

NEXSAN

A StorCentric Company

V-SERIES All Flash Array Software 5.2.1 with MAESTRO 3.6 Release Notes



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V-Series All Flash Array

The V1000 SE and V1000 XE All Flash Arrays are the latest line of storage products developed by NEXSAN. The V1000 XE is supported with software release 5.0 and later. The V1000 SE is supported with software release 5.1.

Supported Features

- Fibre Channel 16Gb with 4 connections per Controller (V1000 XE)
- Fibre Channel 16Gb with 2 or 4 connections per Controller (V1000 SE)
- iSCSI 25/10G with 4 connections per Controller
- NVMe Drives: 1.9TB, 3.84TB, 7.6TB, 15TB
 - 11 or 22 drives
 - V1000 XE Configured at 5.0 version: 12 or 24 drives
- Spare Capacity
 - 10% when initialized at 5.1 version and newer
 - 20% when initialized at 5.0 version

***Note:** Systems will retain the configuration with 20% sparing capacity on upgrades*
- Volume types:
 - Thick (Raid-1, Raid-5); Raid-5 default
 - Thin volumes
 - Dedupe
 - Attributes: QOS (thick or thin volumes), writeback, write-through
- Snapshots (dedupe only volumes)
 - Schedules
 - Snapshot Promotion (clone)
- iSCSI Attributes: Jumbo Frames, CHAP
- vSphere Client Plug-in for versions 6.5 U3, 6.7 U3 and 7.0
- Phone-home/Telemetry (default enabled)
- Email Alerts
- Data Security (5.1.2 and later): Data-at-Rest Protection and Passkey Protection
- Web based User Interface, **MAESTRO**
 - Management of V-Series Arrays and XIO G4 Arrays
 - Supported browsers: Google Chrome on Windows 7, Windows 8 and Windows 10, Firefox, IE 11, and Edge
 - Dashboard
 - Storage usage
 - Performance graphs
 - Performance historical data retrieval
 - Management of volumes and snapshots and schedules
 - Management of networks, FC connections
 - Logical attachments of servers to volumes
 - Redundant access to Array (mirrored VMs)
 - Data Security (Maestro 3.5.2-2)

Fixes/Enhancements

5.2.0/5.2.1 with MAESTRO 3.6.0-2

- Support to add additional capacity, using Pool Expand
- Battery Calibration
 - 60-day advance warning in MAESTRO
 - 180 day calibration
 - Manual option to start calibration prior to 180 days (Contact Support)
- Fix for empty SN when Array is rebooted
- Optimizations in timers for Stuck IO conditions
- Rebranding from QV to V-Series 1000
- MAESTRO 3.6.0 with Rebranding to NEXSAN
- Fix for shrink volume to wait for completion (5.2.1)

5.1.2 with MAESTRO 3.5.2-2

- Battery Calibration (see section below)
- Data Security: Data-at-Rest and Passkey Protection
 - Must be enabled prior to initialization of the Array
 - Maestro 3.5.2-2 to include Data Security
- Continued performance improvements. Focus on fabric issues and quicker response on aborted commands

5.1.0/5.1.1

- ActiveWatch Telemetry auto-sends crash dumps
- Fix for slow memory leak that impacts management of the Array, including Maestro
- Improvements in error handling when busy conditions occur
- Fix false detection of power supply low/good
- Fix periodic restart when potential dedupe data not find duplicate
- AIX 7.1 and AIX 7.2 Support

Upgrading the V-Series Array

Software upgrades on the V-Series Arrays are offline and require a maintenance window. Please contact Support to schedule an upgrade.

Upgrading from 5.0 or 5.1.1

Battery Calibration is implemented in software version 5.1.2. Upgrades from older versions will experience a battery calibration shortly after upgrading. Refer to the below section and contact Support for additional information.

A battery calibration will start approximately 1.5 hours after upgrading from 5.0 or 5.1.1. This will take one controller offline for approximately 12 hours during the calibration and then alternate with the other controller.

Battery Calibration (5.1.2 software and newer)

Battery Calibration will occur every 6 months, starting with software 5.1.2. When battery calibration starts, one controller at a time will be taken offline for approximately 12 hours. IO will continue to be serviced from the remaining online controller. During battery calibration, the controller status will report offline due to battery calibration. Email alerts are generated at the start and completion of battery calibration for each controller. Battery calibration requires both controllers to be online and operational to start.

Reference the V-Series All Flash Array User Guide for additional details.

Requirements

- Port Usage
 - 5443 is used for Telemetry
 - 9000 is used for Maestro

Maximums and Restrictions

This version has the following restrictions:

- Maximum size volume: 8 TB
- Maximum size dedupe volume: 64TB
- Maximum of 320 WWNs associated to Array volumes
- Maximum 240 volumes
- Dedupe Volumes can only be created on Pool 1
- Maximum 7 Arrays (V-Series, QV-Series, XIO G4) managed in MAESTRO
- Network must be 1G minimum

Reference the V-Series All Flash Array Best Practices for additional information on features and optimal configurations.

vCenter Plug-in

vCenter plug-in is supported in V1000 XE software 5.0.11 and later, with added support for V1000 SE in software 5.1 and later. Maestro manages the installation of the plug-in.

The V-Series Array plugin is supported on vCenter versions:

- 6.5 U3
- 6.7 U3
- 7.0

Note: vCenter versions prior to 7.0 may require a ESX server reboot to update the installation status of the plugin.

Refer to the V-Series All Flash Array User Guide for the installation process.

Subscriptions

Subscriptions to NEXSAN proactive monitoring service (Activewatch) are enabled by default.

- 1) If proxy server is needed in your environment, please edit the three default subscriptions, in MAESTRO Advanced Settings, to configure the appropriate proxy servers.
- 2) Customers who don't want to use this proactive monitoring service can disable Activewatch, after initializing the Array, by deleting all three default subscriptions in MAESTRO Advanced Settings or contacting NEXSAN customer support for assistance.

Product Documentation and Auxiliary Software

For Product documentation and software downloads, please contact NEXSAN Customer Support.

Support Matrix

Reference the V-Series All Flash Array Best Practices Guide for specific details on optimal use. The information in this section highlights common recommendations for the NEXSAN V-Series Array.

Operating System Versions	Interconnect
ESX 6, 7 (recent updates)	Switched or Direct Attached (FC: Qlogic)
Windows 2012, 2016	Switched or Direct Attached (FC: Qlogic)
RHEL 7	Switched or Direct Attached (FC: Qlogic)
AIX 7.1 7100-02 minimum AIX 7.2 7200-05 minimum	Switched (FC: IBM OEM HBA) Requires NEXSAN supplied AIX Install Package, which includes the multipath files.

Notes:

- ESX: Refer to the V-Series All Flash Array Best Practices for ESX specifics and information regarding dedupe and unmap features.
- Cisco UCS: ESXi 6.5 requires the latest updates to obtain path recovery fixes and fixes specific to UCS. The latest fixes for UCS are in Dec 2017.
- Direct Attached requires settings on server HBA and controller ports (see below table).

Switch and Direct-Attached Configurations

The below configurations have been qualified by NEXSAN. Other vendor components could be compatible but issues that might occur may not be reproducible by NEXSAN to troubleshoot.

Interconnect Type	Interconnect Settings	Controller Settings
Cisco 8 & 16Gb FC Switch <i>Switch fw: 8.1 (1a) minimum for 16Gb</i>	Switch SFPs auto or fixed speed	Controller ports fixed or auto
Brocade 8 & 16Gb FC Switch <i>Switch fw: 7.4.2a or 2c minimum for 16Gb</i>	Switch SFPs fixed speed	Controller ports fixed
Qlogic 8Gb FC Switch	Switch SFPs auto or fixed speed	Controller ports auto or fixed
DAS (Direct-Attached) FC	Qlogic HBA Fibre Channel: fixed speeds on HBA with "point-to-point"	Fibre Channel: Fixed speeds to match HBA
Cisco, Brocade, Arista, Mellanox Network Switch (iSCSI)	25G/10G, switched or Direct Attached	Data Networks must be in separate VLANs. <i>Reference V-Series All Flash Array Best Practices document</i>

Notes:

- HBAs should be installed with the latest operating system drivers and firmware for full 16Gb support.
- Switches should have the latest supported switch firmware.

Feedback

NEXSAN welcomes feedback, positive and negative, and NEXSAN Global Services at 1.800.734.4716 stands ready to assist as needed.

Contacting NEXSAN

To obtain additional information or technical support for V-Series products, or to obtain an RMA number and replacement product, contact us at:

- Phone US Toll Free: 1-855-846-5465
- Global Support Numbers available at: <https://www.violinsystems.com/support-services/>
- E-mail: support@x-io.com and support@violinsystems.com



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