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

State of West Virginia
Request for Quotation
—

Proc Folder: 164733

Doc Description: On premise data storage system with encryption capability.

Proc Type: Central Contract - Fixed Amt

Date Issued	Solicitation Closes	Solicitation No		Version
2016-02-18	2016-03-17 13:30:00	CRFQ 0210 ISC1600000009		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 Direct LLC
6450 Rockside Woods Blvd. S. Suite 120
Independence, OH 44131
216-525-02

03/17/16 09:33:43
WV Purchasing Division

FOR INFORMATION CONTACT THE BUYER
Stephanie L Gale
(304) 558-8801
stephanie.l.gale@wv.gov

Signature X   FEIN #   DATE   03-16-2016

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

The West Virginia Purchasing Division is soliciting bids on behalf of the West Virginia Office of Technology (WVOT) to establish a contract for the one time purchase of an on premise data storage system with encryption capability.

INVOICE TO	SHIP TO
DEPARTMENT OF ADMINISTRATION OFFICE OF TECHNOLOGY 1900 KANAWHA BLVD E, BLDG 5 10TH FLOOR CHARLESTON WV 25305 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	Total: 3.1 Data Storage System	1.00000	EA	$73,112	$73,112

Comm Code	Manufacturer	Specification	Model #
25201704	IBM	Storwize v7000	2076-524

Extended Description :

An on premise data storage system with encryption capability. Agencies, including PEIA, will utilize this system to encrypt data and to meet Federal regulations.   The proposed solution will be installed in the West Virginia Office of Technology Data Center located on the first floor of Building "6" in the State Capitol Complex (in Charleston, West Virginia).

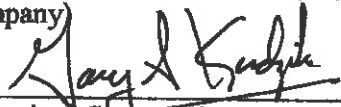| Line	Event	Event Date
1	Technical Questions Due	2016-03-03

CERTIFICATIONAND SIGNATURE PAGE

By signing below, or submitting documentation through wvOASIS, I certify that I have reviewed this Solicitation in its entirety; that I understand the requirements, terms and conditions, and other information contained herein; that this bid, offer or proposal constitutes an offer to the State that cannot be unilaterally withdrawn; that the product or service proposed meets the mandatory requirements contained in the Solicitation for that product or service, unless otherwise stated herein; that the Vendor accepts the terms and conditions contained in the Solicitation, unless otherwise stated herein; that I am submitting this bid, offer or proposal for review and consideration; that I am authorized by the vendor to execute and submit this bid, offer, or proposal, or any documents related thereto on vendor's behalf; that I am authorized to bind the vendor in a contractual relationship; and that to the best of my knowledge, the vendor has properly registered with any State agency that may require registration.

CDW Direct LLC
_____
(Company)

Gary Kirdzik, Field Server Executive
_____
(Authorized Signature) (Representative Name, Title)

330-913-9428   3-16-2016
_____
(Phone Number) (Fax Number) (Date)

ATTACHMENT A – Pricing Page

NOTE: Enter "0" or "zero" for any no-cost line items. Blank fields will be interpreted as no-cost.

Description	Cost
Total: Cost of system (All items listed under 3.1)	$73,112
Note: see attached A.2 for price quote details	
Grand Total Cost	$73,112

CDW

Quotation

RFQ# 2010-1600000009

Version: GK31616v1 - Quote   Attachment A.2 - **Pricing Detail**

			Net	Net
2016 Encrypted Storage RFQ				
IBM Storwise v7000 -17-600GB 15k Drives, 6.6+Tb Useable, Mirroring, FlashCopy, Encryption - 48 mo Solution				
Product Hardware	**Description**	**Qty**	**Per Feature**	**Extended**
	IBM v7000			
2076-524	IBM Storwize V7000 SFF Control	1	$12,800	$12,800
5305	5m Fiber Cable (LC)	4	$52	$206
9730	Power Cord - PDU connection	1	$12	$12
ACE1	Encryption Enablement	1	$2,000	$2,000
ACEA	Encryption USB Flash Drives (Four Pack)	2	$140	$280
AGBH	Shipping and Handling 524	1	$160	$160
AHB1	8Gb FC Adapter Pair	1	$1,600	$1,600
AHB5	10Gb Ethernet Adapter Pair	1	$2,320	$2,320
AHE2	600GB 15K 2.5 Inch HDD	17	$920	$15,633
5639-CB7	IBM Spec Virt Software for V7000 1 yr SWMA(#0005 Full Bundle, #0001 Base)	1	$14,641	$14,641
5639-CBC	IBM Spec Virt Software for V7000 3 yr SWMA (#0005 Full Bundle, #0001 Base)	1	$5,857	$5,857
IBM48Ste	Warranty / Maintenance Upgrade - 48 Months 24x7x4	1	$12,605	$12,605
CDWServ	CDW Services: includes - installation, Testing, Training	1	$5,000	$5,000

Shipping Included at no charge

Note: The above IBM Storage solution meets all the **"Mandatory Contract Item Requirements"** in Section 3.1 of the RFQ

IBM Storwize v7000 Product Information link
http://www-03.ibm.com/systems/in/storage/disk/storwize_v7000/index.html

Total Solution Cost with HW,SW and Maintenance (48 month) :	**$73,112**

SPECIFICATIONS

1. **PURPOSE AND SCOPE:** The West Virginia Purchasing Division is soliciting bids on behalf of the West Virginia Office of Technology (WVOT) to establish a contract for the one time purchase of an on premise data storage system with encryption capability. Agencies, including PEIA, will utilize this system to encrypt data and to meet Federal regulations. The proposed solution will be installed in the West Virginia Office of Technology Data Center located on the first floor of Building "6" in the State Capitol Complex (in Charleston, West Virginia).

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 **"Agency"** means the West Virginia Office of Technology (WVOT).

    2.2 **"Contract"** means the binding agreement that is entered into between the State and the Vendor to provide the items requested in this solicitation.

    2.3 **"Contract Item"** means all hardware, software, and services necessary to provide an on premise data storage system with encryption capability as more fully described by these specifications.

    2.4 **"Pricing Page"** means the pages, contained in wvOASIS or attached as Exhibit A, upon which Vendor should list its proposed price for the Contract Items.

    2.5 **"RFQ"** means the official request for quotation published by the Purchasing Division.

    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 **"Vendor"** means any entity submitting a bid in response to this solicitation, the entity that has been selected as the lowest responsible vendor, or the entity that has been awarded the Contract as context requires.

3. **GENERAL REQUIREMENTS:**

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

3.1.1 **General Vendor Specifications**

3.1.1.1 The Vendor must list the cost of all items (hardware, software, and services) being bid in its response to this RFQ in Attachment A. This list must also include the total cost of the bid for the covered period, which is four years.

3.1.1.2 Must have at least six (6) terabytes (TB) of usable storage.

3.1.1.3 Must be expandable, without replacement of existing components, to at least twenty (20) TB of usable storage.

3.1.1.4 Storage must be accessible by multiple clients, including Windows personal computers and file servers.

3.1.1.5 Storage must be capable of being provisioned and segmented among multiple clients.

3.1.1.6 Storage must be protected so that a single point of failure does not result in data loss.

3.1.1.7 Must meet or exceed the requirements of the Omnibus Security Rule(s) of the Health Insurance Portability and Accountability Act of 1996 (HIPAA), specifically the NIST SP 800-53 Rev. 4 - Security and Privacy Controls for Federal Information Systems and Organizations.

3.1.1.8 Must connect to OT's network via 10 GB interfaces.

3.1.1.9 Must support an SQL database environment that includes 2000 IOPs, a 60%–40% read/write ratio, and 25 total databases with a total size of 2.4 TB.

3.1.1.10 Must host production SQL databases, standard office file types and image files.

3.1.1.11 Must provide both SAN and NAS capability.

3.1.1.12 Must connect to OT's existing 8GB EMC DS-5100B SAN fabric.

3.1.1.13   Must encrypt all data that is stored.

3.1.1.14   Encrypted Storage System must be compatible with the WVOT's EMC Avamar backup system. Support for Avamar standard client and SQL plug-in versions 6.1.1-87 is also required.

3.1.1.15   Vendor must provide training for three (3) Agency personnel to cover all configuration and operation functions.

3.1.1.16   All information on Attachment B should be submitted with bid, and will be required prior to award.

3.1.2   Service and Support Level

3.1.2.1 The Vendor must warrant and maintain the system for a period of forty-eight (48) months, effective upon acceptance of the equipment by the Agency. During this 48-month period, the Vendor shall make any necessary repairs, replace any defective parts, perform preventive maintenance, install engineering changes and modifications to hardware and software and otherwise maintain the system at no additional cost to the Agency.

3.1.2.2 The Vendor must provide escalating, multilevel support services. This service must be 24 hours a day, 7 days a week, 365 days a year (phone, email, chat), with a **non-critical** response time of four (4) hours, and a **critical-response** time of one (1) hour. The determination of what qualifies as a critical event is at the sole discretion of the WVOT.

3.1.3   Specification for System Acceptance

3.1.3.1   The agency will formally accept the system after the hardware and software have been installed and confirmed to be working without any problems, outages or failures for 30 consecutive days. The Agency will issue a request for Change Order to the West Virginia Purchasing Division stating acceptance of the system,

thereby beginning the forty-eight (48) months of warranty as specified in Section 3.1.2.1.

3.1.4 Current Environment:

3.1.4.1 Vendor will deliver system to the West Virginia Office of Technology Data Center located on the first floor of Building 6 on the State Capitol Complex in Charleston, W. Va.

3.1.5 Travel:

3.1.5.1 Vendor shall be responsible for all mileage and travel costs, including travel time, associated with performance of this Contract, which may be included in the total cost.

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 must complete the Pricing Page by entering the total price for the system (including delivery, installation, testing, training), and 48-month warranty. Vendor must complete the Pricing Page in full as failure to complete the Pricing Page in its entirety may result in Vendor's bid being disqualified.

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

5. 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 Building 6, Room B-110, 1900 Kanawha Blvd E., Charleston, WV 25305.

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

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

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

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

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

7 VENDOR DEFAULT:

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

7.1.1 Failure to provide Contract Items in accordance with the requirements contained herein.

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

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

7.1.4 Failure to remedy deficient performance upon request.

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

7.2.1 Immediate cancellation of the Contract.

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

7.2.3 Any other remedies available in law or equity.

ATTACHMENT B - VENDOR INFORMATION

Vendor Name   CDW Direct, LLC

Vendor Address   6450 Rockside Woods Blvd. S. Suite 120

                           Independence, OH 44131

Vendor Contact   Gary S Kirdzik

Vendor E-Mail Address   garykir@CDW.com

                                                          3-16-2016

Vendor Signature   Date

IBM Storwize V7000 Unified and Storwize V7000

Transforming the economics of data storage

Highlights

- Meet changing business needs with virtualized, enterprise-class, flash-optimized modular storage

- Transform the economics of data storage with hardware-accelerated data compression

- Leverage integrated support for file and block data to consolidate workloads

- Use encryption to help improve security for data on existing storage systems

- Optimize performance with automated storage tiering

- Improve network utilization for remote mirroring with innovative replication technology

- Deploy storage quickly with easy-to-use management tools and built-in support for leading software platforms

In the era of cloud, big data and analytics, mobile and social computing, organizations need to meet ever-changing demands for storage, while also improving data economics. IT must deliver more services faster and more efficiently, enable real-time insight and support more customer interaction. The right infrastructure allows clients to share information, secure transactions and drive real-time insights.

Built with IBM® Spectrum Virtualize™ software—part of the IBM Spectrum Storage™ family—the IBM Storwize® family helps organizations achieve better data economics by supporting these new workloads that are critical to their success. Storwize family systems can handle the massive volumes of data from mobile and social applications, enable rapid and flexible cloud services deployments, and deliver the performance and scalability needed to gain insights from the latest analytics technologies.

IBM Storwize V7000 Unified and IBM Storwize V7000 are virtualized, enterprise-class hybrid storage systems that provide the foundation for implementing an effective storage infrastructure and transforming the economics of data storage. Designed to complement virtual server environments, these modular storage systems deliver the flexibility and responsiveness required for changing business needs.

In fact, IBM Spectrum Virtualize software in Storwize V7000 Unified and Storwize V7000 provides the latest storage technologies for unlocking the business value of stored data, including virtualization and IBM Real-time Compression™. In addition, the systems include

a powerful hardware platform that can support the massive volumes of data created by today's demanding cloud and analytics applications. They are designed to deliver outstanding efficiency, ease of use and dependability for organizations of all sizes.

Data virtualization

Storwize V7000 Unified and Storwize V7000 use IBM Spectrum Virtualize data virtualization technology to help insulate applications from physical storage. This enables applications to run without disruption, even when changes are made to the storage infrastructure.

Storwize V7000 Unified and Storwize V7000 also extend data virtualization to other disk systems. When virtualized, data in a disk system becomes part of the Storwize system, and it can be managed in the same way as internal drives. Data in external disk systems inherits all the Storwize functional richness and ease-of-use features, including advanced replication, high-performance thin provisioning, encryption, Real-time Compression and IBM Easy Tier®. Virtualizing external storage helps improve administrator productivity and boost storage utilization while also enhancing and extending the value of existing storage investments.

Moving data is one of the most common causes of planned downtime. Data virtualization enables moving data from existing storage into the new system or between arrays, while maintaining access to the data. This function might be used when replacing older storage with newer storage, as part of load-balancing work or when moving data in a tiered storage infrastructure from disk drives to flash.

Data virtualization can improve efficiency and business value. Nondisruptive migration can speed time-to-value from weeks or months to days, minimize downtime for migration, eliminate the cost of add-on migration tools, and may help

avoid penalties and additional maintenance charges for lease extensions. The result can be real cost savings to your business. Users who have deployed Storwize V7000 report a 29 percent improvement in application availability.[1]

Real-time Compression

IBM Real-time Compression is designed to enable storing up to five times as much data in the same physical disk space by compressing data as much as 80 percent.[2] Unlike other approaches to compression, Real-time Compression is designed to be used with active primary data such as production databases and email systems, which dramatically expands the range of candidate data that can benefit from compression. Real-time Compression operates immediately as data is written to disk, meaning that no space is wasted storing uncompressed data awaiting post-processing.

What's more, Real-time Compression with hardware acceleration transforms the economics of data storage. The benefits include reduced acquisition cost (because less hardware is required), reduced rack space, and lower power and cooling costs throughout the lifetime of the system. And, when combined with external data virtualization, Real-time Compression can significantly enhance the usable capacity of existing storage systems, extending their useful life even further.

High-performance, scalable platform

Storwize V7000 Unified and Storwize V7000 are built on a new hardware platform designed to deliver both high performance and dramatically improved data economics. A control enclosure contains dual redundant controllers, each with an 8-core 1.9 GHz Intel Xeon processor with 32 GB or 64 GB of cache. Each controller contains a hardware compression accelerator based on Intel QuickAssist technology with an available second accelerator. Flexible host interface options include 16 Gbps and 8 Gbps Fibre Channel, 1 Gbps iSCSI, and 10 Gbps iSCSI or Fibre Channel over Ethernet. This powerful new platform delivers up to twice as much throughput as previous systems.[3]

Each control enclosure supports up to 20 expansion enclosures attached using high-performance 12 Gbps SAS for maximum expansion of 504 drives or approximately 2 PB of capacity. Control enclosures support up to 24 2.5-inch drives and two models of expansion enclosure support up to 24 2.5-inch or 12 3.5-inch drives.

Clustered systems provide scale-out growth in performance and capacity with up to four control enclosures and associated expansion enclosures operating as a single storage system with 64 processor cores, up to 512 GB of cache, supporting up to 1,056 drives and 7.87 PB of total capacity.

Storwize V7000 Unified systems also include dual redundant File Modules with 1 Gbps and 10 Gbps interfaces for network-attached storage (NAS) capability.

Efficiency

IBM Spectrum Virtualize software in Storwize V7000 Unified and Storwize V7000 is designed to deliver extraordinary levels of efficiency, helping to revolutionize data economics and drive down costs for cloud, analytics, virtual server and other enterprise-class deployments. The solution also delivers the performance needed for these demanding environments, so organizations no longer have to choose between performance and efficiency.

Traditional approaches to compression relegate its use to only less active and less performance-sensitive data, which limits the benefits and usability of compressed data. In today's business environment, limiting how and when data can be used could be a costly error. IBM Real-time Compression with hardware acceleration enables Storwize V7000 Unified and Storwize V7000 to deliver higher performance for compressed data than traditional systems offer for uncompressed data, enabling its use for practically all data types.[3]

In addition, automated storage tiering with IBM Easy Tier can help improve performance at a lower cost by enabling more efficient use of flash storage or multiple types of disk drives. Easy Tier automatically identifies more active data and moves that data to faster storage such as flash. This helps organizations use flash storage for the data that will benefit the most, helping deliver the maximum benefit even from small amounts of flash storage capacity. In fact, Easy Tier can deliver up to three times performance improvement with only five percent flash storage capacity.[4]

Storwize V7000 Unified also features IBM Active File Management (formerly known as IBM Active Cloud Engine®) for automated, policy-based placement and tiering of file data—including flash, disk and tape tiers—for highly efficient, low-cost storage. Active File Management operates both within a single system and across systems at multiple locations, enabling automated placement of data closest to users. New integration with IBM Spectrum Scale™ allows file sharing between Storwize V7000 Unified and IBM Spectrum Scale under one single global name space.

When combined with external storage virtualization, Real-time Compression, Easy Tier and Active File Management can help organizations manage internal and external tiers of storage, including IBM FlashSystem®. Using these techniques with existing storage can significantly improve performance for data on these systems, improving service levels and extending asset life.

When replicating block data for business continuity, Storwize V7000 Unified and Storwize V7000 can use IP network connections for simplicity and lower cost. Integrated Bridgeworks SANrockIT technology helps improve network utilization up to three times compared with traditional approaches,[5] which can help reduce networking costs as well as accelerate replication cycles.

High availability

Clients are increasingly deploying virtualized servers using IBM PowerVM®, VMware and other technologies in high-availability configurations. Such configurations provide attractive options for high availability and load balancing.

The IBM HyperSwap® function enables a single Storwize V7000 system to support servers in two data centers. In this configuration, the solution enables servers at both data centers to access data concurrently. When combined with server data mobility functions such as VMware vMotion or PowerVM Live

Partition Mobility, this configuration enables nondisruptive storage and virtual machine mobility between the two data centers, which can be up to 300 km (186 miles) apart.

In addition, Distributed RAID technology helps improve data availability by allowing data to be distributed across more physical drives that are used simultaneously, achieving faster rebuild time. This technology can also deliver increased performance since data can be read from/written to more drives for a given I/O.

Ease of use

Storwize V7000 Unified and Storwize V7000, using IBM Spectrum Virtualize software, are designed to be easy to use from the very start. For example, an intuitive management interface enables administrators to easily manage both block and file data in the same system. In fact, a comparative study found that tasks are almost half as time-consuming as managing a competitor's system.[6]

IBM Spectrum Control™, based on IBM Tivoli® Storage Productivity Center can also provide organizations with an end-to-end view of storage health, long-term performance analytics and capacity statistics for Storwize V7000 Unified, Storwize V7000 and the surrounding storage infrastructure.

What's more, IBM Spectrum Virtualize technologies—including Real-time Compression, Easy Tier, IP replication with Bridgeworks SANrockIT technology and Active File Management—operate automatically and require little or no customization.

SANrockIT uses artificial intelligence technology to automatically optimize network use without any manual intervention. Because it's integrated into Storwize V7000 Unified and Storwize V7000, there are no separate appliances to manage. Plus, SANrockIT is not sensitive to data type, so it can deliver consistent benefits even as workloads change.

Storwize V7000 Unified and Storwize V7000 also include storage pool balancing that operates automatically to distribute data across arrays in a pool—including external virtualized storage—to deliver balanced array performance and help eliminate the need for manual tuning.

In addition, Storwize V7000 Unified includes integrated support for IBM Spectrum Protect™, based on Tivoli Storage Manager technology to simplify backups; restores; and application-aware, VMware-aware snapshots. It also supports the Network Data Management Protocol (NDMP) for backing up data with third-party applications.

Dependability

Storwize V7000 Unified and Storwize V7000 are part of the proven IBM Storwize family, with more than 225,000 enclosures and 2.4 exabytes of capacity deployed in organizations worldwide. A new hardware platform and unique compression accelerators using Intel QuickAssist technology deliver the power and flexibility required to support demanding cloud, analytics and virtual server environments.

For example, Storwize V7000 Unified combines both block and file storage into a single, dependable system. As a result, multiple management points can be eliminated, storage tiers—including flash—can be shared across all types of data, and data economics can be improved for a wide range of applications.

The unrelenting tide of data breaches continues to fuel an increasing interest in IBM self-encrypting storage, which automatically secures all information on a disk drive or tape cartridge when physically removed from a storage system. If a drive gets lost or stolen, data encryption renders data inaccessible. Storwize V7000 encryption also provides *cryptographic erasure*, a simple, cost-effective method for cleansing sensitive data from systems that are being retired or repurposed.

IBM Storwize V7000 Unified and Storwize V7000 storage systems at a glance

Maximum drives supported	504 per control enclosure; 1,056 per clustered system
Cores per controller/ control enclosure/ clustered system	8/16/64
Cache per controller/ control enclosure/ clustered system	32 or 64 GB/64 or 128 GB/up to 512 GB

Take the next step. Click here.
● See the full list of specifications.

Support for Network File System (NFS) v4 and Server Message Block (SMB) 3.0 protocols, coupled with multi-tenancy support for file workloads, also enables consolidation with even more application types and deployment scenarios.

With their virtualized storage design and tight affinity with IBM PowerVM, OpenStack, Microsoft ODX, VMware vSphere v6 and VMware vSphere Virtual Volumes (VVOL), Storwize V7000 Unified and Storwize V7000 are an ideal complement for virtualized servers that are at the heart of cloud deployments.

Storwize V7000 Unified and Storwize V7000 support both scaling up (by adding additional enclosures and drives) and scaling out (by clustering) for configuration growth. This flexibility simplifies planning for future requirements and enables organizations to purchase only as much storage and controller capability as needed. For additional investment protection, clusters can include both existing Storwize V7000 systems as well as new Storwize V7000 Unified and Storwize V7000 systems.

Why IBM?

Innovative technology, open standards, excellent performance, and a broad portfolio of proven storage software, hardware and solutions offerings—all backed by IBM with its recognized industry leadership—are just a few of the reasons you should consider storage solutions from IBM, including Storwize V7000 Unified and Storwize V7000.

For more information

To learn more about IBM Storwize V7000 Unified and Storwize V7000, please contact your IBM representative or IBM Business Partner, or visit the following website:
ibm.com/storage/storwizev7000

For a list of currently supported servers, operating systems, host bus adapters, clustering applications and SAN switches and directors, refer to the IBM System Storage Interoperation Center at: ibm.com/systems/support/storage/config/ssic

For a list of high-quality solutions with our partner ISVs, including access to solution briefs and white papers, refer to:
ibm.com/systems/storage/solutions/isv

[6] Edison Group, "Competitive Management Cost Study: IBM Storwize V7000 vs. EMC VNX5500 Storage Systems," April 2012.
http://www.lighthousecs.com/_resources/common/userfiles/file/V7000.pdf

IBM.

[1] Forrester Consulting, "Total Economic Impact Study of IBM Storwize V7000 – April 2012." The paper is available from our website, including on ibm.com/systems/storage/disk/storwize_v7000/resources.html

[2] IBM lab measurements – April 2012

[3] IBM lab measurements – April 2014

[4] IBM lab measurements – August 2010

[5] IBM lab measurements – September 2013

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