax

SALES QUOTE

SQ-440616

4/2/2014

Customer			Contact	Ship To			
West Virginia Division of Corrections 1409 Greenbrier St Charleston , WV 25311 US 304-558-2036			Lyle,Tara 1409 Greenbrier St Charleston , WV 25311 US 304-558-2036	West Virginia Division of Corrections 1409 Greenbrier St Charleston , WV 25311 US 1 3045582036			
Account	Terms	Due Date	Account Manager		Schedule Date	Ship VIA	P.O. #
111338	Net 30	5/2/2014	Beau Weaver Ph# (813) 490-6878	bweaver@vology.com (813) 490-7090	5/2/2014	UPS Ground	

Line #	Manufacturer/ Model / Description	Product Condition	Qty	Unit Price	Extended Amount
1	Brocade / ICX6450-48P / 48-port 1G Switch, 2x1G SFP+ (upgradable to 10G) & 2x1G/10G SFP+ Uplink/Stacking Ports	New	45	1,818.18	81,818.10
2	Brocade / ICX6450-24P / 24-port 1G switch PoE+ 390W, 2x1G SFP+ (upgradable to 10G) & 2x1G/10G SFP+ uplink/stacking	New	65	1,166.48	75,821.20
3	Brocade / E1MG-SX-OM / 1000Base-SX SFP optic, MMF, LC connector, Optical Monitoring Capable	New	220	147.17	32,377.40
4	Brocade / BR-NTWADV-IP-BASE / IP management SW license for up to 50 devices; required for initial purchase of IP only management; minimum of one year support is required	New	1	1,888.11	1,888.11
5	Brocade / BR-NTWADV-IP-100 / Adds IP management SW license for 100 devices; pre-requisite is BR-NTWADV-IP-BASE, BR-NTWADV-IP-BASE-DC, BR-NTWADV-INM-UPG, BR-NTWADV-ENT or BR-NTWADV-PLU; minimum of one year support is required.	New	1	755.24	755.24
6	Brocade / ICX6450-SVL-4P-1 / Brocade Essential Direct Support 4-Hour Parts - Extended service agreement - parts - 1 year - on-site - 4 h - for ICX 6450-24P, 6450-48P	New	45	260.96	11,743.20
7	Brocade / ICX6450-SVL-4P-1 / Brocade Essential Direct Support 4-Hour Parts - Extended service agreement - parts - 1 year - on-site - 4 h - for ICX 6450-24P, 6450-48P	New	65	260.96	16,962.40
8	Brocade / BNALB-SVL-SW-1 / SW MAINTENANCE, BR-NTWADV-IP-BASE	New	1	680.39	680.39
9	Brocade / BNALC-SVL-SW-1 / SW MAINTENANCE, BR-NTWADV-IP-100	New	1	271.52	271.52
10	Free Shipping				
Estimated Monthly Lease Payment Option Only \$0.00 / month + tax for a 36 months **				SubTotal:	\$222,317.56
				Est. Freight	\$0.00
Memo : Solicitation Number: COR61681				Total Amount	\$222,317.56

DON'T FORGET We stock a full line of
CABLES, GBICs and ACCESSORIES
INCLUDE with this ORDER & SAVE!

****Leasing information:** For US based sales only. Not for international shipments. The monthly payment provided is an estimate only, excludes all applicable taxes and is non-binding on both parties herein. The actual rate and payment is based upon the credit quality of the customer as determined solely by Summit Funding Group, Inc. For more information and additional financing options including payment deferrals, please contact your account manager.

All certified pre-owned products have passed our 5 Star Certification Process and is backed by our 5 year Warranty. (End-User Customers only) For detailed information regarding our 5 year warranty, 5 Star Certified Process and returns please visit our website at <http://www.vology.com/services-solutions/warranty-solutions>. For all other products, Vology makes no claim as to the warranty of any products or services in this quotation. Only the written warranty offered by the equipment manufacturer or service provider will apply. This agreement will expire 7 days from the quote date above. Prices are subject to change without notice. Unless noted, this quote does not include shipping charges or taxes.

Check out how the products you order are processed - Video Tour
www.vology.com/company/vology-virtual-tour

Accept this quote - Signature: _____

Purchase Order #: _____

BROCADE ICX 6430 AND 6450 SWITCHES

ENTERPRISE LAN SWITCHING

Enterprise-Class Stackable Switching at an Entry-Level Price

HIGHLIGHTS

- Offers enterprise-class stackable switching at an entry-level price, allowing organizations to buy what they need now and easily scale as demand grows and new technologies emerge
- Delivers unprecedented feature/price value for enterprise applications, including Unified Communications (UC) and mobility, with 10 Gigabit Ethernet (GbE) and PoE/PoE+
- Provides unmatched availability for low-cost switching with redundant uplink/stacking ports, hitless stacking failover, and configurable power redundancy
- Simplifies network operations and protects investments with the Brocade HyperEdge Architecture, enabling consolidated network management and advanced services-sharing across heterogeneous switches
- Offers attractive 12-port, compact, and enterprise-class fanless switch models for deployments outside of the wiring closet
- Includes the Brocade Assurance Limited Lifetime Warranty and three years of technical support

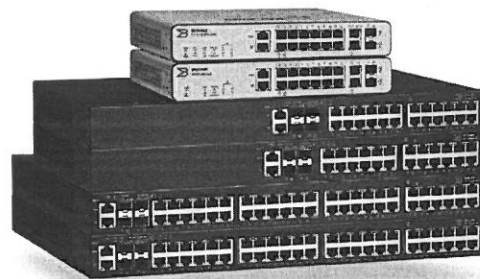
Today's organizations expect their enterprise campus LANs to deliver more services to more users at a lower cost. These services include next-generation business applications as well as anytime, anywhere access for mobile devices. At the same time, campus LANs must be able to scale easily to meet future demands and efficiently evolve within dynamic business environments.

Brocade® ICX® 6430 and 6450 Switches provide enterprise-class stackable LAN switching solutions to meet the growing demands of campus networks. Designed for small to medium-size enterprises, branch offices, and distributed campuses, these intelligent, scalable edge switches deliver enterprise-class functionality at an affordable price—without compromising performance and reliability. The Brocade ICX 6430 and 6450 are available in

12-, 24-, and 48-port 10/100/1000 Mbps models and 1 Gigabit Ethernet (GbE) or 10 GbE dual-purpose uplink/stacking ports (see Figures 1 and 2)—with or without IEEE 802.3af Power over Ethernet (PoE) and 802.3at Power over Ethernet Plus (PoE+)—to support enterprise edge networking, wireless mobility, and IP communications.

BUILT FOR MAXIMUM COST-EFFICIENCY AND INVESTMENT PROTECTION

With Brocade ICX 6430 and 6450 Switches, organizations can buy only what they need today and easily scale user ports and services as their network requirements evolve. Brocade offers maximum investment protection through flexible software licensing options that bring advanced services and performance to lower-cost ports.



BROCADE

In particular, the Brocade HyperEdge™ Architecture allows premium switch features and services to be shared with entry-level switches (Brocade ICX 6450 only). The Brocade ICX switches also are hardware-capable for easy software implementation (software available in a future release) of emerging security (IEEE 802.1AE MACsec) and energy savings (IEEE 802.3az EEE) standards, helping to protect today's investments while supporting tomorrow's needs.

Brocade ICX 6430 and 6450 Switches come with three years of technical support from the Brocade Technical Assistance Center and software maintenance updates. With these capabilities, organizations gain peace of mind while freeing up IT budget and resources to grow their businesses.

AUTOMATED DEPLOYMENT AND MANAGEMENT

Brocade ICX 6430 and 6450 Switches help simplify network deployment and management by enabling auto-discovery of new Brocade ICX switches within the stack. IT organizations can auto-configure switches using pre-set instructions on the network. To further simplify management, these stacked switches collectively utilize only a single IP address and offer transparent forwarding across the stack.

By embedding sFlow capabilities into the Brocade ICX 6450, Brocade delivers an “always-on” monitoring technology that operates with wire-speed performance. sFlow dramatically reduces implementation complexity compared to traditional network monitoring solutions that rely on mirrored ports, probes, and line-tap technologies.

HIGH AVAILABILITY AND RESILIENCY

Brocade Ethernet switch stacking technology helps IT organizations meet growing user demand by delivering high availability through real-time state synchronization across the stack and instantaneous hitless failover support. In addition, organizations can use hot-insertion and removal of stack members to avoid interrupting network service when adding or replacing a switch. High-performance Link Aggregation Groups (LAGs) increase 10 GbE uplink bandwidth and redundancy to the core, giving users uninterrupted high performance to support the most demanding applications. Brocade ICX 6430 and 6450 Switches also offer an external power supply for added resiliency and increased PoE/PoE+ port availability (see Figure 3).

STACKING TECHNOLOGY FOR THE MOST DEMANDING CAMPUS LAN ENVIRONMENTS

Brocade Ethernet switch stacking technology makes it possible to stack up to eight Brocade ICX 6450 Switches into a single logical switch (except the Brocade ICX 6450-C), providing simple and robust expandability for future growth at the network edge. This stacked switch has only a single IP address to simplify management and offers transparent forwarding across a pool of up to 384 1 GbE ports and 32 10 GbE ports. When new switches join the stack, they automatically inherit the stack's existing configuration file, enabling true plug-and-play network expansion. Flexible licensing of 1 GbE to 10 GbE ports for uplink and stacking allows organizations to optimize network performance based on

specific requirements. Brocade stacking technology also delivers high availability, enabling instantaneous hitless failover to a standby stack controller if the master stack controller fails. In addition, organizations can use hot-insertion and removal of stack members to avoid interrupting network services.

For networks with lower bandwidth requirements, the Brocade ICX 6430 offers the same rugged stacking capability (except the Brocade ICX 6430-C) at a reduced price, providing a lower-density solution of up to 192 1 GbE access ports with 16 1 GbE uplink and stacking ports, and a maximum stack height of four switches.

Built to Power Next-Generation Edge Devices

The Brocade ICX 6430 and 6450 can deliver both PoE power and data across network connections, providing a single-cable solution for the latest edge devices (see Figure 4). Brocade ICX switches are compatible with industry-standard Voice over IP (VoIP) equipment as well as legacy IP phones. In addition, they support the PoE+ standard (IEEE 802.3at) to provide up to Class 4 (30 watts) power to each device. This high-powered solution simplifies wiring for next-generation edge devices, such as video conferencing and VoIP phones, surveillance cameras, and 802.11n wireless Access Points (APs). The PoE capability reduces the number of power receptacles and power adapters while increasing reliability and wiring flexibility. The Brocade ICX 6450 can provide PoE power to all ports and PoE+ (30 watts) to all ports when an external power supply is deployed.

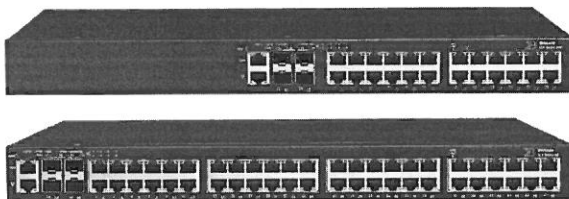


Figure 1.

Brocade ICX 6450 Switches support four dual-mode 1 GbE/10 GbE SFP/SFP+ ports for uplink and stacking, and up to 48 1 GbE RJ-45 ports. Brocade ICX 6430-24 and 6430-48 Switches support four 1 GbE SFP ports for uplink and stacking to provide a cost-optimized solution for lower-traffic networks.

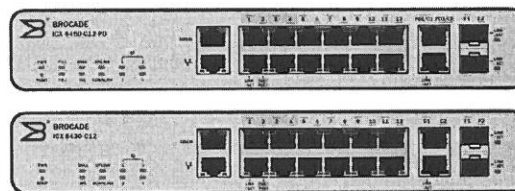


Figure 2.

The Brocade ICX 6430-C and ICX 6450-C Compact Switches support two 1 GbE RJ-45 and two 1 GbE SFP ports for uplink and 12 1 GbE RJ-45 ports with four PoE/PoE+ capable ports in a compact and fanless design—ideal for deployment outside the wiring closet. The ICX 6450-C can be powered either from its internal power supply or with POE/PoE+, through its two RJ45 uplink ports enabling the switch to be deployed in environments where no AC power outlet is present.

Plug-and-Play Operations for Powered Devices

Brocade ICX switches support the IEEE 802.1AB Link Layer Discovery Protocol (LLDP) and ANSI TIA 1057 Link Layer Discovery Protocol-Media Endpoint Discovery (LLDP-MED) standards that enable organizations to deploy interoperable multivendor solutions for Unified Communications (UC). Configuring IP endpoints such as VoIP phones can be a complex task, requiring manual and time-consuming configuration. LLDP and LLDP-MED provide a standard, open method for configuring, discovering, and managing network infrastructure.

The LLDP protocols also reduce operational costs by simplifying and automating network operations. For example, LLDP-MED provides an open protocol for configuring Quality of Service (QoS), security policies, Virtual LAN (VLAN) assignments, PoE power levels, and service priorities.

Compact Switch Solution for Deployment Outside the Wiring Closet

The Brocade ICX 6430-C/6450-C Compact Switch offers enterprise-class LAN switching capabilities, performance, reliability, security, and manageability in a small form factor with fanless operation for deployment outside the wiring closet. It is ideal for deployment in classrooms, retail locations,

factories, small offices, workgroup, and space-constrained environments. The Brocade ICX 6430-C/6450-C is available in a 12-port 10/100/1000 Mbps model with IEEE 802.3af PoE and 802.3at PoE+ support on four ports plus four additional 1 GbE uplink ports. Additionally, the Brocade ICX 6450-C can be powered either from its internal AC power supply or with POE/PoE+ power, coming from one or both of its two RJ45 uplink ports, providing increased deployment flexibility by enabling the switch to be deployed in areas where no AC power outlet is present.

In the enterprise, the Brocade ICX 6430-C/6450-C Compact Switch can be used to extend the reach of the network outside the wiring closet, bringing connectivity to more users and supporting additional wireless AP deployment without running more wires. Additionally, the Brocade ICX 6450-C offers L3 routing and GRE support enabling secure and flexible deployment in remote areas. To simplify deployment in-situ, the Brocade ICX 6430-C/6450-C offer flexible mounting options, such as wall brackets and a magnetic mount kit.

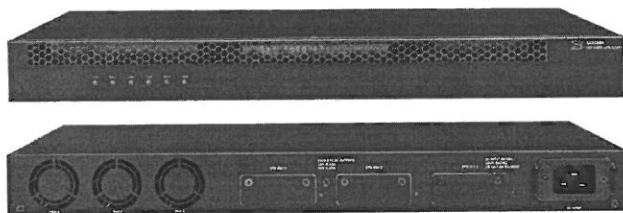


Figure 3.

The optional Brocade ICX 6400-EPS1500 is an external power supply source to provide additional power to the Brocade ICX switches (except the Brocade ICX 6430-C/6450-C and 6430-24). It also can be used for system power redundancy and increased PoE/PoE+ power budget to enable additional PoE/PoE+ ports. Each Brocade ICX 6400-EPS1500 can connect up to three Brocade ICX 6430 and 6450 Switches.

BROCADE HYPEREDGE ARCHITECTURE

The Brocade HyperEdge Architecture brings campus networks into the modern era to better support mobility, security, and application agility. This evolutionary architecture integrates innovative wired and wireless technologies to streamline application deployment, simplify network management, and reduce operating costs.

The HyperEdge Architecture enables organizations to build networks that are:

- **Agile:** By eliminating Spanning Tree Protocol (STP) between HyperEdge Domain switches through a flatter Layer 2 design, the HyperEdge Architecture increases link utilization and reduces application deployment complexity. The Distributed AP Forwarding functionality of Brocade wireless Access Points (APs) efficiently secures and directs mobile traffic at the network edge without tunneling data back to a central controller at the network core.
- **Automated:** By grouping premium and entry-level switches with intelligent wireless APs into a consolidated management domain, HyperEdge Domain switches eliminate the need to provision and manage devices individually—simplifying network deployment and management.
- **Cost-effective:** The HyperEdge Architecture enables the propagation of advanced features and services from premium switches to entry-level switches, allowing IT organizations to purchase only what they need today and add intelligent services as the business evolves. Further cost savings are achieved with Brocade wireless solutions using controller-less or controller-shared license deployment options.

Cost-Optimized Cooling Options

The Brocade ICX 6430 48-port and Brocade ICX 6450 24- and 48-port switches offer industry-standard side-to-back airflow with quiet fans at less than 40 dB (except the Brocade ICX 6450-48P). The Brocade ICX 6430-C/6450-C and 6430-24 Switches are available in a fanless configuration, helping to minimize sound and costs for deployments where users are present, such as classrooms and open office environments.

Basic Layer 3 Capabilities

Brocade ICX 6450/6450-C Switches offer an upgrade option to bring Layer 3 capabilities to the network edge, reducing complexity, and enhancing the reliability of enterprise networks.

Data Center ToR Server Connectivity

The Brocade ICX 6430 and 6450 are designed to fit in server racks by consuming only one rack unit. In data center environments where most servers are 1 GbE-capable, the Brocade ICX 6430 and 6450 provide a compact and cost-effective 1 GbE Top-of-Rack (ToR) switch by simply connecting the 1 GbE Network Interface Cards (NICs) in the servers to the Brocade ICX 6430 and 6450 1 GbE ports (see Figure 5). This configuration uses 10 GbE links (Brocade ICX 6450) or 1 GbE links (Brocade ICX 6430) to connect to Brocade ICX data center aggregation switches.

SIMPLIFIED, SECURE STANDARDS-BASED MANAGEMENT AND MONITORING

Brocade ICX 6430 and 6450 Switches provide simplified, standards-based management capabilities that help organizations reduce administrative time and effort while securing their networks.

sFlow-based “Always-On” Network Monitoring

sFlow is a standards-based network export protocol (RFC 3176) that addresses many of the challenges that network managers face today. By embedding sFlow into the Brocade ICX 6450/6450-C Switches, Brocade delivers an “always-on” technology that operates with wire-speed performance. sFlow dramatically reduces implementation costs compared to traditional network monitoring solutions that rely on mirrored ports, probes, and line-tap technologies. Moreover, sFlow gives organizations a full, enterprise-wide monitoring capability for every port in the network.

Simplified Deployment with Auto-Configuration

Brocade ICX 6430 and 6450 Switches support auto-configuration, simplifying deployment with a truly plug-and-play experience. Organizations can use this feature to automate IP address and feature configuration without requiring a highly trained network engineer onsite. When the switches power up, they automatically receive an IP address and configuration from DHCP and Trivial File Transport

Protocol (TFTP) servers. At this time, the switches can also automatically receive a software update to be at the same code revision as currently installed switches.

Open-Standards Management

Brocade ICX 6430 and 6450 Switches include an industry-standard Command Line Interface (CLI) and support Secure Shell (SSHv2), Secure Copy (SCP), and SNMPv3 to restrict and encrypt management communications to the system. In addition, support for Terminal Access Controller Access Control System (TACACS/TACACS+) and RADIUS authentication helps ensure secure operator access. Embedded Web management is also provided through a GUI-based device interface, and organizations can use Brocade Network Advisor to achieve full device and network management visibility.

Out-of-Band Management

Brocade ICX 6430 and 6450 Switches include a 10/100/1000 Mbps RJ-45 Ethernet port dedicated for out-of-band management, providing a remote path to manage the switches, regardless of the status or configuration of the data ports.

UNIFIED WIRED/WIRELESS NETWORK MANAGEMENT WITH BROCADE NETWORK ADVISOR

Managing enterprise campus networks continues to become more complex due to the growth in services that rely on wired and wireless networks. Services such as Internet, e-mail, video conferencing, real-time collaboration, and distance learning all have specific configuration and management requirements. At the same time, organizations face increasing demand to provide uninterrupted services for high-quality voice and Unified Communications (UC), wireless mobility, and multimedia applications.

To reduce complexity and the time spent managing these environments, the easy-to-use Brocade Network Advisor discovers, manages, and deploys configurations to groups of IP devices. By using the Brocade Network Advisor Device Configuration Manager tool, organizations can configure Virtual LANs (VLANs) within the network, manage wireless access point realms, or execute CLI commands on specific IP devices or groups of IP devices. sFlow-based proactive monitoring is ideal for performing

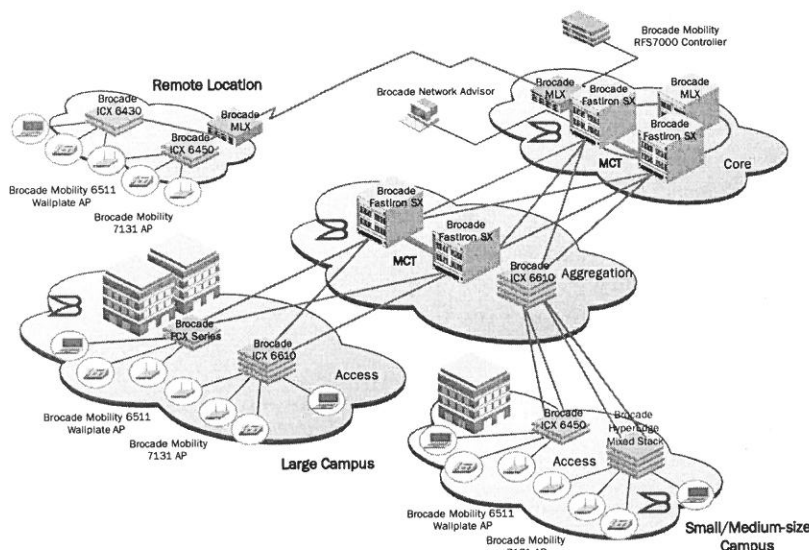


Figure 4.

Brocade ICX 6430 and 6450 Switches are suitable for a wide range of small to medium-size enterprises and branch office deployments at the network access layer.

network-wide troubleshooting, generating traffic reports, and gaining visibility into network activity from the edge to the core. Brocade Network Advisor centralizes management of the entire family of Brocade wired and wireless products, including the Brocade ICX switches.

WARRANTY

Brocade ICX 6430 and 6450 Switches are covered by the Brocade Assurance Limited Lifetime Warranty. For details, visit www.brocade.com/warranty.

BEST-IN-CLASS SUPPORT

Brocade ICX 6430 and 6450 Switches are supported by next-business-day advance replacement where available, as well as software defect repairs and maintenance updates. In an effort to further improve

service levels and operational efficiency, Brocade includes three years of technical support for Brocade ICX 6430 and 6450 Switches, providing direct access to the Brocade Technical Assistance Center during normal 8×5 business hours.

BROCADE GLOBAL SERVICES

Brocade Global Services has the expertise to help organizations build scalable, efficient cloud infrastructures. Leveraging 15 years of expertise in storage, networking, and virtualization, Brocade Global Services delivers world-class professional services, technical support, network monitoring services, and education, enabling organizations to maximize their Brocade investments, accelerate new technology deployments, and optimize the performance of networking infrastructures.

CLOUD-OPTIMIZED NETWORK ACQUISITION

Brocade helps organizations easily address their information technology requirements by offering flexible network acquisition and support alternatives to meet their financial needs. Organizations can select from purchase, lease, and Brocade Network Subscription options to align network acquisition with their unique capital requirements and risk profiles. To learn more, visit www.Brocade.com/CapitalSolutions.

MAXIMIZING INVESTMENTS

To help optimize technology investments, Brocade and its partners offer complete solutions that include professional services, technical support, and education. For more information, contact a Brocade sales partner or visit www.brocade.com.

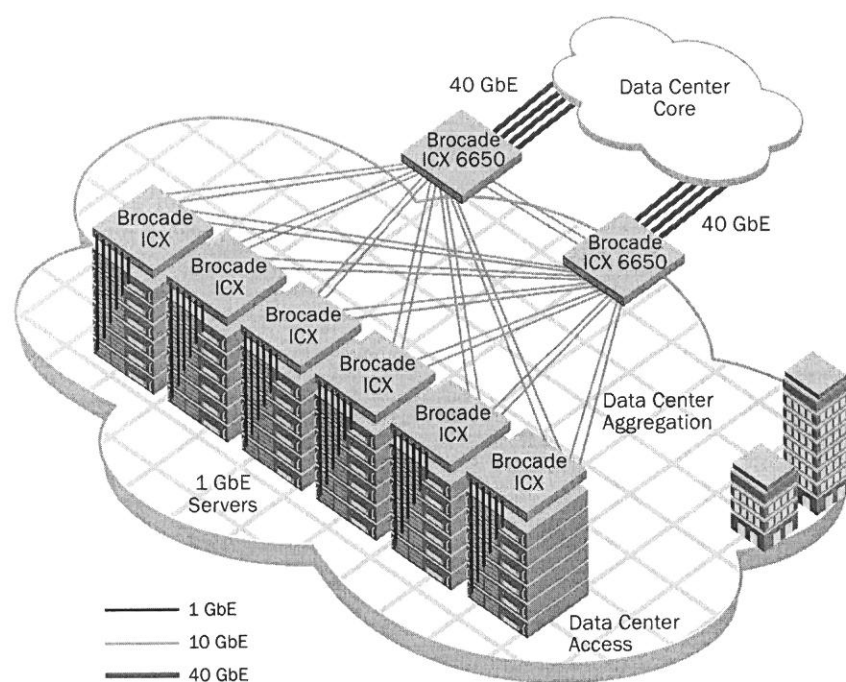


Figure 5.

Brocade ICX 6430 and 6450 Switches provide ToR access while Brocade ICX 6650 Switches provide data center aggregation.

BROCADE ICX 6430/6450 FEATURE AND MODEL SPECIFICATIONS

	Brocade ICX 6430					Brocade ICX 6450				
	6430-C12	6430-24	6430-24P	6430-48	6430-48P	6450-C12-PD	6450-24	6450-24P	6450-48	6450-48P
10/100/1000 Mbps RJ-45 ports	12	24	24	48	48	12	24	24	48	48
10/100/1000 Mbps RJ-45 uplink ports	2					2				
1 GbE SFP ports (uplink/stacking)	2*	4	4	4	4	2*				
1/10 GbE SFP/SFP+ ports (uplink/stacking)							4 (Optional 2-port license)	4 (Optional 2-port license)	4 (Optional 2-port license)	4 (Optional 2-port license)
Stacking bandwidth (data rate, full duplex)		4 Gbps	4 Gbps	4 Gbps	4 Gbps		40 Gbps	40 Gbps	40 Gbps	40 Gbps
Units per stack		4	4	4	4		8	8	8	8
Internal AC power supply rating	100 W	36 W	525 W	65 W	525 W	100 W	65 W	525 W	100 W	880 W
External power supply (redundant power and PoE power)			Optional 525 W	Optional 525 W	Optional 525 W		Optional 525 W	Optional 525 W	Optional 525 W	Optional 525 W × 2
PoE/PoE+ power budget (internal power supply)	68 W		390 W		390 W	68 W		390 W		780 W
PoE Class 3 ports (internal power supply)	4		24		24	4		24		48
PoE+ ports (internal power supply)	2		12		12	2		12		24
Max PoE Class 3 ports (with internal and external power supplies)	4		24		48	4		24		48
Max PoE+ ports (with internal and external power supplies)	2		24		24	2		24		48
PoE/PoE+ powered (Powered Device PD)						Yes				
Base software	Layer 2	Layer 2	Layer 2	Layer 2	Layer 2	Layer 3 with static routes	Layer 3 with static routes	Layer 3 with static routes	Layer 3 with static routes	Layer 3 with static routes
Layer 3 routing (RIP, OSPF)						Optional	Optional	Optional	Optional	Optional
Switching capacity (data rate, full duplex)	32 Gbps	56 Gbps	56 Gbps	104 Gbps	104 Gbps	32 Gbps	128 Gbps	128 Gbps	176 Gbps	176 Gbps
Forwarding capacity (data rate, full duplex)	24 Mpps	42 Mpps	42 Mpps	77 Mpps	77 Mpps	24 Mpps	96 Mpps	96 Mpps	132 Mpps	132 Mpps

* Stacking is not supported on the Brocade 6430-C12/6450-C12-PD. 100Base-FX is supported on the Brocade ICX 6430-C12/6450-C12-PD.

BROCADE ICX 6430/6450 SPECIFICATIONS

System Architecture

Connector options	<p>10/100/1000 Mbps ports: RJ-45</p> <p>Brocade ICX 6430: 1 Gbps SFP ports for uplink/stacking: SX, LX, TX, LHA, LHB, direct-attached copper cable (Twinax) for stacking</p> <p>Brocade 6430-C/6450-C: 100 Mbps/1 Gbps SFP ports for uplink: FX, SX, LX, TX, LHA, LHB; 10/100/1000 Mbps RJ-45 ports for uplink</p> <p>Brocade ICX 6450: 1/10 Gbps SFP+ ports for uplink/stacking: USR, SR, LR, ER, LRM, direct-attached copper cable (Twinax) for stacking</p> <p>Out-of-band Ethernet management: 10/100/1000 Mbps RJ-45</p> <p>Console management: RJ-45 serial</p> <p>External power connector: Redundant system power supply and extended PoE power supply (except the Brocade ICX 6430-24/6430-C12/6450-C12-PD)</p>
Maximum MAC addresses	<p>Brocade ICX 6430, 6430-C: 8000</p> <p>Brocade ICX 6450, 6450-C: 16,000</p>
Maximum VLANs	<p>Brocade ICX 6430-C: 1024</p> <p>Brocade ICX 6430, 6450, 6450-C: 4096</p>
Maximum STP (spanning trees)	<p>Brocade ICX 6430, 6430-C: 32</p> <p>Brocade ICX 6450, 6450-C: 253</p>
Maximum routes (in hardware)	<p>Brocade ICX 6450, 6450-C: 12,000 (IPv4)</p> <p>Brocade ICX 6450, 6450-C: 1070 (IPv6)</p>
Trunking	<p>Brocade ICX 6430</p> <p>Maximum ports per trunk: 8</p> <p>Maximum trunk groups: 29</p> <p>Brocade ICX 6430-C</p> <p>Maximum ports per trunk: 8</p> <p>Maximum trunk groups: 16</p> <p>Brocade ICX 6450, 6450-C</p> <p>Maximum ports per trunk: 8</p> <p>Maximum trunk groups: 124</p>
Priority queues	<p>Brocade ICX 6430, 6430-C: 4</p> <p>Brocade ICX 6450, 6450-C: 8</p>
Maximum jumbo frame size	9216 bytes
Layer 2 switching	<ul style="list-style-type: none"> • 802.1s Multiple Spanning Tree • 802.1X Authentication • Auto MDI/MDIX • BPDU Guard, Root Guard • Dual-Mode VLANs • MAC-based VLANs, Dynamic MAC-based VLAN activation • Dynamic VLAN Assignment • Dynamic Voice VLAN Assignment • Fast Port Span • GARP VLAN Registration Protocol • IGMP Snooping (v1/v2/v3) • IGMP Proxy for Static Groups • IGMP v2/v3 Fast Leave • IGMP Tracking • Inter-Packet Gap (IPG) adjustment • Link Fault Signaling (LFS) • MAC Address Locking, MAC Port Security • MAC-Layer Filtering, Filtering on source and destination MAC address

Layer 2 switching (continued)	<ul style="list-style-type: none"> • MAC Learning Disable • MLD Snooping (v1/v2) • Multi-device Authentication • Per-VLAN Spanning Tree (PVST/PVST+/PVRST) • Mirroring: Port-based, ACL-based, MAC Filter-based, and VLAN-based • Port Loop Detection • Private VLAN • Protected Link Groups • Protocol VLAN (802.1v), Subnet VLAN • Remote Fault Notification (RFN) • Single-instance Spanning Tree • Single-link LACP • Trunk Groups • Uni-Directional Link Detection (UDLD)
IPv6 support	<ul style="list-style-type: none"> • Host functionality management • Hardware support for IPv6 • IPv6 static routing (Brocade ICX 6450/6450-C only)
Base Layer 3 routing (Brocade ICX 6450/6450-C)	<ul style="list-style-type: none"> • IPv4 and IPv6 Static Routes • Port-based Access Control Lists • Host Routes • Virtual Interfaces, up to 255 virtual interfaces • Routed Interfaces • Route-only Support • IP helper • Routing Between Directly Connected Subnets • ECMP • Layer 3/Layer 4 ACLs
Premium Layer 3 routing (Brocade ICX 6450/6450-C)	<ul style="list-style-type: none"> • OSPF v2 • RIP v1/v2 • Virtual Route Redundancy Protocol (VRRP) • VRRP-E • GRE
Metro features (except the Brocade ICX 6430-C/6450-C)	<ul style="list-style-type: none"> • Metro-Ring Protocol MRP (v1, v2) • Virtual Switch Redundancy Protocol (VSRP) • VLAN Stacking (Q-in-Q) • VRRP • Topology Groups

Quality of Service (QoS)	<ul style="list-style-type: none"> • ACL Mapping and Marking of ToS/DSCP • ACL Mapping and Marking of 802.1p • ACL Mapping to Priority Queue • ACL Mapping to ToS/DSCP • Classifying and Limiting Flows Based on TCP Flags • DHCP Relay • DiffServ Support • Honoring DSCP and 802.1p • MAC Address Mapping to Priority Queue • Priority Queue Management using Weighted Round Robin (WRR), • Strict Priority (SP), and a combination of WRR and SP
IEEE standards compliance	<ul style="list-style-type: none"> • 802.1AB LLDP/LLDP-MED • 802.1D-2004 MAC Bridging • 802.1p Mapping to Priority Queue • 802.1Q with Tagging • 802.1s Multiple Spanning Tree • 802.1w Rapid Spanning Tree (RSTP) • 802.1X Port-based Network Access Control • 802.3 10BASE-T • 802.3ab 1000BASE-T • 802.3ad Link Aggregation (Dynamic and Static) • 802.3ae 10 Gigabit Ethernet • 802.3af Power over Ethernet • 802.3at Power over Ethernet Plus • 802.3u 100BASE-TX • 802.3x Flow Control • 802.3z 1000BASE-SX/LX • 802.3 MAU MIB (RFC 2239) • 802.1AE- MACsec (HW-capable): Brocade ICX 6450/6450-C only • 802.3az-2010 - EEE (HW-capable)
Traffic management	<ul style="list-style-type: none"> • ACL-based inbound rate limiting and traffic policies • Broadcast, multicast, and unknown unicast rate limiting • Inbound rate limiting per port • Outbound rate limiting per port and per queue
High availability	<ul style="list-style-type: none"> • Redundant external power supply • Layer 3 VRRP protocol redundancy • Real-time state synchronization across the stack • Hitless failover from master to standby stack controller • Protected link groups • Hot insertion and removal of stacked units

Management	
Management and control	<ul style="list-style-type: none"> • Auto Configuration • Brocade HyperEdge technology (Brocade ICX 6450 only) • Configuration Logging • Digital Optical Monitoring (DOM) • Display Log Messages on Multiple Terminals • Embedded Web Management • Embedded DHCP Server • Industry-standard Command Line Interface (CLI) • Key-based activation of optional software features • Integration with HP OpenView for Sun Solaris, HP-UX, IBM AIX, and Windows • Brocade Network Advisor support • MIB Support for MRP, Port Security, MAC Authentication, MAC-based VLANs • Out-of-band Ethernet Management • RFC 783 TFTP • RFC 854 TELNET Client and Server • RFC 951 Bootp • RFC 1157 SNMPv1/v2c • RFC 1213 MIB-II • RFC 1493 Bridge MIB • RFC 1516 Repeater MIB • RFC 1573 SNMP MIB II • RFC 1643 Ethernet Interface MIB • RFC 1643 Ethernet MIB • RFC 1724 RIP v1/v2 MIB • RFC 1757 RMON MIB • RFC 2068 Embedded HTTP • RFC 2131 DHCP Server and DHCP Relay • RFC 2570 SNMPv3 Intro to Framework • RFC 2571 Architecture for Describing SNMP Framework • RFC 2572 SNMP Message Processing and Dispatching • RFC 2573 SNMPv3 Applications • RFC 2574 SNMPv3 User-based Security Model • RFC 2575 SNMP View-based Access Control Model SNMP • RFC 2818 Embedded HTTPS • RFC 3176 sFlow (Brocade ICX 6450/6450-C only) • SNTP Simple Network Time Protocol • Multiple Syslog Servers
Embedded security	<ul style="list-style-type: none"> • 802.1X Accounting • MAC authentication • DHCP snooping • Dynamic ARP inspection • Bi-level Access Mode (Standard and EXEC Level) • EAP pass-through support • Packet filtering on TCP Flags • IEEE 802.1X username export in sFlow • Protection against Denial of Service (DoS) attacks

Secure management	<ul style="list-style-type: none"> • Authentication, Authorization, and Accounting (AAA) • Advanced Encryption Standard (AES) with SSHv2 • Bi-level Access Mode (Standard and EXEC Level) • RADIUS/TACACS/TACACS+ • Secure Copy (SCP) • Secure Shell (SSHv2) • Username/password • Web authentication
-------------------	---

Physical Specifications

Dimensions	<ul style="list-style-type: none"> • Brocade ICX 6430-C12/6450-C12-PD models: 1.7 in. (H) × 10.6 in. (W) × 8.4 in. (D) 4.34 cm (H) × 26.92 cm (W) × 21.33 cm (D) • All 24-port models: 1.7 in. (H) × 17.44 in. (W) × 9.45 in. (D) 4.34 cm (H) × 44.3 cm (W) × 24 cm (D) • All 48-port models: 1.7 in. (H) × 17.44 in. (W) × 14.57 in. (D) 4.34 cm (H) × 44.3 cm (W) × 37 cm (D) • ICX6400-EPS1500: 1.7 in. (H) × 17.44 in. (W) × 14.57 in. (D) 4.34 cm (H) × 44.3 cm (W) × 37 cm (D)
Weight	<ul style="list-style-type: none"> • Brocade ICX 6430-C12: 4 lb (1.81 kg) • Brocade ICX 6430-24: 7.58 lb (3.44 kg) • Brocade ICX 6430-24P: 10.08 lb (4.57 kg) • Brocade ICX 6430-48: 11.09 lb (5.03 kg) • Brocade ICX 6430-48P: 13.8 lb (6.26 kg) • Brocade ICX 6450-C12-PD: 4.62 lb (2.09 kg) • Brocade ICX 6450-24: 7.39 lb (3.35 kg) • Brocade ICX 6450-24P: 10.03 lb (4.55 kg) • Brocade ICX 6450-48: 11.07 lb (5.02 kg) • Brocade ICX 6450-48P: 14.11 lb (6.4 kg) • Brocade ICX 6400-EPS1500: 14.85 lb (6.75 kg)

Environment

Temperature	<ul style="list-style-type: none"> • Operating temperature: 0°C to 45°C (32°F to 113°F) • Operating temperature for Brocade ICX 6430-C12: 0°C to 40°C (32°F to 104°F) • Storage temperature: -40°C to 70°C (-40°F to 158°F)
Humidity	<ul style="list-style-type: none"> • Operating relative humidity: 5% to 95%, non-condensing • Non-operating relative humidity: 0% to 95%, non-condensing
Storage altitude	<ul style="list-style-type: none"> • 10,000 ft (3000 m) maximum

Acoustic (25 °C)	<ul style="list-style-type: none"> • Brocade ICX 6430-C12: Fanless (ambient) • Brocade ICX 6430-24: Fanless (ambient) • Brocade ICX 6430-24P: 39.2 dBA • Brocade ICX 6430-48: 37.2 dBA • Brocade ICX 6430-48P: 39.3 dBA • Brocade ICX 6450-C12-PD: Fanless (ambient) • Brocade ICX 6450-24: 37.9 dBA • Brocade ICX 6450-24P: 39.2 dBA • Brocade ICX 6450-48: 37.2 dBA • Brocade ICX 6450-48P: 55.5 dBA • Brocade ICX 6400-EPS1500: 60.9 dBA
Vibration	<ul style="list-style-type: none"> • IEC 68-2-36, IEC 68-2-6
Shock and drop	<ul style="list-style-type: none"> • IEC 68-2-27 • IEC 68-2-32
MTBF (25 °C, CL: 60%)	<ul style="list-style-type: none"> • Brocade ICX 6430-C12: 1,124,442 hours • Brocade ICX 6430-24: 1,229,732 hours • Brocade ICX 6430-24P: 505,469 hours • Brocade ICX 6430-48: 748,262 hours • Brocade ICX 6430-48P: 384,288 hours • Brocade ICX 6450-C12-PD: 868,732 hours • Brocade ICX 6450-24: 906,243 hours • Brocade ICX 6450-24P: 485,749 hours • Brocade ICX 6450-48: 756,081 hours • Brocade ICX 6450-48P: 397,590 hours • Brocade ICX 6400-EPS1500: 789,923 hours

Power	
Power supplies	<ul style="list-style-type: none"> Integrated AC power supply for system and PoE power External 1500 W AC power supply for redundant system power and extended PoE power
Power inlet (Max current rating at 100 V input)	<ul style="list-style-type: none"> Brocade ICX 6430-C12: 1.8 Amp Brocade ICX 6430-24: 0.9 Amp Brocade ICX 6430-24P: 6 Amp Brocade ICX 6430-48: 1.5 Amp Brocade ICX 6430-48P: 6 Amp Brocade ICX 6450-C12-PD: 1.8 Amp Brocade ICX 6450-24: 1.5 Amp Brocade ICX 6450-24P: 6 Amp Brocade ICX 6450-48: 2 Amp Brocade ICX 6450-48P: 10 Amp Brocade ICX 6400-EPS1500: 16 Amp
Input voltage	<ul style="list-style-type: none"> Universal 100 to 240 VAC
AC power cord current rating	<ul style="list-style-type: none"> Brocade ICX 6430-C12/6450-C12-PD: 10 Amp, 100 to 240 V Brocade ICX 6430 and 6450 switches: 13 Amp, 100 to 240 V Brocade ICX 6400-EPS1500: 20 Amp, 100 to 240 V
DC power cord current rating	<ul style="list-style-type: none"> Brocade ICX 6400-EPS1500: 5.6 Amp at 12 V rail; 6.85 Amp at 54 V rail Brocade ICX 6400-EPS1500: 3 DC cables included; cable length: 3 feet
Input line frequency	<ul style="list-style-type: none"> 50 to 60 Hz
Heat dissipation (no PoE load)	<ul style="list-style-type: none"> Brocade ICX 6430-C12: 62 BTU/hr Brocade ICX 6430-24: 67 BTU/hr Brocade ICX 6430-24P: 104 BTU/hr Brocade ICX 6430-48: 128 BTU/hr Brocade ICX 6430-48P: 132 BTU/hr Brocade ICX 6450-C12-PD: 68.3 BTU/hr Brocade ICX 6450-24: 124 BTU/hr Brocade ICX 6450-24P: 129 BTU/hr Brocade ICX 6450-48: 186 BTU/hr Brocade ICX 6450-48P: 192 BTU/hr

Regulatory Compliance and Safety Approvals	
Electromagnetic compatibility	<ul style="list-style-type: none"> FCC Part 15, Subpart B, Class A ICES-003: 2004 VCCI—Technical Requirement (V-3/2011.04)/ Class A EN 55022: 2006+A1: 2007 Class A EN 61000-3-2: 2006+A1:2009+A2:2009 Class A EN 61000-3-3: 2008 EN 61000-6-1: 2007 EN 61000-6-3: 2007 EN 55024: 1998+A1:2001+A2:2003 EN 300 386 (V1.4.1): 2008 IEC 61000-4-2: 2008 ED. 2.0 IEC 61000-4-3: 2006+A1:2007+A2:2010 ED. 3.2 IEC 61000-4-4: 2004+A1:2010 ED. 2.0 IEC 61000-4-5: 2005 ED. 2.0 IEC 61000-4-6: 2008 ED. 3.0 IEC 61000-4-8: 2009 ED. 2.0 IEC 61000-4-11: 2004 ED. 2.0
Safety	<ul style="list-style-type: none"> CAN/CSA-C22.2 NO. 60950-1-07; UL 60950-1 2nd Edition; IEC 60950-1 2nd Edition; EN 60950-1:2006 Safety of Information Technology Equipment; EN 60825-1 Safety of Laser Products—Part 1: Equipment Classification, Requirements and User's Guide; EN 60825-2 Safety of Laser Products—Part 2: Safety of Optical Fibre Communication Systems
Environmental regulatory compliance	<ul style="list-style-type: none"> RoHS-compliant (6 of 6); WEEE-compliant

Measured Power Utilization			
Models	Idle ¹	5% Throughput ²	100% Throughput ³
Brocade ICX 6430-C12	10 W	92.6 W	93 W
Brocade ICX 6430-24	7 W	19 W	20 W
Brocade ICX 6430-24P	9 W	391 W	396 W
Brocade ICX 6430-48	15 W	37 W	38 W
Brocade ICX 6430-48P	16 W	401 W	403 W
Brocade ICX 6450-C12-PD	11.6 W	94.3 W	94.6 W
Brocade ICX 6450-24	20 W	29 W	37 W
Brocade ICX 6450-24P	21 W	395 W	400 W
Brocade ICX 6450-48	30 W	51 W	55 W
Brocade ICX 6450-48P	31 W	771 W	776 W

¹ All ports are disconnected with no PoE load.

² 5 percent traffic load on all ports connected with maximum possible PoE loads (if equipped).

³ 100 percent traffic load on all ports connected with maximum possible PoE loads (if equipped).

BROCADE ICX 6430/6450 ORDERING INFORMATION

Part Number	Description
ICX6430-C12	12-port 1 GbE compact switch (4 PoE+), 2×100 Mbps/1 GbE SFP and 2×100 Mbps/1 GbE copper uplinks, fanless
ICX6430-24	24-port 1 GbE switch, 4×1 GbE SFP uplink/stacking ports, fanless
ICX6430-24P	24-port 1 GbE switch PoE+ 390 W, 4×1 GbE SFP uplink/stacking ports
ICX6430-48	48-port 1 GbE switch, 4×1 GbE SFP uplink/stacking ports
ICX6430-48P	48-port 1 GbE switch PoE+ 390 W, 4×1 GbE SFP uplink/stacking ports
ICX6450-C12-PD	12-port 1 GbE compact switch (4 PoE+), 2×100 Mbps/1 GbE SFP and 2×100 Mbps/1 GbE copper uplinks, fanless, L3 static, PoE-powered
ICX6450-24	24-port 1 GbE switch, 2×1 GbE SFP+ (upgradable to 10 GbE) and 2×1 GbE/10 GbE SFP+ uplink/stacking ports
ICX6450-24-A	24-port 1 GbE switch, 2×1 GbE SFP+ (upgradable to 10 GbE) and 2×1 GbE/10 GbE SFP+ uplink/stacking ports, TAA
ICX6450-24P	24-port 1 GbE switch PoE+ 390 W, 2×1 GbE SFP+ (upgradable to 10 GbE) and 2×1 GbE/10 GbE SFP+ uplink/stacking ports
ICX6450-24P-A	24-port 1 GbE switch PoE+ 390 W, 2×1 GbE SFP+ (upgradable to 10 GbE) and 2×1 GbE/10 GbE SFP+ uplink/stacking ports, TAA
ICX6450-48	48-port 1 GbE switch, 2×1 GbE SFP+ (upgradable to 10 GbE) and 2×1 GbE/10 GbE SFP+ uplink/stacking ports
ICX6450-48-A	48-port 1 GbE switch, 2×1 GbE SFP+ (upgradable to 10 GbE) and 2×1 GbE/10 GbE SFP+ uplink/stacking ports, TAA
ICX6450-48P	48-port 1 GbE switch PoE+ 780 W, 2×1 GbE SFP+ (upgradable to 10 GbE) and 2×1 GbE/10 GbE SFP+ uplink/stacking ports
ICX6450-48P-A	48-port 1 GbE switch PoE+ 780 W, 2×1 GbE SFP+ (upgradable to 10 GbE) and 2×1 GbE/10 GbE SFP+ uplink/stacking ports, TAA
Accessories and Options	
ICX6450-PREM-LIC	Brocade ICX 6450/6450-C premium license (Layer 3 features)
ICX6450-2X10G-LIC-POD	Brocade ICX 6450 2×10 GbE capacity-based license; upgrade 1 GbE uplink/stacking ports to 1GbE/10 GbE
ICX6400-EPS1500	Brocade ICX 6430/6450 1500 W external power supply for RPS/EPS (connect up to three switches)
ICX6400-RMK	Brocade ICX 6400 two-post rack mount kit, spare
ICX6400-C12-RMK	Brocade ICX 6400-C compact switch 2-post rack mount kit
ICX6400-C12-MGNT	Brocade ICX 6400-C compact switch magnet mount kit
10G-SFPP-TWX-0101	Direct-attached SFP+ copper cable, 1 m, one-pack, stacking cable
10G-SFPP-TWX-0301	Direct-attached SFP+ copper cable, 3 m, one-pack, stacking cable
10G-SFPP-TWX-0501	Direct-attached SFP+ copper cable, 5 m, one-pack, stacking cable
1G-SFP-TWX-0101	Direct-attached 1 Gbps SFP copper cable, 1 m, stacking cable
1G-SFP-TWX-0501	Direct-attached 1 Gbps SFP copper cable, 5 m, stacking cable
10G-SFPP-USR	10GE USR SFP+ optic (LC), target range 100 m over MMF, one-pack
10G-SFPP-SR	10GBASE-SR, SFP+ optic (LC), target range 300 m over MMF
10G-SFPP-LR	10GBASE-LR, SFP+ optic (LC), for up to 10 km over SMF
10G-SFPP-ER	10GBASE-ER SFP+ optic (LC), for up to 40 km over SMF
10G-SFPP-LRM	10GBASE-LRM, 1310 nm SFP+ optic (LC), TAR
E1MG-TX	1000BASE-TX SFP copper, RJ-45 connector
E1MG-SX-OM	1000BASE-SX SFP optic, MMF, LC connector, optical monitoring-capable
E1MG-LX-OM	1000BASE-LX SFP optic, SMF, LC connector, optical monitoring-capable
E1MG-LHA-OM	1000BASE-LHA SFP optic, SMF, LC connector, optical monitoring-capable; 80 km
E1MG-LHB	1000BASE-LHB SFP optic, SMF, LC connector, 150 km maximum reach
E1MG-100FX-OM	100BASE-FX SFP optic MMF, LC connector, optical monitoring-capable (Brocade ICX 6400-C only)

Corporate Headquarters

San Jose, CA USA
T: +1-408-333-8000
info@brocade.com

European Headquarters

Geneva, Switzerland
T: +41-22-799-56-40
emea-info@brocade.com

Asia Pacific Headquarters

Singapore
T: +65-6538-4700
apac-info@brocade.com

© 2013 Brocade Communications Systems, Inc. All Rights Reserved. 09/13 GA-DS-1654-03

ADX, AnyIO, Brocade, Brocade Assurance, the B-wing symbol, DCX, Fabric OS, ICX, MLX, MyBrocade, OpenScript, VCS, VDX, and Vyatta are registered trademarks, and HyperEdge, The Effortless Network, and The On-Demand Data Center are trademarks of Brocade Communications Systems, Inc., in the United States and/or in other countries. Other brands, products, or service names mentioned may be trademarks of their respective owners.

Notice: This document is for informational purposes only and does not set forth any warranty, expressed or implied, concerning any equipment, equipment feature, or service offered or to be offered by Brocade. Brocade reserves the right to make changes to this document at any time, without notice, and assumes no responsibility for its use. This informational document describes features that may not be currently available. Contact a Brocade sales office for information on feature and product availability. Export of technical data contained in this document may require an export license from the United States government.



BROCADE NETWORK ADVISOR

NETWORK MANAGEMENT

Simplified Network Management for Today's Increasingly Dynamic Networks

HIGHLIGHTS

- Simplifies operations by providing an intuitive Graphical User Interface (GUI) and customizable dashboards
- Reduces Total Cost of Ownership (TCO) by providing proactive performance analysis and troubleshooting capabilities
- Unifies network management across Storage Area Networks (SANs) and IP networks
- Accelerates data center automation through enhanced support for Brocade VCS Fabric technology
- Integrates seamlessly with industry-leading management solutions from Microsoft, VMware, EMC, HP, and IBM, maximizing the value of IT investments

Today's IT organizations are under pressure to reduce costs, free up resources, and accelerate the introduction of private, public, and hybrid clouds for service delivery. Many are standardizing their operational processes and policies, and seeking ways to more proactively address availability and performance issues. During this transition, the network is increasingly becoming a focus area for both reducing unexpected downtimes and ongoing operational costs, while enabling greater IT and business agility.

Brocade® Network Advisor helps organizations simplify daily network operations and focus on strategic IT initiatives. This software management tool features customizable dashboards that enable organizations to identify network problems quickly and optimize their network resources. It also unifies management for the entire Brocade IP and SAN portfolio as well as integrates with third-party solutions, reducing the number of tools that organizations need to gain visibility and control. With its feature-rich, easy-to-use interface, Brocade Network Advisor automates repetitive tasks while helping organizations proactively manage their networks.

KEY FEATURES FOR MORE EFFECTIVE NETWORK MANAGEMENT

Brocade Network Advisor is a simple yet powerful tool that helps organizations manage the entire network lifecycle, including monitoring, diagnostics, change management, troubleshooting, and remediation.

Simplified Daily Network Operations

Brocade Network Advisor saves administrators valuable time and enables greater IT and business agility through several key capabilities, including:

- **Intelligent dashboards:** Organizations can proactively identify problem areas and prevent network downtime with a customizable, at-a-glance summary of all discovered Brocade devices and third-party IP devices (see Figure 1).
- **Easy-to-use interface:** Administrators can rapidly identify problem areas and troubleshoot use cases with performance dashboards and drill-down options.
- **Performance and historical data reporting:** Organizations gain visibility into in-depth performance measures and historical data for advanced troubleshooting and performance management (see Figure 2).

BROCADE

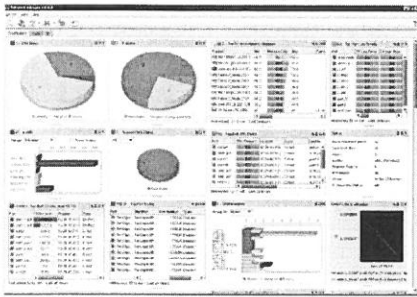


Figure 1. Brocade Network Advisor provides a customizable dashboard of storage and IP networks.

- **Network time and scope:** Administrators can set all dashboard widgets by network type and/or time scope to easily troubleshoot and correlate errors.
- **Virtual Machine (VM) visibility:** Network administrators gain visibility into virtual environments within SAN and IP networks through integration with VMware vCenter.
- **Role-Based Access Control (RBAC):** Organizations can define granular administrator roles and privileges to support the needs of different SAN and IP network teams.
- **Event management:** Administrators can receive SNMP traps, syslog event messages, and customizable event alerts for reporting, analysis, monitoring, and remediation.
- **Advanced Call Home:** Brocade Network Advisor can automatically collect diagnostic information and send notifications for faster fault diagnosis, isolation, and remote support operations.

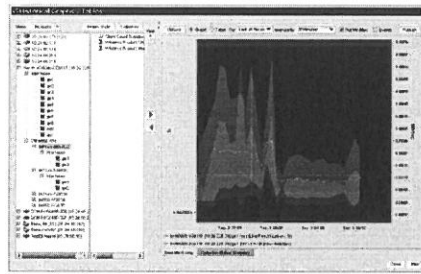


Figure 2. Brocade Network Advisor enables historical data visibility.

End-to-End Network Management

With Brocade Network Advisor, organizations can reduce operational expenditures by leveraging the same management solution for their entire SAN and IP network infrastructure. This enables better coordination between storage and data networking administrators for provisioning, troubleshooting, and reporting. Brocade Network Advisor manages:

- IP and SAN networks
- MPLS services
- Brocade application delivery switches
- Virtual IP (VIP)
- SSL certificates
- Global Server Load Balancing (GSLB)

Flexibility through Partner Integration

Brocade Network Advisor provides deep integration with a wide range of third-party network management solutions to bridge operational gaps across server, network, and storage administrators. For instance, Brocade Network Advisor integrates with VMware vCenter and Microsoft System Center Operations Manager (SCOM) to provide end-to-end network visibility.

Network administrators also can manage Brocade devices with third-party applications through the Brocade SMI Agent, which is based on the Storage Management Initiative-Specification (SMI-S). The SMI Agent provides out-of-the-box support for leading data center orchestration frameworks, such as:

- IBM TotalStorage Productivity Center and Systems Director
- HP VirtualConnect Enterprise Manager and Storage Provisioning Manager
- EMC Next-Generation Resource Management Suite

ADVANCED MANAGEMENT FOR VCS FABRICS

Brocade Network Advisor allows organizations to maximize their Brocade VCS® Fabric technology investments by enabling advanced management of Brocade VCS fabrics and Brocade VDX® switches. Brocade Network Advisor complements the simplicity and automation inherent in Brocade VCS fabrics with management

capabilities for the entire network lifecycle—including configuration, fault isolation, network performance, and diagnostics.

Brocade Network Advisor enables administrators to easily define and implement network policies and services within VCS fabric domains. Key features include:

- **Flexible management options:** Administrators can manage a VCS fabric as a single entity or logical chassis, or they can drill-down to individual Brocade VDX switches (see Figure 3).
- **VCS fabric visibility:** Brocade Network Advisor provides end-to-end visibility from the data center edge to hosts and VMs, as well as across multiple VCS fabrics and at individual node levels.
- **VCS fabric diagnostics:** Organizations can visualize traffic paths, measure network latency, and perform fault isolation via hop-by-hop inspection to pinpoint bottlenecks.
- **sFlow-based monitoring:** Brocade Network Advisor leverages sFlow data and integrates with VMware vCenter to enable VM-level monitoring and provide application performance insights.
- **VLAN management:** Administrators can create, edit, and delete VLANs, reducing the time spent on manual tasks.
- **Firmware management:** Brocade Network Advisor supports upgrading firmware for the entire VCS fabric or for a subset of Brocade VDX switches within the fabric.
- **VCS Virtual Fabric management:** Users can edit and delete virtual fabrics within Brocade Network Advisor, and creation is supported with C-Tag configuration.

Automatic Migration of Port Profiles Management

Brocade Network Advisor enables VM automation by simplifying management of Automatic Migration of Port Profiles (AMPP) configurations. Organizations can:

- Create, read, inventory, delete, associate, and disassociate port profiles to VMs, simplifying port profile management for network administrators.
- Rapidly associate between port profiles and VMware port groups managed by a single or multiple VMware vCenter servers. This is particularly beneficial when thousands of VMs are involved.
- Perform integrity checks of the port profiles across Brocade VDX switch configurations, either in the same fabric or across different VCS fabrics.

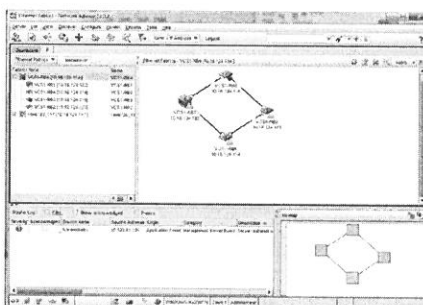


Figure 3. Brocade Network Advisor provides deep visibility with VCS fabric topology maps.

DATA CENTER SAN NETWORKS

Brocade Network Advisor simplifies management of data center fabrics with its performance dashboards, easy-to-use interface, and automation features. With Brocade Network Advisor, storage and server administrators can proactively manage their SAN environments to support non-stop networking, address issues before they impact operations, and minimize manual tasks. Key capabilities include:

- **Configuration management:** Organizations can automate manual operations with configuration wizards for Fibre Channel SANs, FICON® and cascaded FICON environments, Fibre Channel over IP (FCIP) tunnels, Fibre Channel over Ethernet (FCoE) network environments, Host Bus Adapters (HBAs), and Converged Network Adapters (CNAs).
- **Policy Monitor management:** Brocade Network Advisor can proactively validate SAN configurations with best-practices templates.
- **Top Talkers:** Organizations can identify devices or ports with the most demanding traffic flows for proactive capacity planning.
- **VM-to-storage visibility:** Brocade Network Advisor integrates with leading virtualization solutions such as VMware vCenter to provide VM-to-LUN visibility and management.

Brocade Fabric Vision Technology

Brocade Network Advisor integrates with Brocade Fabric Vision technology to provide unprecedented visibility and insight across the storage network. Brocade Network Advisor supports the following Brocade Fabric Vision technology features:

- **Monitoring and Alerting Policy Suite (MAPS):** Configures and monitors data center fabrics based on a set of user-defined policies.
- **Flow Vision:** Identifies, monitors, and analyzes application-level data flows to maximize network performance.
- **Single-dialog bulk configuration:** Reduces time spent on repetitive tasks by deploying MAPS policies and rules across the fabric from a single dialog.
- **Brocade ClearLink Diagnostics:** Runs diagnostic tests on optics and cables to quickly identify and isolate potential fabric issues.
- **Bottleneck Detection:** Automatically monitors and detects network congestion in the fabric, and identifies which devices or hosts are impacted by a bottlenecked port.
- **Brocade SAN Analytics Management Pack for vCOPS:** Delivers SAN health, risk, and efficiency insights to VMware vCenter Operations Manager, enabling faster recovery and better VM performance (see Figure 4).



Figure 4. View of SAN health through VMware vCenter Operations Manager.

ENTERPRISE CAMPUS NETWORKS

Brocade Network Advisor provides management for increasingly complex enterprise campus networks that support services such as video conferencing, real-time collaboration, and distance learning. Brocade Network Advisor helps network administrators deliver highly available wired and wireless networks by enabling them to:

- Centralize management of Brocade wired and wireless solutions, including Access Points (APs) and wireless controllers
- Discover, manage, and deploy configurations to dynamically updated groups of devices
- Check end-to-end VLAN consistency and gain other insights using CLI Manager and policy monitoring capabilities
- Receive alerts when users deviate from customizable configuration policies, ensuring compliance standards are maintained
- Create and export reports for wired products and APs using pre-built or customized templates

Metro and Carrier Ethernet Networks

Brocade Network Advisor helps service providers address the exponential growth in network traffic by helping to reduce operational costs, prevent bandwidth over-provisioning, and improve user service provisioning. Key features include:

- Discovery, monitoring, deployment, management, and configuration capabilities for metro and Carrier Ethernet networks
- Comprehensive MPLS service management with support for MPLS Virtual Private LAN Services (VPLS), Label Switched Path (LSP), Local VPLS, Virtual Leased Line (VLL), and Local VLL services
- The ability to detect, isolate, and report Ethernet faults with full support for the IEEE 802.1ag Connectivity Fault Management (CFM) set of standards

SUPPORTED TECHNOLOGIES AND PLATFORMS

Brocade Network Advisor supports the entire Brocade portfolio, unifying network management under a single tool. For a complete list of supported Brocade products, refer to the *Brocade Network Advisor Installation and Migration Guide*.

Supported platforms and hardware, include:

- Brocade ServerIron® ADX® Series Application Delivery Switches
- Brocade Converged Network Adapters (CNAs)
- Brocade DCX® Backbones
- Brocade FastIron® SX Series
- Brocade FastIron WS Series
- Brocade Host Bus Adapters (HBAs)
- Brocade ICX® switches
- Brocade MLX® Series
- Brocade MLXe Core Routers
- Brocade Mobility Access Points
- Brocade Mobility controllers
- Brocade NetIron® CER 2000 Series
- Brocade SAN switches
- Brocade VDX switches
- Brocade Vyatta® vRouters

BROCADE GLOBAL SERVICES

Brocade Global Services has the expertise to help organizations build scalable, efficient cloud infrastructures. Leveraging 15 years of expertise in storage, networking, and virtualization, Brocade Global Services delivers world-class professional services, technical support, and education services, enabling organizations to maximize their Brocade investments, accelerate new technology deployments, and optimize the performance of networking infrastructures.

Training and Education

Brocade Global Education Services offers Web-based training and instructor-led courses to share product information, tips, and best practices—and to provide hands-on experience with Brocade Network Advisor.

AFFORDABLE ACQUISITION OPTIONS

Brocade Capital Solutions helps organizations easily address their IT requirements by offering flexible network acquisition and support alternatives. Organizations can select from purchase, lease, Brocade Network Subscription, and Brocade Subscription Plus options to align network acquisition with their unique capital requirements and risk profiles. To learn more, visit www.Brocade.com/CapitalSolutions.

MAXIMIZING INVESTMENTS

To help optimize technology investments, Brocade and its partners offer complete solutions that include professional services, technical support, and education. For more information, contact a Brocade sales partner or visit www.brocade.com.

System Requirements

Brocade Network Advisor software and documentation are available via download. For details on the recommended system specifications, refer to the Brocade Network Advisor Installation and Migration Guide.

Ordering Information

Brocade Network Advisor comes in several packages, providing organizations with the flexibility to choose what best meets their network requirements. Package options include SAN-only, IP-only, SAN+IP, and SMI Agent-only.

Ease of Upgrade

Brocade Network Advisor also provides a non-disruptive path for organizations that are upgrading from Brocade IronView® Network Manager (INM) or Brocade Data Center Fabric Manager (DCFM®).

SYSTEM REQUIREMENTS FOR 64-BIT WINDOWS AND LINUX SYSTEMS

Small Network

Intel Core 2 Duo, 2 GHz or equivalent,
8 GB RAM, 20 GB disk

Medium Network

Intel Core 2 Duo Dual-CPU, 2.4 GHz or
equivalent, 8 to 16 GB¹ RAM, 60 GB disk

Large Network

Intel Core 2 Duo Dual-CPU, 2.4 GHz or
equivalent, 8 to 16 GB¹ RAM, 80 GB disk

¹ 16 GB RAM is required for SAN+IP bundle and medium or large networks.

BROCADE NETWORK ADVISOR LICENSES

License	License Description
SAN Professional Plus	SAN management, supports up to 2,560 switch ports and 36 fabrics
SAN Enterprise	SAN management, supports up to 9,000 switch ports and 36 fabrics
IP Base ²	IP management, supports multiple VCS fabrics, up to 50 IP devices
SAN Professional Plus with IP	SAN+IP management, supports up to 2,560 SAN switch ports, 36 SAN fabrics, and 150 IP devices
SAN Enterprise with IP	SAN+IP management, supports up to 9,000 SAN switch ports, 36 SAN fabrics, and 550 IP devices

² Additional licenses can be purchased for MPLS management and increased IP device support.

SUPPORTED SERVER AND CLIENT OPERATING SYSTEMS

Operating System		Supported Package
x86 32-bit	<ul style="list-style-type: none">Windows Server 2008 StandardWindows 7 EnterpriseRed Hat Enterprise Linux 6.1, 6.2, 6.3 AdvOracle Enterprise Linux 6.1, 6.2, 6.3	<ul style="list-style-type: none">SUSE Linux Enterprise Server 11Guest VMs for all the above: VMware ESXi 5.0, KVM, and Microsoft Hyper-V (Hyper-V Server 2008 R2 SP1)
	<ul style="list-style-type: none">Windows Server 2008 R2 Standard, Data Center, and Enterprise EditionsWindows Server 2012 Standard, Data Center, and Enterprise EditionsWindows 7 EnterpriseWindows 8 Enterprise	
x86 64-bit	<ul style="list-style-type: none">Red Hat Enterprise Linux 6.1, 6.2, 6.3 AdvOracle Enterprise Linux 6.1, 6.2, 6.3Guest VMs for all the above: VMware ESXi 5.0, KVM, and Microsoft Hyper-V (Hyper-V Server 2008 R2 SP1)	<ul style="list-style-type: none">For small and medium configurationsSAN-onlyIP-onlySMI Agent-only
		<ul style="list-style-type: none">For large configurationsSAN+IPSAN-onlyIP-onlySMI Agent-only

Corporate Headquarters

San Jose, CA USA
T: +1-408-333-8000
info@brocade.com

European Headquarters

Geneva, Switzerland
T: +41-22-799-56-40
emea-info@brocade.com

Asia Pacific Headquarters

Singapore
T: +65-6538-4700
apac-info@brocade.com

© 2014 Brocade Communications Systems, Inc. All Rights Reserved. 02/14 GA-DS-1514-09

ADX, AnyIO, Brocade, Brocade Assurance, the B-wing symbol, DCX, Fabric OS, HyperEdge, ICX, MLX, MyBrocade, OpenScript, VCS, VDX, and Vyatta are registered trademarks, and The Effortless Network and The On-Demand Data Center are trademarks of Brocade Communications Systems, Inc., in the United States and/or in other countries. Other brands, products, or service names mentioned may be trademarks of others.

Notice: This document is for informational purposes only and does not set forth any warranty, expressed or implied, concerning any equipment, equipment feature, or service offered or to be offered by Brocade. Brocade reserves the right to make changes to this document at any time, without notice, and assumes no responsibility for its use. This informational document describes features that may not be currently available. Contact a Brocade sales office for information on feature and product availability. Export of technical data contained in this document may require an export license from the United States government.



Brocade Campus LAN Switching Product Warranty and Support Overview	Brocade ICX 6610 FCX FSX 800 FSX 1600	Brocade ICX 6430 ICX 6450	Brocade FWS	Brocade FGS FLS FES FESX Super X	Optics with Brocade ICX 6610 FCX FSX 800 FSX 1600	Optics with Brocade ICX 6430 ICX 6450	External Power Supply ICX 6400- ESP 1500
WARRANTY							
Brocade Assurance Limited Lifetime Warranty ¹	✓	✓	✓				
Limited Lifetime Warranty ¹				✓			
Standard Limited Warranty ¹ (13 months from ship)					✓	✓	✓
HARDWARE DEFECT REPLACEMENT DURING WARRANTY							
Advanced Replacement Next Business Day ¹	✓	✓	✓				
Repair or Replace 30-days				✓	✓	✓	✓
ACCESS TO SOFTWARE DEFECT DOWNLOADS DURING WARRANTY							
Included through the product end of support date ¹	✓	✓					
Included for the firmware release current at time of purchase or any previous release. Brocade's Knowledge Portal.			✓				
Accessible for 90-days from ship				✓			
ACCESS TO SOFTWARE MAINTENANCE UPDATES DURING WARRANTY							
Included through the product end of support date ¹	✓	✓					
Optional Essential Support contracts required			✓	✓			
ACCESS TO SOFTWARE UPGRADES							
Optional L3 license upgrades are available for purchase	✓	✓	✓	✓			
ACCESS TO NEW SOFTWARE FEATURES							
Optional Essential Support contracts are required	✓	✓	✓	✓			
ACCESS TO TECHNICAL SUPPORT							
Included for 90-days 8x5	✓				✓		
Included for 3-years 8x5		✓				✓	✓
Optional Essential Support contracts are required			✓	✓			

¹ See detailed information at www.brocade.com/warranty.

General Questions and Answers

Q Is an Essential Support contract required to download software updates?

A For the Brocade® FastIron® and ICX® switches, an Essential Support contract is not required to download software defect repairs and software maintenance updates posted on Brocade.com. However, it should be noted that a support contract is required to download software maintenance updates for licensed Advanced routing images (Brocade ICX 6610, Brocade FCX®).

Q Do the enterprise campus switches include downloading of minor and major software releases or revisions?

A The Brocade FastIron and ICX switches include downloading of software defect repairs and software maintenance updates that are incorporated in minor software releases and new software releases.

Q What is a software maintenance update or release?

A End users with Brocade FCX, Brocade FastIron SX 800/1600, and Brocade ICX 6610, ICX 6450, and ICX 6430 products will be provided access to software maintenance updates and software defect repairs to maintain the compliance of the software with published specifications, release notes, and industry-standards compliance. A software maintenance update or release may include defect repairs and limited platform-specific improvements to ensure that the product features available to the device on the original purchase date continue to function in the customer network.

Q Are software upgrades included with the Brocade FastIron and ICX campus products?

A For the Brocade FastIron and ICX switches, “software upgrades” mean moving from the FastIron Base features image to a Premium or Advanced routing image, or moving from a Premium to an Advanced routing image. These forms of software upgrades require the purchase of an upgrade license and are not included with the products. Optional software upgrades are available for purchase.

Q Are new features and functionality included with the software downloads?

A Brocade does not guarantee that any new features or functionality will be developed and made available to the end user in future software revisions or releases. A current Essential Support contract inclusive of software downloads is required to gain access to new features and functionality for the software license level that is purchased for and installed on the device.

Q Are power supplies and fans covered under the warranty?

A Internal and hot-swappable power supplies and fans purchased with the Brocade FastIron and ICX switches are covered under the product warranty.