

# SOLARWINDS SERVER & APPLICATION MONITOR

The purpose of this guide is to help you understand how SolarWinds® Server & Application Monitor (SAM) can help you do your job more efficiently, and increase the performance and uptime of your applications.

## What is SolarWinds Server & Application Monitor?

**SolarWinds Server & Application Monitor** is **affordable and easy-to-use** systems management software that provides **deep visibility** into application and server (physical and virtual) performance issues for **proactive performance alerting** and **faster troubleshooting**.

SAM offers built-in monitoring support for **more than 200 applications**, and the ability to create custom monitors to support any homegrown application or system.

## Why Do Application & Systems Teams Love SolarWinds SAM?

- **One stop shop:** No need for multiple tools and custom scripts. Monitor multi-vendor applications and servers from a single console.
- **Affordable:** Priced competitively to cater to the monitoring needs of organizations of all sizes, from a handful of servers to multi-site deployments with thousands of apps.
- **Be the first to know:** Be proactive. Receive alerts about issues before they become problems that negatively impact business and end-users.
- **Respond faster:** Find the root cause of application problems, and fix them quickly.
- **Minimize downtime:** Optimize your IT infrastructure and reduce management overhead.
- **Everything works out of the box:** Use prepackaged monitoring templates, alerts, and reports to begin monitoring immediately.
- **Do-it-yourself deployment:** No need for professional services for deployment and setup. Download and install SAM and start monitoring in about an hour.
- **Power of customization:** Easily extend monitoring to any custom or homegrown application.
- **Forecast resource needs:** Track server resource usage, asset inventory, and capacity planning.

---

*"After deploying SolarWinds Server & Application Monitor, we are able to react to and resolve 'down' applications before the customer has time to call the Service desk or open a trouble ticket."*

*Don Ward, IT Manager, TopBuild Corp*

---



### What Problems Does SAM Help You Solve?

IT pros who face the following challenges on a daily basis need SolarWinds SAM.

- Do you frequently encounter slow applications and servers in your IT environment?
- Are you getting alerts at the first sign of trouble so you can fix problems before they impact the business and end-users?
- Are you able to pinpoint where the application issue originated? Is it in the application, database, operating system, physical server, virtual environment, storage, or network?
- Do you spend too much time and manual effort diagnosing and determining the cause of issues, instead of troubleshooting and fixing them?
- Are you using multiple tools and custom scripts to manage your multi-vendor systems and dozens of applications?

### ROI to Business & IT Teams

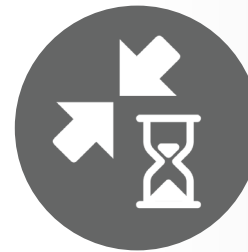
A **recent survey** shows that every hour of downtime can cost companies anywhere between \$40,000 and \$50,000. SolarWinds customers who use SAM were able to significantly **reduce downtime** and **realize ROI in just a few months**. Reduce TCO over many years with a one-time purchase and perpetual license.



Considerable Cost Savings



Faster Application Troubleshooting



Minimize Downtime

Speed Up Troubleshooting	ROI Achievement Tineframe
<div style="display: flex; justify-content: space-between; align-items: center;"> <span>Research by  TechValidate</span> </div> <p><b>Users Fix Application Issues 65% Faster with SolarWinds Server &amp; Application Monitor</b></p> <p>After deploying Server &amp; Application Monitor, how much faster are you able to identify and troubleshoot application issues?</p> <div style="display: flex; align-items: center;"> <div style="margin-left: 20px;"> <ul style="list-style-type: none"> <li><span style="color: #f1c232;">■</span> Over 100% faster: 7%</li> <li><span style="color: #c4e629;">■</span> 80 - 100% faster: 20%</li> <li><span style="color: #76b82a;">■</span> 60 - 80% faster: 36%</li> <li><span style="color: #4db6ac;">■</span> 40 - 60% faster: 24%</li> <li><span style="color: #3498db;">■</span> 20 - 40% faster: 8%</li> <li><span style="color: #2c3e50;">■</span> 10 - 20% faster: 4%</li> <li><span style="color: #e74c3c;">■</span> &lt; 10% faster: 1%</li> </ul> </div> </div> <p><b>Source:</b>  TechValidate survey of 107 users of SolarWinds Server &amp; Application Monitor</p> <div style="display: flex; justify-content: space-between; font-size: 8px;"> <span>Published: Jan. 11, 2016</span> <span>TVID: F8C-1C9-B13</span> </div>	<div style="display: flex; justify-content: space-between; align-items: center;"> <span>Research by  TechValidate</span> </div> <p><b>70% of SolarWinds Server &amp; Application Monitor Customers Realized ROI in Under 6 Months</b></p> <p>How fast were you able realize ROI after buying Server &amp; Application Monitor?</p> <div style="display: flex; align-items: center;"> <div style="margin-left: 20px;"> <ul style="list-style-type: none"> <li><span style="color: #f1c232;">■</span> Under a month: 18%</li> <li><span style="color: #c4e629;">■</span> 1 - 3 months: 28%</li> <li><span style="color: #76b82a;">■</span> 3 - 6 months: 23%</li> <li><span style="color: #4db6ac;">■</span> 6 - 9 months: 12%</li> <li><span style="color: #3498db;">■</span> 9 - 12 months: 9%</li> <li><span style="color: #2c3e50;">■</span> Over a year: 11%</li> </ul> </div> </div> <p><b>Source:</b>  TechValidate survey of 57 users of SolarWinds Server &amp; Application Monitor</p> <div style="display: flex; justify-content: space-between; font-size: 8px;"> <span>Published: Nov. 16, 2015</span> <span>TVID: A4A-B65-DEE</span> </div>

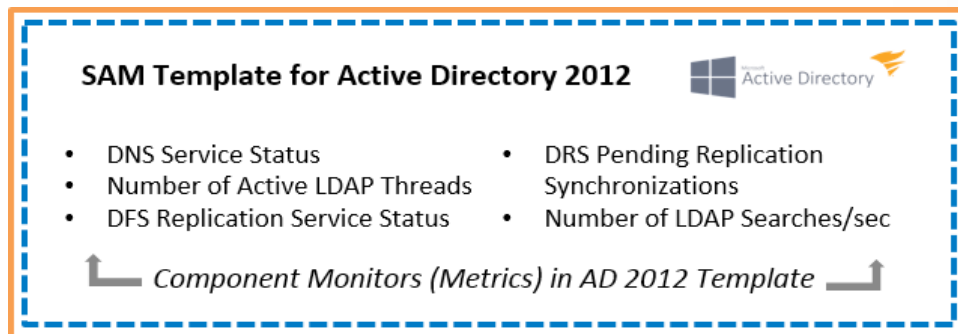
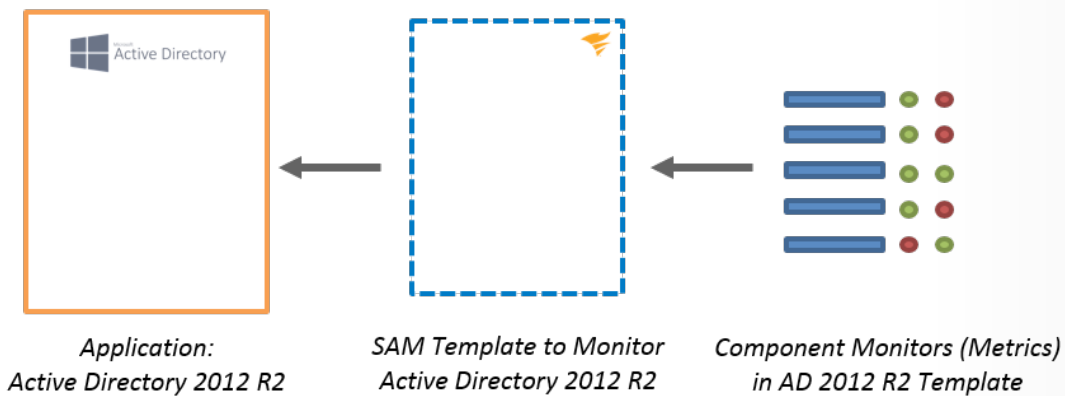
## Monitoring Applications

### Simplifying Application Monitoring with Templates

SolarWinds SAM can access agent-less and agent-based monitoring via WMI and SNMP protocols to poll monitoring information from applications and servers. SAM automatically discovers servers and applications on your environment.

To simplify monitoring and provide quick access to performance data for specific applications, SAM uses templates. A **template** is a blueprint that defines a collection of component monitors designed to monitor a device or application. A component monitor is a metric, which gets the current status or value of a monitored service or process.

For example, a template to monitor Active Directory® will include component monitors to measure and report on metrics, such as LDAP client sessions, DNS client service, directory read/sec and write/sec, etc. You can add more component monitors to this template, or remove them as needed.



**Benefits of Using Templates:**

- **Broad coverage:** Key monitors and metrics are available out of the box to monitor more than 200 enterprise applications, or use any of the 800+ templates created by SAM users and shared on thwack®, SolarWinds' online community.
- **Simplicity:** Instead of modifying monitors for hundreds of individual applications, just edit and customize a single template and apply it to multiple applications.
- **Flexibility:** Pick and choose component monitors for each template. Select and use only the monitors that you need, and save on license costs.
- **Power to customize:** Easily edit and modify templates, or create your own for monitoring custom applications, servers, devices, or virtually anything that can send data to SAM.

## Applications Supported Out of the Box

SolarWinds SAM offers out-of-the-box templates to monitor 200+ business applications including:



- [View list of supported applications »](#)
- [View built-in monitoring templates »](#)

## Deep Application Monitoring with Built-In Applnsight Templates

SAM also offers three out-of-the-box super templates: **Applnsight™** for Microsoft® Exchange™, IIS, and SQL Server®. These solve complex problems via deep performance monitoring. Applnsight templates have a fixed number of component monitors: 50 for Exchange, 30 for IIS, and 50 for SQL Server.

- **Exchange Server Monitoring:** View mailbox, database, status, and storage; identify replication issues; and monitor user mailbox activity.
- **Microsoft IIS Monitoring:** Monitor the availability of websites and application pools, report SSL certificate expiration, and perform remote actions to start/stop application pools.
- **SQL Server Monitoring:** Proactively monitor database connections, error logs, SQL agent job status, index fragmentation, long-running queries, and more.

---

*"The built-in Applnsight templates in SolarWinds Server & Application Monitor provide useful and intuitive data that can be viewed in a single pane of glass."*

*John Marcial, IT/Systems Administrator, Carlson Wagonlit Travel, Inc*

---

## AppInsight for Exchange

### Application Details

Application Name: Microsoft Exchange on LAB-SAM-EXC3-01  
 Status: **Warning**  
 Exchange Server Version: Microsoft Exchange Server 2010 SP1  
 Exchange Server Build Number: 14.1.218.15  
 Exchange Domain: lab.excal.env3  
 Database Availability Group (DAG)  
 DAG Name: dag1  
 Other Exchange Servers in DAG:  
 - Microsoft Exchange on vman-Exch-2010  
 - Microsoft Exchange on syd-2k3-live  
 - Microsoft Exchange on lab-exch-dag-01  
 File Share Witness: lab-sam-exc3cas.lab.excal.env3  
 Path: C:\DAGFileShare\Witnesses\dag1.lab.excal.env3  
 Alternate File Share Witness: N/A  
 Witness Share in use: Not in use

### Mailbox Database Status

ALL MAILBOX DATABASES ON THIS SERVER

DATABASE NAME	COPY STATUS	COPY QUEUE	REPLAY QUEUE	INSPECTED LOG TIME	CONTENT INDEX	ACTIVATION PREFERENCE
Mailbox1	Mounted	0	0		Healthy	1
Mailbox2	Healthy	0	0	Dec 16, 2015	Healthy	3
⚠ This database is currently not mounted on its preferred server.						
Mailbox3	Healthy	0	0	Dec 16, 2015	Healthy	2
Mailbox4	Mounted	0	0		Healthy	1
Mailbox5	Healthy	0	0	Dec 16, 2015	Healthy	3
⚠ This database is currently not mounted on its preferred server.						
Mailbox6	Healthy	0	0	Dec 16, 2015	Healthy	2

### Mailbox Database Size and Space Use

ALL MAILBOX DATABASES ON THIS SERVER

DATABASE NAME	DATABASE SIZE	WHITE SPACE	SPACE USAGE	TOTAL MAILBOXES	AVERAGE MAILBOX SIZE
Mailbox1	7.76 GB	96.72 MB	<div style="width: 96.72%;"></div>	42	10.66 MB
Mailbox2	5.01 GB	0.00 bytes	<div style="width: 0%;"></div>	52	10.96 MB
Mailbox3	5.51 GB	0.00 bytes	<div style="width: 0%;"></div>	56	11.11 MB
Mailbox4	5.63 GB	64.78 MB	<div style="width: 64.78%;"></div>	58	10.50 MB

### Exchange Server

12/16/2015, 4:40:14 PM - 12/17/2015, 4:40:14 PM

STATISTIC NAME	Zoom	1h	12h	24h	VALUE FROM LAST POLL
RPC Requests sent/sec					9.87
RPC Slow requests latency average (msec)					0.00 ms
RPC Slow requests (%)					0.00342 %
ROP Requests Outstanding					0.00 %
RPC Requests failed (%)					0.00466 %
RPC Requests outstanding					0.00
RPC Latency average (msec)					1.55 ms
Hub Servers In Retry					0.00

### Users By Mailbox Size

Search Users

USER NAME	MAILBOX SIZE	% QUOTA USED	ATTACHMENT SIZE	ATTACHMENT COUNT	LAST ACCESSED	DATABASE
Hamilton Jean	973.83 MB	95%	379.80 MB	79	May 05, 2014	Mailbox1
Discovery Search Mailbox	717.93 MB	70%	143.59 MB	42	May 05, 2014	Mailbox1
Marshall Gillian	590.86 MB	58%	141.81 MB	32	May 05, 2014	Mailbox1
Jardine Eric	466.10 MB	46%	121.19 MB	101	May 05, 2014	Mailbox1
Liston Teri	306.00 MB	30%	97.92 MB	85	May 05, 2014	Mailbox1
Fennell Will	301.50 MB	29%	102.51 MB	29	May 05, 2014	Mailbox1
Venkatesan Vinoth	301.50 MB	29%	45.22 MB	13	May 05, 2014	Mailbox4
Stepanek Roman	297.00 MB	29%	53.46 MB	39	May 05, 2014	Mailbox4
ODonoghue Abigail	292.50 MB	29%	49.72 MB	48	May 05, 2014	Mailbox4
Webber Derek	292.50 MB	29%	87.75 MB	49	May 05, 2014	Mailbox1

## AppInsight for IIS

### Application Details

Application Name: Microsoft IIS on lab-dmz-iis-01.demo.lab  
 Status: Down  
 IIS Version: 8.5

### Application Pools

NAME	STATE	WORKER PROCESSES	CPU	PHYSICAL MEMORY	VIRTUAL MEMORY
CompositeC1	Started	1	0.00 %	7.68 %	0.01 %
DefaultAppPool	Started	1	0.00 %	2.39 %	0.00 %
dnn	Started	1	2.96 %	10.56 %	0.01 %
gallery	Started	1	18.81 %	0.02 %	N/A
yaf	Started	0	N/A	N/A	N/A

### Sites

NAME	STATE	WORKER PROCESSES	CPU	PHYSICAL MEMORY	VIRTUAL MEMORY	RESPONSE TIME (AVG)	START MODE
CompositeC1	Started	1	0.00 %	7.68 %	0.01 %	N/A	Auto
Default Web	Started	1	0.00 %	2.39 %	0.00 %	N/A	Auto
dnn	Started	1	2.96 %	10.56 %	0.01 %	N/A	Manually
gallery	Started	1	18.81 %	0.02 %	N/A	N/A	Auto
yaf	Started	0	N/A	N/A	N/A	N/A	Auto

### ASP.NET

12/16/2015, 4:46:25 PM - 12/17/2015, 4:46:25 PM

STATISTIC NAME	VALUE FROM LAST POLL
Request Execution Time	93.00 ms
Request Wait Time	0.00 ms
Requests Queued	0.00
Requests Rejected	0.00

### IIS Average Network Traffic

### Top 20 Page Requests by Average Server Execution Time

SITE	URL	AVERAGE SERVER EXECUTION TIME
gallery	/	22 sec 304 ms
dnn	/images/resizeBtn.png	1 sec 155 ms
dnn	/DesktopModules/DigitalAssets/API/ContentService/GetFolderContent	952 ms
dnn	/images/modal-resize-icn.png	929 ms
dnn	/Default.aspx	771 ms

### IIS Average CPU and Memory Usage

lab-dmz-iis-01.demo.lab  
Dec 16 2015, 1:32 am - Dec 16 2015, 2:50 pm

## AppInsight for SQL Server

### All Databases

NAME	STATUS	DATABASE SIZE	TRANSACTION LOG SIZE
BigData	Online	90.88 GB	1.94 GB
CommonStaff	Online	2.04 GB	84.53 MB
Finance	Online	15.34 MB	15.34 MB
master	Online	1.00 MB	1.00 MB
model	Online	512.00 KB	512.00 KB
msdb	Online	512.00 KB	512.00 KB
Patches	Online	61.07 MB	61.07 MB
PMonitoring	Online	182.18 MB	182.18 MB
PRD2012	Online	116.23 MB	116.23 MB
Reporting	Online	12.00 MB	12.00 MB
ReportServ	Online	16.41 MB	16.41 MB
SolarWinds	Online	1.09 GB	1.09 GB
tempdb	Online	1020.00 KB	1020.00 KB

### Top 10 Expensive Queries by CPU Time

QUERY TEXT	CPU TIME (MS)	DATABASE
SELECT TOP 250 a.*, WebCommunityStrings.[GUID] AS [GUID] FROM ( SELECT	570	PRD2012
CREATE PROCEDURE [dbo].[apm_ComponentTemplatesGetByAppTemplate]	232	Patches
CREATE PROCEDURE [dbo].[apm_ComponentTemplatesGetByAppTemplate]	232	Finance
select tc.TABLE_SCHEMA, tc.TABLE_NAME, kc.COLUMN_NAME from	162	master
[@EngineID int] SELECT n.NodeID, aip.PollingDescriptionName,	112	SolarWindsOrion
[@AppID bigint] SELECT ISNULL(cmpSett.[Key], tpDefSett.[Key]) AS [Key],	99	Finance
[@AppID bigint] SELECT ISNULL(cmpSett.[Key], tpDefSett.[Key]) AS [Key],	99	Patches
SELECT CONVERT(uniqueidentifier, HASHBYTES('MD2',rankTable[sql_handle]))	91	Patches
SELECT CONVERT(uniqueidentifier, HASHBYTES('MD2',rankTable[sql_handle]))	91	master
SELECT CONVERT(uniqueidentifier, HASHBYTES('MD2',rankTable[sql_handle]))	91	Finance

### SQL Error Log

DATE/TIME	ERROR MESSAGE
1/11/2016, 8:12:12 PM	Login failed for user 'sa'. Reason: Password did not match that for the login provided. [CLIENT: 199.110.20.19]
1/11/2016, 8:12:12 PM	Error: 18456, Severity: 14, State: 8.
1/11/2016, 11:31:32 AM	This instance of SQL Server has been using a process ID of 5940 since 6/27/2013 12:52:16 PM (local) 6/27/2013 10:52:16 AM (UTC). This is an informational message only; no user action is required.
1/10/2016, 6:06:11 PM	Login failed for user 'SolarWinds-user-demo'. Reason: Token-based server access validation failed with an infrastructure error. Check for previous errors. [CLIENT: 199.110.20.19]

### SQL Agent Job Status

JOB NAME	LAST RUN	DURATION	OUTCOME
server_backup	1/11/2016, 10:30:02 PM	35m 44s	Failed
dbss_shrink	1/11/2016, 9:30:01 PM	20m 33s	Retry
Orion_maintenance_daily	1/11/2016, 8:00:01 PM	57m 58s	Succeeded
syspolicy_purge_history	1/11/2016, 7:30:01 PM	48s	Succeeded

### Top 10 Databases by Active User Connections

15 users total

### Processes and Services

COMPONENT NAME	PROCESS NAME (ID)	CPU LOAD	PHYSICAL MEMORY USED	VIRTUAL MEMORY USED	IOPS
SQL Server	sqlservr.exe	N/A	N/A	N/A	N/A
SQL Server Agent	SQAGENT.EXE	N/A	N/A	N/A	N/A
SQL Server Browser	sqlbrowsr.exe	N/A	N/A	N/A	N/A

## Extend Monitoring to Custom Applications

SolarWinds SAM allows you to build new templates, or modify built-in templates to extend monitoring to virtually any **custom or homegrown applications**. You can **import existing scripts such as Nagios scripts** as they are to Server & Application Monitor the built-in script processor enables you to convert Nagios® scripts to a format that can be used to alert, schedule, run jobs, and report findings in Server & Application Monitor.

In addition, you can leverage more than 800 custom monitoring templates shared on thwack.

- [View templates available on thwack »](#)
- [Watch video on building custom templates »](#)

## Monitoring Servers

SolarWinds Server & Application Monitors (SAM) monitors the health and performance of multi-vendor servers.

- Monitor server response time, packet loss, and network latency.
- Track CPU, memory, and disk usage, and forecast when capacity will run out.
- Monitor server storage volumes, disk usage, and capacity metrics out of the box.
- Monitor the health of server hardware and blade enclosure and isolate failures in components, such as battery, CPU, fan, temperature, memory, etc.
- Remotely remediate server issues. Terminate runaway processes, start/stop services, reboot servers, etc.
- Centrally manage and track server hardware and software asset information.

[Learn more about server monitoring »](#)

## Hardware Health Monitoring

Hardware failure is responsible for more than half (55%\*) of IT system outages. SAM lets you see the status and performance of critical server hardware components, such as fan speed, temperature, power supply, CPU, battery, and more. Quickly identify server hardware issues impacting server and application performance.

Monitor the hardware health metrics of Dell® PowerEdge™, HP® ProLiant®, IBM® eServer xSeries servers, and VMware® ESX/ESXi hypervisor.

The screenshot displays several monitoring panels for a server:

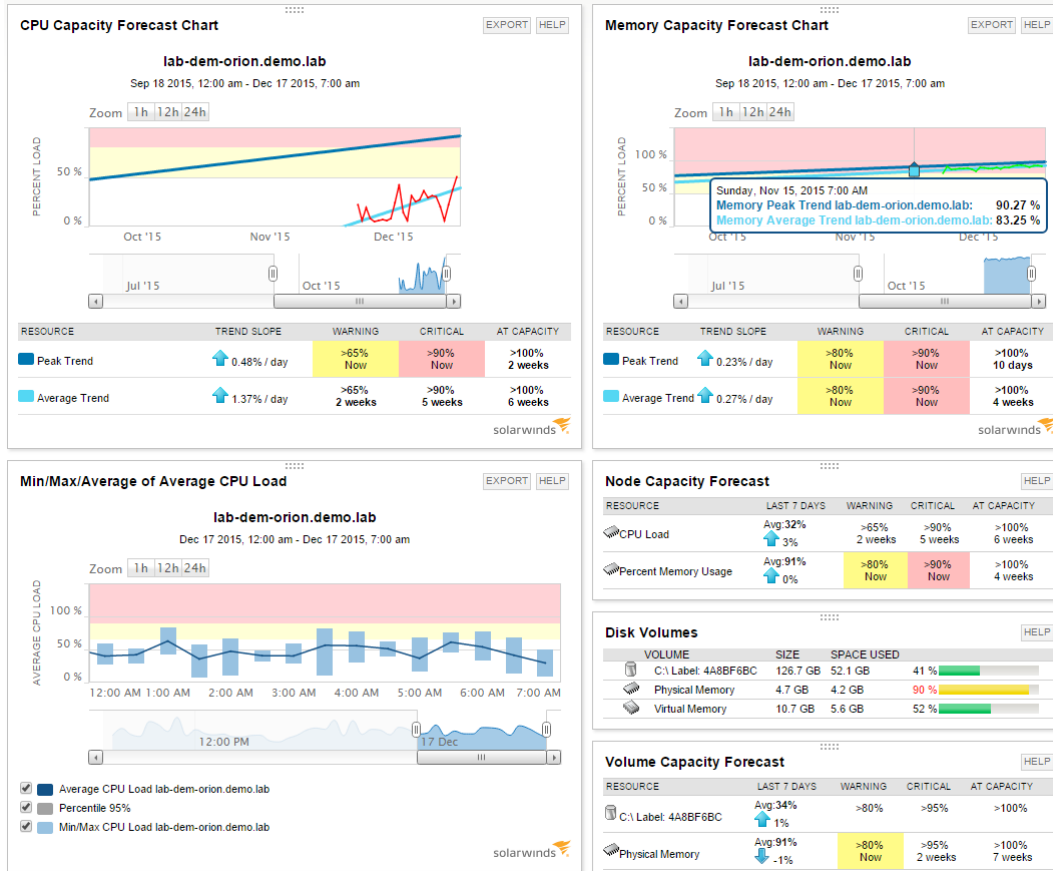
- Hardware Details:** Shows hardware status as **Critical**. Manufacturer: Dell Inc., Model: PowerEdge 2850, Service Tag: JXS7688, Last Poll Time: 11/12/2015 3:21:49 AM, Dell OpenManage: v7.0.0.
- CPUs by Percent Load:** Shows CPU # 2 at 5% load and CPU # 1 at 3% load.
- Current Hardware Health:** A table listing sensors and their status:
 

SENSOR NAME	STATUS	VALUE
<b>Fan</b>		
BMC FAN 1	Non Critical Lower Limit	2925 rpm
BMC FAN 2	Non Recoverable Lower Limit	2925 rpm
BMC FAN 3	Failed	3000 rpm
BMC FAN 4	Critical Lower Limit	3075 rpm
<b>Power Supply</b>		
<b>Temperature</b>		
BMC Ambient Temp	Ok	66.2 °F
BMC Planar Temp	Ok	78.8 °F
PROC_1 Temp	Failed	89.6 °F
PROC_2 Temp	Non Recoverable Lower Limit	87.8 °F
PROC_3 Temp	Critical Lower Limit	86 °F
PROC_4 Temp	Ok	89.6 °F
<b>Disk</b>		
Physical Disk 0:0	Ok	68.242 GB
Physical Disk 0:1	Ok	68.242 GB
<b>Array</b>		
<b>Memory</b>		
<b>Intrusion</b>		
<b>CPU</b>		
Model 6 Stepping 8	Ok	
Model 6 Stepping 8	Ok	
Model 6 Stepping 8	Non Recoverable	
Model 6 Stepping 8	Critical	
- Hardware Health:** A line graph titled "JBCALLCENTER1" showing temperature in degrees Fahrenheit from 11:00 PM on Nov 11 to 3:00 AM on Nov 12, 2015. A tooltip for Wednesday, Nov 11, 2015 11:00 PM shows:
  - Temperature: PROC\_1 Temp: 96.29 °F
  - Temperature: PROC\_2 Temp: 96.56 °F
  - Temperature: BMC Ambient Temp: 93.02 °F
  - Temperature: BMC Planar Temp: 89.17 °F
  - Temperature: BMC Riser Temp: 90.12 °F
- Disk Volumes:** A panel at the bottom showing disk usage metrics.



## Capacity Panning & Forecasting

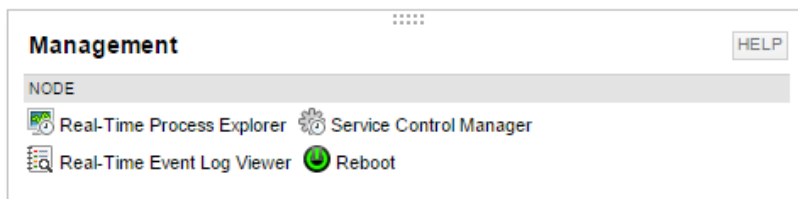
SolarWinds SAM provides a detailed view of your server resources, including CPU load, memory used, disk capacity, etc. This lets you clearly see all server resource consumption. Make accurate capacity forecasts by tracking peak and average capacity over time. Find and fix server capacity issues before they impact end-users and business productivity.



## Remediate Server Issues Remotely

SolarWinds SAM provides a set of built-in tools to troubleshoot server issues remotely.

- Real-Time Process Explorer: Monitor processes in real-time and kill runaway processes remotely.
- Service Control Manager: Monitor services, and remotely start/restart/stop them.
- Real-time Event Viewer: Event logs can be viewed in real-time and filtered by log type, event source, and severity level.
- Windows® Scheduled Task Monitor: Gain quick visual access to the status of scheduled tasks configured on your Windows nodes.
- Remotely reboot server at the click of a button.





## IT Asset Inventory

SolarWinds SAM lets you discover and manage server hardware and software inventory in once centralized location.

- **Automatically discover and store IT asset data**

SAM automatically collects IT asset details, including system information, processors, memory, volumes, hard drives, USB ports, drivers, storage controllers, network interfaces, firmware, installed software, and OS updates.

- **Track assets throughout their life cycle**

Track your software assets, such as version, installation, or purchase date, latest software updates, and more. Track hardware details, such as purchase date, usage, warranty expiration date, and location. This actionable data helps you decide if you should replace old or faulty hardware, and more.

- **Quickly alert and report on IT assets**

Accurately report on asset inventory with charts and tables. Built-in reports show current asset usage along with model number, last update dates, names of admins who installed the updates, total resources used, unused hardware, etc.

### System Information

**GENERAL**

Last Inventory Collection: Friday, December 11, 2015 9:23 AM

System Name: LAB-HPINSIGHT

Host Name: LAB-HPINSIGHT

DNS: LAB-HPINSIGHT.

Domain Role: Server

IP Address: 10.199.6.128

Dynamic IP: No

**HARDWARE**

Asset Type: Server

Hardware: Physical

Manufacturer: HP

Model: ProLiant BL460c G6

Serial Number/Service Tag: USE02630PF

Warranty Status: Expired 10/9/2015

Location: lab

**OPERATING SYSTEM**

Operating System: Microsoft Windows Server 2012

OS Version: 6.2.9200

Last Boot: Thursday, October 29, 2015 4:00 AM

Hardware Agent: HP Insight Manager v9.25.0.0

### Processors

PROCESSOR	MANUFACTURER	SPEED	CORES	THREADS	MODEL	STEPPING
Intel Xeon	Intel	2.80 GHz	4	8	Unknown	Stepping 5
Intel Xeon	Intel	2.80 GHz	4	8	Unknown	Stepping 5

Total Count: 2

### Logical Volumes

NAME	TYPE	FILE SYSTEM	SERIAL NUMBER	SIZE	SPACE USED	AVAILABLE SPACE	% AVAILABLE SPACE
C:\3add7231	Local Disk	NTFS	3add7231	68.23 GB	24.70 GB	43.53 GB	63.8%

### Storage Controllers

NAME	MODEL NUMBER	SERIAL NUMBER	FIRMWARE VERSION	DRIVER VERSION
HP Smart Array P410i Controller	Unknown	Unknown	5.70	Unknown

### Firmware

NAME	PUBLISHER	VERSION	RELEASE DATE
Compaq System ROM		I24	12/2/2011

### Hard Drives

MODEL	SERIAL NUMBER	CAPACITY
HP EH0072FAWJA	3TA130EZ00009039Z7ME	68.37 GB
HP EH0072FAWJA	3TA0R5GF00009038XNAF	68.37 GB

### Software Inventory

NAME	PUBLISHER	VERSION	INSTALL DATE
7-Zip 9.20 (x64 edition)			4/14/2013
GetSavin			1/13/2013
Headless Server Registry Update			11/5/2012
HP Array Configuration Utility			11/5/2012
HP Array Configuration Utility CLI			11/5/2012

Page 1 of 5 | Items on page 5 | Showing 1 - 5 of 22

### Memory

**Memory Summary**

TOTAL RAM	FREE RAM	TOTAL VIRTUAL MEMORY	FREE VIRTUAL MEMORY
8181 MB	6248 MB	9397 MB	7482 MB

**Memory Modules**

SLOT	CAPACITY	MODEL	SPEED
1	Unknown	Unknown	Unknown
2	2048 MB	Unknown	1333 MHz

## Monitoring Virtualized Environments

Along with physical servers, SolarWinds SAM lets you monitor the health and availability of hypervisors (host) and virtual machines (guest). You can easily identify whether the application problem is due to a performance issue in the virtualized infrastructure or not. SAM supports monitoring VMware® vSphere® and Microsoft® Hyper-V®.

- Hypervisor (virtual server/host) monitoring metrics include CPU load, memory utilization, list of virtual machines, and more.
- Virtual machine (guest) monitoring metrics include availability statistics, CPU and memory consumption, network traffic, and more.

The screenshot displays the SolarWinds SAM interface for monitoring virtualized environments. It is divided into several sections:

- Virtualization Assets:** A tree view showing VMware and Hyper-V hosts. The selected host is 'bas-esx-01', showing details like IP address (10.199.5.115), machine type (VMware Inc.), avg response time (172 ms), packet loss (0%), CPU load (29%), and memory used (100%).
- Top 10 Hosts by Percent Memory Used:** A table listing hosts and their memory usage percentages.
 

HOST	MACHINE TYPE	MEMORY USED
LAB-DEM-HYV	Hyper-V	30396 MB 93 %
stp-esx-01.lab.tex	VMware	43906 MB 89 %
lab-dem-esx.demo.lab	VMware	28371 MB 87 %
SYD-HYV-02	Hyper-V	9025 MB 55 %
tex-esx-02.lab.tex	VMware	17554 MB 54 %
SYD-HYV-01	Hyper-V	8289 MB 51 %
stp-esx-02.lab.tex	VMware	24859 MB 51 %
bas-esx-02.lab.tex	VMware	24707 MB 50 %
bas-esx-01.lab.tex	VMware	24213 MB 49 %
lab-esx-hp.lab.tex	VMware	947 MB 46 %
- Top 10 Hosts by CPU Load:** A table listing hosts and their CPU load percentages.
 

HOST	MACHINE TYPE	CPU LOAD
bas-esx-02.lab.tex	VMware	98 %
SYD-HYV-02	Hyper-V	95 %
tok-esx-02.lab.tex	VMware	85 %
stp-esx-01.lab.tex	VMware	80 %
bas-esx-01.lab.tex	VMware	64 %
syd-esx-01.lab.tex	VMware	27 %
lab-dem-esx.demo.lab	VMware	11 %
syd-esx-02.lab.tex	VMware	9 %
tex-esx-02.lab.tex	VMware	7 %
stp-esx-02.lab.tex	VMware	7 %
- Top 10 Hosts by Network Utilization:** A table listing hosts and their network utilization.
 

HOST	MACHINE TYPE	RECEIVE	TRANSMIT	TOTAL	UTILIZATION
syd-esx-02.lab.tex	VMware	70.55 Mbps	1651.77 Mbps	1722.32 Mbps	11 %
syd-esx-01.lab.tex	VMware	242.65 Mbps	226.42 Mbps	469.07 Mbps	2 %
LAB-DEM-HYV	Hyper-V	88.67 Mbps	124.65 Mbps	213.32 Mbps	1 %
bas-esx-01.lab.tex	VMware	151.35 Mbps	10.91 Mbps	162.26 Mbps	1 %
stp-esx-01.lab.tex	VMware	8.44 Mbps	6.23 Mbps	14.67 Mbps	0 %
- Hosts with Problems:** A table listing hosts with issues.
 

HOST	MACHINE TYPE	DESCRIPTION
stp-esx-01.lab.tex	VMware	One or more thresholds are exceeded.
bas-esx-02.lab.tex	VMware	One or more thresholds are exceeded.
LAB-DEM-HYV	Hyper-V	One or more thresholds are exceeded.
lab-dem-esx.demo.lab	VMware	One or more thresholds are exceeded.
- Guests with Problems:** A table listing guests with issues.
 

GUEST	MACHINE TYPE	DESCRIPTION
lab-netappv81-clus1	VMware	Guest status is down.
vman-centos	VMware	Guest status is down.
lab-dem-sql-02	Hyper-V	One or more thresholds are exceeded.
lab-dem-orion	Hyper-V	One or more thresholds are exceeded.
lab-dem-wkst	Hyper-V	One or more thresholds are exceeded.

*“On a number of occasions, SolarWinds Server & Application Monitor has helped us troubleshoot performance issues with virtual machines.”*

*James Spencer, IT/Systems Administrator, Ideal Integrations.*

## Faster Troubleshooting with Application Dependency Mapping

Diagnose and troubleshoot application problems faster with the AppStack™ dashboard. Find out if a slow application issue is due to a performance problem in the application itself or the underlying physical and virtual server infrastructure and storage environment.

### Benefits of Using AppStack Dashboard:

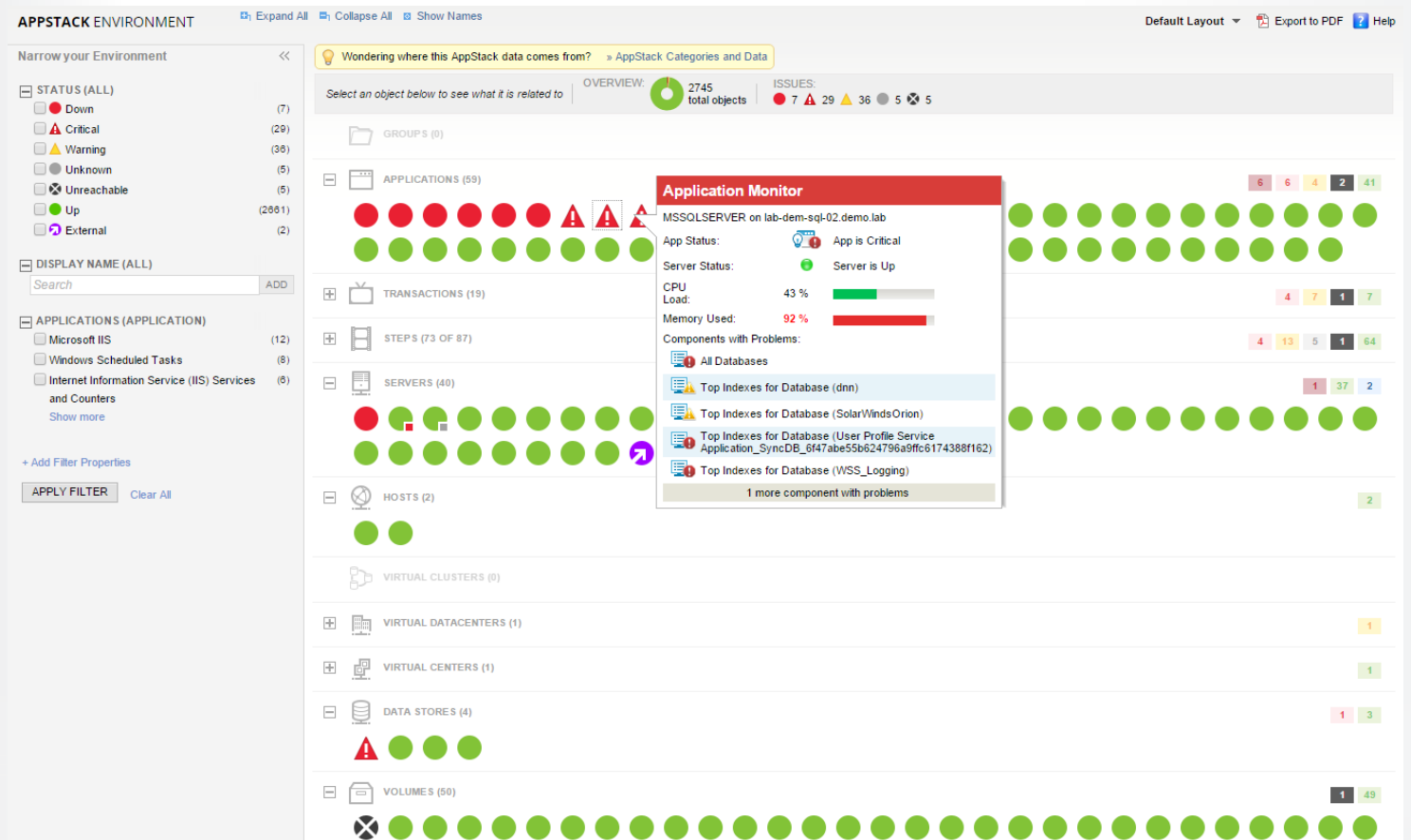
- Easily pinpoint the root cause of application issues across system, virtual, and storage infrastructures.
- Clearly see dependencies and relationships between various elements of the application stack.
- With a single click, you can drill deep to identify performance and resource capacity issues.
- Get a unified view across multi-vendor applications, servers, hypervisors, and storage arrays.

### For example:

If you have a slow SharePoint® application, you can easily see what other IT components SharePoint is connected to, including physical server, virtual server, virtual machine, or storage volume. At a single glance, you can see the health of the dependent IT infrastructure and isolate the root cause.

Integration with SolarWinds **Virtualization Manager**, **Storage Resource Monitor**, and **Web Performance Monitor** extends the AppStack dashboard's capability to provide deep insight into virtual layers and external NAS and SAN storage infrastructures to pinpoint deep-rooted performance problems.

[Learn more »](#) | [View AppStack Dashboard »](#)



## Pre-Packaged Alerts & Reports

SolarWinds SAM comes with a wealth of pre-built alerts and reports that allow you to get started immediately. These alerts and reports are easily customizable from the Web interface. You can modify them to suit your custom needs, or easily build new alerts or reports from the Web console.

SAM leverages the alerting engine from the core Orion® platform, which supports building intelligent alerting conditions:

- Define device dependencies to help ensure you don't receive unnecessary alerts and prevent floods of useless messages.
- Configure alerts for correlated events (alert if X and Y are true), and sustained conditions (alert if Y is true for more than five minutes).
- Dynamically calculate baseline thresholds and set up alerts based on network baseline data.
- Escalate alerts automatically through a variety of alert delivery methods.

**All Active Alerts**

Manage Alerts Show in NOC mode

Group by: Alert name

Alert name Message Object that triggered this ... Active time Trigger time Acknowledge...

Alert name	Message	Object that triggered this ...	Active time	Trigger time	Acknowledge...
Alert me when a componen	Alert me when a cc	Top Indexes for Databas	2d 13h 6m	12/15/2015 7:42 PM	Acknowledge Not yet...
Alert me when a componen	Alert me when a cc	All Databases on lab-tex	3d 8h 49m	12/14/2015 11:59 P	Acknowledge Not yet...
Alert me when a componen	Alert me when a cc	Top Indexes for Databas	3d 8h 49m	12/14/2015 11:59 P	Acknowledge Not yet...
Alert me when a componen	Alert me when a cc	Cache Hit Ratio on lab-t	3d 8h 54m	12/14/2015 11:53 P	Acknowledge Not yet...
Alert me when a componen	Alert me when a cc	SQL Compilations/Reco	3d 8h 54m	12/14/2015 11:53 P	Acknowledge Not yet...
Alert me when a componen	Alert me when a cc	Top Indexes for Databas	3d 13h 4m	12/14/2015 7:43 PM	Acknowledge Not yet...
Alert me when a componen	Alert me when a cc	All Databases on LAB-D	3d 14h 1m	12/14/2015 6:47 PM	Acknowledge Not yet...
Alert me when a componen	Alert me when a cc	Top Indexes for Databas	3d 15h 4m	12/14/2015 5:44 PM	Acknowledge Not yet...
Alert me when a componen	Alert me when a cc	Target - Total Server Me	3d 15h 15m	12/14/2015 5:33 PM	Acknowledge Not yet...
Alert me when a componen	Alert me when a cc	Page Reads/sec on SQL	4d 4h 42m	12/14/2015 4:06 AM	Acknowledge Not yet...
Alert me when a componen	Alert me when a cc	Page Life Expectancy on	4d 4h 42m	12/14/2015 4:06 AM	Acknowledge Not yet...
Alert me when a componen	Alert me when a cc	SQL Compilations/Reco	4d 6h 20m	12/14/2015 2:28 AM	Acknowledge Not yet...
Alert me when a componen	Alert me when a cc	All Databases on SQL_s	4d 22h 37m	12/13/2015 10:11 A	Acknowledge Not yet...
Alert me when a componen	Alert me when a cc	Available MBytes on SQ	4d 22h 37m	12/13/2015 10:11 A	Acknowledge Not yet...
Alert me when a componen	Alert me when a cc	Top Indexes for Databas	4d 22h 37m	12/13/2015 10:11 A	Acknowledge Not yet...
Alert me when a componen	Alert me when a cc	Top Indexes for Databas	6d 30m	12/12/2015 8:18 AM	Acknowledge Not yet...

Page 1 of 1 Number of items per page: 250 Displaying items 1 - 20 of 20

Automate report generation and delivery with over 100 out-of-the-box reports available in SolarWinds SAM. You can easily modify them or build new reports based on custom requirements.

**Edit Report**

LAYOUT BUILDER PREVIEW PROPERTIES SCHEDULE REPORT SUMMARY

### Windows Scheduled Tasks General Report

Displays an info about windows scheduled tasks.

Summary of Orion Objects: **All Nodes**

Custom Table for All Nodes  
Ordered by: Name - Ascending

NAME	STATE	LAST RUN TIME	AUTHOR	DATE OF CREATION	LAST RUN RESULT
<b>LAB-SHAREPOINT2</b>					
Daily Antivirus Scan - Succeeded - Time 1hr 23min	Ready	12/15/2015 3:56:03 AM	Administrator	1/21/2014 4:05:41 AM	✓
Disk Defragmentation - Running	Running	12/15/2015 11:10:03 AM	Administrator	1/23/2014 9:23:14 AM	✓
Monthly Reboot - Disabled	Disabled	12/15/2015 10:21:03 AM	Administrator	1/24/2014 7:42:33 AM	✓
<b>LAB-SAM-EXC3-01</b>					
Daily Antivirus Scan - Succeeded - Time 1hr 23min	Ready	12/15/2015 3:56:03 AM	Administrator	1/21/2014 4:05:41 AM	✓
Disk Defragmentation - Running	Running	12/15/2015 11:10:03 AM	Administrator	1/23/2014 9:23:14 AM	✓
Monthly Reboot - Disabled	Disabled	12/15/2015 10:21:03 AM	Administrator	1/24/2014 7:42:33 AM	✓
<b>LAB-SAM-EXC3-02</b>					
Daily Antivirus Scan - Succeeded - Time 1hr 23min	Ready	12/15/2015 3:56:03 AM	Administrator	1/21/2014 4:05:41 AM	✓
Disk Defragmentation - Running	Running	12/15/2015 11:10:03 AM	Administrator	1/23/2014 9:23:14 AM	✓
Monthly Reboot - Disabled	Disabled	12/15/2015 10:21:03 AM	Administrator	1/24/2014 7:42:33 AM	✓
<b>LAB-SAM-EXC3-03</b>					
Daily Antivirus Scan - Succeeded - Time 1hr 23min	Ready	12/15/2015 3:56:03 AM	Administrator	1/21/2014 4:05:41 AM	✓
Disk Defragmentation - Running	Running	12/15/2015 11:10:03 AM	Administrator	1/23/2014 9:23:14 AM	✓
Monthly Reboot - Disabled	Disabled	12/15/2015 10:21:03 AM	Administrator	1/24/2014 7:42:33 AM	✓
<b>LAB-SHAREPOINT</b>					
Daily Antivirus Scan - Succeeded - Time 1hr 23min	Ready	12/15/2015 3:56:03 AM	Administrator	1/21/2014 4:05:41 AM	✓
Disk Defragmentation - Running	Running	12/15/2015 11:10:03 AM	Administrator	1/23/2014 9:23:14 AM	✓
Monthly Reboot - Disabled	Disabled	12/15/2015 10:21:03 AM	Administrator	1/24/2014 7:42:33 AM	✓

## Intuitive & Customizable Dashboards

SolarWinds SAM provides a highly intuitive and user-friendly dashboard and monitoring console. Detecting performance issues becomes much easier and faster with the help of custom views, easily modifiable widgets, charts, and graphs.

- The built-in dashboards and top 10 views allow you to easily monitor key metrics and isolate issues. You can also create your own custom monitoring views, NOC views, and individual widgets and resources.
- Automatically discover servers and applications and add them to network maps. SAM allows you to automatically connect the components on the map to visually represent your network. You can create multiple layers of maps and use them to drill down from top level (country, state, etc.) to granular locations (site, building, floor, etc.)
- Dynamically sort applications into logical groups, such as location, vendor, and any custom property.

The screenshot displays four dashboard widgets:

- Applications Map:** A map of the United States with various server locations marked. A tooltip for "Windows DNS Server" shows "Object status is Up."
- Top 10 Processes by CPU Load:** A table listing processes and their CPU usage.
 

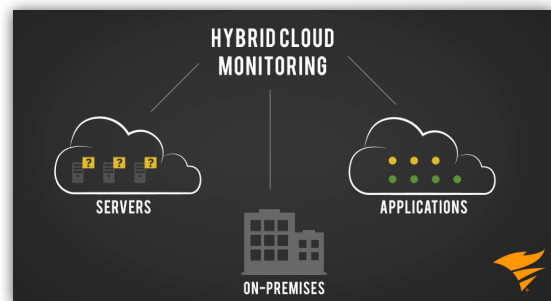
PROCESS NAME	APPLICATION NAME	NETWORK NODE	CPU LOAD
scfagent_64.exe	JD Edwards EnterpriseOne Server Manager (Windows)	SW_OracleDB	90.44%
w3wp.exe	Microsoft IIS	adf-web-04.tul.solarwinds.net	15.98%
SolarWinds.InformationService.ServiceV3.exe	Orion Server	lab-demo-orion.demo.lab	12.19%
w3wp.exe	Microsoft IIS	ADF-WEB-02	7.23%
w3wp.exe	Microsoft IIS	adf-web-05.tul.solarwinds.net	7.08%
SolarWinds.BusinessLayerHost.exe	Orion Server	lab-demo-orion.demo.lab	5.67%
SolarWinds.BusinessLayerHost.exe	Orion-Main	orion-main	4.63%
w3wp.exe	Microsoft IIS	ADF-WEB-01	3.55%
svchost.exe	Windows Server 2003-2012 Services and Counters	ADF-WEB-03	3.06%
w3wp.exe	Microsoft IIS	lab-dms-lis-01.demo.lab	2.96%
- Down Applications:** A table listing applications that are down, including their status and downtime.
 

APPLICATION NAME	MONITOR STATUS	DOWNTIME
Bind 9.5 and earlier on vman-centos	1 down, 1 unknown	Never up
Bind 9.6 and higher on vman-centos	1 down, 9 unknown	Never up
Citrix XenApp 6.0 Services on N.JenningsLab01	16 up, 2 down	182 days
CUPS on vman-centos	1 down, 7 unknown	Never up
Exchange 2007-2010 Hub Transport Role Service and Counters (Basic) on 10.199.1.80	14 up, 1 down	Never up
Exchange Server 2003 on SW-BACKUP	23 up, 2 down	Never up
Helix Universal Media Server (Linux/Unix) on vman-centos	1 down, 14 unknown	Never up
IBM DB2 on lab-aus-ft2010.lab.tex	13 down	Never up
Memcached on vman-centos	2 down, 6 unknown	Never up
- Application Health Overview:** A pie chart showing the distribution of application health: Up (90), Warning (7), Critical (16), Down (24), and Other (1). Total application count is 142.

## Monitor IT Infrastructure On-Premises & In The Cloud

SolarWinds SAM is primarily an agentless software that lets you monitor applications and servers across your on-premises IT environment. The optional agent installation extends monitoring to the cloud.

- Use agent-less monitoring for on-premises infrastructures.
- Use optional agent-based monitoring for apps and servers on:
  - Public cloud infrastructures, such as Amazon® EC2, Microsoft® Azure™, and Rackspace®.
  - DMZ networks.
  - Satellite, remote, and branch offices.



## Enterprise Scalability

SAM is purpose-built to support the monitoring needs of small, medium, and large networks. As your requirements for polling grow higher, you can easily add **Additional Polling Engines** to extend monitoring capabilities.

If you have a distributed network across different locations, you can install multiple instances of SAM, and roll up monitoring data to a single view with the help of the **Enterprise Operations Console**.

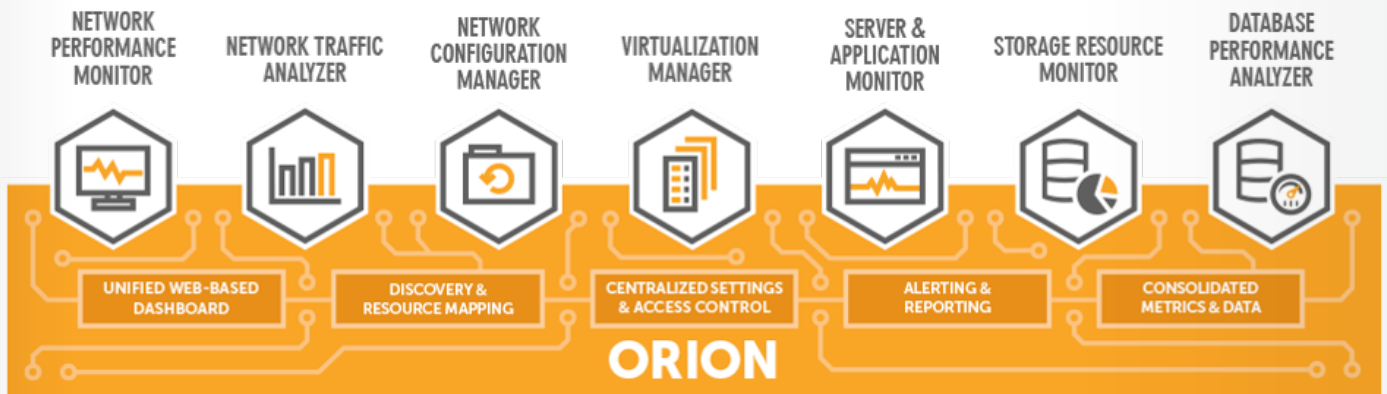
If you are concerned about high availability, SolarWinds offers **Failover Engine (FoE)**, which lets you have an active-passive setup for SAM. Should the primary server (active) where SAM is installed fail for some reason, SolarWinds FoE fails over to a secondary server (passive) to help ensure that SAM continues to monitor your infrastructure uninterrupted.

## Deeper Monitoring Insight with SolarWinds Orion Platform

SAM is powered by the SolarWinds Orion platform, which provides a common set of services that let you easily integrate products with one another. Because of Orion, SAM can easily extend to other IT management software from SolarWinds, such as **Network Performance Monitor**, **Virtualization Manager**, **Storage Resource Monitor**, **Web Performance Monitor**, and more.

The Orion platform allows you to add functionality as needed, providing end-to-end visibility across networks, systems, and applications. It offers a unified experience, alerting, reporting, and integrated metrics for contextual visibility, relationship mapping, and troubleshooting.

Benefits of the Orion Platform:
<ul style="list-style-type: none"> <li>• Modular and scalable.</li> <li>• Offers broad coverage and deep monitoring capabilities.</li> <li>• Consolidated monitoring data and context across various IT layers to provide a unified monitoring view.</li> <li>• Centralized management and administration.</li> </ul>





## Customer Testimonials

*"It's much easier with SolarWinds SAM to create custom monitors and application models, and monitoring and reporting Exchange status is greatly improved and less time intense. SolarWinds is much easier, in that we feel like we control the monitoring solution instead of it controlling us!"*

*David Speer, System Engineer, Skanska AB*

*"This product is reliable, easy to use, and provides a whole lot of features at my fingertips!"*

*John Shook, IT/Systems Administrator, ACSI*

*"Compared to Nagios®, I get more time to monitor and less time programming. I can also trend performance issues, which I could not do earlier. The most valuable feature of SAM is its ability to get it up and running out of the box in minutes."*

*Jim Morrison, IT Professional, Dassault Systèmes*

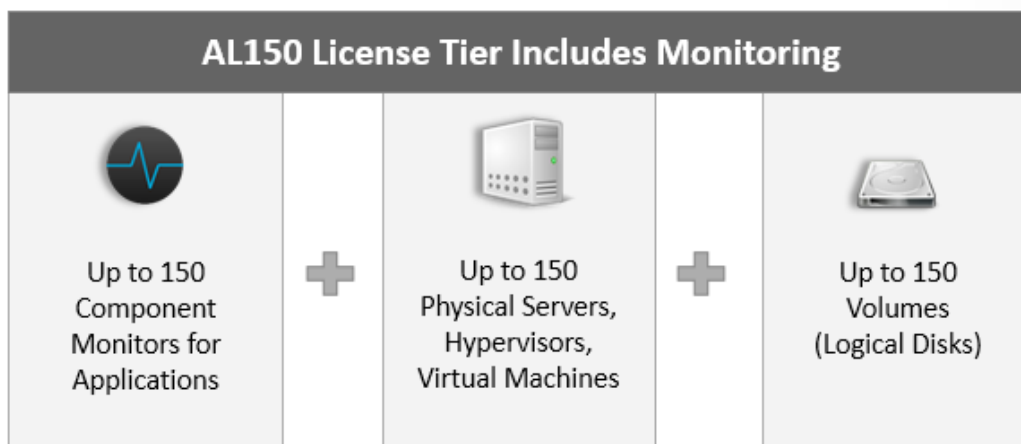
- [Read more customer testimonials by TechValidate research »](#)
- [Read more customer reviews on TrustRadius »](#)

## How is SAM Licensed?

SolarWinds Server & Application Monitor (SAM) is licensed by the **number of component monitors**, which is any measurement of application health and availability. Examples of component monitors include performance counters, services, processes, URLs, etc.

For each license tier, in addition to component monitors for applications, you will be able to **monitor physical servers, hypervisors, and disk volumes at no extra cost.**

[View full list of licensing tiers and pricing »](#) | [Licensing guide »](#)



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

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



## Additional Resources

- [Product Page »](#)
- [Supported Applications »](#)
- [Datasheet »](#)
- [Online Demo »](#)
- [Licensing Guide »](#)
- [Onboarding Guide »](#)
- [Admin Guide »](#)
- [Case Studies »](#)
- [Training Videos »](#)
- [ROI Infographic »](#)

## About SolarWinds

SolarWinds (NYSE: SWI) provides powerful and affordable IT management software to 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, [www.thwack.com](http://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](http://www.solarwinds.com).