



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

Header 1

[List View](#)

General Information

[Contact](#)
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[Discount](#)
[Document Information](#)

Procurement Folder: 390621

SO Doc Code: CRFQ

Procurement Type: Central Purchase Order

SO Dept: 0702

Vendor ID:

SO Doc ID: TAX1800000010

Legal Name: SOFTWARE INFORMATION SYSTEMS LLC

Published Date: 11/8/17

Alias/DBA:

Close Date: 11/28/17

Total Bid: \$57,500.00

Close Time: 13:30

Response Date:

Status: Closed

Response Time:

Solicitation Description:

Total of Header Attachments: 1

Total of All Attachments: 1



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

State of West Virginia
Solicitation Response

Proc Folder : 390621

Solicitation Description : Addendum 1 - Storage Area Network

Proc Type : Central Purchase Order

Date issued	Solicitation Closes	Solicitation Response	Version
	2017-11-28 13:30:00	SR 0702 ESR11281700000002314	1

VENDOR

000000219154

SOFTWARE INFORMATION SYSTEMS LLC

Solicitation Number: CRFQ 0702 TAX1800000010

Total Bid : \$57,500.00

Response Date: 2017-11-28

Response Time: 13:13:42

Comments:

FOR INFORMATION CONTACT THE BUYER

Michelle L Childers
(304) 558-2063
michelle.l.childers@wv.gov

Signature on File

FEIN #

DATE

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

Line	Comm Ln Desc	Qty	Unit Issue	Unit Price	Ln Total Or Contract Amount
1	Computer data storage management systems	1.00000	EA	\$57,500.000000	\$57,500.00

Comm Code	Manufacturer	Specification	Model #
43212200			

Extended Description :	SEE ATTACHED SPECIFICATIONS

Line	Comm Ln Desc	Qty	Unit Issue	Unit Price	Ln Total Or Contract Amount
2	Maintenance and Warranty for SAN 3 years	1.00000	EA	\$0.000000	\$0.00

Comm Code	Manufacturer	Specification	Model #
81112303			

Extended Description :	SEE ATTACHED SPECIFICATIONS

Comments: included



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: 390621

Doc Description: Storage Area Network

Proc Type: Central Purchase Order

Date Issued	Solicitation Closes	Solicitation No	Version
2017-11-08	2017-11-28 13:30:00	CRFQ 0702 TAX1800000010	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:

Software Information System, LLC
200 Association Drive, Suite 210
Charleston, WV 25311

304 768-1645

FOR INFORMATION CONTACT THE BUYER

Michelle L Childers

(304) 558-2063

michelle.l.childers@wv.gov

Signature X

FEIN #

61-1371695

DATE

11-28-2017

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

Charles D. Arnett

ADDITIONAL INFORMATION:

Request for Quotation

The West Virginia Purchasing Division is soliciting bids on behalf of the Tax Division to establish a contract for the one-time purchase of hardware, software, licensing, and support for a Storage Area Network (SAN) solution.

INVOICE TO		SHIP TO	
OPERATIONS DIVISION TAX DIVISION OF PO BOX 11748		OPERATIONS DIVISION TAX DIVISION OF REVENUE CENTER 1001 LEE ST E, STE 1	
CHARLESTON	WV25339-1748	CHARLESTON	WV 25301-1725
US		US	

Line	Comm Ln Desc	Qty	Unit Issue	Unit Price	Total Price
1	Computer data storage management systems	1.00000	EA	57,500	57,500

Comm Code	Manufacturer	Specification	Model #
43212200	IBM	V5000	

Extended Description :

SEE ATTACHED SPECIFICATIONS

INVOICE TO		SHIP TO	
OPERATIONS DIVISION TAX DIVISION OF PO BOX 11748		OPERATIONS DIVISION TAX DIVISION OF REVENUE CENTER 1001 LEE ST E, STE 1	
CHARLESTON	WV25339-1748	CHARLESTON	WV 25301-1725
US		US	

Line	Comm Ln Desc	Qty	Unit Issue	Unit Price	Total Price
2	Maintenance and Warranty for SAN 3 years	1.00000	EA	model-1	

Comm Code	Manufacturer	Specification	Model #
81112303	IBM	V5000 warranty	

Extended Description :

SEE ATTACHED SPECIFICATIONS

Exhibit A - Pricing Page
Storage Area Networks (SAN)

Specification #	Part Number	Item Description	Brand of Equipment Bid	Unit of Measure	Quantity	Unit Cost	Extended Price
3.1.1		SAN	IBM V5000	Each	1	\$ 57,500.00	\$ 57,500.00
3.1.2		Hardware Warranty for SAN (3 years)		Each	1	included	
						Total Bid Amount	\$ 57,500.00

ADDENDUM ACKNOWLEDGEMENT FORM
SOLICITATION NO.:

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


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

Addendum Numbers Received:

(Check the box next to each addendum received)

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

I understand that failure to confirm the receipt of addenda may be cause for rejection of this bid. I further understand that any verbal representation made or assumed to be made during any oral discussion held between Vendor's representatives and any state personnel is not binding. Only the information issued in writing and added to the specifications by an official addendum is binding.

Software Internet Systems LLC
Company

Authorized Signature

11-28-2017
Date

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

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

Charles D. Arnett, Sr. Client Executive
(Name, Title)

(Printed Name and Title)

200 Association Drive Suite 210, Charleston, WV 25311
(Address)

304 768-1645 Fax 304 768-1671
(Phone Number) / (Fax Number)

carnett@think310.com
(email address)

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

Software Information Systems LLC
(Company)

Charles D. Arnett, Sr. Client Executive
(Authorized Signature) (Representative Name, Title)

Charles D. Arnett Sr. Client Executive
(Printed Name and Title of Authorized Representative)

11-28-2017
(Date)

304 768-1645 Fax 304 768-1671
(Phone Number) (Fax Number)

STATE OF WEST VIRGINIA
Purchasing Division

PURCHASING AFFIDAVIT

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

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

DEFINITIONS:

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

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

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

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

WITNESS THE FOLLOWING SIGNATURE:

Vendor's Name: Software Technology, System, LLC

Authorized Signature: [Signature] Date: 11-28-2017

State of WV

County of Xanawha, to-wit:

Taken, subscribed, and sworn to before me this 28th day of November, 2017.

My Commission expires October 8, 2020.

AFFIX SEAL HERE

NOTARY PUBLIC [Signature]

Purchasing Affidavit (Revised 08/01/2015)





Highlights

- Customize your storage system with flexible software and hardware options
 - Optimize performance with flash storage and automated tiering
 - Store up to five times more data on your existing storage with IBM compression technology¹
 - Consolidate and provide IBM® Storwize® V5000 capabilities to existing storage infrastructures
 - Enhance productivity with a fresh, new, intuitive and simplified graphical user interface (GUI)
-

IBM Storwize V5000

Designed to drive innovation and greater flexibility

The enterprise data storage marketplace is changing at a rapid pace. Organizations of all sizes are experiencing new business and IT operational challenges. Businesses now need greater data collaboration, agility and cost efficiency to stay ahead of the competition. Today, data is more important than ever for making highly informed decisions in real time. Security teams need data to recognize and prevent fraud before it happens. Call centers need data to help accelerate customer service. Most important, top executives need data to develop strategic insights for battling the competition.

With the rise of new applications that demand the integration of big-data analytics, mobility and social platforms, organizations require additional storage capacity, performance, advanced functionality and flexibility. 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.

To enter the new era of business, organizations need robust storage solutions such as Storwize V5000 to provide comprehensive storage services, extraordinary scale and simplified management with all-flash or hybrid-flash options—all designed to support key business initiatives.

Three Storwize V5000 hybrid models—IBM Storwize V5030, IBM Storwize V5020 and IBM Storwize V5010—provide the flexibility to start small and keep growing while leveraging existing storage investments. And, to enable organizations with midsized workloads to achieve advanced performance, IBM Storwize V5030F provides an all-flash solution at an affordable price.



Utilizing IBM Spectrum Virtualize™ software at its core, Storwize V5000 is designed to optimize performance, providing virtualization capabilities and greater flexibility. It includes built-in functions such as IBM Real-time Compression™ and IBM Easy Tier® technology to deliver extraordinary levels of efficiency and high performance. Available in different models, Storwize V5000 delivers enterprise capabilities at entry-level pricing to help handle business-critical applications while controlling costs for growing organizations.

Multiply your possibilities. Storwize V5000 models provide the flexibility to start small and keep growing, while leveraging existing storage investments.

IBM Storwize also helps organizations achieve better data economics to support the traditional and new mobile, social and analytics workloads that are critical for success. The shift to cloud computing requires a fundamental shift in how organizations consume and support IT.

Storwize V5000 is intended to deliver more of what you need from storage with greater flexibility—while using fewer resources. Using innovative IBM technology, a single Storwize V5000 system can scale up to 760 drives per system (and up to 1,520 drives with two-way clustered systems).

Encompassing Storwize family functions

Storwize V5000 leverages proven Storwize family functions, management and interoperability features.



Enhance storage function

Built with IBM Spectrum Virtualize software, Storwize V5000 enables applications to run without disruption, even when changes are made to the storage infrastructure.

Available in the larger model, Storwize V5030 also extends capabilities to other storage systems. When virtualized, data in a storage system becomes part of the Storwize solution, and it can be managed in the same way as internal drives. Data in external systems inherits all the Storwize functional richness and ease-of-use features, including advanced replication, high-performance thin provisioning, encryption, Real-time Compression and Easy Tier.

Heterogeneous data services help improve administrator productivity and boost storage utilization while also enhancing and extending the value of existing storage investments.

IBM Spectrum Virtualize software in the three Storwize V5000 models provides advanced storage functions that enable VMware vSphere Virtual Volumes (VVOL) and support the latest capabilities in key operating environments including Microsoft Hyper-V, VMware vSphere, IBM PowerVM® and OpenStack.

Transform the economics of data with Real-time Compression

Real-time Compression in Storwize V5030 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 the drive, meaning that no space is wasted storing uncompressed data awaiting post-processing. 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.

Improve storage access with Easy Tier

Easy Tier provides automatic migration of frequently accessed data to high-performing flash storage, enhancing usage efficiencies. Operating at a fine-grained granularity, the optional Easy Tier function automatically repositions different data types to the appropriate class of drives based on input/output (I/O) patterns and drive characteristics, requiring no administrative interaction.

Protect your most valuable asset—your data

To help protect sensitive data from unauthorized users, Storwize V5030 and Storwize V5020 give IT teams the full power of storage encryption. In addition to placing encryption inside hardware arrays—which protects only against a subset of data security risks—IBM Spectrum Virtualize software includes encryption capabilities in its management layer. This enables organizations to add encryption across their existing heterogeneous storage arrays, while leveraging a single point of control for encryption throughout the storage layer.

Storwize V5000 offers an optional IBM FlashCopy® function designed to create an almost-instant copy of active data, which can be used for backup purposes or for parallel-processing activities.

Should a catastrophic event occur at a data center, Storwize V5000 supports remote mirroring to create copies of data for use at a second location. Metro Mirror supports synchronous replication at distances up to 300 km (186 miles), whereas Global Mirror supports asynchronous replication at distances up to 8,000 km (4,970 miles). Replication can occur between any Storwize family offerings, and can include any supported virtualized storage. With IP networking, Storwize V5000 supports 1 GbE and 10 GbE connections, and uses innovative Bridgeworks WANrockIT technology to optimize the use of network bandwidth. As a result, the networking infrastructure may require lower speeds (and thus, lower costs), or users may be able to improve the accuracy of remote data through shorter replication cycles.

In addition, the IBM HyperSwap® function enables a single Storwize V5030 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 technologies such as VMware vMotion or PowerVM Live Partition Mobility, this configuration enables nondisruptive storage and virtual machine mobility between the two data centers.

Storwize V5000 also helps improve data availability with its support for Distributed RAID. The system allows data to be distributed across a large number of physical drives that are used simultaneously, achieving faster rebuild time. What's more, Distributed RAID can also deliver increased performance since data can be read from and written to more drives for a given I/O.

Avoid disruptions with dynamic migration

Moving data is one of the most common causes of planned downtime. Storwize V5000 includes a dynamic data-migration function that is designed to move data from existing storage into a new system or between arrays in a Storwize V5000

system, while maintaining user access to data. The data migration function might be used, for example, when replacing older storage with newer storage, as part of load-balancing work or when moving data in a tiered storage infrastructure.

Nondisruptive migration can speed time-to-value from weeks or months to days, minimize downtime for migration, help 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.

Take advantage of additional features

In addition, Storwize V5000 includes:

- Innovative management capabilities, to ease storage management
- Dual clustering for Storwize V5030, to enable growth from smaller configurations

- High-density expansion enclosures, which can hold up to 92 drives and 1.4 PB in a 5U form factor.
- Support for OpenStack Cinder driver, which helps automate storage provisioning and volume management for organizations by combining the efficiency of Storwize V5000 with the OpenStack Compute cloud platform

Leveraging proven independent software vendor solutions

IBM is committed to continuous improvement and smooth application integration to optimize business results and minimize time-to-value. Our commitment is evident through our ongoing work and enduring partnerships with independent software vendors (ISVs) such as Microsoft, Oracle, SAP, Symantec and VMware.

IBM Storwize V5000 at a glance			
Software	IBM Spectrum Virtualize software for Storwize V5030	IBM Spectrum Virtualize software for Storwize V5020	IBM Spectrum Virtualize software for Storwize V5010
User interface	Web-based GUI	Web-based GUI	Web-based GUI
Single or dual controller	Dual	Dual	Dual
Connectivity (standard)	10 Gb iSCSI 1 Gb iSCSI	12 Gb SAS 1 Gb iSCSI	1 Gb iSCSI
Connectivity (optional)	16 Gb Fibre Channel 12 Gb SAS 10 Gb iSCSI/Fibre Channel over Ethernet (FCoE) 1 Gb iSCSI	16 Gb Fibre Channel 12 Gb SAS 10 Gb iSCSI/FCoE 1 Gb iSCSI	16 Gb Fibre Channel 12 Gb SAS 10 Gb iSCSI/FCoE 1 Gb iSCSI

IBM Storwize V5000 at a glance

Cache (per system)	32 GB or 64 GB	16 GB or 32 GB	16 GB
Drives supported	<p>Small form-factor 2.5-inch disk drives:</p> <ul style="list-style-type: none"> • 300 GB, 600 GB @ 15k rpm • 900 GB, 1.2 TB, 1.8 TB @ 10k rpm • 2 TB @ 7.2k rpm SAS nearline <p>Large form-factor 3.5-inch disk drives:</p> <ul style="list-style-type: none"> • 300 GB, 600 GB, 900 GB @ 15k rpm, SAS (2.5-inch drive in a 3.5-inch drive carrier) • 900 GB, 1.2 TB, 1.8 TB @ 10k rpm, SAS (2.5-inch drive in a 3.5-inch drive carrier) • 2 TB*, 3 TB*, 4 TB, 6 TB, 8 TB, 10 TB @ 7.2k rpm <p>2.5-inch flash drives:</p> <ul style="list-style-type: none"> • 400 GB, 800 GB, 1.6 TB, 1.92 TB, 3.2 TB, 3.84 TB, 7.68 TB and 15.36 TB 	<p>Small form-factor 2.5-inch disk drives:</p> <ul style="list-style-type: none"> • 300 GB, 600 GB @ 15k rpm • 900 GB, 1.2 TB, 1.8 TB @ 10k rpm • 2 TB @ 7.2k rpm SAS nearline <p>Large form-factor 3.5-inch disk drives:</p> <ul style="list-style-type: none"> • 300 GB, 600 GB, 900 GB @ 15k rpm, SAS (2.5-inch drive in a 3.5-inch drive carrier) • 900 GB, 1.2 TB, 1.8 TB @ 10k rpm, SAS (2.5-inch drive in a 3.5-inch drive carrier) • 2 TB*, 3 TB*, 4 TB, 6 TB, 8 TB, 10 TB @ 7.2k rpm <p>2.5-inch flash drives:</p> <ul style="list-style-type: none"> • 400 GB, 800 GB, 1.6 TB, 1.92 TB, 3.2 TB, 3.84 TB, 7.68 TB and 15.36 TB 	<p>Small form-factor 2.5-inch disk drives:</p> <ul style="list-style-type: none"> • 300 GB, 600 GB @ 15k rpm • 900 GB, 1.2 TB, 1.8 TB @ 10k rpm • 2 TB @ 7.2k rpm SAS nearline <p>Large form-factor 3.5-inch disk drives:</p> <ul style="list-style-type: none"> • 300 GB, 600 GB, 900 GB @ 15k rpm, SAS (2.5-inch drive in a 3.5-inch drive carrier) • 900 GB, 1.2 TB, 1.8 TB @ 10k rpm, SAS (2.5-inch drive in a 3.5-inch drive carrier) • 2 TB*, 3 TB*, 4 TB, 6 TB, 8 TB, 10 TB @ 7.2k rpm <p>SSD 2.5-inch drives:</p> <ul style="list-style-type: none"> • 400 GB, 800 GB, 1.6 TB, 1.92 TB, 3.2 TB, 3.84 TB, 7.68 TB and 15.36 TB
Maximum drives supported	<p>Maximum of 760 drives per system and 1,520 drives in two-way clustered:</p> <ul style="list-style-type: none"> • Small form-factor enclosure: 24 x 2.5-inch drives • Large form-factor enclosure: 12 x 3.5-inch drives • High-density expansion enclosure: 92 x 3.5-inch drives 	<p>Maximum of 392 drives per system:</p> <ul style="list-style-type: none"> • Small form-factor enclosure: 24 x 2.5-inch drives • Large form-factor enclosure: 12 x 3.5-inch drives • High-density expansion enclosure: 92 x 3.5-inch drives 	<p>Maximum of 392 drives per system:</p> <ul style="list-style-type: none"> • Small form-factor enclosure: 24 x 2.5-inch drives • Large form-factor enclosure: 12 x 3.5-inch drives • High-density expansion enclosure: 92 x 3.5-inch drives or 2.5-inch drives
Maximum expansion enclosure capacity	<ul style="list-style-type: none"> • Standard expansion enclosures: up to 20 standard expansion enclosures per controller • High-density expansion enclosures: up to 8 high-density expansion enclosures per controller 	<ul style="list-style-type: none"> • Standard expansion enclosures: up to 10 standard expansion enclosures per controller • High-density expansion enclosures: up to 4 high-density expansion enclosures per controller 	<ul style="list-style-type: none"> • Standard expansion enclosures: up to 10 standard expansion enclosures per controller • High-density expansion enclosures: up to 4 high-density expansion enclosures per controller
RAID levels	RAID 0, 1, 5, 6, 10, Distributed	RAID 0, 1, 5, 6, 10, Distributed	RAID 0, 1, 5, 6, 10, Distributed

IBM Storwize V5000 at a glance			
Fans and power supplies	Fully redundant, hot-swappable	Fully redundant, hot-swappable	Fully redundant, hot-swappable
Rack support	Standard 19-inch	Standard 19-inch	Standard 19-inch
Advanced functions included with each system	<ul style="list-style-type: none"> • Embedded GUI • Virtualization of internal storage • Thin provisioning • One-way data migration • Dual-system clustering 	<ul style="list-style-type: none"> • Embedded GUI • Virtualization of internal storage • Thin provisioning • One-way data migration 	<ul style="list-style-type: none"> • Embedded GUI • Virtualization of internal storage • Thin provisioning • One-way data migration
Additional available advanced functions	<ul style="list-style-type: none"> • Easy Tier • FlashCopy • Remote mirroring • Encryption • Real-time Compression • External virtualization 	<ul style="list-style-type: none"> • Easy Tier • FlashCopy • Remote mirroring • Encryption 	<ul style="list-style-type: none"> • Easy Tier • FlashCopy • Remote mirroring
Size†	<p>8.7 cm (3.4 in.) H x 48.3 cm (19.0 in.) W x 55.6 cm (21.9 in.) D</p> <ul style="list-style-type: none"> • Approximate weight: <ul style="list-style-type: none"> – Large form-factor control enclosure: <ul style="list-style-type: none"> ▷ Empty: 18.0 kg (39.6 lb) ▷ Fully configured: 28.3 kg (62.2 lb) – Large form-factor expansion enclosure: <ul style="list-style-type: none"> ▷ Empty: 16.4 kg (36.1 lb) ▷ Fully configured: 26.7 kg (58.8 lb) – Small form-factor control enclosure: <ul style="list-style-type: none"> ▷ Empty: 19.0 kg (41.8 lb) ▷ Fully configured: 27.3 kg (60.0 lb) – Small form-factor expansion enclosure: <ul style="list-style-type: none"> ▷ Empty: 16.7 kg (36.7 lb) ▷ Fully configured: 25.0 kg (55.2 lb) 	<p>8.7 cm (3.4 in.) H x 48.3 cm (19.0 in.) W x 55.6 cm (21.9 in.) D</p> <ul style="list-style-type: none"> • Approximate weight: <ul style="list-style-type: none"> – Large form-factor control enclosure: <ul style="list-style-type: none"> ▷ Empty: 18.0 kg (39.6 lb) ▷ Fully configured: 28.3 kg (62.2 lb) – Large form-factor expansion enclosure: <ul style="list-style-type: none"> ▷ Empty: 16.4 kg (36.1 lb) ▷ Fully configured: 26.7 kg (58.8 lb) – Small form-factor control enclosure: <ul style="list-style-type: none"> ▷ Empty: 19.0 kg (41.8 lb) ▷ Fully configured: 27.3 kg (60.0 lb) – Small form-factor expansion enclosure: <ul style="list-style-type: none"> ▷ Empty: 16.7 kg (36.7 lb) ▷ Fully configured: 25.0 kg (55.2 lb) 	<p>8.7 cm (3.4 in.) H x 48.3 cm (19.0 in.) W x 55.6 cm (21.9 in.) D</p> <ul style="list-style-type: none"> • Approximate weight: <ul style="list-style-type: none"> – Large form-factor control enclosure: <ul style="list-style-type: none"> ▷ Empty: 18.0 kg (39.6 lb) ▷ Fully configured: 28.3 kg (62.2 lb) – Large form-factor expansion enclosure: <ul style="list-style-type: none"> ▷ Empty: 16.4 kg (36.1 lb) ▷ Fully configured: 26.7 kg (58.8 lb) – Small form-factor control enclosure: <ul style="list-style-type: none"> ▷ Empty: 19.0 kg (41.8 lb) ▷ Fully configured: 27.3 kg (60.0 lb) – Small form-factor expansion enclosure: <ul style="list-style-type: none"> ▷ Empty: 16.7 kg (36.7 lb) ▷ Fully configured: 25.0 kg (55.2 lb)

IBM Storwize V5000 at a glance

Operating environment	<ul style="list-style-type: none"> Air temperature: <ul style="list-style-type: none"> Operating: 10°C – 35°C (50°F – 95°F) at 30.5 m below to 3,000 m above sea level (100 ft below to 9,840 ft above) Non-operating: -10°C – 50°C (14°F – 125°F) Relative humidity: <ul style="list-style-type: none"> Operating: 20% – 80% Non-operating: 10% – 90% 	<ul style="list-style-type: none"> Air temperature: <ul style="list-style-type: none"> Operating: 10°C – 35°C (50°F – 95°F) at 30.5 m below to 3,000 m above sea level (100 ft below to 9,840 ft above) Non-operating: -10°C – 50°C (14°F – 125°F) Relative humidity: <ul style="list-style-type: none"> Operating: 20% – 80% Non-operating: 10% – 90% 	<ul style="list-style-type: none"> Air temperature: <ul style="list-style-type: none"> Operating: 10°C – 35°C (50°F – 95°F) at 30.5 m below to 3,000 m above sea level (100 ft below to 9,840 ft above) Non-operating: -10°C – 50°C (14°F – 125°F) Relative humidity: <ul style="list-style-type: none"> Operating: 20% – 80% Non-operating: 10% – 90%
Warranty	<p>Hardware:</p> <ul style="list-style-type: none"> Flexible warranty <ul style="list-style-type: none"> One- or three-year warranty with 9 to 5 next-business-day response (dependent upon machine type) Tier 1 customer-replaceable units and on-site repairs Warranty service upgrades available Post-warranty support available Customer setup (initial installation and field upgrades) <p>Software:</p> <ul style="list-style-type: none"> Initial license purchase Software maintenance agreement available 	<p>Hardware:</p> <ul style="list-style-type: none"> Flexible warranty <ul style="list-style-type: none"> One- or three-year warranty with 9 to 5 next-business-day response (dependent upon machine type) Tier 1 customer-replaceable units and on-site repairs Warranty service upgrades available Post-warranty support available Customer setup (initial installation and field upgrades) <p>Software:</p> <ul style="list-style-type: none"> Initial license purchase Software maintenance agreement available 	<p>Hardware:</p> <ul style="list-style-type: none"> Flexible warranty <ul style="list-style-type: none"> One- or three-year warranty with 9 to 5 next-business-day response (dependent upon machine type) Tier 1 customer-replaceable units and on-site repairs Warranty service upgrades available Post-warranty support available Customer setup (initial installation and field upgrades) <p>Software:</p> <ul style="list-style-type: none"> Initial license purchase Software maintenance agreement available
Supported systems	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 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 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
ISV solutions	For a list of high-quality solutions with IBM partner ISVs, including access to solution briefs and white papers, refer to the ISV Solutions Resource Library	For a list of high-quality solutions with IBM partner ISVs, including access to solution briefs and white papers, refer to the ISV Solutions Resource Library	For a list of high-quality solutions with IBM partner ISVs, including access to solution briefs and white papers, refer to the ISV Solutions Resource Library

Why IBM?

The Storwize family of products from IBM, a recognized leader in the storage industry, is known for providing efficiency and high-performance storage for almost any type of workload. IBM storage offerings customized for small, mid-sized and large organizations are designed to deliver performance in streamlined packages that are easy to buy, deploy and manage.

Offered in a wide range of storage systems, the Storwize family delivers sophisticated capabilities that help control costs for growing businesses.

For more information

To learn more about IBM Storwize V5000, please contact your IBM representative or IBM Business Partner, or visit: ibm.com/us-en/marketplace/storage-consolidation

To learn more about IBM Storwize V5030F all-flash, please contact your IBM representative or IBM Business Partner, or visit: ibm.com/systems/storage/storwize/all-flash

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Actual available storage capacity may be reported for both uncompressed and compressed data and will vary and may be less than stated.

* Available only in Storwize V5000 generation 1.

[†] To assure installation and serviceability in non-IBM industry-standard racks, review the installation planning information for any product-specific installation requirements.

¹ IBM lab measurements – April 2012.

² IBM lab measurements – August 2010.



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