

SOLARWINDS STORAGE RESOURCE MONITOR

The purpose of this document is to explain the value proposition of SolarWinds® Storage Resource Monitor (SRM). This detailed document will help you understand the key features of SRM and how these features will benefit you in running your data center efficiently.

What is SolarWinds Storage Resource Monitor?

SolarWinds Storage Resource Monitor (SRM) provides multi-vendor, agentless NAS and SAN performance monitoring, as well as capacity monitoring and forecasting for your storage devices. Quickly and easily configure a full range of custom and pre-defined alerts and reports to get a consolidated view of your storage solution.

Problems SRM can help you solve

If you are facing any of the following pain points, you likely need SRM:

- Finding it difficult to manage multiple storage vendor tools to monitor storage array performance?
- Unable to accurately predict storage capacity needs that eventually lead to last-minute storage purchases?
- Unable to optimize your storage resources and justify new storage investments to management?
- Are end-user applications frequently impacted by poor storage performance?

What makes SolarWinds SRM unique?

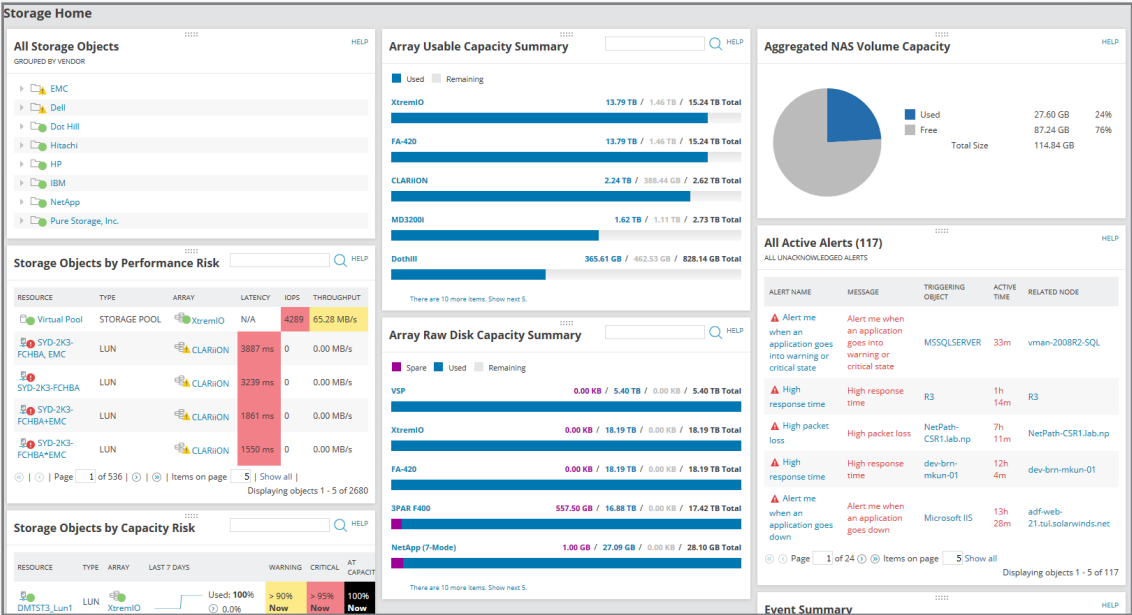
- **Unified storage monitoring:** Single-pane-of-glass view of multi-vendor storage arrays from EMC®, NetApp®, Dell®, and others to see all storage devices on one dashboard.
- **Resource savings:** Save time and money with SRM's automated storage capacity planning feature.
- **Faster time to resolution:** Having detailed visibility into storage arrays, RAID groups, and LUNs makes it easy to identify storage issues quickly and act faster.
- **Make informed decisions:** SRM offers hundreds of out-of-the-box reports that will help eliminate assumption-driven decisions.
- **End-to-end IT monitoring:** SRM seamlessly integrates with other SolarWinds products to provide a comprehensive picture of overall IT health. The AppStack dashboard gives you an instant view of your infrastructure, from application to storage.

Monitoring Storage Arrays Using SRM

SolarWinds Storage Resource Monitor provides multi-vendor, agentless NAS and SAN performance monitoring, as well as capacity monitoring and forecasting for your storage devices. Dashboards that are easy to use and customize help you identify critical performance and capacity information at the device (array/filer), pool, and LUN level. Quickly and easily configure a full range of custom and pre-defined alerts and reports to get a consolidated view of your storage solution. Finally, combining SolarWinds Server & Application Monitor and Virtualization Manager to form the Application Stack View will help you identify and troubleshoot application issues quickly.

Unified Storage Monitoring

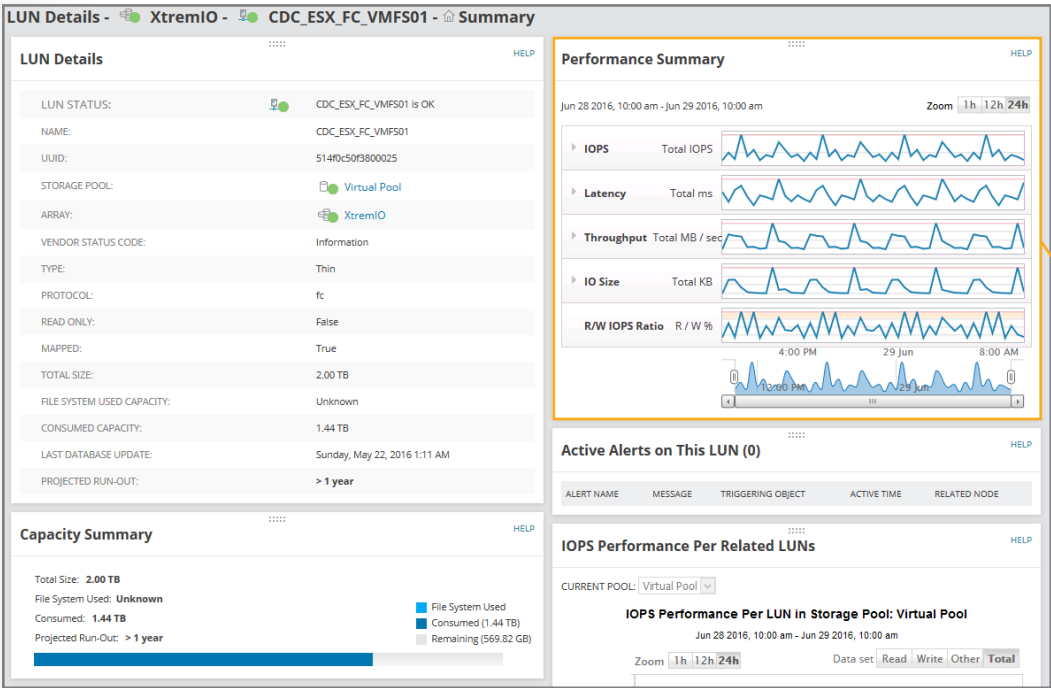
All organizations rely on more than one storage vendor device, and managing a bunch of storage devices is no simple task. Storage admins need to juggle multiple tools to ensure that the storage devices and systems are all functioning like they should. With a unified storage monitoring tool like SRM, you can monitor all your storage devices from a single pane of glass. SRM's home dashboard gives you an at-a-glance view of key storage metrics, such as usable capacity, raw disk summary, storage with performance risks, etc. Also, the exclusive All Alert will provide a list of immediate alerts that need immediate attention and action.



The storage home dashboard shows critical storage issues in a snapshot, including performance problems, capacity risks, critical alerts, and events.

Storage Performance Monitoring

SRM provides comprehensive SAN and NAS performance monitoring and alerting to help you eliminate performance bottlenecks in your data center. Also, the unified view into storage performance simplifies key tasks that are otherwise tedious and complex, including managing storage space consumption on RAID groups, mapping storage volumes back to host, and understanding how volumes are load balanced across storage arrays. SRM helps you determine whether all the objects in your storage environment are performing at their best or not. With SRM, you are able to identify poorly performing LUNs, RAID groups, and disks instantly.

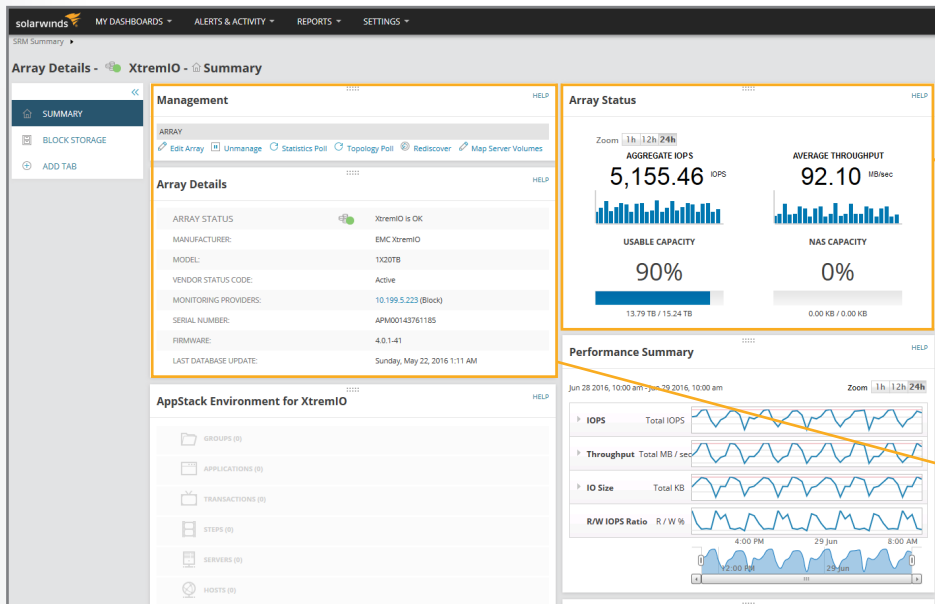


Performance Summary widget displays key metrics, such as IOPS, latency, and throughput, etc.

Drill deeper with detailed dashboards

SRM helps you instantly navigate across all layers of storage, including arrays, storage pools, and LUNs. With just one click, you can seamlessly move from one layer to another. Each of these individual storage layers have a detailed storage dashboard that shows all critical storage metrics, indicating performance and health. So, you'll be able to quickly troubleshoot performance problems by isolating the actual hotspot and eliminating unexpected downtime.

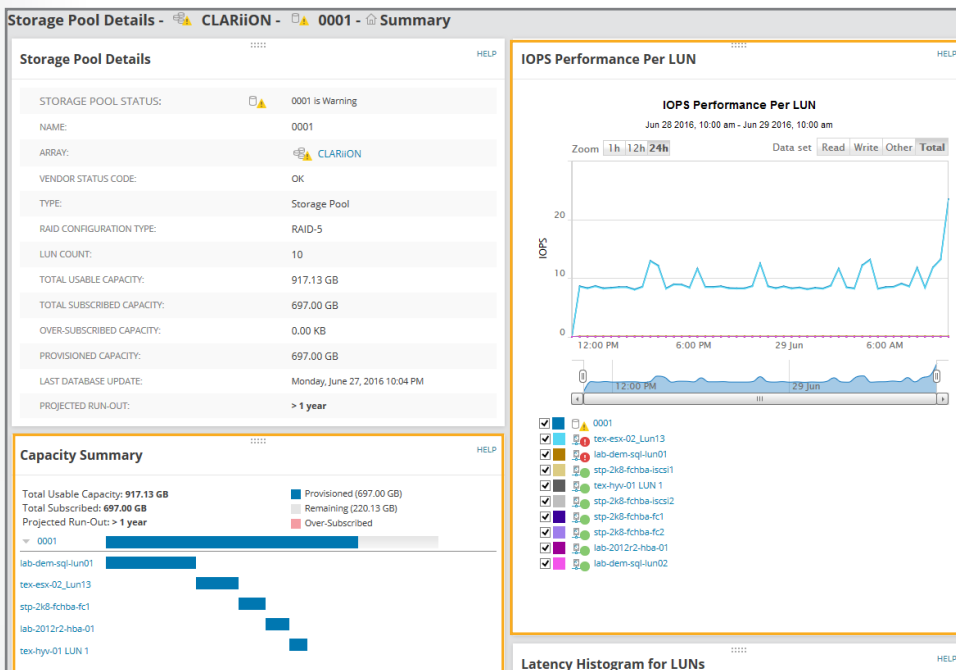
Array Detailed Dashboard



Simple view of overall storage device performance and capacity.

Easily see array details from model, IP address, and firmware levels.

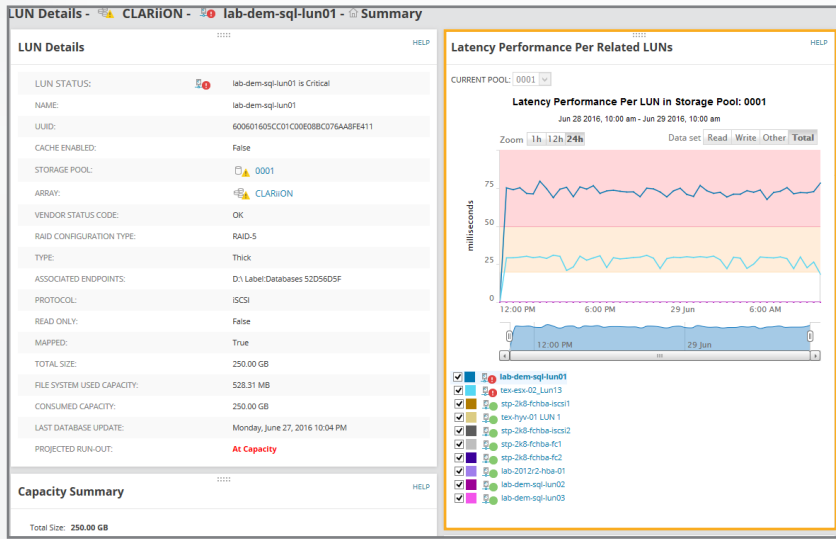
Storage Pool Detailed Dashboard



Gives you the performance of the total pool. Quickly grasp the performance of individual LUNs under the pool.

The capacity summary shows you total pool capacity and how much capacity each associated LUN is holding. You can track how the capacity is being consumed at different levels.

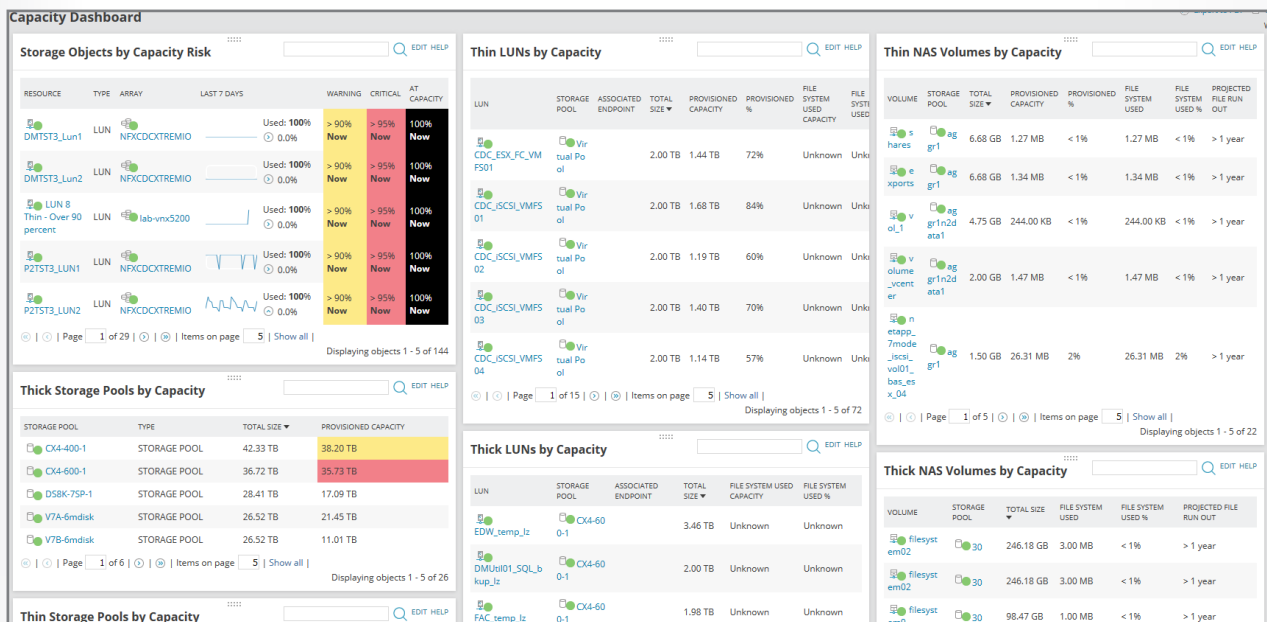
LUN Detailed Dashboard



Compare the LUN latency to discover so-called noisy neighbors so you can channel storage I/O resources appropriately across all LUNs.

Automated Storage Capacity Planning

The storage capacity function in SRM collects storage capacity data and tracks usage over time to identify capacity issues in the storage array. You can also easily view storage growth trends and receive a forecasted view of when capacity will be reached. This allows administrators to plan when to add capacity and when to re-allocate existing capacity. Eliminate the complexity of storage capacity planning in your virtual and physical infrastructure. Go deeper into the performance of data stores allocated to specific VMs in your environment. Trace dynamic relationships from apps, VMs, LUNs, pools, and arrays to discover capacity issues and whether the latency is really caused by storage performance. Identify which VMs are affected by storage issues, and take necessary steps to proactively prevent VM downtime.



Get at-a-glance views of pools and LUNs/volumes to determine which are thick and thin. This allows you to identify capacity risks across all your devices.

Storage Alerts and Reporting

Alerts

Receive alerts about storage performance issues with your storage devices, LUNs, storage pools/RAID groups, CIFS shares, and more with pre-built alerts. Set alerting thresholds and generate proactive alerts that are customized to your business's policies for usage and status information.

The screenshot shows the 'Active Alert Details' for the alert 'LUN Total Latency is greater than or equal to 20ms' on the resource 'swi-esx'. The interface includes a 'Management' section with links to 'Acknowledge Alert', 'Edit Alert Definition', and 'Turn Off this alert definition'. The 'Alert Status Overview' shows the alert is 'Triggered' with an active time of '1d 6h 46m' and a severity of 'Warning'. The 'MESSAGE' states 'LUN Total Latency is greater than or equal to 20ms was triggered.' The 'MORE DETAILS' section shows the trigger time as '3/22/2016 5:28 AM', triggered by 'swi-esx', and the alert definition as 'LUN Total Latency is greater than or equal to 20ms'. The 'Alert Definition Details' section shows the name 'LUN Total Latency is greater than or equal to 20ms'. The 'History of this alert on this object' shows it was triggered once on 3/22/2016 at 5:28 AM. The 'Other Objects currently experiencing the same alert (2)' table lists two objects: '00256 Volume 00256' and '00257 Volume 00257', both triggered on 3/23/2016 at 4:40 AM. The 'Top 10 Objects by trigger count of this alert' table lists three objects: '00257 Volume 00257' (27x), '00256 Volume 00256' (26x), and 'swi-esx' (1x). The 'Alert Notes' section is empty.

Receive easy-to-understand alerts that show which resources are triggering the alert, when it was triggered, and clear details on what the problem is.

Reporting

Get quick and insightful reports on your arrays with pre-designed and custom reports. Customize your reporting parameters to provide useful business insights. Create various out-of-the-box reports, including enterprise capacity summary, RAID/storage pool group utilization, thin provisioning, free LUNs, asset information, and more. Reports can be scheduled, emailed, and even exported as CSV or HTML files for granular customization.

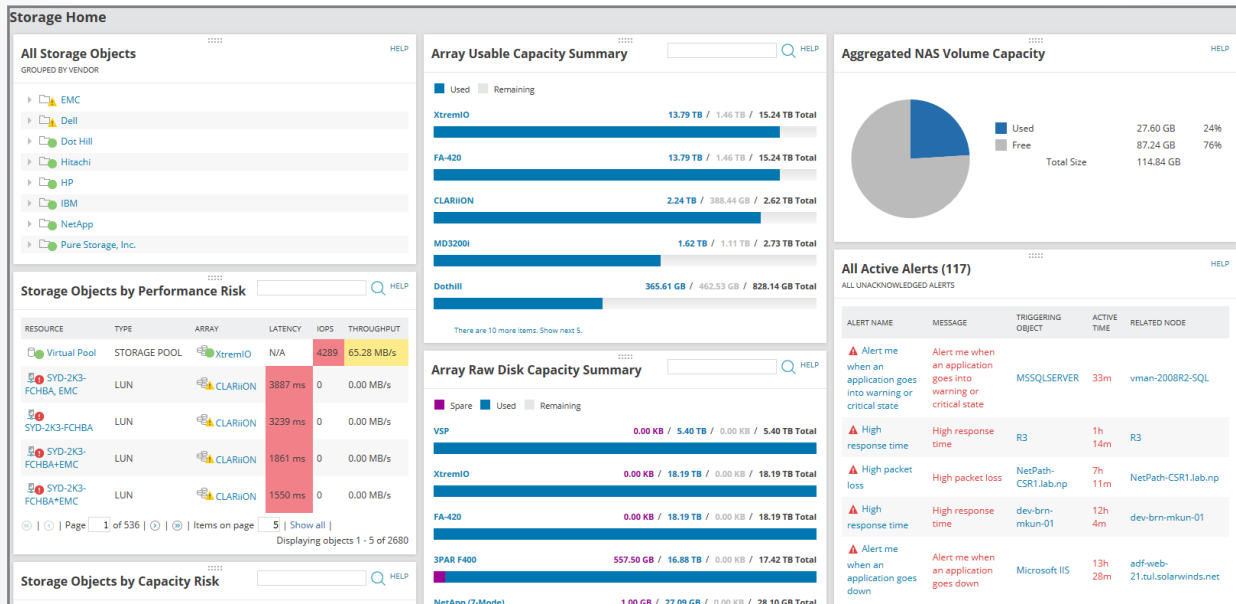
The screenshot shows the 'All Reports' page in the SolarWinds Storage Resource Monitor. The left sidebar lists various report categories and their counts, including 'Storage (10)', 'Top XX (5)', 'Topology Reports (1)', 'UCS Reports (1)', 'UDT Capacity (2)', 'UDT Connected Devices (7)', 'UDT Users (2)', 'Virtualization Reports (40)', 'VLAN Reports (2)', 'VINQM Connected Devices ...', 'Wireless Reports (19)', 'WPM: Current Transaction ...', 'WPM: Current Transaction ...', 'WPM: Player Location Avail...', and 'WPM: Transaction Availabil...'. The main area displays a table of reports with columns for 'Report Title', 'Description', 'Category', and 'Module Title'. The reports listed include 'Executive Storage Summary', 'Executive Storage Summary - Array Capacity', 'Executive Storage Summary - Array Graphs Percentage', 'Executive Storage Summary - Top 10 LUNs by Latency, IOPS, Read IO, Write IO', 'Free LUNs', 'Logical Mapping', 'LUN Masking', 'LUNs', 'LUNs and Volumes by Run Out Date', and 'Storage Pool/RAID Group Utilization'. An orange arrow points from the 'Storage Pool/RAID Group Utilization' report to the 'Storage (10)' category in the sidebar.

Get easy-to-run executive reports across all storage resources with the ability to create custom reports.

Easy-to-use and Customizable Dashboards

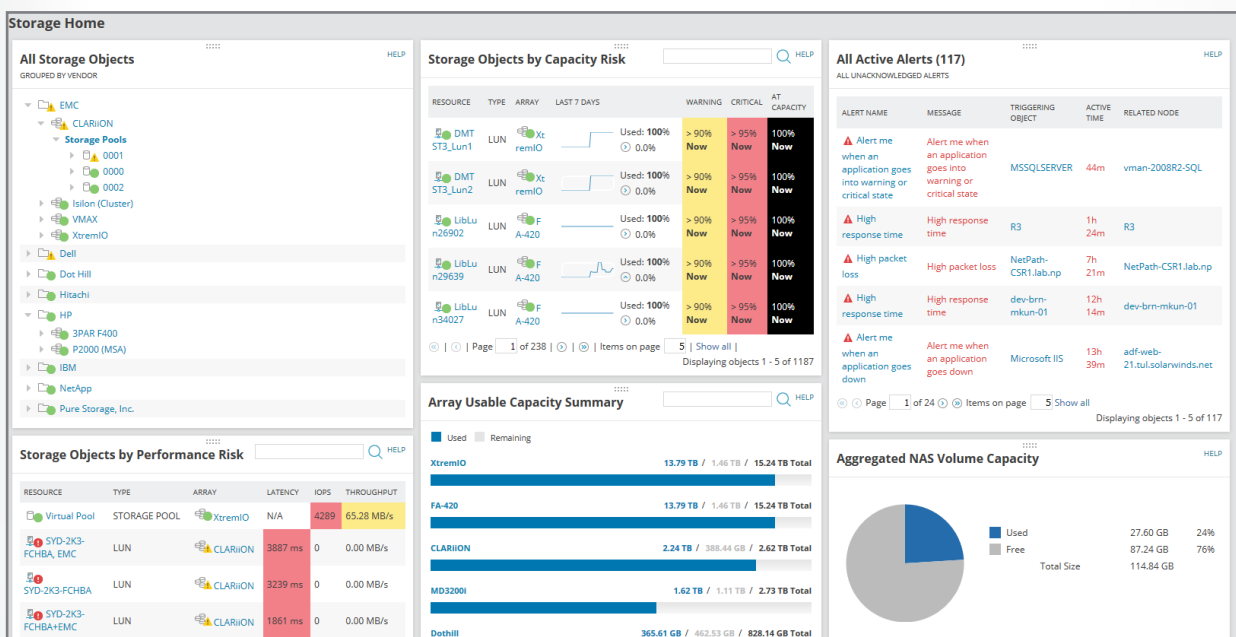
SolarWinds SRM offers a sleek UI and a completely customizable dashboard. All the dashboards – Storage Summary, Capacity Dashboard, Performance Dashboard, and Detailed Views – are completely customizable. The drag-and-drop widgets allow you to design your dashboards to suit your needs.

Storage Summary Dashboard (Default)



Customize what is critical and remove what is not, ranging from storage performance to capacity concerns.

Storage Summary Dashboard (Customized View)



The above customized dashboard is a sample view, which has been customized to include only the critical items you want to see.

Monitor IT Seamlessly with SolarWinds Orion Platform

Orion® is a flagship proprietary platform on which SolarWinds network and systems management software products are built. The platform provides a singular base that allows seamless integration between different products. The higher objective of this platform is to facilitate end-to-end IT monitoring with absolute ease. Storage Resource Monitor (SRM) is part of SolarWinds Orion® platform.

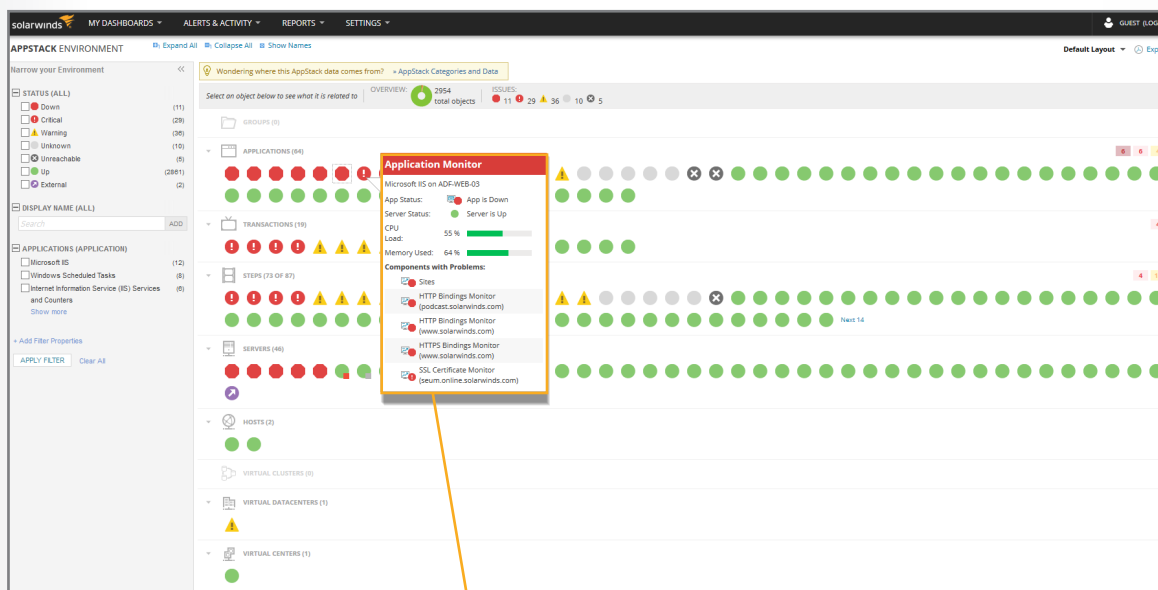
Being part of the Orion platform lets you easily integrate SRM with other SolarWinds IT management software, such as [Network Performance Monitor](#), [Virtualization Manager](#), [Server and Application Monitor](#), [Web Performance Monitor](#), and more.

Benefits of Orion Platform:

- End-to-end monitoring of your IT infrastructure.
- A single platform that supports the varied needs of multiple IT teams (network, systems, virtualization, etc.).
- Centralized management and administration.
- Consolidated monitoring data and context across various IT layers.

AppStack dashboard

The AppStack dashboard in the Orion platform gives you a complete view of all storage layers and extended visibility into virtualization and application layers. With AppStack in place, you will be able to drill down deeper across layers and instantly identify root cause and take remedial action.



Quickly see key information by just hovering your mouse over the problem area. Drill down by simple clicking on the resource.

How is SRM Licensed?

SolarWinds Storage Resource Monitor (SAM) is licensed by the **number of disks to manage**. These are disks in the SAN or NAS devices, not physical servers.

[Click here](#) to view the SRM licensing tiers.

NOTE: Licensing tiers have been set up to help you get the best benefit of pricing and monitoring limits. If you want to learn more about licensing, please reach out to us.

- Email us at sales@solarwinds.com.
- Call us at (+1) 866.530.8100.
- Generate an [online quote](#).

What Our Customers are Saying About SRM (Research by TechValidate)

“Our organization uses everything available in Storage Resource Monitor, the very fact that once we installed it was operational in such a short time ‘right out of the box,’ with alerts, configurations, etc. It gave us instant visibility in a single pane of glass to see all the storage that we have.”

- Lazaro Vazquez, Systems Engineer, County of Santa Clara California

“With SRM I was able to solve severe disk bottleneck issues. I was able to pinpoint which LUN was causing the issue.”

- IT/Systems Administrator, Medium Enterprise, Construction Company

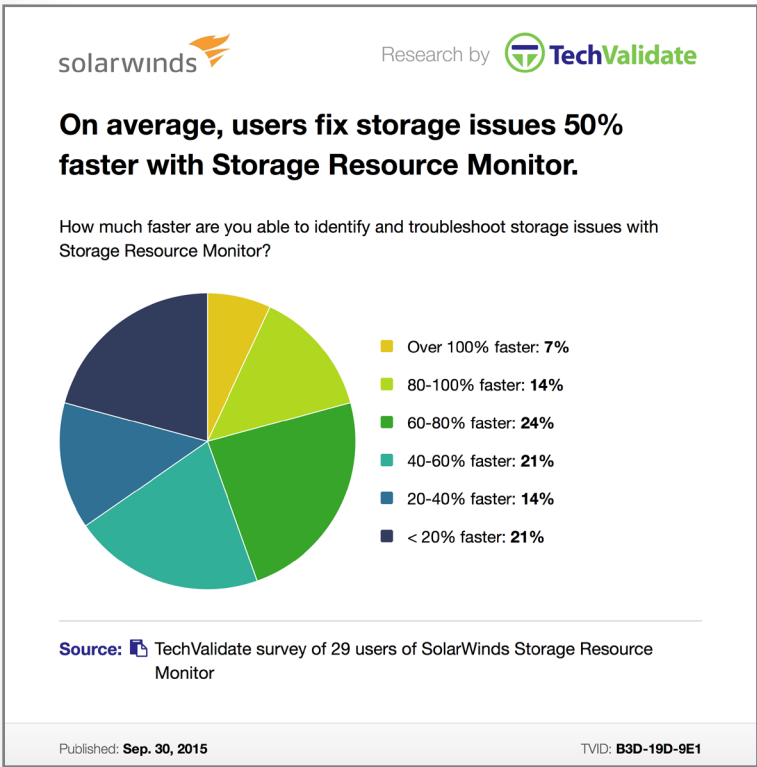
“The performance and ability for capacity trending and analysis alone is almost worth the price. I also like the co-joining of the SRM Module with AppStack.”

- IT/Systems Administrator, Fortune 500 Energy & Utilities Company

“Storage is a black box to most server and network admins. SRM sheds light on that box and uncovers issues for all three teams — storage, network, and server — that might have otherwise gone unnoticed and uncorrelated without SRM.”

- Application Engineer, Large Enterprise Pharmaceuticals Company

The Value That SRM Delivers to its Customers (Research by TechValidate)



Additional Resources

- [Product Page »](#)
- [Supported Devices »](#)
- [Datasheet »](#)
- [Product Guide »](#)
- [Interactive Demo »](#)
- [Overview Video »](#)

About SolarWinds

SolarWinds builds affordable, powerful, and easy-to-use monitoring software that IT professionals love. Our products are used by customers worldwide, from Fortune 500 enterprises to small businesses.

In all of our market areas, our approach is consistent. We focus exclusively on IT pros and strive to eliminate the complexity that they 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® (www.thwack.com), to solve problems, share technology and best practices, and directly participate in our product development process.

Learn more today at www.solarwinds.com.

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