

**State of West Virginia, Purchasing Division
Request for Quotation
Solicitation #CRFQ 0210 ISC1500000014
April 30, 2015 1:30 PM
Original**



***CDW Government LLC
230 N. Milwaukee Ave.
Vernon Hills, IL 60061***



04/30/15 10:08:49
WV Purchasing Division



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

State of West Virginia
 Request for Quotation
 21 - Info Technology

Proc Folder: 85020

Doc Description: Open-End for EMC VNX5700 or EQUAL Storage System

Proc Type: Central Master Agreement

Date Issued	Solicitation Closes	Solicitation No	Version
2015-04-10	2015-04-30 13:30:00	CRFQ 0210 ISC1500000014	1

BID RECEIVING LOCATION


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

VENDOR

Vendor Name, Address and Telephone Number:
 CDW Government LLC
 230 N. Milwaukee Ave.
 Vernon Hills, IL 60061-9740
 866.833.9532 (Account Manager Jeff Grey)

FOR INFORMATION CONTACT THE BUYER

Guy Nisbet
 (304) 558-2596
 guy.l.nisbet@wv.gov

Signature X  * Brandi Steckel,
 Manager, Proposal Teams FEIN # 36-4230110

DATE April 29, 2015

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

* Virtual Training - no on-site requirements apply.

INVOICE TO		SHIP TO	
DEPARTMENT OF ADMINISTRATION OFFICE OF TECHNOLOGY 1900 KANAWHA BLVD E, BLDG 5 10TH FLOOR CHARLESTON WV25305 US		IS&C - DATA CENTER MANAGER DEPARTMENT OF ADMINISTRATION BLDG 6 RM B110 1900 KANAWHA BLVD E CHARLESTON WV 25305-0135 US	

Line	Comm Ln Desc	Qty	Unit Issue	Unit Price	Total Price
1	4.1.1 VNX 25X2.5 IN6GB SAS DAE-FIELD INSTALL or Equal	4.00000	EA	N/A	N/A

Comm Code	Manufacturer	Specification	Model #
43212201	CDW•G	is proposing an alternate, equivalent solution for the State of West Virginia. Please see the attached CDW•G Sales Quotation for the itemized details of our proposal.	

Extended Description :
VNX6GSDAE25F or equal

INVOICE TO		SHIP TO	
DEPARTMENT OF ADMINISTRATION OFFICE OF TECHNOLOGY 1900 KANAWHA BLVD E, BLDG 5 10TH FLOOR CHARLESTON WV25305 US		IS&C - DATA CENTER MANAGER DEPARTMENT OF ADMINISTRATION BLDG 6 RM B110 1900 KANAWHA BLVD E CHARLESTON WV 25305-0135 US	

Line	Comm Ln Desc	Qty	Unit Issue	Unit Price	Total Price
2	4.1.2 VNX 15X3.5 IN 6GB SAS EXP DAE-FLD INSTALL or Equal	4.00000	EA	N/A	N/A

Comm Code	Manufacturer	Specification	Model #
43212201	CDW•G	is proposing an alternate, equivalent solution for the State of West Virginia. Please see the attached CDW•G Sales Quotation for the itemized details of our proposal.	

Extended Description :
VNX6GSDAE15F or equal

INVOICE TO		SHIP TO	
DEPARTMENT OF ADMINISTRATION OFFICE OF TECHNOLOGY 1900 KANAWHA BLVD E, BLDG 5 10TH FLOOR CHARLESTON WV25305 US		IS&C - DATA CENTER MANAGER DEPARTMENT OF ADMINISTRATION BLDG 6 RM B110 1900 KANAWHA BLVD E CHARLESTON WV 25305-0135 US	

Line	Comm Ln Desc	Qty	Unit Issue	Unit Price	Total Price
3	4.1.3 VNX 300G 15K UPG DRV-15X3.5IN DAE/DPE or Equal	40.00000	EA	N/A	N/A

Comm Code	Manufacturer	Specification	Model #
43212201		CDW-G is proposing an alternate, equivalent solution for the State of West Virginia. Please see the attached CDW-G Sales Quotation for the itemized details of our proposal.	

Extended Description :

VX-VS15-300U or equal

INVOICE TO	SHIP TO
DEPARTMENT OF ADMINISTRATION OFFICE OF TECHNOLOGY 1900 KANAWHA BLVD E, BLDG 5 10TH FLOOR CHARLESTON WV25305 US	IS&C - DATA CENTER MANAGER DEPARTMENT OF ADMINISTRATION BLDG 6 RM B110 1900 KANAWHA BLVD E CHARLESTON WV 25305-0135 US

Line	Comm Ln Desc	Qty	Unit Issue	Unit Price	Total Price
4	4.1.4 VNX 600G 10K UPG DRV-25X2.5IN DAE/DPE or Equal	96.00000	EA	N/A	N/A

Comm Code	Manufacturer	Specification	Model #
43212201		CDW-G is proposing an alternate, equivalent solution for the State of West Virginia. Please see the attached CDW-G Sales Quotation for the itemized details of our proposal.	

Extended Description :

VX-2S10-600U or equal

INVOICE TO	SHIP TO
DEPARTMENT OF ADMINISTRATION OFFICE OF TECHNOLOGY 1900 KANAWHA BLVD E, BLDG 5 10TH FLOOR CHARLESTON WV25305 US	IS&C - DATA CENTER MANAGER DEPARTMENT OF ADMINISTRATION BLDG 6 RM B110 1900 KANAWHA BLVD E CHARLESTON WV 25305-0135 US

Line	Comm Ln Desc	Qty	Unit Issue	Unit Price	Total Price
5	4.1.5 VNX 2TB NL SAS UPG DRV-15X3.5IN DAE/DPE or Equal	32.00000	EA	N/A	N/A

Comm Code	Manufacturer	Specification	Model #
43212201		CDW-G is proposing an alternate, equivalent solution for the State of West Virginia. Please see the attached CDW-G Sales Quotation for the itemized details of our proposal.	

Extended Description :

VX-VS07-020U or equal

INVOICE TO		SHIP TO	
DEPARTMENT OF ADMINISTRATION OFFICE OF TECHNOLOGY 1900 KANAWHA BLVD E, BLDG 5 10TH FLOOR CHARLESTON WV25305 US		IS&C - DATA CENTER MANAGER DEPARTMENT OF ADMINISTRATION BLDG 6 RM B110 1900 KANAWHA BLVD E CHARLESTON WV 25305-0135 US	

Line	Comm Ln Desc	Qty	Unit Issue	Unit Price	Total Price
6	4.1.6 One pair of Mini-SAS-Mini-SAS 10M cables or Equal	4.00000	EA	N/A	N/A

Comm Code	Manufacturer	Specification	Model #
43212201	CDW-G	is proposing an alternate, equivalent solution for the State of West Virginia. Please see the attached CDW-G Sales Quotation for the itemized details of our proposal.	

Extended Description :
MSAS-MSAS-10 or equal

INVOICE TO		SHIP TO	
DEPARTMENT OF ADMINISTRATION OFFICE OF TECHNOLOGY 1900 KANAWHA BLVD E, BLDG 5 10TH FLOOR CHARLESTON WV25305 US		IS&C - DATA CENTER MANAGER DEPARTMENT OF ADMINISTRATION BLDG 6 RM B110 1900 KANAWHA BLVD E CHARLESTON WV 25305-0135 US	

Line	Comm Ln Desc	Qty	Unit Issue	Unit Price	Total Price
7	4.1.7 APPSYNC UPG FOR APP PROTECTION SUITE =IC or Equal	4.00000	EA	N/A	N/A

Comm Code	Manufacturer	Specification	Model #
43232701	CDW-G	is proposing an alternate, equivalent solution for the State of West Virginia. Please see the attached CDW-G Sales Quotation for the itemized details of our proposal.	

Extended Description :
456-104-241 or equal

INVOICE TO		SHIP TO	
DEPARTMENT OF ADMINISTRATION OFFICE OF TECHNOLOGY 1900 KANAWHA BLVD E, BLDG 5 10TH FLOOR CHARLESTON WV25305 US		IS&C - DATA CENTER MANAGER DEPARTMENT OF ADMINISTRATION BLDG 6 RM B110 1900 KANAWHA BLVD E CHARLESTON WV 25305-0135 US	

Line	Comm Ln Desc	Qty	Unit Issue	Unit Price	Total Price
8	4.1.8 STANDARD DAE/DISK UPGRADE QUICKSTAR or Equal	4.00000	EA	N/A	N/A

Comm Code	Manufacturer	Specification	Model #
43212201		CDW-G is proposing an alternate, equivalent solution for the State of West Virginia. Please see the attached CDW-G Sales Quotation for the itemized details of our proposal.	

Extended Description :
PS-BAS-UPDAEB or equal

INVOICE TO	SHIP TO
DEPARTMENT OF ADMINISTRATION OFFICE OF TECHNOLOGY 1900 KANAWHA BLVD E, BLDG 5 10TH FLOOR CHARLESTON WV25305 US	IS&C - DATA CENTER MANAGER DEPARTMENT OF ADMINISTRATION BLDG 6 RM B110 1900 KANAWHA BLVD E CHARLESTON WV 25305-0135 US

Line	Comm Ln Desc	Qty	Unit Issue	Unit Price	Total Price
9	4.1.9 STANDARD DAE/DISK UPGRADE MODULE or Equal	4.00000	EA	N/A	N/A

Comm Code	Manufacturer	Specification	Model #
43212201		CDW-G is proposing an alternate, equivalent solution for the State of West Virginia. Please see the attached CDW-G Sales Quotation for the itemized details of our proposal.	

Extended Description :
PS-BAS-UPDAE or equal

INVOICE TO	SHIP TO
DEPARTMENT OF ADMINISTRATION OFFICE OF TECHNOLOGY 1900 KANAWHA BLVD E, BLDG 5 10TH FLOOR CHARLESTON WV25305 US	IS&C - DATA CENTER MANAGER DEPARTMENT OF ADMINISTRATION BLDG 6 RM B110 1900 KANAWHA BLVD E CHARLESTON WV 25305-0135 US

Line	Comm Ln Desc	Qty	Unit Issue	Unit Price	Total Price
10	4.1.10 PREMIUM SOFTWARE SUPPORT or Equal	4.00000	EA	N/A	N/A

Comm Code	Manufacturer	Specification	Model #
81112200		CDW-G is proposing an alternate, equivalent solution for the State of West Virginia. Please see the attached CDW-G Sales Quotation for the itemized details of our proposal.	

Extended Description :
M-PRESW-001 or equal

INVOICE TO		SHIP TO	
DEPARTMENT OF ADMINISTRATION OFFICE OF TECHNOLOGY 1900 KANAWHA BLVD E, BLDG 5 10TH FLOOR CHARLESTON WV25305 US		IS&C - DATA CENTER MANAGER DEPARTMENT OF ADMINISTRATION BLDG 6 RM B110 1900 KANAWHA BLVD E CHARLESTON WV 25305-0135 US	

Line	Comm Ln Desc	Qty	Unit Issue	Unit Price	Total Price
11	4.1.11 PREMIUM SOFTWARE SUPPORT - PLATFORM/ELM or	4.00000	EA	N/A	N/A

Comm Code	Manufacturer	Specification	Model #
81112200		CDW•G is proposing an alternate, equivalent solution for the State of West Virginia. Please see the attached CDW•G Sales Quotation for the itemized details of our proposal.	

Extended Description :
M-PRESW-011 or equal

INVOICE TO		SHIP TO	
DEPARTMENT OF ADMINISTRATION OFFICE OF TECHNOLOGY 1900 KANAWHA BLVD E, BLDG 5 10TH FLOOR CHARLESTON WV25305 US		IS&C - DATA CENTER MANAGER DEPARTMENT OF ADMINISTRATION BLDG 6 RM B110 1900 KANAWHA BLVD E CHARLESTON WV 25305-0135 US	

Line	Comm Ln Desc	Qty	Unit Issue	Unit Price	Total Price
12	4.1.12 VNX OE PERF TIER/TB FOR VNX55/57/75- UPG or Equal	72.00000	EA	N/A	N/A

Comm Code	Manufacturer	Specification	Model #
43212201		CDW•G is proposing an alternate, equivalent solution for the State of West Virginia. Please see the attached CDW•G Sales Quotation for the itemized details of our proposal.	

Extended Description :
VNXOEPERFTBU or equal

INVOICE TO		SHIP TO	
DEPARTMENT OF ADMINISTRATION OFFICE OF TECHNOLOGY 1900 KANAWHA BLVD E, BLDG 5 10TH FLOOR CHARLESTON WV25305 US		IS&C - DATA CENTER MANAGER DEPARTMENT OF ADMINISTRATION BLDG 6 RM B110 1900 KANAWHA BLVD E CHARLESTON WV 25305-0135 US	

Line	Comm Ln Desc	Qty	Unit Issue	Unit Price	Total Price
13	4.1.13 VNX OE CAP TIER/TB FOR VNX5500/5700/7500 or Equal	64.00000	EA	N/A	N/A

Comm Code	Manufacturer	Specification	Model #
43212201	CDW•G is proposing an alternate, equivalent solution for the State of West Virginia. Please see the attached CDW•G Sales Quotation for the itemized details of our proposal.		

Extended Description :
VNXOECAPTBU or equal

ISC1500000014	Document Phase Final	Document Description Open-End for EMC VNX5700 or EQ UAL Storage System	Page 8 of 8
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ADDITIONAL TERMS AND CONDITIONS

See attached document(s) for additional Terms and Conditions

GENERAL TERMS AND CONDITIONS:

1. **CONTRACTUAL AGREEMENT:** Issuance of a Award Document signed by the Purchasing Division Director, or his designee, and approved as to form by the Attorney General's office constitutes acceptance of this Contract made by and between the State of West Virginia and the Vendor. Vendor's signature on its bid signifies Vendor's agreement to be bound by and accept the terms and conditions contained in this Contract.
2. **DEFINITIONS:** As used in this Solicitation/Contract, the following terms shall have the meanings attributed to them below. Additional definitions may be found in the specifications included with this Solicitation/Contract.
 - 2.1. "Agency" or "Agencies" means the agency, board, commission, or other entity of the State of West Virginia that is identified on the first page of the Solicitation or any other public entity seeking to procure goods or services under this Contract.
 - 2.2. "Contract" means the binding agreement that is entered into between the State and the Vendor to provide the goods or services requested in the Solicitation.
 - 2.3. "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. "Award Document" means the document signed by the Agency and the Purchasing Division, and approved as to form by the Attorney General, that identifies the Vendor as the contract holder.
 - 2.6. "Solicitation" means the official notice of an opportunity to supply the State with goods or services that is published by the Purchasing Division.
 - 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 _____
award _____ and extends for a period of _____ One (1)
year(s).

Renewal Term: This Contract may be renewed upon the mutual written consent of the Agency, and the Vendor, with approval of the Purchasing Division and the Attorney General's office (Attorney General approval is as to form only). Any request for renewal should be submitted to the Purchasing Division thirty (30) days prior to the expiration date of the initial contract term or appropriate renewal term. A Contract renewal shall be in accordance with the terms and conditions of the original contract. Renewal of this Contract is limited to _____ three (3) _____ successive one (1) year periods or multiple renewal periods of less than one year, provided that the multiple renewal periods do not exceed _____ thirty-six (36) _____ months in total. Automatic renewal of this Contract is prohibited. Notwithstanding the foregoing, Purchasing Division approval is not required on agency delegated or exempt purchases. Attorney General approval may be required for vendor terms and conditions.

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

- Fixed Period Contract:** This Contract becomes effective upon Vendor's receipt of the notice to proceed and must be completed within _____ days.
- Fixed Period Contract with Renewals:** This Contract becomes effective upon Vendor's receipt of the notice to proceed and part of the Contract more fully described in the attached specifications must be completed within _____ days. Upon completion, the vendor agrees that maintenance, monitoring, or warranty services will be provided for one year thereafter with an additional _____ successive one year renewal periods or multiple renewal periods of less than one year provided that the multiple renewal periods do not exceed _____ months in total. Automatic renewal of this Contract is prohibited.
- One Time Purchase:** The term of this Contract shall run from the issuance of the Award Document until all of the goods contracted for have been delivered, but in no event will this Contract extend for more than one fiscal year.
- Other:** See attached.

4. **NOTICE TO PROCEED:** Vendor shall begin performance of this Contract immediately upon receiving notice to proceed unless otherwise instructed by the Agency. Unless otherwise specified, the fully executed Award Document will be considered notice to proceed.
5. **QUANTITIES:** The quantities required under this Contract shall be determined in accordance with the category that has been identified as applicable to this Contract below.
- Open End Contract:** Quantities listed in this Solicitation are approximations only, based on estimates supplied by the Agency. It is understood and agreed that the Contract shall cover the quantities actually ordered for delivery during the term of the Contract, whether more or less than the quantities shown.
 - Service:** The scope of the service to be provided will be more clearly defined in the specifications included herewith.
 - Combined Service and Goods:** The scope of the service and deliverable goods to be provided will be more clearly defined in the specifications included herewith.
 - One Time Purchase:** This Contract is for the purchase of a set quantity of goods that are identified in the specifications included herewith. Once those items have been delivered, no additional goods may be procured under this Contract without an appropriate change order approved by the Vendor, Agency, Purchasing Division, and Attorney General's office.
6. **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 received by the Purchasing Division prior to Contract award. On construction contracts, the performance bond must be 100% of the Contract value.

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

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

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

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

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

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

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

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

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

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

10. 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.

11. LIQUIDATED DAMAGES: Vendor shall pay liquidated damages in the amount of \$0

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.

- 12. 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 Award Document, upon receipt.
- 13. 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.
- 14. 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.
- 15. TAXES:** The Vendor shall pay any applicable sales, use, personal property or any other taxes arising out of this Contract and the transactions contemplated thereby. The State of West Virginia is exempt from federal and state taxes and will not pay or reimburse such taxes.
- 16. CANCELLATION:** The Purchasing Division Director reserves the right to cancel this Contract immediately upon written notice to the vendor if the materials or workmanship supplied do not conform to the specifications contained in the Contract. The Purchasing Division Director may also cancel any purchase or Contract upon 30 days written notice to the Vendor in accordance with West Virginia Code of State Rules § 148-1-7.16.2.
- 17. TIME:** Time is of the essence with regard to all matters of time and performance in this Contract.
- 18. 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.
- 19. COMPLIANCE:** Vendor shall comply with all applicable federal, state, and local laws, regulations and ordinances. By submitting a bid, Vendor acknowledges that it has reviewed, understands, and will comply with all applicable law.
- 20. 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.
- 21. 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.
- 22. 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.
- 23. 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.
- 24. 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.
- 25. 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.
- 26. 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.
- 27. 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.
- 28. 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.

29. 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>.

30. 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. and the competitive bidding laws found West Virginia Code §§ 5A-3-1 et seq., 5-22-1 et seq., and 5G-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. 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. Additionally, pricing or cost information will not be considered exempt from disclosure and requests to withhold publication of pricing or cost information 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.

31. 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.

- 32. ANTITRUST:** In submitting a bid to, signing a contract with, or accepting a Award Document from any agency of the State of West Virginia, the Vendor agrees to convey, sell, assign, or transfer to the State of West Virginia all rights, title, and interest in and to all causes of action it may now or hereafter acquire under the antitrust laws of the United States and the State of West Virginia for price fixing and/or unreasonable restraints of trade relating to the particular commodities or services purchased or acquired by the State of West Virginia. Such assignment shall be made and become effective at the time the purchasing agency tenders the initial payment to Vendor.
- 33. VENDOR CERTIFICATIONS:** By signing its bid or entering into this Contract, Vendor certifies (1) that its bid or offer was made without prior understanding, agreement, or connection with any corporation, firm, limited liability company, partnership, person or entity submitting a bid or offer for the same material, supplies, equipment or services; (2) that its bid or offer is in all respects fair and without collusion or fraud; (3) that this Contract is accepted or entered into without any prior understanding, agreement, or connection to any other entity that could be considered a violation of law; and (4) that it has reviewed this Solicitation in its entirety; understands the requirements, terms and conditions, and other information contained herein. Vendor's signature on its bid or offer also affirms that neither it nor its representatives have any interest, nor shall acquire any interest, direct or indirect, which would compromise the performance of its services hereunder. Any such interests shall be promptly presented in detail to the Agency. The individual signing this bid or offer on behalf of Vendor certifies that he or she is authorized by the Vendor to execute this bid or offer or any documents related thereto on Vendor's behalf; that he or she is authorized to bind the Vendor in a contractual relationship; and that, to the best of his or her knowledge, the Vendor has properly registered with any State agency that may require registration.
- 34. 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.
- 35. VENDOR RELATIONSHIP:** The relationship of the Vendor to the State shall be that of an independent contractor and no principal-agent relationship or employer-employee relationship is contemplated or created by this Contract. The Vendor as an independent contractor is solely liable for the acts and omissions of its employees and agents. Vendor shall be responsible for selecting, supervising, and compensating any and all individuals employed pursuant to the terms of this Solicitation and resulting contract. Neither the Vendor, nor any employees or subcontractors of the Vendor, shall be deemed to be employees of the State for any purpose whatsoever. Vendor shall be exclusively responsible for payment of employees and contractors for all wages and salaries, taxes, withholding payments, penalties, fees, fringe benefits, professional liability insurance premiums, contributions to insurance and pension, or other deferred compensation plans, including but

not limited to, Workers' Compensation and Social Security obligations, licensing fees, etc. and the filing of all necessary documents, forms, and returns pertinent to all of the foregoing. Vendor shall hold harmless the State, and shall provide the State and Agency with a defense against any and all claims including, but not limited to, the foregoing payments, withholdings, contributions, taxes, Social Security taxes, and employer income tax returns.

- 36. INDEMNIFICATION:** The Vendor agrees to indemnify, defend, and hold harmless the State and the Agency, their officers, and employees from and against: (1) Any claims or losses for services rendered by any subcontractor, person, or firm performing or supplying services, materials, or supplies in connection with the performance of the Contract; (2) Any claims or losses resulting to any person or entity injured or damaged by the Vendor, its officers, employees, or subcontractors by the publication, translation, reproduction, delivery, performance, use, or disposition of any data used under the Contract in a manner not authorized by the Contract, or by Federal or State statutes or regulations; and (3) Any failure of the Vendor, its officers, employees, or subcontractors to observe State and Federal laws including, but not limited to, labor and wage and hour laws.
- 37. PURCHASING AFFIDAVIT:** In accordance with West Virginia Code § 5A-3-10a, all Vendors are required to sign, notarize, and submit the Purchasing Affidavit stating that neither the Vendor nor a related party owe a debt to the State in excess of \$1,000. The affidavit must be submitted prior to award, but should be submitted with the Vendor's bid. A copy of the Purchasing Affidavit is included herewith.
- 38. ADDITIONAL AGENCY AND LOCAL GOVERNMENT USE:** This Contract may be utilized by 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.
- 39. CONFLICT OF INTEREST:** Vendor, its officers or members or employees, shall not presently have or acquire an interest, direct or indirect, which would conflict with or compromise the performance of its obligations hereunder. Vendor shall periodically inquire of its officers, members and employees to ensure that a conflict of interest does not arise. Any conflict of interest discovered shall be promptly presented in detail to the Agency.
- 40. REPORTS:** Vendor shall provide the Agency and/or the Purchasing Division with the following reports identified by a checked box below:
- Such reports as the Agency and/or the Purchasing Division may request. Requested reports may include, but are not limited to, quantities purchased, agencies utilizing the contract, total contract expenditures by agency, etc.

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

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

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

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

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

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

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

Revised 02/27/2015

* Virtual Training - no on-site requirements apply.

For the purposes of this section, the cost is the value of the steel product as delivered to the project; or

- d. The Director of the Purchasing Division determines that specified steel materials are not produced in the United States in sufficient quantity or otherwise are not reasonably available to meet contract requirements.

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

The cost of domestic aluminum, glass, or steel products may be unreasonable if the cost is more than twenty percent (20%) of the bid or offered price for foreign made aluminum, glass, or steel products. If the domestic aluminum, glass or steel products to be supplied or produced in a "substantial labor surplus area", as defined by the United States Department of Labor, the cost of domestic aluminum, glass, or steel products may be unreasonable if the cost is more than thirty percent (30%) of the bid or offered price for foreign made aluminum, glass, or steel products.

This preference shall be applied to an item of machinery or equipment, as indicated above, when the item is a single unit of equipment or machinery manufactured primarily of aluminum, glass or steel, is part of a public works contract and has the sole purpose or of being a permanent part of a single public works project. This provision does not apply to equipment or machinery purchased by a spending unit for use by that spending unit and not as part of a single public works project.

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



The Right Technology.
Right Away.™

Solicitation: ISC1500000014
Department of Administration, WV
DEPARTMENT OF ADMINISTRATION
2019 WASHINGTON ST E
CHARLESTON WV 25305

Jeff Grey
Account Manager-CDWG
306-633-6532
Jeffgre@cdwg.com

Quantity	Part Number	Product	Cost	Extended Final Cost
1	FAS8020-R6			
2	FAS8020A-001-R6	FAS8020 High Availability System	\$ 5,132.80	\$ 10,265.59
2	SW-2-8020A-PREMBNDL-C	SW-2,Premium Software Bundle,8020A – Bundle contains: FlexVol® (deduplication, compression, and thin provisioning), MetroCluster™ and multipath I/O, RAID-DP® and Snapshot™ for Data Protection, Storage QoS, OnCommand Workflow Automation, System Manager, and Unified Manager, SnapRestore, SnapMirror for DR, FlexClone, SnapManager and SnapVault for disk-based backup	\$ 17,227.65	\$ 34,455.30
1	X6226-R6-C	Chassis,FAS8020,AC PS,-C	\$ -	\$ -
6	DS2246-1014-24S-0P-R6-C	Disk Shelf,24x600GB,10K,0P,-C	\$ 8,674.68	\$ 52,048.08
1	DS4246-0748-24A-0P-R6-C	Disk Shelf ,24x2.0TB,7.2K,6G,0P,-C	\$ 7,821.43	\$ 7,821.43
480	OS-ONTAP-CAP1-0P-C	OS Enable,Per-0.1TB,ONTAP,Cap-Stor,0P,-C	\$ 13.78	\$ 6,614.40
864	OS-ONTAP-CAP2-0P-C	OS Enable,Per-0.1TB,ONTAP,Perf-Stor,0P,-C	\$ 38.43	\$ 33,199.20
10	X6557-R6-C	Cable,SAS Cntrl-Shelf/Shelf-Shelf/HA,0.5m,-C	\$ -	\$ -
8	X6559-R6-C	Cable,SAS Cntrl-Shelf/Shelf-Shelf/HA,5m,-C	\$ 67.15	\$ 537.21
10	X6560-R6-C	Cable,Ethernet,0.5m RJ45 CAT6,-C	\$ -	\$ -
4	X6562-R6-C	Cable,Ethernet,5m RJ45 CAT6,-C	\$ -	\$ -
1	X6585-R6-C	Cable,Ethernet,3m RJ45 CAT6,-C	\$ -	\$ -
4	X-SFP-H10GB-CU1M-R6-C	Cable,Cisco 10GBase Copper SFP+ 1m,-C	\$ 73.27	\$ 293.07
2	X6566B-05-R6-C	Cable,Direct Attach CU SFP+ 10G,0.5M,-C	\$ 54.95	\$ 109.90
2	X2065A-EN-R6-C	HBA SAS 4-Port Copper 3/6 Gb QSFP PCIe,EN,-C	\$ 584.70	\$ 1,169.39
1	X5515A-R6-C	Rackmount Kit,4N2,DS14-Middle,-C,R6	\$ 39.51	\$ 39.51
7	X5526A-R6-C	Rackmount Kit,4-Post,Universal,-C,R6	\$ -	\$ -
1	DOC-8020-C	Documents,8020,-C	\$ -	\$ -
16	X800E-R6-C	Power Cable North America,-C,R6	\$ -	\$ -
1	CS-O2-4HR-VA	3-Years SupportEdge Premium 4hr Onsite,VA	\$ 29,416.28	\$ 29,416.28
1	SW-2-CL-BASE	SW-2,Base,CL,Node	\$ -	\$ -
1	DS424X-R6		\$ -	\$ -
240	OS-ONTAP-CAP1-0P-QS	OS Enable,Per-0.1TB,ONTAP,Cap-Stor,0P,QS	\$ 13.78	\$ 3,307.20
1	X5526A-R6	Rackmount Kit,4-Post,Universal,R6	\$ 41.76	\$ 41.76
1	DS4246-0724-12A-QS-R6	Disk Shelf,12x2.0TB,7.2K,6G,QS	\$ 7,134.10	\$ 7,134.10
2	X800E-R6	Power Cable North America,R6	\$ -	\$ -
4	X6558-R6	Cable,SAS Cntrl-Shelf/Shelf-Shelf/HA,2m	\$ 59.25	\$ 237.02
1	X6560-R6	Cable,Ethernet,0.5m RJ45 CAT6	\$ 2.37	\$ 2.37
2	X6561-R6	Cable,Ethernet,2m RJ45 CAT6	\$ 3.55	\$ 7.10
1	CS-O2-4HR-VA	3-Years SupportEdge Premium 4hr Onsite,VA	\$ 1,724.69	\$ 1,724.69
1	PS-TM-CONSLT-DAY-ZA	Consultation for assistance in configuration and advanced knowledge transfer	\$ 2,186.57	\$ 2,186.57
120	ED-TU-1-ZA	Training Units for staff members, virtual or onsite offered.	\$ 60.74	\$ 7,288.56
Total Cost:			\$ 197,898.74	



Datasheet

NetApp FAS8000 Series

Respond more quickly to changing IT needs with unified scale-out storage and industry-leading data management

KEY BENEFITS

Support More Workloads

Run SAN and NAS workloads simultaneously with the industry's only unified scale-out storage.

Consolidate Infrastructure

Expanded scaling up to 103PB and include existing storage with FlexArray.

Accelerate I/O-Intensive Apps

Reduce latency and speed operations with even more flash: 1.7PB hybrid flash or go all-flash and scale to 4.6PB of flash.

Maximize Uptime

Experience >99.999% availability plus nondisruptive operations that eliminate planned downtime.

Realize Superior Value

Deliver up to 2x the price/performance of the previous generation.

Optimized for the Hybrid Cloud

Easily implement a service-oriented IT architecture that spans on-premises and off-site resources.

The Challenge

Enabling the data-driven business

As the role of technology has expanded to cover key business operations as well as back-office functions, IT leaders have had to rethink the way they architect storage. Traditional requirements such as storage uptime, scalability, and cost efficiency are still critical, but so are factors such as cloud integration, unified support for SAN and NAS, and simplified data mining for competitive advantage.

Many enterprises struggle, held back by structural limitations in legacy storage and data architectures. Traditional storage arrays might deliver on basic needs, but are incapable of meeting advanced service requirements and new IT models such as cloud.

The Solution

Accelerate business operations with unified scale-out storage

The demands of a data-driven business require a fundamentally new approach to storage with an integrated combination of high-performance hardware and adaptive, scalable storage software that not only supports existing workloads, but also adapts and scales quickly to address new applications and evolving IT models.

FAS8000 enterprise storage systems are engineered specifically to address these needs. Powered by NetApp® Data ONTAP® and optimized for scale-out,

the FAS8000 series unifies your SAN and NAS storage infrastructure. With proven data management capabilities, the FAS8000 has the flexibility to keep up with changing business needs while delivering on core IT requirements.

The FAS8000 features a multiprocessor Intel® chip set and leverages high-performance memory modules, NVRAM to accelerate and optimize writes, and an I/O-tuned PCIe gen3 architecture that maximizes application throughput. Building on a decade of multicore optimization, Data ONTAP drives the latest cores and increased core counts to keep up with continuous growth in storage demands. The result is a flexible, efficient I/O design capable of supporting large numbers of high-speed network connections and massive capacity scaling.

FAS8000 scale-out storage systems offer exceptional flexibility and expandability. Integrated unified target adapter (UTA2) ports support 16Gb Fibre Channel, 10GbE, or FCoE, so your storage is ready on day one for whatever choices the future holds. For performance-intensive environments where maximum scale and I/O throughput are necessary to drive business-critical applications, NetApp offers the FAS8080 EX. You can find out more in the FAS8080 EX datasheet.



Figure 1) NetApp FAS8000 controllers.

Get more from existing storage investments

Simplify your IT operations and deliver more value from existing storage with the only unified storage virtualization solution. FlexArray virtualization software extends the capabilities of the FAS8000 to include EMC, Hitachi, HP, and NetApp E-Series arrays, consolidating management of your existing storage to simplify operations, while increasing efficiency and providing superior functionality.

This creates a single storage management architecture that supports both SAN and NAS while simplifying management and cloud integration.

Scale and adapt to meet changing needs

Your business is constantly changing. Your storage infrastructure should adapt and scale right along with it. With FAS8000 unified scale-out storage, you can optimize and accelerate your storage environment as needed. All FAS8000 storage is designed to scale as performance and capacity requirements change. You can scale up—by adding capacity, adding flash acceleration, and upgrading controllers—and scale out. A single cluster can grow up to 24 nodes and 103PB of capacity with ease.

Because you can nondisruptively add or replace storage systems and components—as well as mix and match different FAS models—scaling occurs without maintenance windows or the challenge of coordinating downtime across teams.

Unlock the full power of flash

Flash-accelerated FAS8000 storage systems deliver twice the performance of our previous generation storage, boosting throughput, lowering latency, and meeting stringent service levels with predictable high performance. Data ONTAP on the FAS8000 simplifies flash management, resulting in more powerful hybrid storage.

In hybrid FAS8000 configurations, flash functions as a self-managing virtual storage tier with up to 144TB of flash per HA pair and 1.7PB per cluster. Hot data is automatically promoted to flash in real time, so you get the full benefit of flash performance.

For those applications that require the ultimate in high performance and low latency, the FAS8000 is also available in prepackaged all-flash configurations. See the All-Flash FAS datasheet for details.

Enable innovation and empower users

In a data-driven business, performance and capacity alone are not enough. You need the ability to leverage data for competitive advantage and to assign resources dynamically for more effective operations.

The NetApp OnCommand® storage management software portfolio is composed of a range of products for use with the NetApp FAS8000, including device-level management, automation, integration, and enterprise storage resource management. NetApp

OnCommand software-defined storage products provide flexibility, scalability, simplified provisioning, and data protection to meet business needs today and the changing needs of the future.

Achieve unparalleled availability and nondisruptive operations

FAS8000 enterprise storage is engineered to meet the most demanding availability requirements. All models are designed to deliver 99.999% availability or greater through a comprehensive approach that combines highly reliable hardware, innovative software, and sophisticated service analytics.

Software and firmware updates, hardware repair and replacement, load balancing, and tech refresh happen without planned downtime. NetApp Integrated Data Protection technologies protect your data, accelerate recovery, and integrate with leading backup applications for easier management.

Advanced service analytics software prevents issues from becoming outages. Risk signatures are constantly monitored, and your administrators and/or NetApp service staff are alerted to proactively address issues that might affect operations.

NetApp MetroCluster™ expands data protection to eliminate risk of data loss by synchronously mirroring data between locations for continuous availability of information. A MetroCluster storage array can exist in a single data center or in two different data centers

that are located across a campus, across a metropolitan area, or in different cities altogether. MetroCluster provides data protection combined with continuous data availability. This means that no matter what happens, your data can be protected from loss and is continuously available to meet the most business-critical needs.

Build the right long-term platform

When it comes to long-term storage infrastructure investments, total cost of ownership and the ability to accommodate new IT initiatives are critical. FAS8000 enterprise storage systems unlock the power of your data and your people.

In addition to a significant price/performance benefit—up to two times that of the previous generation—the FAS8000 platform delivers industry-leading storage efficiency technologies such as deduplication, compression, thin provisioning, and space-efficient Snapshot™ copies. This reduces your cost per effective gigabyte of storage.

Optimize hybrid cloud deployment

Organizations today are focusing on service-oriented IT architectures where cloud IT models are leveraged to enhance return on investment and assets. The FAS8000 is optimized for private and hybrid cloud with secure multi-tenancy, QoS, nondisruptive operations, and easily defined tiers of service.

A FAS8000 tightly integrated with the industry standard OpenStack cloud infrastructure enables an organization to build a private cloud that delivers a leading service-oriented IT architecture and meets the demanding needs of enterprise applications.

For organizations that need an enterprise-class hybrid cloud with predictable performance and availability, the FAS8000 can be used in a NetApp Private Storage (NPS) for Cloud solution. With NPS for Cloud you can directly connect to multiple clouds using a private, high-bandwidth, low-latency connection. Connect to industry-leading clouds such as Amazon Web Services (AWS), Microsoft® Azure, or SoftLayer and switch between them at any time, all while maintaining complete control of your data on your dedicated, private FAS8000. You will get the elasticity of the public cloud and protect your data with NetApp technologies that you understand and trust.

For maximum flexibility, Cloud ONTAP provides superior data portability at the best ROI. Cloud ONTAP is a software-defined storage version of Data ONTAP that runs in AWS and provides the storage efficiency, availability, and scalability of Data ONTAP. It allows quick and easy movement of data between your on-premises FAS8000 and AWS environments with NetApp SnapMirror® data replication software.



Figure 2) FAS8080 EX controllers.

Get More Business Value with Services

Whether you are planning your next-generation environment, need specialized know-how for a major deployment, or want to get the most from your current storage, NetApp and our certified partners can help.

We collaborate with you to enhance your IT capabilities through a full portfolio of services that covers your IT lifecycle with:

- **Strategy services**—to align IT with your business goals
- **Design services**—to architect your best storage environment
- **Deploy and transition services**—to implement validated architectures and prepare your storage environment
- **Operations services**—to deliver continuous operations while driving operational excellence and efficiency

In addition, NetApp provides in-depth knowledge transfer and education services that give you access to our global technical resources and intellectual property.

Learn more at netapp.com/services.

About NetApp

Leading organizations worldwide count on NetApp for software, systems and services to manage and store their data. Customers value our teamwork, expertise and passion for helping them succeed now and into the future.

www.netapp.com

FAS8000 Technical Specifications

Scale-Out

	FAS8080 EX	FAS8060	FAS8040	FAS8020
NAS scale-out	1–24 nodes (12 HA pairs)			
Maximum drives	17,280	14,400	8,640	5,760
Maximum raw capacity: hybrid ¹	103PB 1728TB flash	86PB 864TB flash	51PB 576TB flash	34PB 288TB flash
Maximum raw capacity: all-flash FAS	4.6PB	4.6PB	4.6PB	4.6PB
Maximum memory	3072GB	1536GB	768GB	576GB
SAN scale-out	1–8 nodes (4 HA pairs)			
Maximum drives	5,760	4,800	2,880	1,920
Maximum raw capacity: hybrid ¹	34PB 576TB flash	28PB 288TB flash	17PB 192TB flash	11.5PB 96TB flash
Maximum raw capacity: all-flash FAS	1.5PB	1.5PB	1.5PB	1.5PB
Maximum memory	1024GB	512GB	256GB	192GB
Cluster Interconnect	2, 4, or 6 10GbE	2 or 4 10GbE	2 or 4 10GbE	2 10GbE

Per HA Pair Specifications (Active-Active Dual Controller)

	FAS8080 EX	FAS8060	FAS8040	FAS8020
Maximum drives	1,440	1,200	720	480
Maximum raw capacity: hybrid ¹	8640TB 144TB flash	7200TB 72TB flash	4320TB 48TB flash	2880TB 24TB flash
Maximum raw capacity: all-flash FAS	384TB	384TB	384TB	384TB
Maximum Flash Cache ²	24TB	8TB	4TB	3TB
Maximum Flash Pool ³	144TB	72TB	48TB	24TB
Controller form factor	12U (2 enclosures)	6/12U ⁴	6U	3U
ECC memory	256GB	128GB	64GB	48GB
NVRAM	32GB	16GB	16GB	8GB
PCIe expansion slots	24	8/24 ⁴	8	4
Onboard I/O: UTA 2 (16Gb FC/FCoE/10GbE)	8	8	8	4
Onboard I/O: GbE	8	8	8	4
Onboard I/O: 10GbE	8	8	8	4
Onboard I/O: 6Gb SAS	8	8	8	4
OS version	Data ONTAP 8.2.2 and later		Data ONTAP 8.2.1 and later ⁵	
Shelves and media	See the Shelves and Media page ² on NetApp.com for the most current information			
Storage protocols supported	FC, FCoE, iSCSI, NFS, pNFS, CIFS/SMB, HTTP, FTP			
Host/client operating systems supported	Windows [®] 2000, Windows Server [®] 2003, Windows Server 2008, Windows Server 2012, Windows XP, Linux [®] , Sun Solaris, AIX, HP-UX, Mac [®] OS, VMware [®] ESX [®]			

- Hybrid configurations combine HDDs with flash using Flash Cache and/or Flash Pool. You can also create storage configurations that include separate HDD and SSD aggregates. The size limit of the SSD aggregates is the same as the all-flash maximum.
- netapp.com/us/products/storage-systems/disk-shelves-and-storage-media/index.aspx
- 6U with two controllers in a single enclosure. 12U (2 enclosures) with PCIe expansion module.
- 24 PCIe slots with the PCIe expansion module.
- The FAS8060 configurations with a PCIe expansion module will only run on Data ONTAP 8.2.3.

NetApp FAS8000 Series Software

Features and software included with Data ONTAP

Efficiency: FlexVol[®], deduplication, compression, and thin provisioning
Availability: MetroCluster and multipath I/O
Data protection: RAID-DP[®] and Snapshot
Performance: Storage QoS
Management: OnCommand[®] Workflow Automation, System Manager, and Unified Manager

Extended value software (optional)

- FlexArray storage virtualization software
- OnCommand Balance
- Storage protocols (purchase each storage protocol you require)

A Premium Bundle is available for purchase with FAS8000 systems that includes:

- SnapRestore[®]: Restore entire Snapshot copies in seconds
- SnapMirror: Simple, flexible disaster recovery
- FlexClone[®]: Instant virtual copies of files, LUNs, and volumes
- SnapManager[®] software: Backup/recovery for enterprise applications
- SnapVault: Disk-based backup

See NetApp.com for information on additional software available from NetApp.



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