



## RuggedStore 3100

### Network Storage Appliance

The Themis RuggedStore™ 3100 network storage appliance delivers an unequalled combination of features, simplicity, and efficiency for ruggedized storage. Enabling true storage consolidation with seamless management and a unique application-driven approach that eliminates the boundaries between applications and their storage, the RuggedStore 3100 withstands wide temperature ranges, intense shock and vibration, and high humidity. The base RuggedStore unit holds up to 12 drives, with scalability of up to 96 total drives with Disk Add-on Enclosures (DAEs).

Based on EMC® VNXE™ 3100 technology, the RuggedStore 3100 meets the requirements of dynamic organizations that must scale and distribute work group access to data. The RuggedStore 3100 provides an ideal platform for environments with physical server infrastructures as well as those employing server virtualization to drive consolidation and greater efficiency. Features include exceptional capacity utilization, data protection, availability solutions, and advanced support capabilities.

Deploying a highly functional shared storage system should be an on-ramp to efficiency for your technology infrastructure, not a roadblock to greater productivity. Too often, the increased capabilities of advanced network storage mean new interfaces to master, new terminology to decipher, and new processes to learn. The Themis RuggedStore 3100 takes a fundamentally different approach, aligning storage management with applications, avoiding arcane storage terms for plain language, and embedding storage and application best practices into the user interface for a faster, simpler user experience in completing everyday administrative tasks.

### PRODUCT FAMILY FEATURES

- Compact 2RU form factor
- Multi-protocol IP connectivity for concurrent NAS and SANs with support for file-based (CIFS, NFS) and block-based (iSCSI) protocols
- Scalable up to 96 drives and 57.6 TB, of raw capacity 15k RPM with 2.5" 600-GB SAS drives
- Two 1-Gb/sec Ethernet for NAS and iSCSI, with 1 Flex I/O slot that allows for four additional 1-Gb/sec ports
- Powerful application-based provisioning wizards for breakthrough simplicity, including seamless integration with VMWare, Microsoft Exchange, and Microsoft Hyper-V
- Themis RuggedStore software provides centralized management for seamless access to all storage
- No single-point-of-failure design: dual redundant storage processors and power supplies
- Comprehensive data protection, recovery, security, and compliance
- Advanced efficiency features including thin provisioning, file deduplication, compression, and snapshots
- Integrated self-help and support infrastructure automates and speeds problem resolution
- Advanced 6Gbps SAS drive support
- Backup consolidation with integrated EMC NetWorker™ Fast Start and third part solutions like Symantec Backup Exec or Commvault Galaxy
- Comprehensive support ecosystem
- Industry-leading ruggedization withstands extreme shock, vibration, and temperature ranges
- MIL-STD-810G with SSDs (shock and vibration)
- MIL-STD-740 (quiet operation)

### **READY SOLUTION**

Whether the task at hand is consolidating storage to better manage resources and protect data, or improving resource utilization with server virtualization, the RuggedStore 3100 provides a ready solution, even in heterogeneous environments. The RuggedStore 3100 is uniquely capable of delivering unified IP storage for NAS and iSCSI while simplifying operations and reducing management overhead. Application-centric management and provisioning wizards result in immediate familiarity for users, while integration of snapshots with storage management workflows results in streamlined operations and uniform data protection coverage.

### **SIMPLE MANAGEMENT PHILOSOPHY**

The RuggedStore 3100 system makes management simple. Application storage enables a clear way to handle any task – from initial installation to creating storage for virtual servers. Provisioning storage for 500 mailboxes or 100 GB of virtual server storage is done in less than 10 minutes. Application-driven provisioning and management enables easily consolidated storage and management for server virtualization and file sharing.

### **SIMPLE CAPACITY MANAGEMENT GROWTH**

By organizing raw capacity into pools of high-performance and high-capacity near-line Serial-Attached SCSI (SAS) drives, the RuggedStore 3100 takes the complexity out of storage management. New applications from available pools and expand pools are provisioned with convenient disk packs and storage expansion units.

### **ADVANCED STORAGE EFFICIENCY**

Less can be more when you create new storage with the RuggedStore 3100 thin provision capability. Add efficiency with file-level deduplication and compression to reduce physical capacity needs by 50 percent or more.

### **START SMALL AND GROW**

The RuggedStore 3100 system provides the flexibility to buy only what is needed today without limiting the ability to grow capacity, performance, or features. Start with a RuggedStore 3100 configuration with a single controller system and upgrade to a dual controller system as required.

### **FLEX I/O EXPANSION**

The RuggedStore 3100 comes with two 1-Gb/sec Ethernet connections for NAS and iSCSI, with 1 Flex I/O slot that allows for up to 4 additional 1-Gb/sec ports to expand connectivity and performance. The RuggedStore 3100 uses the latest SAS interface to deliver the industry's highest transfer rates along with simple capacity expansion, enterprise performance, and end-to-end data integrity features.

### **DAE STORAGE EXPANSION**

The RuggedStore 3100 allows for storage expansion with support for up to 7 DAEs, each capable of adding 12 drives of capacity.

### **AVAILABILITY AND DATA PROTECTION**

The RuggedStore 3100 design allows for mirrored cache and dual active controllers, and is designed to eliminate single points of failure. If an outage occurs, data in the RuggedStore 3100 write cache is safely stored in Flash memory, eliminating time-limited battery backup and external power supply requirements.

### **POWERFUL SOFTWARE FROM EMC**

Each Themis RuggedStore 3100 comes with powerful software from EMC. This software has been tightly integrated with the ruggedized Themis hardware to provide a unique storage solution. The software from storage industry leader EMC Corporation allows for simple and efficient delivery of storage services to optimize virtualized applications, improve utilization, and ensure that valuable data is protected and secure.

Every RuggedStore 3100 system comes with base software solutions, including Themis RuggedStore Manager, a customized version of Unisphere for VNXe for application-aware management, file deduplication with compression for increased efficiency, and thin provisioning for adding storage on demand. This comprehensive storage solution also includes snapshots and support for the CIFS, NFS, iSCSI protocols.

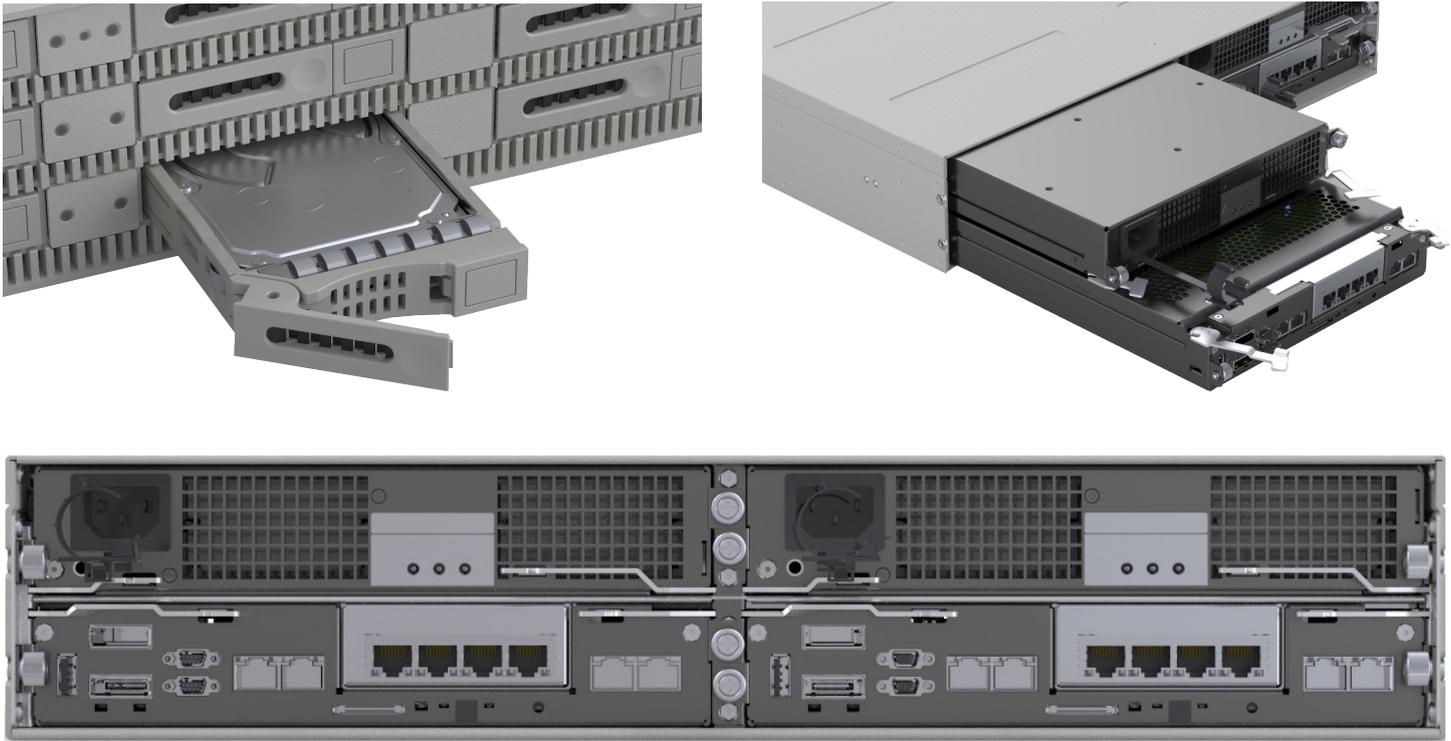


Figure 1: RuggedStore 3100 Networked Storage Appliance

Themis offers powerful add-on software options from EMC with easy-to-use suites for maximum protection and security:

- **Remote Protection Suite** – protect data against failures, outages, and disasters at one location with remote replication capability
- **Application Protection Suite** – automate application copies with replica management
- **Security and Compliance Suite** – Make data safe with event enabler (anti-virus only) and file-level retention

These individual software suites enable services to dynamically move, secure, and protect data for unified block and file storage, leveraging software from EMC for centralized management and integration. For even greater simplicity, purchase the RuggedStore 3100 Total Value Pack, which include all of the above three optional software suites.

**POWERFUL SUPPORT ECOSYSTEM**

A click on the RuggedStore 3100 support tab puts a world of resources at your fingertips. Comprehensive online documentation, help, training, and even how-to videos are there to answer questions and expand your knowledge. Click the Download icon to check for the latest version of system software, or search the online knowledge base for information and insight on a range of product and storage topics, all from the RuggedStore 3100 management console.

**THEMIS VALUE**

Themis provides systems manufacturers and end-users with the most modern, best-of-breed computing resources available. Package and performance scale from small form factor embedded servers to bladed servers. Themis listens, understands, and works closely with customers to optimize computing solutions that are easy to integrate and are inexpensive to own and operate. Themis solutions achieve the right balance between commercial technology and the demands of harsh environments, while optimizing space, weight, and performance.

## SPECIFICATIONS

### Storage

PARAMETER	DESCRIPTION
Minimum/Maximum Drives	6 (base unit) to 96 (base unit with 7 DAEs)
Supported Drives	300 GB and 600 GB 2.5" 6 Gb/sec SAS
Maximum Capacity	57.6 TB
RAID Level Options	10, 5, 6

### Management and Operating Systems Support

PARAMETER	DESCRIPTION
Software	Themis RuggedStore Manager, a customized version of Unisphere for VNXe.
Operating Systems Support	Support for Linux and Windows OS clients

### Environmental *Note 1*

PARAMETER	OPERATING
Temperature Range	-0 to +50°C
Humidity (non-condensing)	0 to 90%
Shock with SSDs	3 axis, 30G, 25ms
Vibration with SSDs (10-2000Hz)	3.0 Grms, 8 Hz to 2000 Hz
Shock with rotating drives	3 axis, 15G, 11ms or 25G, 2ms
Vibration with rotating drives (10-2000Hz)	0.5 Grms, 10 Hz to 500 Hz
Military Specifications	MIL-STD-810G (Shock and Vibration), MIL-STD-740 (Quiet Operation, 54db or less)

### Mechanical

PARAMETER	NON-OPERATING
Dimensions (H x W x D)	2RU x 17.46" x 16.69" (88.5 mm x 443.4 mm x 424 mm)

### Power

PARAMETER	DESCRIPTION
Power Supplies	Redundant 100 to 240 VAC +/- 10%, single-phase, 47 to 63 Hz

### I/O

PARAMETER	DESCRIPTION
Base 1-Gb/sec IP Ports	Two ports per storage processor
Maximum Number of 1-Gb/sec IP Ports	12 ports per two storage processor system
Maximum Flex I/O Modules, additional ports	One flex I/O module, four one-Gb/sec IP ports per storage processor

### Notes

1. Environmental specifications are configuration dependent.



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