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## Header 5

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## General Information | Contact | Default Values | Discount | Document Information

Procurement Folder: 379502

SO Doc Code: CRFQ

Procurement Type: Central Purchase Order

SO Dept: 0323

Vendor ID: 000000219290

SO Doc ID: WWW1800000002

Legal Name: Y &amp; S TECHNOLOGIES INC

Published Date: 12/7/17

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Total Bid: \$131,575.00

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Solicitation Description: Addendum No. 1 Server and Storage Area Network Equipment

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Purchasing Division  
 2019 Washington Street East  
 Post Office Box 50130  
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**State of West Virginia  
 Solicitation Response**

**Proc Folder :** 379502

**Solicitation Description :** Addendum No. 1 Server and Storage Area Network Equipment

**Proc Type :** Central Purchase Order

Date issued	Solicitation Closes	Solicitation Response	Version
	2017-12-13 13:30:00	SR 0323 ESR12121700000002601	1

**VENDOR**

000000219290  
 Y & S TECHNOLOGIES INC

**Solicitation Number:** CRFQ 0323 WWV1800000002

**Total Bid :** \$131,575.00      **Response Date:** 2017-12-13      **Response Time:** 13:22:18

**Comments:**

**FOR INFORMATION CONTACT THE BUYER**

Melissa Pettrey  
 (304) 558-0094  
 melissa.k.pettrey@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	HPE DL380 Server or Equal with warranty	3.00000	EA	\$19,125.000000	\$57,375.00

Comm Code	Manufacturer	Specification	Model #
43211502			

**Extended Description :** Server(s) and Storage area network equipment per the specifications attached herein.

Line	Comm Ln Desc	Qty	Unit Issue	Unit Price	Ln Total Or Contract Amount
2	HPE 3PAR 8200 Storage Area Network (SAN) or Equal with warra	1.00000	EA	\$28,000.000000	\$28,000.00

Comm Code	Manufacturer	Specification	Model #
43211502			

**Extended Description :** Server(s) and Storage area network equipment per the specifications attached herein.

Line	Comm Ln Desc	Qty	Unit Issue	Unit Price	Ln Total Or Contract Amount
3	HPE SN3000B 16Gb fibre Channel Switch or Equal with warranty	2.00000	EA	\$23,100.000000	\$46,200.00

Comm Code	Manufacturer	Specification	Model #
43211502			

**Extended Description :** .HPE SN300B 16 Gb Fibre Channel Switch with 12 active ports or equal, with warranty

# Lenovo ThinkSystem SR650

High-performance scalable server



## For Compute-Intensive Workloads

For medium to large enterprises, and managed and cloud service providers, Lenovo ThinkSystem SR650 is the optimum 2U, two-socket server—the most widely used server type worldwide. It's engineered to deliver high performance with 205W CPUs, low-latency NVMe drives, and high-power GPUs.

With Lenovo's history of reliability, the highly flexible and configurable SR650 is the ideal platform for hyperconverged infrastructure (HCI) or software-defined storage (SDS). It provides a solid foundation for: 1) transforming physical resources into services, using validated designs for hybrid cloud; 2) performing analytics on streaming data, using validated designs for Big Data; and 3) increasing productivity of virtualized transactional systems, using validated designs for OLTP databases.

## Versatile and Scalable

ThinkSystem SR650 incorporates up to two powerful Intel® Xeon® processor Scalable family CPUs, with 27 percent more cores and twice the memory capacity of the previous generation server\*. It supports two 300W high-performance GPUs and ML2 NIC adapters with shared management. Unique Lenovo AnyBay technology provides the flexibility to mix-and-match SAS/SATA HDDs/SSDs and NVMe SSDs in the same drive bays. Four direct-connect NVMe ports on the motherboard provide ultra-fast read/writes with NVMe drives and reduce costs by eliminating PCIe switch adapters. Plus, storage can be tiered for greater application performance, to provide the most cost-effective solution. Optional mirrored M.2 drives ensure reliability and quick OS initialization. SR650 also features 80 PLUS Platinum and Titanium PSUs, as well as continuous operation at 45°C, to reduce energy costs.

## Easily Managed

Lenovo XClarity Controller is an all-new hardware embedded management engine common in every ThinkSystem server. XClarity Controller features an uncluttered graphical user interface, industry standard Redfish-compliant REST APIs, and enables booting in half the time of prior generation servers, with up to 6x faster firmware updates.

Lenovo XClarity Administrator is a virtualized application that centrally manages ThinkSystem servers, storage, and networking. Via reusable patterns and policies, it ramps up and scales infrastructure provisioning and maintenance. It serves as a central integration point to extend your data center management processes to physical IT. Running XClarity Integrators in external IT applications, or integrating through REST APIs, helps you further speed services provisioning, streamline IT management, and contain costs.

Lenovo servers continue to be the industry's #1 most reliable<sup>1</sup>, with the industry's highest customer satisfaction<sup>1</sup> rating.

## Why Lenovo

Lenovo is the leading provider of x86 systems for the data center. The portfolio includes rack, tower, blade, dense and converged systems, and supports enterprise class performance, reliability and security. Lenovo also offers a full range of networking, storage, software and solutions, and comprehensive services supporting business needs throughout the IT lifecycle.

Lenovo™

ThinkSystem



## Specifications

<b>Form Factor/Height</b>	2U rack server
<b>Number of Processors</b>	Up to 2x Intel® Xeon® Platinum processors, up to 205W
<b>Memory</b>	Up to 3TB <sup>5</sup> in 24x DIMM slots using 128GB DIMMs; 2666MHz TruDDR4
<b>Expansion Slots</b>	Up to 7x PCIe 3.0 via multiple riser options, including 1x dedicated PCIe slot for RAID adapter
<b>Drive Bays</b>	Up to 24 HS bays (incl. 4 or 8 AnyBay): plus up to 2x mirrored M.2 boot (opt. RAID 1)
<b>HBA/RAID Support</b>	Hardware RAID (up to 24 ports) with flash cache; up to 16-port HBAs
<b>Security and Availability Features</b>	TPM 1.2/2.0; PFA; HS/redundant drives, fans, and PSUs; 45°C continuous operation; light path diagnostic LEDs; front-access diagnostics via dedicated USB port
<b>Network Interface</b>	2/4-port 1GbE LOM; 2/4-port 10GbE LOM (Base-T or SFP+); 1x dedicated 1GbE mngmt port
<b>Power (Energy Star 2.0 compliant)</b>	2x hot swap/redundant: 550W/750W/1100W/1600W 80 PLUS Platinum; or 750W 80 PLUS Titanium
<b>Systems Management</b>	XClarity Controller embedded management, XClarity Administrator centralized infrastructure delivery, XClarity Integrator plugins, and XClarity Energy Manager centralized server power management
<b>OSes Supported</b>	Microsoft Windows Server, Red Hat Enterprise Linux, SUSE Linux Enterprise Server, VMware vSphere. Visit <a href="http://lenovopress.com/osig">lenovopress.com/osig</a> for details.
<b>Limited Warranty</b>	1- and 3-year customer replaceable unit and onsite service, next business day 9x5; opt. service upgrades

\* Compared to Lenovo x3650 M5.; <sup>1</sup>2016-2017 Global Hardware, Server OS Reliability Report, ITIC; October 2016.

<sup>2</sup>2H16 Corporate IT Buying Behavior and Customer Satisfaction Study, TBR; December 2016.; <sup>3</sup>1.5TB at GA; 128GB DIMMs available in the near future. Available prior to GA via special bid.

## Featured Options

<b>NVIDIA Tesla P100 16GB PCIe Passive GPU</b>	<b>Intel OPA 100 Series Single-port PCIe 3.0 x16 HFA</b>	<b>2.5-inch 7.68TB SAS 12Gb Hot-Swap SSD</b>
<b>7X67A00068</b>	<b>00WE027</b>	<b>7N47A00122</b>
Designed to boost throughput for HPC and hyperscale data centers	Designed for HPC workloads with low end-to-end latency	High-performance/reliability solution for read/capacity-intensive applications

Visit [Options](#) for more information.

## For More Information

To learn more about the Lenovo ThinkSystem SR650, contact your Lenovo representative or Business Partner or visit:

[lenovopartnernetwork.com/datacenter](http://lenovopartnernetwork.com/datacenter)

[lenovopartnernetwork.com/ca/datacenter](http://lenovopartnernetwork.com/ca/datacenter)

For detailed specs, consult the [SR650 Product Guide](#).

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**Availability:** Offers, prices, specifications and availability may change without notice. Lenovo is not responsible for photographic or typographical errors. **Warranty:** For a copy of applicable warranties, write to: Lenovo Warranty Information, 1009 Think Place, Morrisville, NC, 27560. Lenovo makes no representation or warranty regarding third-party products or services. **Trademarks:** Lenovo, the Lenovo logo, AnyBay, ThinkSystem, and XClarity are trademarks or registered trademarks of Lenovo. Microsoft and Windows are registered trademarks of Microsoft Corporation. Intel, the Intel logo, Xeon and Xeon Inside are registered trademarks of Intel Corporation in the U.S. and other countries. Other company, product, and service names may be trademarks or service marks of others.



# Lenovo ThinkSystem DS6200

Transformational performance,  
best-in-class pricing



## Speed, Flexibility and Capacity

Designed for I/O intensive applications, the Lenovo ThinkSystem DS6200 SAN array offers breakthrough performance and scale at best-in-class pricing, along with 99.999 percent availability.

The easy-to-use management interface makes complex administrative storage tasks simple, including setup in less than 15 minutes with the Rapid Deployment Wizard. The same interface is used across the DS Series family allowing for flexible IT administration.

The ThinkSystem DS6200 offers connectivity choices and impressive storage capacities. Choose between 12Gb SAS, 8/16Gb Fibre Channel (FC), or 1/10Gb iSCSI to integrate into your existing network. The DS6200 can hold up to 24x 2.5-inch HDDs and SSDs internally, and supports up to 240 drives total. Both LFF and SFF enclosures are supported in the same array and up to nine expansion units can be added to the DS6200 for greater capacity.

For ultimate flexibility, the DS Series supports replication between its new 12Gb platform and first generation S Series systems. This enables you to move your high-performance workloads to the faster-performing DS Series and redeploy the older models as data lakes or replication targets.

## Uncompromising Performance

The ThinkSystem DS6200 delivers higher IOPS and low latency through the Rapid Data Placement Engine, at a fraction of the cost of competing solutions. Designed for speed within a cost-optimized architecture, the DS6200 delivers superior cost/GB without compromising performance. It's equipped with storage tiering, high availability, thin provisioning, and other enterprise-class features. This provides your business with a solid foundation to grow, while delivering the best price for performance in its class.

You no longer need to decide between faster access to information and lowering the cost of your IT infrastructure. The ThinkSystem DS6200 allows you to save money while maintaining operational excellence.

Lenovo™

## Specifications

<b>Form Factor/Height</b>	2U
<b>Drive Bays</b>	24x 2.5-inch
<b>Maximum Internal Storage</b>	659TB (2.5-inch)
<b>Controllers</b>	Dual (active/active)
<b>Maximum Enclosures</b>	1 node + 9 expansion units; (2U12/2U24); mix-and-match expansion units in an array
<b>Maximum Drives</b>	240 (using 2.5-inch drives and 9 SFF expansion units)
<b>Drive Types Supported</b> (mixed per chassis)	All drives 12Gb SAS: 7,200rpm,10,000rpm,and 15,000rpm HDDs; MLC SSDs; SED HDDs and SSDs
<b>Host Ports</b> (max per controller)	4-port SAS, 4-port FC, 4-port iSCSI, hybrid connectivity (FC/iSCSI)
<b>Performance</b>	Up to 375,000 random-read IOPS; up to 7GBps read throughput; up to 5.5GBps write throughput
<b>RAID Support</b>	RAID 0, 1, 10, 5, 6
<b>Fans and Power Supplies</b>	Hot-swap/redundant
<b>Total Dual Controller Memory</b>	32GB
<b>Max Volumes per System</b>	1024 (up to 128TB each)
<b>Energy Star Certified</b>	Yes
<b>Snapshots</b>	Base 128; optional 512 or 1024
<b>SSD Support/Read Caching</b>	Included
<b>Asynchronous Replication</b>	Optional (iSCSI)
<b>Intelligent Real-Time Tiering</b>	Base HDD; optional HDD+SSD
<b>Warranty</b>	3-year limited warranty, 9x5 next business day, onsite

## Why Lenovo

Lenovo is a \$46 billion global Fortune 500 company and a leader in providing innovative consumer, commercial, and enterprise technology. Lenovo enterprise systems deliver industry-leading performance, reliability, and security in virtualized and cloud environments for analytics, database, virtual desktop, infrastructure, and web workloads. Lenovo also offers simplified and extensible systems management tools so you can manage your infrastructure on your own terms. Consistently ranked #1 in reliability and customer satisfaction, the Lenovo enterprise server, storage, and networking portfolio provides the hardware for businesses that never stand still.

## For More Information

To learn more about the Lenovo DS6200 SAN array, contact your Lenovo representative or Business Partner or visit: [lenovo.com/systems/storage](http://lenovo.com/systems/storage)





# Lenovo ThinkSystem DB620S FC SAN Switch Data Sheet

## HIGHLIGHTS

- Provides high scalability in an ultra-dense, 1U, up to 64-port switch to support high-density server virtualization, cloud architectures, and flash-based storage environments
- Increases performance for demanding workloads across 32 Gbps links and shatters application performance barriers with up to 100 million IOPS
- Enables “pay-as-you-grow” scalability—with 24 to 64 ports—for on-demand flexibility
- Provides proactive, non-intrusive, real-time monitoring and alerting of storage IO health and performance with IO Insight using integrated network sensors
- Leverages IO Insight intelligence to identify issues and understand key performance, health, and utilization trends, ensuring consistent performance
- Increases resiliency by automatically discovering and recovering from device or network errors
- Maximizes availability with redundant, hot-pluggable components and non-disruptive software upgrades
- Simplifies deployment using ClearLink D\_Ports to identify optic and cable issues
- Ability to leverage Brocade Fabric Vision technology to simplify administration, quickly resolve problems, increase uptime, and reduce costs




## Ultra-dense, Highly Scalable, Easy-to-Use Enterprise-Class Storage Networking Switch

Today's mission-critical storage environments require greater consistency, predictability, and performance to keep pace with growing business demands. Faced with explosive data growth, data centers need more IO capacity to accommodate the massive amounts of data, applications, and workloads. In addition to this surge in data, collective expectations for availability continue to rise. Users expect applications to be available and accessible from anywhere, at any time, on any device.

To meet these dynamic and growing business demands, organizations need to deploy and scale up applications quickly. As a result, many are moving to higher Virtual Machine (VM) densities to enable rapid deployment of new applications and deploying flash storage to help those applications scale to support thousands of users. To increase agility, reduce expenses, and realize the full benefits of these architectures, organizations need the network to deliver the performance required by today's server and storage environments.

In addition, storage networks are becoming increasingly important to application performance, which means that they also must become easier to administer and manage. By treating the network as a strategic part of a highly virtualized environment, organizations can increase optimization and efficiency even as they rapidly scale their environments.

The Lenovo ThinkSystem DB620S Switch (based on Brocade technology) meets the demands of hyper-scale virtualization, larger cloud infrastructures, and growing flash-based storage environments by delivering market-leading Gen 6 Fibre Channel technology and capabilities. It provides a high-density building block for increased scalability, designed to support growth, demanding workloads, and data center consolidation in small to largescale enterprise infrastructures. Delivering unmatched 32/128 Gbps performance, industry-leading port density, and integrated network sensors, the Lenovo ThinkSystem DB620S accelerates data access, adapts to evolving requirements, and drives always on business.



The Lenovo ThinkSystem DB620S is built for maximum flexibility, scalability, and ease of use. Organizations can scale from 24 to 64 ports with 48 SFP+ and 4 Q-Flex ports, all in an efficient 1U package. In addition, a simplified deployment process and a point-and-click user interface make the Lenovo DB620S easy to use.

## Maximize Performance for Application and Solid State Storage Architectures

Faced with unpredictable virtualized workloads and growing flash storage environments, organizations need to ensure that the network does not become the bottleneck. The Lenovo ThinkSystem DB620S delivers increased performance for growing and dynamic workloads through a combination of market-leading throughput and low latency across 32 Gbps and 128 Gbps links. With Gen 6 ASIC technology providing up to 566 million frames switched per second, the Lenovo ThinkSystem DB620S switch shatters application performance barriers with up to 100 million IOPS to meet the demands of flash-based storage workloads. At the same time, port-to-port latency is minimized to 700 nanoseconds through the use of cut-through switching at 32 Gbps. With 48 SFP+ ports and 4 Q-Flex ports, each providing four 32 Gbps connections, the Lenovo ThinkSystem DB620S can scale up to 64 device ports for an aggregate throughput of 2 Tbps.

## Simplify Scalability and Management Complexity

The Lenovo ThinkSystem DB620S features up to 64 Fibre Channel ports in an efficiently designed 1U form factor, delivering industry-leading port density and space utilization for simplified scalability and data center consolidation. With this high-density design, organizations can pack more into a single data center with a smaller footprint, reducing costs and management complexity.

Designed for maximum flexibility and value, this enterprise-class switch offers “pay-as-you-grow” scalability with Ports on Demand (PoD) capability. Organizations can quickly, easily, and cost-effectively scale from 24 to 64 ports with a combination of 12-port SFP+ PoD and 16-port Q-Flex PoD. Each of the 48 SFP+ ports supports 4, 8, 10, 16, and 32 Gbps Fibre Channel speeds, while each of the 4 Q-Flex ports is capable of supporting 4x32 Gbps, or 128 Gbps, Fibre Channel speeds. In addition, Q-Flex ports are designed to support QSFP optics to deliver 4 to 1 cable consolidation (combining four cables into one cable per port).

With the DB620S, organizations gain the best of both worlds: high-performance access to industry-leading storage technology and “pay-as-you-grow” scalability to support an evolving storage environment.

Moreover, each Q-Flex port is capable of 128 Gbps parallel Fibre Channel for device or ISL connectivity, enabling administrators to consolidate and simplify cabling infrastructure.

Administrators can achieve optimal bandwidth utilization, high availability, and load balancing by combining up to eight ISLs in a 256 Gbps framed-based trunk. This can be achieved through eight individual 32 Gbps SFP+ ports or two 4x32 Gbps QSFP ports. Moreover, exchange-based Dynamic Path Selection (DPS) optimizes fabric-wide performance and load balancing by automatically routing data to the most efficient, available path in the fabric. This augments ISL Trunking to provide more effective load balancing in certain configurations.

Lenovo ThinkSystem DB620S ports are available for device port or ISL port connectivity. As such, Q-Flex ports can be used as ISLs to provide simple build-out of fabrics, with more switching bandwidth. In addition, flexible, high-speed 32 Gbps and 16 Gbps optics allow organizations to deploy bandwidth on demand to meet growing data center needs. With its flexible PoD capability, the Lenovo ThinkSystem DB620S provides excellent overall value and the agility needed to deliver rapid deployments to meet user demands and support higher growth.

Along with providing best-in-class scalability, the Lenovo ThinkSystem DB620S simplifies end-to-end network management by automating monitoring and diagnostics through Brocade Fabric Vision™ technology. The switch is easy to deploy with the EZSwitch-Setup wizard and provides validation prior to deployment with the ClearLink® Diagnostic Ports (D\_Ports) feature. For maximum flexibility, the switch also features dual airflow direction options to support the latest hot aisle/cold aisle configurations.

## Gain Control and Insight to Quickly Identify Problems and Meet Critical SLAs

The Lenovo ThinkSystem DB620S, with Gen 6 Fibre Channel technology and integrated network sensors, helps organizations achieve greater control and insight to quickly identify root cause at the storage tier, reducing time to resolution so critical Service Level Agreements (SLAs) can be met. The IO Insight capability nonintrusively gathers IO statistics, which can be used within an intuitive, policy-based monitoring and alerting suite to configure thresholds and alarms. In-band device latency and IOPS monitoring detects degraded storage performance, allowing administrators to proactively optimize performance and availability to ensure maximum performance. Additional features include:

- Provides proactive, non-intrusive, real-time monitoring and alerting with visibility into storage IO health and performance
- Monitors individual host or storage devices to gain deeper insight into the performance of the network to maintain SLA compliance
- Obtains IO latency and IOPS metrics for a storage device in order to diagnose IO operational issues

Forward Error Correction (FEC) capabilities further increase resiliency by automatically detecting and recovering network transmission errors. To ensure predictable performance prior to deployment, organizations can validate infrastructure with ClearLink Diagnostics and Flow Generator features, and baseline storage performance using IO Insight.

## Simplified Management and Robust Network Analytics

Brocade Fabric Vision technology provides a breakthrough hardware and software solution that helps simplify monitoring, maximize network availability, and dramatically reduce costs. Featuring innovative monitoring, management, and diagnostic capabilities, Fabric Vision technology enables administrators to avoid problems before they impact operations, helping their organizations meet SLAs. Fabric Vision technology includes:

- **IO Insight**
- **Monitoring and Alerting Policy Suite (MAPS)**
- **Fabric Performance Impact (FPI) Monitoring**
- **Dashboards**
- **Configuration and Operational Monitoring Policy Automation Services Suite (COMPASS)**
- **Brocade ClearLink Diagnostics**
- **Flow Vision**
- **Forward Error Correction (FEC)**
- **Credit Loss Recovery**

## Brocade Network Advisor

Brocade Network Advisor simplifies Gen 6 Fibre Channel management and helps organizations proactively diagnose and resolve issues to maximize uptime, increase operational efficiency, and reduce costs.

The wizard-driven interface dramatically reduces deployment and configuration times by allowing fabrics, switches, and ports to be managed as groups. Customizable dashboards graphically display performance and health indicators out of the box, including all data captured using Brocade Fabric Vision technology.

To accelerate troubleshooting, administrators can use dashboard playback to quickly review past events and identify problems in the fabric.

Dashboards and reports also can be configured to show only the most relevant data, enabling administrators to more efficiently prioritize their actions and maintain network performance.



## A Building Block for Virtualized, Private Cloud Storage

The Lenovo ThinkSystem DB620S provides a critical building block for today's highly virtualized and cloud environments. It both simplifies server virtualization and meets the high throughput demands of Solid State Disks (SSDs). The DB620S also supports multitenancy in cloud environments through Virtual Fabrics, Quality of Service (QoS), and fabric-based zoning features.

## Brocade Access Gateway Mode

The Lenovo ThinkSystem DB620S can be deployed as a full-fabric switch or as an Access Gateway, which simplifies fabric topologies and heterogeneous fabric connectivity (the default mode setting is a switch). Access Gateway mode utilizes N\_Port ID Virtualization (NPIV) switch standards to present physical and virtual servers directly to the core of SAN fabrics. This makes it transparent to the SAN fabric, greatly reducing management of the network edge. The Lenovo ThinkSystem DB620S in Access Gateway mode can connect servers to NPIV-enabled Brocade or other SAN fabrics. Organizations can easily enable Access Gateway mode via Brocade

In addition, it provides efficient link utilization with up to 64 Gbps of in-flight data compression over ISLs. Organizations can have up to four ports at 16 Gbps of in-flight data compression per switch. Furthermore, internal fault-tolerant and enterprise-class RAS features help minimize downtime to support mission-critical cloud environments.

Network Advisor or a CLI. Key benefits of Access Gateway mode include:

- Improved scalability for large or rapidly growing server and virtual server environments
- Reduced management of the network edge, since Access Gateway does not have a domain identity and appears transparent to the core fabric
- Support for heterogeneous SAN configurations without reduced functionality for server connectivity.

# Lenovo ThinkSystem DB620S SPECIFICATIONS



## BASE MODELS

6415HC1/G11- 24 ports populated with 32Gbps SWL FC transceivers

6415HC2/G2A- 48 ports populated with 32Gbps SWL FC transceivers, plus Enterprise SW Bundle (Trunking, Fabric Vision & Extended Fabrics)

## SYSTEMS ARCHITECTURE

### Fibre Channel ports

Switch mode (default): Minimum of 24 ports and maximum of 64 ports configuration. Entry models is upgraded through 12-port SFP+ increments via Ports on Demand (PoD) licenses to reach 48. Both models reach 64 through one 4-port QSFP PoD, providing 16-port increments through a Q-Flex license. Also supports: E\_Ports, F\_Ports, D\_Ports, EX\_Ports.  
Access Gateway default port mapping: 40 SFP+ F\_Ports, 8 SFP+ N\_Ports

### Port on Demand Options

- 12-Port SW License (12 transceivers 32Gbps) Part #01KN760
- QSFP+ Port SW License (4 transceivers 128Gbps) Part #4M27A08819
- QSFP+ Port SW License (no transceivers) Part # 01KN767

### Scalability

Full fabric architecture with maximum of 239 switches

### Certified maximum

6,000 active nodes; 56 switches, 19 hops in Brocade Fabric OS® fabrics; larger fabrics certified as required

### Performance

Fibre Channel: 4.25 Gbps line speed, full duplex; 8.5 Gbps line speed, full duplex; 10.53 Gbps line speed, full duplex; 14.025 Gbps line speed, full duplex; 28.05 Gbps, full duplex; 112.2 Gbps, full duplex; auto-sensing of 4, 8, 16, 32 Gbps port speeds and capable of supporting 128 Gbps speeds; 10 Gbps optionally programmable to fixed port speed

### ISL Trunking\*

Frame-based trunking with up to eight 32 Gbps SFP+ ports per ISL trunk or up to two 128 Gbps QSFP ports per ISL trunk. Exchange-based load balancing across ISLs with DPS included in Brocade Fabric OS.

### Aggregate bandwidth

2 Tbps

### Maximum fabric latency

Latency for locally switched ports is 700 ns; compression is 1 us per node.

### Maximum frame size

2112-byte payload

### Frame buffers

15,360 dynamically allocated

**Classes of service**

Class 2, Class 3, Class F (inter-switch frames)

**Port types**

D\_Port (ClearLink Diagnostic Port), E\_Port EX\_Port, F\_Port, AE\_Port; optional port type control  
Access Gateway mode: F\_Port and NPIV-enabled N\_Port

**Data traffic types**

Fabric switches supporting unicast

**Media types**

32Gbps SWL SFP Transceivers come included standard with the base switch or when ordering Ports on Demand Software license packs.

The following optional hot-pluggable SFP+ transceivers with LC Connectors are also supported:

- Brocade 32GB SWL or LWL SFP+ Transceivers
- Brocade 16GB SWL, LWL or ELWL SFP+ Transceivers
- Brocade 10Gb FC SWL or LWL SFP+ Transceiver

The following optional hot-pluggable QSFP+ supported are:

- Brocade 128GB (4x32Gbps) SWL QSFP+ Transceivers
- Brocade 4x16Gbps FC-Compliant SWL QSFP+ Transceivers

Fibre Channel distance subject to fiber-optic cable and port speed

**USB**

One USB port for system log file downloads or firmware upgrades

**Fabric services  
(Some require purchase  
of separate SW licenses)**

Note: Some fabric services do not apply or are unavailable in Access Gateway mode

Monitoring and Alerting Policy Suite (MAPS); Flow Vision; Brocade Adaptive Networking (Ingress Rate Limiting, Traffic Isolation, QoS); Fabric Performance Impact (FPI) monitoring; Slow Drain Device Quarantine (SDDQ); Brocade Advanced Zoning (default zoning, port/WWN zoning, broadcast zoning, peer zoning, target-driven zoning); Dynamic Fabric Provisioning (DFP); Dynamic Path Selection (DPS); Brocade Extended Fabrics; Enhanced BB Credit Recovery; FDMI; Frame Redirection; Frame-based Trunking; FSPF; Integrated Routing; IPoFC; Brocade ISL Trunking; Management Server; NPIV; Time Server; Registered State Change Notification (RSCN); Reliable Commit Service (RCS); Simple Name Server (SNS); Virtual Fabrics (Logical Switch, Logical Fabric); Read Diagnostics Parameter (RDP)

**Extension**

Fibre Channel, in-flight compression (Brocade LZ0); integrated optional 10 Gbps Fibre Channel for DWDM MAN connectivity

**Rack-mount rail kits**

Fixed rail kit is included standard  
Mid-mount rack kit (Part # 01KN770) – available as an option

**MANAGEMENT**

**Supported Management Software**

HTTP, SNMP v1/v3 (FE MIB, FC Management MIB), SSH; Auditing, Syslog; NTP v3; Brocade Advanced Web Tools; Brocade Network Advisor SAN Enterprise or Brocade Network Advisor SAN Professional/Professional Plus; EZSwitch; Command Line Interface (CLI); SMI-S compliant; REST API; Administrative Domains; trial licenses for add-on capabilities

**Security** Standard: DH-CHAP (between switches and end devices), FCAP switch authentication; HTTPS, IPsec, IP filtering, LDAP with IPv6, OpenLDAP, Port Binding, RADIUS, TACACS+, user-defined Role-Based Access Control (RBAC), Secure Copy (SCP), Secure RPC, Secure Syslog, SFTP, SSH v2, SSL, Switch Binding, Trusted Switch  
 Optional: FIPS 140-2 LVL2 compliant security labels and seals (Kit Part # 01KN785)

**Management access** 10/100/1000 Mbps Ethernet (RJ-45), in-band over Fibre Channel, serial port (RJ-45), and one USB port

**Diagnostics** ClearLink optics and cable diagnostics, including electrical/optical loopback, link traffic/latency/distance; flow mirroring; built-in flow generator; POST and embedded online/offline diagnostics, including environmental monitoring, FCping and Pathinfo (FC traceroute), frame viewer, non-disruptive daemon restart, optics health monitoring, power monitoring, RAStrace logging, and Rolling Reboot Detection (RRD)

**Software Offerings**

- Enterprise Software Bundle includes Trunking, Fabric Vision, Extended Fabric: included standard or optional depending on model
- Optional: Mainframe Enterprise Bundle Software (Trunking, Fabric Vision, Extended Fabric and Control Unit Port)
- Optional: Integrated Routing Software

## MECHANICAL

**Enclosure** Back-to-front airflow (port-side exhaust); 1U

**Size** Width: 440 mm (17.32 in.) Height: 43.9 mm (1.73 in.) Depth: 355.6 mm (14 in.)

**System weight** 7.73 kg (17 lb) with two power supplies, without transceivers

## ENVIRONMENT

**Operating environment** Temperature: 0°C to 40°C/32°F to 104°F  
 Humidity: 10% to 85% (non-condensing)

**Non-operating environment** Temperature: -25°C to 70°C/-13°F to 158°F  
 Humidity: 10% to 90% (non-condensing)

**Altitude** Operating: Up to 3000 meters (9842 feet)  
 Non-operating and storage: Up to 12 km (39,370 feet)

**Shock** Operating: Up to 20 G, 6 ms half-sine  
 Non-operating and storage: Half sine, 33 G 11 ms, 3/eg Axis

**Vibration** Operating: 0.5 g sine, 0.4 grms random, 5 to 500 Hz  
 Non-operating and storage: 2.0 g sine, 1.1 grms random, 5 to 500 Hz

**Heat dissipation** 64 ports at 716 BTU/hr

## POWER

**Power supply** Dual, hot-swappable redundant power supplies with integrated system cooling fans

**AC input** 90 V to 264 V -3.5 A

**Input Line Frequency** 47 to 63 Hz

**Power consumption** 204 W with all 64 ports populated with 48x32Gbps SWL optics and 4x128Gbps) QSFP SWL optics  
85 W for empty chassis with no optics

## WARRANTY

**Warranty** 1-year hardware and 3-year firmware/FOS (upgrades available)

Associated Options: For details on transceivers, cables, Software or other associated options and technical details, refer to the Lenovo DB620S Product Guide

\* Part of the Enterprise Bundle

## Why Lenovo

Lenovo is the leading provider of x86 systems for the data center. The portfolio includes rack, tower, blade, dense and converged systems, and supports enterprise class performance, reliability and security.

Lenovo also offers a full range of networking, storage, software and solutions, and comprehensive services supporting business needs throughout the IT lifecycle.

## For more information

To learn more about the Lenovo ThinkSystem DB620S Fibre Channel Switch contact your Lenovo representative or Business Partner or visit [lenovo.com/systems/storage](http://lenovo.com/systems/storage)

For information about supported SAN standards, visit [www.brocade.com/sanstandards](http://www.brocade.com/sanstandards).

For information about supported SAN standards, visit [www.brocade.com/sanstandards](http://www.brocade.com/sanstandards).

For information about switch and device interoperability, visit [www.brocade.com/interoperability](http://www.brocade.com/interoperability).

For information about hardware regulatory compliance, visit [www.brocade.com/regulatorycompliance](http://www.brocade.com/regulatorycompliance).





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Availability: Offers, prices, specifications and availability may change without notice. Lenovo is not responsible for photographic or typographic errors.  
Warranty: For a copy of applicable warranties, write to: Lenovo Warranty Information, 1009 Think Place, Morrisville, NC, 27560. Lenovo makes no representation or warranty regarding third-party products or services. Trademarks: Lenovo, the Lenovo logo, System x, ThinkServer are trademarks or registered trademarks of Lenovo. Microsoft and Windows are registered trademarks of Microsoft Corporation. Intel, the Intel logo, Xeon and Xeon Inside are registered trademarks of Intel Corporation in the U.S. and other countries. Other company, product, and service names may be trademarks or service marks of others.  
Visit [www.lenovo.com/lenovo/us/en/safecomp.html](http://www.lenovo.com/lenovo/us/en/safecomp.html) periodically for the latest information on safe and effective computing.

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



Lenovo<sup>®</sup>

Date 12/12/2017

WORKFORCE WEST VIRGINIA  
Solicitation: WWV180000002  
Melissa Pettrey

### Server and Storage Area Network Equipment

Dear Melissa,

#### Proposal

After extensive research, we are proposing a solution by Lenovo. Lenovo is the leading PC manufacture in the world. Over the past **28 quarters** they have had the highest growth rate of any major PC manufacture in the world. Their US headquarters is located in Raleigh, North Carolina and all tech support is handled by US technicians based out of Atlanta, GA. Lenovo has acquired prestigious accounts, including the NYC Board of Education (largest school district in the country), Clark County School District (Las Vegas) and the United Nations Etc.

Lenovo Corporation has been in business for over 25 years. They began as a small manufacturer of PC clone computers and 10 years ago they purchased the IBM ThinkPad line computers. Just as, IBM they value engineering and quality. The products that they release meets the heights standards of quality and durability. **Gartner**, an independent and well known testing lab, rates Lenovo as the leader in this industry. We will be attaching the **Gartner Table** for your consideration.

#### .Solution

### QTY 1 to 3 HPE ProLiant DL380 or Equal

For this solution, we are proposing **QTY 3 of the Lenovo ThinkSystem SR650** that meets or exceeds the specifications that you requested. Please see the build below on what we are proposing. I have attached Data sheets on the servers for your convenience.

#### Lenovo ThinkSystem SR650 QTY 3 (Configuration per machine)

Qty	Part number	Product Description
1	7X06CTO1WW	Server1 : ThinkSystem SR650 -
1	AUVV	ThinkSystem SR650 2.5" Chassis with 8, 16 or 24 bays
2	AWEC	Intel Xeon Silver 4114 10C 85W 2.2GHz Processor
24	AUND	ThinkSystem 32GB TruDDR4 2666 MHz (2Rx4 1.2V) RDIMM
1	AURA	ThinkSystem 2U/Twr 2.5" SATA/SAS 8-Bay Backplane
1	AUNJ	ThinkSystem RAID 930-8i 2GB Flash PCIe 12Gb Adapter
1	AURC	ThinkSystem SR550/SR590/SR650 (x16/x8)/(x16/x16) PCIe FH Riser 2 Kit

1	AURB	ThinkSystem 2U x8 x16ML2 PCIE FH Riser 1
1	AUKH	ThinkSystem 1Gb 4-port RJ45 LOM
1	AUZV	ThinkSystem Broadcom NetXtreme PCIe 1Gb 4-Port RJ45 Ethernet Adapter
2	ATZU	Emulex 16Gb Gen6 FC Single-port HBA
1	AVV8	ThinkSystem External USB DVD-RW Optical Disk Drive
1	AUPW	ThinkSystem XClarity Controller Standard to Enterprise Upgrade
1	AXCA	ThinkSystem Toolless Slide Rail
1	AURD	ThinkSystem 2U left EIA Latch Standard
2	AVWD	ThinkSystem 750W(230/115V) Platinum Hot-Swap Power Supply
2	6311	2.8m, 10A/100-250V, C13 to C14 Jumper Cord
6	AULW	ThinkSystem 2.5" 600GB 15K SAS 12Gb Hot Swap 512n HDD
1	AURQ	Lenovo ThinkSystem 2U 3FH Riser Bracket
1	AURP	Lenovo ThinkSystem 2U 2FH Riser Bracket
1	2302	RAID Configuration
1	AUNP	FBU345 SuperCap
1	AUQB	Lenovo ThinkSystem Mainstream MB - 2U
1	5978	Select Storage devices - configured RAID
1	A2KB	Primary Array - RAID 10
1	B173	Companion part for XClarity Controller Standard to Enterprise Upgrade in factory
4	AUSA	Lenovo ThinkSystem M3.5" Screw for EIA
4	AURR	ThinkSystem M3.5 Screw for Riser 2x2pcs and SR530/550/558/570/590 Planar 5pcs
1	7012	Primary Array 6 HDDs
1	B0ML	Feature Enable TPM on MB
1	AVWK	ThinkSystem EIA plate with Lenovo logo
1	B0MJ	Feature Enable TPM 1.2
1	2498	Install largest capacity, faster drives starting in Array 1
1	AUTF	ThinkSystem 4-7 sequence Label for 2U 2.5"
1	AUTA	XCC Network Access Label
1	AUSZ	ThinkSystem SR650 Service Label LI
1	AUTQ	ThinkSystem small Lenovo Label for 24x2.5"/12x3.5"/10x2.5"
2	AVEN	ThinkSystem 1X1 2.5" HDD Filler
1	AVWJ	ThinkSystem 750W Platinum RDN PSU Caution Label
2	AVEQ	ThinkSystem 8x1 2.5" HDD Filler
1	AWFF	ThinkSystem SR650 WW Lenovo LPK
1	AVJ0	ThinkSystem SR650/ST550/ST558 Super Cap Cable
2	AVJ2	ThinkSystem 4R CPU HS Clip

1	AUT1	ThinkSystem SR650 Lenovo Agency Label
1	9206	No Generic Preload Specify
1	AUTD	ThinkSystem SR650 model number Label
1	AUTY	ThinkSystem 12-15 sequence Label for 24x2.5"Chassis
1	AUTJ	ThinkSystem common Intel Label
2	AUSE	Lenovo ThinkSystem 2U CPU Entry Heatsink
1	AUSH	MS First 2U 8x2.5" HDD BP Cable Kit
1	AUSG	ThinkSystem SR650 6038 Fan module
1	A2HP	Configuration ID 01
1	AUSU	ThinkSystem Package for SR650
1	AWF9	ThinkSystem Response time Service Label LI
1	5374CM1	HIPO : Configuration Instruction
1	A2HP	Configuration ID 01
1	AVE3	ThinkSystem RAID 930-8i 2GB Flash PCIe 12Gb Adapter placement
1	A2JX	Controller 01
1	5PS7A0156 2	Lenovo services2 : Essential Service - 5Yr 24x7 4Hr Response + YourDrive YourData

### **HPE 3Par 8200 Storage Area Network (SAN) DL380 or equal QTY 1**

For this solution, we are proposing **QTY 1 of the Lenovo ThinkSystem DS6200 SFF** that meet or exceeds the specifications that you requested. Please see the build below on what we are proposing. I have attached Data sheets on the San for your convenience.

### **Lenovo ThinkSystem DS6200 SFF QTY 1 (Configuration per machine)**

<b>QTY</b>	<b>Part number</b>	<b>Product Description</b>
1	4619A11	Storage1 : Lenovo ThinkSystem DS6200 SFF FC/iSCSI Dual Controller Unit
24	01DC192	Lenovo Storage 600GB 15K 2.5" SAS HDD
1	01JR549	Essential Service - 5Yr 24x7 4Hr Response + YourDrive YourData
1	5AS7A02065	Hardware Installation Storage (Business Hours)

### **HPE SN3000B 16Gb Fibre Channel Switch with 12 active ports or equal QTY 2**

For this solution, we are proposing **QTY 2 of the Lenovo ThinkSystem DB620S, 24 ports /w 32Gb** that exceeds the specifications that you requested. Please see the build below on what we are proposing. I have attached Data sheets on the Switch for your convenience

<b>Qty</b>	<b>Part number</b>	<b>Product Description</b>
1	6415G11	Storage1 : Lenovo ThinkSystem DB620S, 24 ports /w 32Gb SWL SFP, 2 PS, kit
1	01JR549	Essential Service - 5Yr 24x7 4Hr Response + YourDrive YourData
1	5AS7A02065	Hardware Installation Storage (Business Hours)
12	00MN514	LENOVO DCG SERVER OPTIONS Lenovo 15m LC-LC OM3 MMF Cable - Fiber Optic for Network Device - 49.21 ft - LC Male Network - LC Male Network
4	00MN508	LENOVO DCG SERVER OPTIONS Lenovo 5m LC-LC OM3 MMF Cable - Fiber Optic for Network Device - 16.40 ft - LC Male Network - LC Male Network

### **Warranty**

For all Units Y&S is providing a Lenovo full manufacturer warranty that exceeds the specifications of the HP warranty **Lenovo services1: Essential Service - 5Yr 24x7 4Hr onsite Response + YourDrive YourData. Including holidays.**

### **Insurance**

Y&S Technologies maintains all required commercial insurance policies and will be more than happy to provide proof of insurance if the State requests it.

### **Pricing**

Please see bid paperwork for pricing.

### **Delivery**

We can provide delivery within 21 days ARO. Our price includes shipping and handling.

### **Lenovo Authorized Dealer**

Y&S Technologies is a Lenovo Certified Silver partner. Our partner ID is 1213379364. All items are new and sealed and come with full manufacturer warranty

### **Y&S References**

Y&S has provided solutions like this throughout the country. Here are a few references for your convenience:

- 1) **Reginal Transportation Authority** in Dayton, OH. Point of Contact is Jim Canaday, Ph #937-425-8320, E-mail [jcanaday@greaterdaytonrta.org](mailto:jcanaday@greaterdaytonrta.org). We provided 5 Lenovo System X servers with Microsoft Licenses worth over \$189,000 in June 2016.

- 2) **Applied Materials** in Hopewell Junction, NY. Point of Contact is Paul Llanos, Ph #845-227-0298, E-mail [Paul\\_Llanos@amat.com](mailto:Paul_Llanos@amat.com). We provided Applied Materials with over \$700,000 worth of System X Server equipment over the past couple of years.
- 3) **Knoxville Utility Board** in Knoxville, KY. Point of Contact is Rebekah Taylor. Ph #865-558-2307, E-mail [Rebekah.taylor@kub.org](mailto:Rebekah.taylor@kub.org). KUB purchases over \$150,000 worth of System X servers over the past couple of years.
- 4) **Craven County Schools**, in New Bern, NC. The point of contact is Lori Prescott who can be reached at 252-514-6357 or by E-mail at [Lori.prescott@craven.k12.nc.us](mailto:Lori.prescott@craven.k12.nc.us). We supplied over 750 Lenovo Chromebooks with services valued over \$350, 000 in over the past couple of years.
- 5) **Booneville School District** in Booneville, MS. Point of contact is Dustin Pounders, Ph #662-728-2171, E-mail [dpounders@boonevilleschools.org](mailto:dpounders@boonevilleschools.org). We supplied over 800 Lenovo Chromebooks with services valued over \$150,000.
- 6) **Wilton Public Schools** in Wilton, CT. The point of contact is Helaine Walker who is the senior Admin for the IT Director. Helaine can be reached by 203-834-4874 or by [walkerh@wilton.k12.ct.us](mailto:walkerh@wilton.k12.ct.us). We sold over \$575,000 worth of Lenovo Laptops and accessories with Image services.

#### **Point of Contact**

Saul Finck (Sales Manager) will be your point of contact for this contract and will assist the State and its personnel in any matters related to this contract. Contact Information is as follows: PH #718-473-0284 Ext 200. E-mail [saul@yandstech.com](mailto:saul@yandstech.com).

#### **Brief History of our Company**

Y&S Technologies have been in business for over Ten years with our primary focus on the education and government sector. Our senior staffs have over 40 years of combined experience, selling and servicing the academic and government market. Y & S Technologies was established in the midst of the worst recession since the Great Depression. We have not only survived but we have grown our business every year by a minimum of 20%. We offer our customers highly competitive solutions, the best products at the best prices, and a high level of service and support. These directly contribute to our successful and expanding business.

If you should need any further information please feel free to contact me at your earliest convenience. Thanking for the opportunity to do business with your city.

Saul Finck  
Sales Manager  
Y&S Technologies



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

State of West Virginia  
 Request for Quotation  
 27 - Miscellaneous

Proc Folder: 379502

Doc Description: Addendum No. 1 Server and Storage Area Network Equipment

Proc Type: Central Purchase Order

Date Issued	Solicitation Closes	Solicitation No	Version
2017-12-07	2017-12-13 13:30:00	CRFQ 0323 WWW1800000002	2

**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:

HS technologies 383 Kingston Ave Ste #357  
 Brooklyn NY 11213 718-473-0284x203

**FOR INFORMATION CONTACT THE BUYER**

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

Signature X

FEIN #

611569225

DATE

12/12/2017

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

**ADDITIONAL INFORMATION:**

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

The West Virginia Purchasing Division is soliciting bids on behalf of the agency, WorkForce West Virginia to establish a Contract for the one-Time Purchase of Server and Storage Area Network Equipment per the Specifications, Terms & Conditions and the Pricing information as attached.

INVOICE TO		SHIP TO	
FISCAL AND ADMINISTRATIVE MANAGEMENT - 5301 WORKFORCE WEST VIRGINIA 1900 KANAWHA BLVD, EAST BLDG 3, 3RD FLOOR, SUITE 300 CHARLESTON WV25305 US		OFFICE OF ADMIN SUPPORT - 5302 WORKFORCE WEST VIRGINIA 1900 KANAWHA BLVD, EAST BLDG 3, 3RD FLOOR, SUITE 300 CHARLESTON WV 25305 US	

Line	Comm Ln Desc	Qty	Unit Issue	Unit Price	Total Price
1	HPE DL380 Server or Equal with warranty	3.00000	EA	<del>\$ 19,125.00</del>	<del>\$ 57,375.00</del>

Comm Code	Manufacturer	Specification	Model #
43211502	Lenovo	As requested	ThinkSystem SR650

Extended Description :  
Server(s) and Storage area network equipment per the specifications attached herein.

INVOICE TO		SHIP TO	
FISCAL AND ADMINISTRATIVE MANAGEMENT - 5301 WORKFORCE WEST VIRGINIA 1900 KANAWHA BLVD, EAST BLDG 3, 3RD FLOOR, SUITE 300 CHARLESTON WV25305 US		OFFICE OF ADMIN SUPPORT - 5302 WORKFORCE WEST VIRGINIA 1900 KANAWHA BLVD, EAST BLDG 3, 3RD FLOOR, SUITE 300 CHARLESTON WV 25305 US	

Line	Comm Ln Desc	Qty	Unit Issue	Unit Price	Total Price
2	HPE 3PAR 8200 Storage Area Network (SAN) or Equal with warra	1.00000	EA	<del>\$ 28,000</del>	<del>28,000</del>

Comm Code	Manufacturer	Specification	Model #
43211502	Lenovo	As requested	ThinkSystem DS6200SFP

Extended Description :  
Server(s) and Storage area network equipment per the specifications attached herein.



INVOICE TO		SHIP TO	
FISCAL AND ADMINISTRATIVE MANAGEMENT - 5301 WORKFORCE WEST VIRGINIA 1900 KANAWHA BLVD, EAST BLDG 3, 3RD FLOOR, SUITE 300 CHARLESTON WV25305 US		OFFICE OF ADMIN SUPPORT - 5302 WORKFORCE WEST VIRGINIA 1900 KANAWHA BLVD, EAST BLDG 3, 3RD FLOOR, SUITE 300 CHARLESTON WV 25305 US	

Line	Comm Ln Desc	Qty	Unit Issue	Unit Price	Total Price
3	HPE SN3000B 16Gb fibre Channel Switch or Equal with warranty	2.00000	EA		
				\$23,100.00	\$46,200.00

Comm Code	Manufacturer	Specification	Model #
43211502	Lhoro	X5 16240346d	DB620524 PORT

Extended Description :  
HPE SN300B 16 Gb Fibre Channel Switch with 12 active ports or equal, with warranty

**SOLICITATION NUMBER: WWV180000002**

**Addendum Number: 1**

---

The purpose of this addendum is to modify the solicitation identified as WWV180000002 ("Solicitation") to reflect the change(s) identified and described below.

**Applicable Addendum Category:**

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

**Description of Modification to Solicitation:**

1. To publish vendor questions and agency responses per the attached documentation.
2. The bid opening remains 12/13/2017 @ 1:30 P.M. EST

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

**Terms and Conditions:**

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

CRFQ WWV1800000002  
Server and Storage Area Network  
Q&A

Q1. Did not see any specification(s) requirements, regarding "line item (1)". If possible, could you inform me of what exact specification(s) is required for the following line item (1) HPE DL380 model required at the time of the bid.

A1.

See the specifications in the attachment, items 3.1.1.1 through 3.1.1.13

Q2. HPE DL380 Server with Warranty

The HPE DL380 Server is offered in 15 different product variations (see below).

- 879938-B21
- 826567-B21
- 875764-S01
- 826566-B21
- 875765-S01
- 868710-B21
- 826565-B21
- 875763-S01
- 875762-S01
- 875766-S01
- 875761-S01
- 826564-B21
- 868709-B21
- 875760-S01
- 875759-S01

Do you know your desired model(s)? If so, please specify the desired model(s), along with their quantity (if a combination is desired). If you do not know your desired model, please let us know your desired options so we can select the model that best fits your needs. See the attached file (Server Config Options.docx) for reference.

A2.

See the specifications in the attachment, items 3.1.1.1 through 3.1.1.13

CRFQ WWV180000002  
Server and Storage Area Network  
Q&A

**Q3. HPE SN3000B 16GB fibre Channel Switch**

The SN3000B switch is available in two models. Please specify the desired model(s), along with their quantity (if a combination is desired).

- HPE SN3000B 16Gb 24-port/24-port Active Fibre Channel Switch
- HPE SN3000B 16Gb 24-port/12-port Active Fibre Channel Switch

A3.

See the specifications in the attachments, item 3.1.3

**Q4. HPE 3PAR 8200 Storage Area Network (or Equivalent)**

Would an HP 3PAR StoreServ 7000 2-Port or 4-Port be desired?

A4.

I assume the question is related to processor nodes. We want the 2 node version as specified in the attachment, item 3.1.2.1.

**ADDENDUM ACKNOWLEDGEMENT FORM**  
**SOLICITATION NO.: WWV180000002**

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

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

**Addendum Numbers Received:**

(Check the box next to each addendum received)

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

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

\_\_\_\_\_  
743TEchnologies  
Company

\_\_\_\_\_  
*[Signature]*  
Authorized Signature


\_\_\_\_\_  
12/12/2017  
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.

~~YES~~ SACU FINCK SALES MANAGER  
 (Name, Title)  
SACU FINCK SALES MANAGER  
 (Printed Name and Title)  
38 KILGUSTON AVE STE #357 BROOKLYN NY 11213  
 (Address)  
718-473-0284 X203 718-360-9627  
 (Phone Number) / (Fax Number)  
SACU@YANUS+PCH.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.

YES TECHNOLOGIES  
 (Company)  
  
 (Authorized Signature) (Representative Name, Title)  
SACU FINCK SALES MANAGER  
 (Printed Name and Title of Authorized Representative)  
12/12/2017  
 (Date)  
718-473-0284 X203 718-360-9627  
 (Phone Number) (Fax Number)

Computer Servers and Storage Area Network  
 WorkForce West Virginia  
 Pricing Page.

	Unit of Measure	Estimated Quantity	Unit Price	Extended Price
3.1.1 HPE DL380 Server or Equal with warranty	Each	3	\$19,125	\$57,375
3.1.2 HPE 3PAR 8200 Storage Area Network (SAN) or Equal with warranty	Each	1	\$28,000	\$28,000
3.1.3 HPE SN3000B 16Gb Fibre Channel Switch with 12 active ports or Equal with warranty	Each	2	23,100	46,200
<b>Total</b>				\$131,575.00

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.

Company

YESTechnologies

Authorized Signature

[Signature]

Date

12/12/2017

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



STATE OF WEST VIRGINIA  
Purchasing Division

# PURCHASING AFFIDAVIT

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

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

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

**DEFINITIONS:**

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

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

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

**AFFIRMATION:** By signing this form, the vendor's authorized signer affirms and acknowledges under penalty of law for false swearing (W. Va. Code §61-5-3) that: (1) for construction contracts, the vendor is not in default on any monetary obligation owed to the state or a political subdivision of the state, and (2) for all other contracts, that neither vendor nor any related party owe a debt as defined above and that neither vendor nor any related party are in employer default as defined above, unless the debt or employer default is permitted under the exception above.

**WITNESS THE FOLLOWING SIGNATURE:**

Vendor's Name: Yand S Technologies

Authorized Signature: \_\_\_\_\_ Date: 12/12/17

State of NY

County of Kings, to-wit:

Taken, subscribed, and sworn to before me this 12 day of DEC, 2017.

My Commission expires 04/1, 2018.

**AFFIX SEAL HERE**

**Joseph Katzoff**  
Notary Public State of New York  
Qualified in Kings County No. 24-6013359  
Commission Expires September 14, 2018

**NOTARY PUBLIC**

*Purchasing Affidavit (Revised 07/07/2017)*