



# STORAGE RESOURCE MONITOR

*Proactively manage your multi-vendor storage devices*

solarwinds MY DASHBOARDS ▾ ALERTS & ACTIVITY ▾ REPORTS ▾ SETTINGS ▾

### Storage Home

#### All Storage Objects

GROUPED BY VENDOR

- HP
- EMC
- Dell
- LSI
- NetApp
- Pure Storage, Inc.
- Hitachi

#### Storage Objects by Performance Risk

RESOURCE	TYPE	ARRAY	LATENCY	IOPS	THROUGHPUT
00257 Volume 00257	LUN	000194900393	777 ms	0	0.00 MB/s
00256 Volume 00256	LUN	000194900393	263 ms	0	0.00 MB/s
swi-esx	LUN	Storage Center 60964	50 ms	0	0.00 MB/s
A	STORAGE POOL	208000c0ffda2b f9	9.96 ms	1	0.00 MB/s
dg01-thick	STORAGE POOL	208000c0ffda2b f9	9.70 ms	0	0.00 MB/s

#### All Active Alerts (39)

ALL UNACKNOWLEDGED ALERTS

ALERT NAME	MESSAGE	TRIGGERING OBJECT	ACTIVE TIME	RELATED NODE
LUN Total Latency is greater than or equal to 20ms	LUN Total Latency is greater than or equal to 20ms was triggered.	00257 Volume 00257	7h 20m	
LUN Total Latency is greater than or equal to 20ms	LUN Total Latency is greater than or equal to 20ms was triggered.	00256 Volume 00256	7h 20m	
LUN Total Latency is greater than or equal to 20ms	LUN Total Latency is greater than or equal to 20ms was triggered.	swi-esx	1d 6h 31m	
Pool Oversubscribed Capacity is between 100%-399%	Pool Oversubscribed Capacity is between 100%-399% was triggered.	aggr1	1d 6h 40m	
Pool Oversubscribed Capacity is higher than 10%	Pool Oversubscribed Capacity is higher than 10% was triggered.	aggr1	1d 6h 40m	

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#### Array Raw Disk Capacity Summary

█ Spare █ Used █ Remaining

Dell\_MD32001 **0.00 KB / 3.00 TB / 0.00 KB / 3.00 TB Total**

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Download a free product trial and start monitoring your storage environment in minutes.

The storage monitoring and capacity management software from **SolarWinds** gives you deep visibility into the performance of your multi-vendor storage arrays, and helps you closely watch the application stack for storage issues that affect application performance.

## STORAGE RESOURCE MONITOR AT A GLANCE

- » Monitor storage performance and isolate hotspots in your multi-vendor storage environment.
- » Get end-to-end visibility into the application stack, and troubleshoot performance issues from application to storage with Server & Application Monitor and Virtualization Manager.
- » Automate the collection and presentation of storage capacity planning and reporting.
- » Reclaim storage space and simplify analysis of storage usage analysis.
- » Start monitoring your storage infrastructure in about an hour.

## SOLARWINDS STORAGE RESOURCE MONITOR FEATURES

### Storage performance monitoring

Get a unified view into the performance and status of your storage environment. Use Storage Resource Monitor (SRM) for real-time, agentless NAS and SAN performance monitoring, as well as monitoring data on volumes, RAID groups, storage pools, disks, etc. This helps ensure that your storage network is always running at peak performance while preventing downtime. Quickly and easily configure a full range of custom and pre-defined alerts.

### Automated storage capacity planning

Storage capacity planning is an arduous task, especially in a virtualized infrastructure. It typically involves manually creating complex spreadsheets. Storage Resource Monitor automates the collection of forecasting data so you can easily see growth rates, forecast costs and budgetary requirements, and project when capacity will be reached. In addition to simplifying storage capacity planning, SRM provides the information you need to avoid outages due to full disk errors. The centralized monitoring feature tracks performance over time to identify hot spots, peak hours, and potential outages.

### Storage LUN views

Storage LUN views give you a single-pane-of-glass look at LUN and all related infrastructure components (both physical and virtual), allowing you to diagnose performance issues. You can quickly determine if storage is truly the reason for poor VM performance. If you determine that the culprit is another VM or LUN, you can drill down and continue to diagnose the issue within the tool.

The storage LUN views are an ideal integration point between SolarWinds® Virtualization Manager and Storage Resource Monitor (SRM). Virtualization Manager links to the LUN view from the cluster, ESX®, VM, or data store view. This enables you to see the storage under your VM infrastructure, putting you just a click away from total visibility. In addition, SRM offers more information related to your LUN groups using the user-defined LUN grouping where you can create new LUN groups, view LUN group information in the console, and leverage the groups for reporting.

### Storage I/O hotspot detection

Storage I/O hotspot detection capabilities in Storage Resource Monitor scans your multi-vendor storage environment, identifies potential issues, and enables you to quickly access detailed information about the physical and virtual resources that are causing the problems.

## END-TO-END VISIBILITY OF THE APPLICATION STACK

Use Storage Resource Monitor (SRM) to access the application stack dashboard for end-to-end visibility into the applications and infrastructure resources, including the storage arrays that are built into the SolarWinds SRM module.



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The application stack environment in SRM is designed to deliver a powerful layer of troubleshooting visibility by showing you application performance issues that are usually caused by the server, virtual, or storage infrastructure. Quickly assess the health of your environment, as well as troubleshoot specific, interrelated problems—all from one console.


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This level of visibility is achieved as a result of the native integration between Storage Resource Monitor, Server & Application Monitor, and Virtualization Manager. The integration of the application stack dashboard allows you to better predict, prioritize, and resolve issues before end-users and the business are affected. Get end-to-end visibility into application performance problems all the way down to the storage level.

## SYSTEM REQUIREMENTS

HARDWARE	MINIMUM REQUIREMENTS
CPU	2.0GHz dual-processor and dual-core is recommended
Memory	8GB
Hard Drive	50GB
SOFTWARE	MINIMUM REQUIREMENTS
Operating System	<ul style="list-style-type: none"> <li>• Windows® 2008 R2 SP1</li> <li>• Windows Server 2012, 2012 R2</li> </ul>
Database	<ul style="list-style-type: none"> <li>• SQL Server® 2008, 2008 SP1, SP2, SP3, SP4</li> <li>• SQL 2008 R2, 2008 R2 SP1, SP2, SP3</li> <li>• SQL 2012, SQL 2012 SP1, SP2, SP3</li> <li>• SQL 2014, SQL 2014 SP1</li> <li>• SQL 2016</li> </ul>
.NET Framework	4.5
Web Server	Microsoft® IIS, version 6.0 and higher, in 32-bit mode
Web Browser	<ul style="list-style-type: none"> <li>• Internet Explorer® 11, Edge</li> <li>• Mozilla® Firefox® 45.0 or higher</li> <li>• Google® Chrome™ 49.0 or higher</li> </ul>

*NOTE: The minimum server requirements listed assume default configuration. Significantly increasing the poll rate or statistic collection rate could result in additional load on the server, which may require a larger CPU or additional memory.*

## SUPPORTED STORAGE DEVICES

Storage Resource Monitor (SRM) is vendor- and platform-neutral, and supports a wide variety of array manufacturers, including:

### NetApp:

- » NetApp® E-series
- » NetApp Filers (OnTAP 7-mode)
- » NetApp Filers (Clustered Data OnTAP (CDOT))

**EMC:**

- » EMC® CLARiiON®
- » EMC VNX®
- » EMC Celerra®
- » EMC Isilon®
- » EMC Symmetrix® VMAX®, VMAXe®, DMX®
- » EMC XtremIO®

**Dell:**

- » Dell® PowerVault® MD3xxx
- » Dell EqualLogic®
- » Dell Compellent®

**IBM:**

- » IBM® N Series
- » IBM DS3xxx, 4xxx, 5xxx
- » IBM 6xxx, 8xxx
- » IBM Spectrum™ Virtualize (Vxxx and SVC)
- » IBM Spectrum Accelerate (XIV)
- » IBM (ESS) Enterprise Storage Server®

**Hitachi:**

- » Hitachi Data Systems® AMS
- » Hitachi Data Systems USP, USPV, VSP
- » Hitachi Data Systems HUS 100 Block-side, HUS VM Block-side

**HP:**

- » HP® StoreServ® 3PAR
- » HP StoreVirtual®/LeftHand® P4xxx
- » HP StorageWorks® EVA
- » HP StorageWorks XP
- » HP MSA/P2xxx

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## Pure Storage®

### Other vendors:

- » **Oracle®/SUN®**: StorageTek® 2xxx & 6xxx, Virtual Storage Manager 99xx Series, Flex
- » **Oracle/Pillar®**
- » **Xiotech®**: Emprise 7000, Magnitude 3D 3xxx and 4xxxr
- » **ONStor®**
- » **Dot Hill®** AssuredSAN 4xxx/5xxx



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## ABOUT SOLARWINDS

SolarWinds provides powerful and affordable IT management software to customers worldwide. Focused exclusively on IT pros, we strive to eliminate the complexity in IT management software that many have been forced to accept from traditional enterprise software vendors. SolarWinds delivers on this commitment with unexpected simplicity through products that are easy to find, buy, use, and maintain, while providing the power to address any IT management problem on any scale. Our solutions are rooted in our deep connection to our user base, which interacts in our online community, **thwack®**, to solve problems, share technology and best practices, and directly participate in our product development process. Learn more at <http://www.solarwinds.com>.

## LEARN MORE

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