

# Lenovo Solution For GPFS Storage Server

Take the Complexity Out of Complex Solutions

Lenovo™



## Solutions Made Simple

Deploying solutions for Technical Computing, High Performance Computing (HPC), Analytics and Cloud environments can place a significant burden on IT. The Lenovo Solution for GPFS Storage Server (GSS), fulfilled through the Lenovo Intelligent Cluster, leverages decades of experience to reduce the complexity of deployment with integrated, delivered and fully-supported

solutions that match best-in-industry components with optimized solution design. With the Lenovo GSS, clients can focus their efforts on maximizing business value, instead of consuming valuable resources to design, optimize, install and support the infrastructure required to meet business demands. The Lenovo GSS (GSS21s, GSS22s, GSS24 and GSS26) combines the performance of Lenovo System x servers with industry-leading GPFS software to offer a high-performance, scalable building-block approach to modern storage needs. The Lenovo GSS allows organizations to start small and build via incremental additions, providing expanded capacity and bandwidth with each additional GSS building-block.

## Optimized Design

The Lenovo GSS features industry-leading System x servers with powerful Intel® Xeon® processors, storage enclosures and drives, software and networking components that allow for a wide choice of technology within an integrated, delivered solution. Each solution is tested and optimized for reliability, interoperability and maximum performance, so clients can quickly deploy the system and get to work achieving their business goals. With GSS, you gain all the reliability, integration and interoperability of an Intelligent Cluster solution, all within a high-capacity, GPFS-based storage architecture.

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## Increase Results

Clients are expanding the use of Technical Computing and HPC to solve complex problems with a need for high-capacity storage and low-latency data access with quick rebuild times in the event of disk failure. Clients are looking for a low per-terabyte price. As an integral part of the Intelligent Cluster portfolio, the Native RAID capability of the Lenovo GSS provides extreme data integrity, reliability and flexibility. The Declustered RAID technology of the Lenovo GSS delivers rebuild times up to 400 percent faster. These features let clients quickly put the system to work and increase productivity.

## End-To-End Support

The Lenovo GSS is built, tested, delivered and supported as part of an overall Intelligent Cluster deployment. You receive single point-of-contact, solution-level support that includes components to deliver maximum system availability throughout the life of the system. Clients can spend less time maintaining systems and more time delivering results.

## Lenovo GSS Features Include:

- Scalable building block approach to Technical Computing storage
- Four base configurations—Model 21s (1 JBOD), Model 22s (2 JBODs), Model 24 (4 JBODs) and Model 26 (6 JBODs)
- Powerful Intel® Xeon® processors
- 1.2TB, 3TB, 4TB and 6TB drives available
- Dense spinning-disk capacity, plus up to six solid state drives for performance and system management
- Choice of FDR InfiniBand or Ethernet interconnects—or both
- Declustered RAID for sustained, predictable performance and rapid rebuilds
- No hardware controllers—Disk management and RAID performed by the GPFS Native RAID feature

## Specifications

<b>Systems</b>	Lenovo System x3650 M5 rack-mount servers
<b>Processors</b>	Intel® Xeon® processors
<b>Storage Units</b>	Lenovo System x Storage Server JBODs
<b>Interconnects Adapters</b>	<ul style="list-style-type: none"><li>• 10Gb Ethernet Mellanox</li><li>• 40Gb Ethernet Mellanox</li><li>• InfiniBand Mellanox</li><li>• SAS Adapters, LSI</li></ul>
<b>Interconnects Switches</b>	<ul style="list-style-type: none"><li>• 10 Gb Ethernet Mellanox/Others</li><li>• 40 Gb Ethernet Mellanox/Others</li><li>• InfiniBand Mellanox</li></ul>



## Specifications

<b>Cluster Management Software</b>	General Parallel File System (GPFS) for Linux
<b>Number of JBODs</b>	<ul style="list-style-type: none"> <li>• Model 21s: 1</li> <li>• Model 22s: 2</li> <li>• Model 24: 4</li> <li>• Model 26: 6</li> </ul>
<b>Drive Capacity</b>	<ul style="list-style-type: none"> <li>• Model 21s: 1.2TB</li> <li>• Model 22s: 1.2TB</li> <li>• Model 24: 3, 4, 6TB</li> <li>• Model 26: 3, 4, 6TB</li> </ul>
<b>Maximum Number of Drives</b>	<ul style="list-style-type: none"> <li>• Model 21s: 24</li> <li>• Model 22s: 48</li> <li>• Model 24: 232</li> <li>• Model 26: 348</li> </ul>
<b>Supported Raid Levels</b>	RAID 1, 6 (8+2P or 8+3P) with Declustered RAID technology
<b>42U Rack Cabinet Dimensions</b>	79.5 inches H x 25.2 inches W x 43.3 inches D (2020 mm x 640 mm x 1100 mm)
<b>Weight</b>	574.2 lbs (261 kg)
<b>Power</b>	Ultra Density Enterprise 60A/208V/3ph (US)
<b>Operating System</b>	Red Hat Enterprise Linux
<b>Scalability</b>	Building block approach— capacity increases as more building blocks are added to scale out the entire solution. If the solution is sold as standalone, one additional server node is required for quorum.
<b>Services</b>	<ul style="list-style-type: none"> <li>• Intelligent Cluster hardware installation is included at no charge</li> <li>• HPC cluster software services and SupportLine are available as optional fee-based services</li> <li>• Cluster Installation Support Services are available through the Cluster Enablement Team (CET) as optional fee-based services</li> </ul>
<b>Warranty</b>	3-year parts, customer replaceable unit (CRU) or on-site labor, limited warranty, with individual nodes retaining the warranty and service upgrade offerings for that machine type; optional warranty service upgrades. Support is 9 x 5, next business day



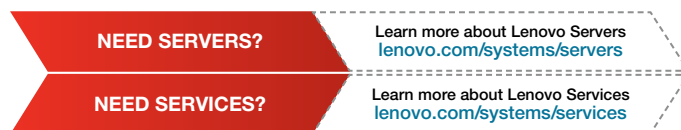
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## Why Lenovo

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

About Lenovo, the Lenovo Solution for GPFS Storage Server, or to contact your Lenovo representative or Business Partner, visit: [lenovo.com/systems/servers](http://lenovo.com/systems/servers)



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