

## Storage Monitoring

SevOne provides storage administrators with performance monitoring and reporting capabilities to address your most common concerns:

- How can I prove if performance issues are caused by the server, the network, or storage?
- How can I predict storage bottlenecks before applications slow to a crawl?
- How can I better understand my storage capacity needs?

### Key Benefits

- ❖ Avoid application slowness with proactive alerts of potential storage bottlenecks
- ❖ Pinpoint the source of storage issues
- ❖ Gain better insight into future storage capacity needs

### Who's to Blame?

Many application performance issues stem from poor performing storage, whether it's a drive failure in a RAID group, a database lock, or additional application traffic that overwhelms the drives.

However, troubleshooting the root cause of application performance issues presents quite a challenge, as the culprits could be many: is it an issue at the server, an incompatible pairing of components (such as a fast operating solid-state drive with a slow performing controller), or poor rotational latency with the drive?

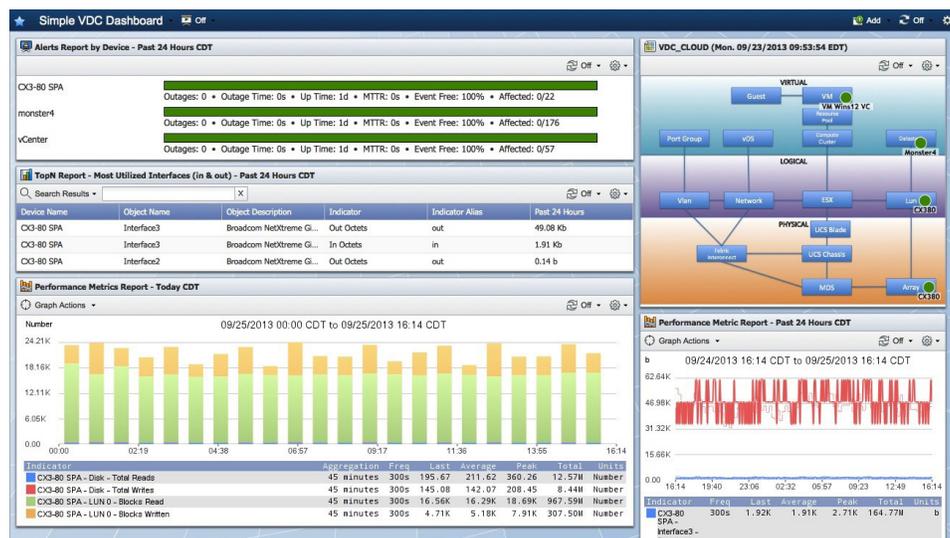
In addition, virtualization complicates things – too many VMs per data store leads to performance degradation and impacts your ability to deliver business-critical applications to customers and end users.

All of these complexities make the troubleshooting process difficult.

### How SevOne Helps

SevOne delivers end-to-end reporting and monitoring capability to help you see all of the components that contribute to delivering services and applications over your network. Monitoring storage extends your visibility and reduces your blind spots when troubleshooting.

By monitoring the complete I/O path – including server CPUs, memory, host bus adapters, switch ports, and storage arrays – for a specific application, SevOne helps you predict storage bottlenecks and prove storage performance. The system includes full SNMP support for monitoring storage devices. In addition, data collection scripts allow you to support non-SNMP metrics that may indicate a potential issue with storage performance.



SevOne pulls together many storage performance metrics into a single real-time dashboard that includes device alerts, most utilized interfaces, and blocks read/written. In addition, a status map helps you determine if performance issues are originating in the physical (array), logical (LUN), or virtual (data store) components of your infrastructure.

SevOne tracks a number of key storage performance metrics in order to help you meet your SLAs:

- **IOPS** - understand how the read versus write mix changes over time and how many hosts initiate requests.
- **Queue Depth** - High data fragmentation can slow the time it takes for disks to access data. Monitoring this latency in conjunction with queue depth reveals access issues that indicate a potential storage problem.

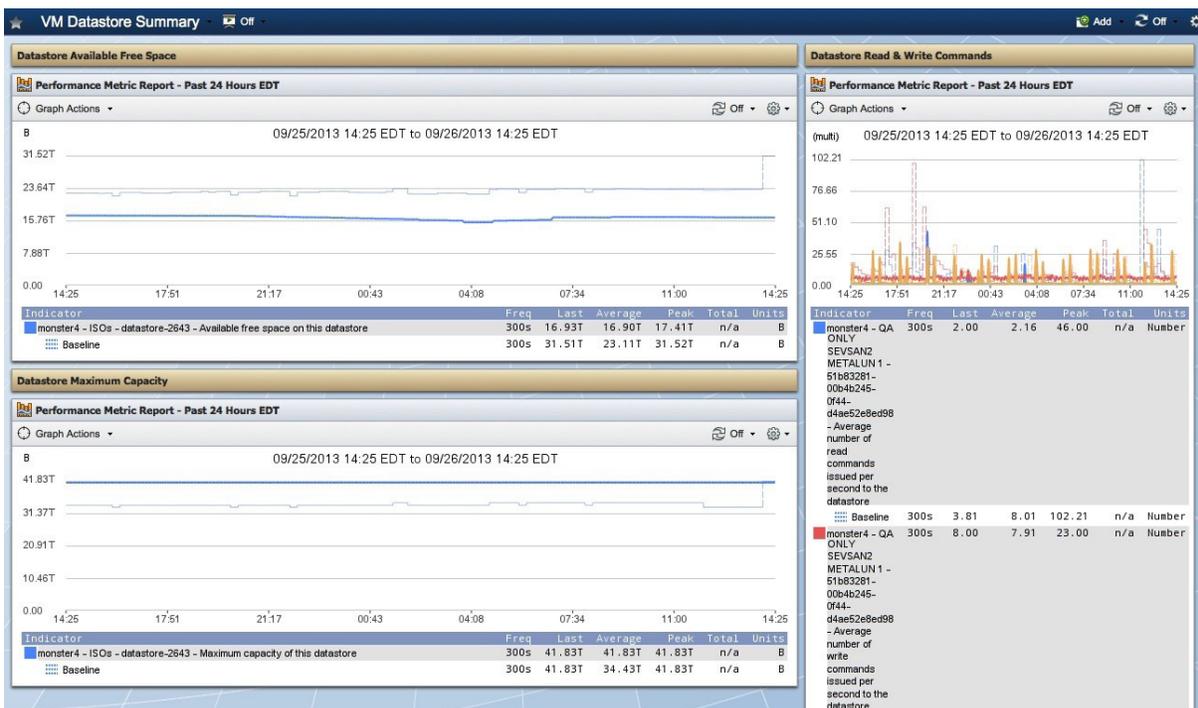
SevOne supports all storage vendors, including EMC, NetApp, IBM, Hitachi, HP, Dell, Fujitsu, Oracle, and more. SevOne presents performance metrics from multi-vendor SAN or NAS environments in a single dashboard for a complete view of your storage environment.

SevOne does not require agents, reducing your administrative burden in regards to installation and ongoing maintenance.

## Troubleshooting Intermittent Storage Issues

Intermittent problems – like a database locking during a backup – can be hardest to troubleshoot. By the time end users report slowness of an application, the problem has gone away. SevOne allows you to troubleshoot intermittent storage issues in two ways:

- **Sophisticated Baselines and Alerts** – SevOne automatically establishes baselines of “normal” performance of your storage environment. If performance deviates from expected behavior, you receive an alert that can help you address the issue before end users feel the impact.
- **As-Polled Performance History** – If you ever need to go back and pinpoint or report on a performance event, SevOne maintains a year of as-polled performance history, so you always have granular evidence of exactly what happened in your storage environment.



A VM Datastore Summary in SevOne reveals real-time statistics for available free space and maximum datastore capacity, alongside performance metrics for the average number of read/write commands issued per second to the datastore, compared to historical baseline performance.

## Monitoring Data Growth in the SAN

When will we run out of disk capacity? Storage teams struggle to know when they need to provision new storage arrays and disks. SevOne addresses this problem with trend projections and capacity reports that show projected values for disk utilization. These tabular reports make it easy to identify your most likely candidates for exceeding capacity in the future.

Additionally, using Custom Calculations (a SevOne capability that adds up values from different devices), the server file space can be tied to the amount of storage provisioned, providing a true capacity picture.

## About SevOne

SevOne provides the world's fastest, most scalable performance monitoring platform to the world's most connected companies. We provide an 'all-in-one' appliance that detects and alerts on performance events before they impact your business. SevOne developed a next-generation technology called the SevOne Cluster™ that incorporates the cutting edge principles behind distributed computing to address any scalability concerns. SevOne monitors millions of objects across multiple technologies and provides a single view to the user. Customers including the top cable companies, wireless network and managed service providers, and top financial services institutions rely on SevOne to monitor the performance of their critical infrastructure.