

# EMC<sup>®</sup> Storage Monitoring and Reporting

Version 4.1

## Support Matrix

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REV 02

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# CHAPTER 1

## System Requirements

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## Operating system requirements

The following operating systems are supported for production.

**Table 1** Supported operating systems

Operating system	Version
Red Hat Enterprise Linux	5 (64-bit) 6 (64-bit) 7 (64-bit)
CentOS Linux	5 (64-bit) 6 (64-bit) 7 (64-bit)
SUSE Linux Enterprise Server (SLES)	11 (64-bit)
Microsoft Windows	Server 2008 R2 Server 2012 Server 2012 R2

## Browser requirements

For the following browsers, support varies.

**Table 2** Supported browsers

Browser	Version	Operating system	Notes
Google Chrome	Latest	Windows, Linux	Full support
Internet Explorer	9, 10, 11	Windows	Full support
Internet Explorer Edge	Latest	Windows	Full support
Mozilla Firefox	Latest	Windows, Linux	Full support
Apple Safari	Latest	Mac OS X and iOS	Full support

Full support includes report viewing and browsing, plus support for interactive tables and graphs, topology maps, and administration tasks (user management, enrichment GUI, alerting GUI, and so on).

## ESRS requirements

The following ESRS versions are supported.

**Table 3** Supported ESRS versions

ESRS version	Ports	Notes
ESRS V3 (Virtual Edition)	9443 (HTTPS, Passive FTP, SMTP)	Used for communication between the frontend host and the ESRS VE host.
	22 (CLI via SSH)	Opening port 22 on both the frontend host and the ESRS VE host is required for additional communication between the two components.

## Third-party tools

The following tools may be required during installation.

**Table 4** Supported browsers

Tools	Version	Notes
PuTTY	0.63	Minimum version required to support AES_CTR algorithms introduced in SP 1.





# CHAPTER 2

## Supported SolutionPacks

This chapter includes the following topics:

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## SolutionPack for EMC Unity/VNX/VNXe

**Table 5** Support for EMC VNX

Supported Family/Models	Prerequisites	Ports
Operating Environment for Block ("FLARE"): 04.30* 05.31 or later Used with CLARiiON, VNX1, and VNX2 models.		443
VNX Operating Environment for File 7.0 or later Celerra DART 5.6 and 6.0 Used with Celerra, VNX1, VNX2, and Gateway models.		22 443

### Notes

- Systems with FLARE/Operating Environment for Block 04.30 or 05.31 might incorrectly report CurrentUtilization, ResponseTime, ServiceTime, and QueueLength metrics. These metrics might not match Unisphere Analyzer because the necessary counters used to properly compute them are not available in the NaviCLI output for arrays that are running FLARE 04.30 or 05.31.
- The ResponseTime and QueueLength metrics are not available for disks dedicated to Storage Pools on systems with FLARE/Operating Environment for Block version 04.30 or 05.31. This is because the counters that are used to compute these metrics are not available via Navisphere CLI at these versions.
- There are known issues collecting Disk data from arrays running FLARE/Operating Environment for Block versions 04.30.000.5.509, 04.30.000.5.522, and 05.31.000.5.509. It is advised to obtain the latest software version of 04.30 or 05.31 from EMC Online Support (<https://support.emc.com>).
- To collect performance data for VNX MetaLUNs with Operating Environment for Block ("FLARE") 05.32, version 05.32.000.5.209 or later must be used.
- CIFS Throughput (IOPS) and Top 5 CIFS users reports are supported with Operating Environment for File 7.1 or later.
- Navisphere CLI commands are used to communicate with the VNX. EMC recommends matching Navisphere CLI versions with the Block Operating Environment versions of VNX systems configured in the SolutionPack. For example, if the firmware version of the Block side is 05.32.x, Navisphere CLI 7.32.x or higher should be used. For more information on compatible Block OE and Navisphere CLI versions, see the *VNX OE for Block Release Notes* and the *Unisphere Host Agent/CLI and Utilities Release Notes* located on EMC Online Support.
- SSH access to VNX-File/Celerra with an operator user. SSH access is needed between VNX Collector host and Control Station to download files in /emc-srm via SFTP via SFTP.

- To collect Quota information correctly, arrays must be running File OE 6.0.70.0, 7.0.54-6, 7.1.70.0 or later.
- If ALUA (Failover Mode 4) is enabled for one or more hosts attached to a VNX array and I/O to the associated host LUNs is distributed across more than one Storage Processor, values for the LUN performance metrics AverageBusyQueueLength, QueueLength, and ResponseTime may be higher than what is displayed in Unisphere Analyzer, because the Navisphere CLI counters used to compute these metrics will accumulate for each Storage Processor.
- To properly compute the LUN performance metrics ReadCacheHitRatio and WriteCacheHitRatio for FLARE/Operating Environment for Block version 05.33, version 05.33.006.5.102 or later must be used.
- It is possible for Raw Capacity for an array to decrease if Hot Spare disks are invoked or disks are removed, even though Raw Capacity for the RAID Group(s) or Pool(s) the faulted/removed disks belong to does not change. This is normal due to how Unisphere and Navisphere CLI display capacity metrics for Hot Spares depending on their state; however, until the removed/faulted disks are replaced and the hot spares are returned to a "Hot Spare Ready" state, it could result in Raw Capacity for a VNX array to display as lower than the sum of ConfiguredUsableCapacity, RAIDOverheadCapacity, UnconfiguredCapacity, UnusableCapacity, and HotSpareCapacity.
- Unisphere Analyzer/SRM may provide huge spikes for Disk Response Time on systems with FLARE/Operating Environment for Block 05.33. This has been addressed in 05.33.000.5.081 and higher.

**Table 6** Support for EMC Unity/VNXe

Supported Family/Models	Prerequisites	Ports
OE 3.0, 3.0.1, 3.1.1, 3.1.5, 3.1.8 (Block and File) <ul style="list-style-type: none"> <li>• Used with second generation VNXe models as of VNXe3200</li> <li>• First generation VNXe models such as VNXe1600, VNXe3100, VNXe3150, and VNXe3300 are not supported</li> </ul>		443
OE 4.0, 4.0.1, 4.0.2, 4.1, 4.1.1, 4.1.2, 4.2 (Block and File) <ul style="list-style-type: none"> <li>• Used with physical Unity models</li> <li>• UnityVSA (Virtual Storage Appliance) is not supported</li> </ul>		

## SolutionPack for EMC VPLEX

**Table 7** Support for EMC VPLEX

Supported Family/Models	Prerequisites	Ports
5.2.x, 5.3.x, 5.4.x, 5.5.x, 6.0.x of Standalone (single cluster) and Metro/Geo	REST API access, CLI access, and Virtual Volume Perpetual monitor logs (for VPLEX 5.3.x or newer only).  CLI access and Director Perpetual monitor logs.	443 HTTPS 22 SSH

### Notes

- Do not run VPLEX 5.2sp1 patch 2 with any version of the product as the VPLEX management server could become unresponsive.