

# Lenovo Storage S3200

Extreme performance and versatility

Lenovo™



## Features and Performance

The Lenovo Storage S3200 is a feature-rich, high-performing mid-range SAN ready for demanding workloads for any environment. Offering multi-protocol configurations and intelligent real-time tiering, the S3200 can provide near All-Flash-Array (AFA) performance, up to 120,000 IOPS, at a fraction of the cost. Along with extreme performance, the S3200 provides an easy-to-use GUI, thin provisioning, Virtual Snapshots, Flash Cache, Virtualized Storage, Rapid RAID Rebuild, asynchronous replication, and more. By combining high performance and incredible features, the S3200 is the perfect mid-range SAN to support your business needs.

## Easy Integration

The S3200 gives you storage flexibility which can be easily integrated into any network environment. Supporting hybrid connectivity options, you can choose between 16Gbps Fibre Channel and/or 10Gbps iSCSI, or 12Gbps SAS. This unique

multi-protocol connection allows the S3200 to use both FC and iSCSI at the same time. Along with flexible fabric choices, the S3200 supports up to 192 drives and virtualizes pooled storage across multiple drive types, which improves I/O. This combination of flexibility and virtualizing storage across the array keeps performance high and integration into your environment easy.

## Business Optimized

The S3200 is a unique SAN product designed to provide you what you want, high-performance, flexible configurations, and dependability all at a low price. Built to be always on with 99.999 percent availability and multi-pathing, your company can depend on the S3200. Configured with dual controllers, redundant power supplies and hot swap drives and fans, your data is available when you need it. As your storage needs grow, the S3200 scales out with thin provisioning allowing your array to grow with you. No matter if you are a large enterprise or a small business and need a simple, flexible, and optimized mid-range SAN, the Lenovo S3200 is the right choice to support your data needs.

## 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.

## Product features

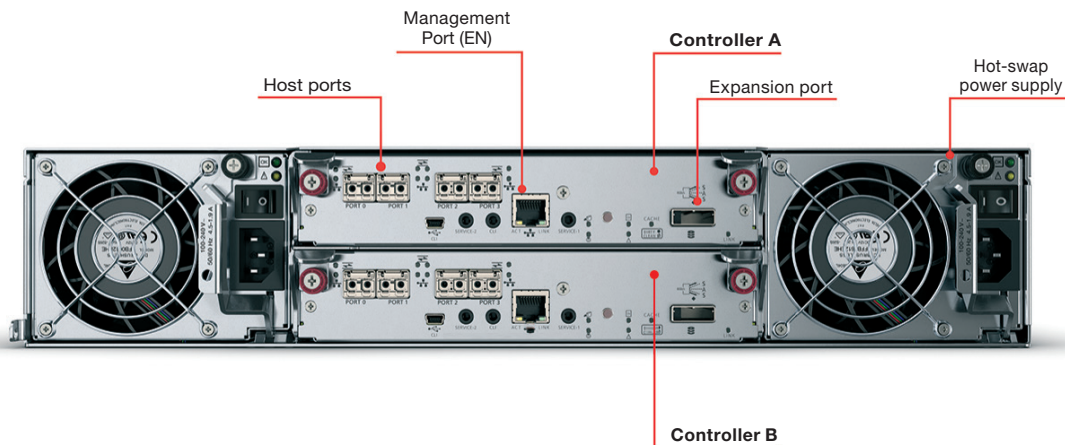
- Intelligent real-time tiering in a flash hybrid array
  - Automatic real-time data placement on high-performing solid state drives (SSDs)
  - Provides near All Flash Array performance at a fraction of the cost
  - Moves data every five seconds to make data available on high-performance drives when needed
- Outstanding performance and scalability
  - Support for up to 192 drives
  - Multi-protocol connectivity – FC and / or iSCSI or SAS
  - Extreme performance: 120,000 IOPS, 6400MBps Read and 5300MBps write speeds
- Designed for 99.999% availability
  - Always on availability and multi-pathing
  - Reliability you can depend on
  - High availability configurations: dual controllers, redundant fans, hot-swap drives and fans

## Hardware summary

- Increased bandwidth, capacity & 4 ports per controller
- 8/16Gb FC or 1/10Gb iSCSI or 6/12Gb SAS
- Multi-protocol Interface with 8/16Gb FC and 1Gb/10Gb iSCSI
- Dual (Active/Active) RAID controllers for high availability
- Future proof for next-gen host inter-connect
- Standard and Encrypted Drive support
- **Unique Technology**
  - Automatic real-time storage tiering
  - Battery-Free Cache Protection
  - Low latency cache mirroring
- **Performance highlights**
  - 120K Read IOPS
  - 6400MBps Read
  - 5300MBps Write

## Lenovo Storage S3200

### CONTROLLER LAYOUT



# Lenovo Storage S3200

## Benefits

<b>Intelligent Real-time Tiering</b>	<ul style="list-style-type: none"><li>Automatically moves data to higher performing drives to significantly increase performance</li></ul>
<b>Storage Management</b>	<ul style="list-style-type: none"><li>Easy-to-use GUI makes complex administrative tasks simple</li><li>Rapid RAID Rebuild – Only rebuilds the stripes that contain data, not the space or other stripes. This significantly decreases the time it takes to recover lost data.</li></ul>
<b>Virtualized Storage</b>	<ul style="list-style-type: none"><li>Virtual Storage allows “pooled” storage across multiple drive types, improving I/O by 2.5x without impacting applications</li></ul>
<b>SSD Read Cache</b>	<ul style="list-style-type: none"><li>Delivers priority access to “hot” data in SSD cache, increasing cache capacity by 200x</li></ul>
<b>Virtualized Snapshots</b>	<ul style="list-style-type: none"><li>Each snapshot is an equal volume and supports full read/writes and can be standalone or nested</li></ul>
<b>Thin Provisioning</b>	<ul style="list-style-type: none"><li>Provision volumes independent of physical storage. Only purchase the storage you need and add more as you grow.</li></ul>
<b>Common Drives</b>	<ul style="list-style-type: none"><li>Simplify your drives, the S3200 has the same common drives as the Lenovo Storage E1012 and E1024.</li></ul>
<b>Multi-protocol Interface</b>	<ul style="list-style-type: none"><li>Utilize both 16Gbps Fibre Channel and 10Gbps iSCSI fabrics at the same time</li></ul>
<b>Full Drive Encryption</b>	<ul style="list-style-type: none"><li>Keep your data locked down with 256-bit AES encryption</li></ul>
<b>High Availability</b>	<ul style="list-style-type: none"><li>Hot-swap dual controllers, redundant PSU, hot swappable HDDs and fans, automatic failover, multi-path support, and data protection keep your data always available, built to be 99.999% available.</li></ul>
<b>Battery-less cache backup</b>	<ul style="list-style-type: none"><li>No need to change or manage batteries, the battery-less cache backup provides plenty of power to transport your cache data to flash storage in case of a power outage.</li></ul>
<b>Synchronous Caching</b>	<ul style="list-style-type: none"><li>Provides instant cache mirroring with faster mirrored writes than competitive architectures.</li></ul>
<b>Impressive Capacity</b>	<ul style="list-style-type: none"><li>With support for up to seven expansion enclosures, E1012, supports up to 12 x 3.5-inch drives, and E1024, supports up to 24 x 2.5-inch drives, the S3200 supports up to 192 drives in a variety of configurations: SSDs, 2.5-inch HDDs, and 3.5-inch HDDs.</li></ul>
<b>Asynchronous Replication</b>	<ul style="list-style-type: none"><li>Enables customers to replicate volumes from one array to another, local or remote</li><li>Provides customers with 24/7 protection of their data and disaster recovery solution</li><li>Enables replication between S3200 systems or S3200/S2200 systems</li></ul>



The Lenovo Storage S3200 controller unit with seven E1024 expansion units delivers a total of 192 drives.

# Lenovo Storage S3200

## Specifications

<b>Host Interface</b>	6/12Gbps SAS or 1/10Gbps iSCSI or 8/16Gbps Fibre Channel
<b>Single/Dual Controller</b>	Single- and dual- (active/active) controller support
<b>RAID Support</b>	RAID 1, 5, 6, 10
<b>Fans and Power Supplies</b>	Fully redundant and hot swappable
<b>Supported Drives</b>	2.5-inch SAS Drives: 300GB, 600GB at 15,000rpm; 2.5-inch 600GB, 900GB, 1.2TB at 10,000rpm; 2.5-inch NL-SAS SED Drives: 600GB, 900GB, 1.2TB at 10,000rpm; 2.5-inch NL-SAS Drives: 1TB at 7,200rpm; 2.5-inch SAS SSD: 400GB, 800GB, 1.6TB; 3.5-inch NL-SAS Drives: 2TB, 4TB, 6TB, 8TB at 7,200rpm; 3.5-inch NL-SAS SED Drive: 4TB at 7,200rpm
<b>Cache per Controller</b>	6GB per controller (Data (Read/Write) cache = 4GB and Metadata and System OS cache = 2GB)
<b>LUNs per System</b>	1024 maximum and 128 TB maximum LUN size
<b>Snapshots per Volume</b>	254 maximum
<b>Expansion Units (7 max)</b>	E1012: 12 x 3.5-inch drives; E1024: 24 x 2.5-inch drives
<b>Snapshots</b>	128 included
<b>Optional Licenses</b>	Intelligent real-time tiering with SSDs, 512 snapshots, 1024 snapshots, asynchronous replication
<b>Asynchronous Replication</b>	<ul style="list-style-type: none"><li>• Up to 32 volumes</li><li>• Scheduler supports 1hr, 12hr, and 24hr time intervals</li></ul> Licenses: one for target and one for source
<b>Warranty</b>	3-year limited warranty, 9x5 Next Business Day parts only
<b>ENERGY STAR Certified</b>	The Lenovo Storage S3200 is now ENERGY STAR certified. ENERGY STAR certified products are energy efficient which result in cost savings via reduced energy consumption and regulatory rebates. Please refer to the US <a href="#">EPA website</a> for details on ENERGY STAR certification criteria and process. Lenovo Storage S3200 ENERGY STAR Certification is listed on the <a href="#">EPA website</a> .

## For More Information

To learn more about the Lenovo Storage S3200, contact your Lenovo Business Partner or visit: [lenovo.com/systems/storage](http://lenovo.com/systems/storage)

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