

4 STEPS TO FORECAST AND PLAN YOUR NETWORK CAPACITY NEEDS

Using SolarWinds Network Performance Monitor

One of the most likely causes of network slowdowns is excessive capacity utilization. Network engineers are often reactive to increasing network capacity needs. Monitoring capacity utilization enables network engineers to forecast, plan, and manage existing network resources, and helps mitigate unexpected network slowdowns.

With **SolarWinds® Network Performance Monitor (NPM)**, you can easily identify when a critical network device's capacity will be exhausted and then forecast capacity needs based on network utilization. Stay ahead of your network capacity needs by following these four simple steps to monitor utilization.

1 - Identify Top Network Capacity Problems

Start by monitoring the capacity utilization including metrics for interface utilization, and disk usage, memory usage, and CPU load for all devices in the network. For example, the Top Capacity Problems resource in **SolarWinds NPM** helps you identify pressing capacity issues that can impact your network performance.

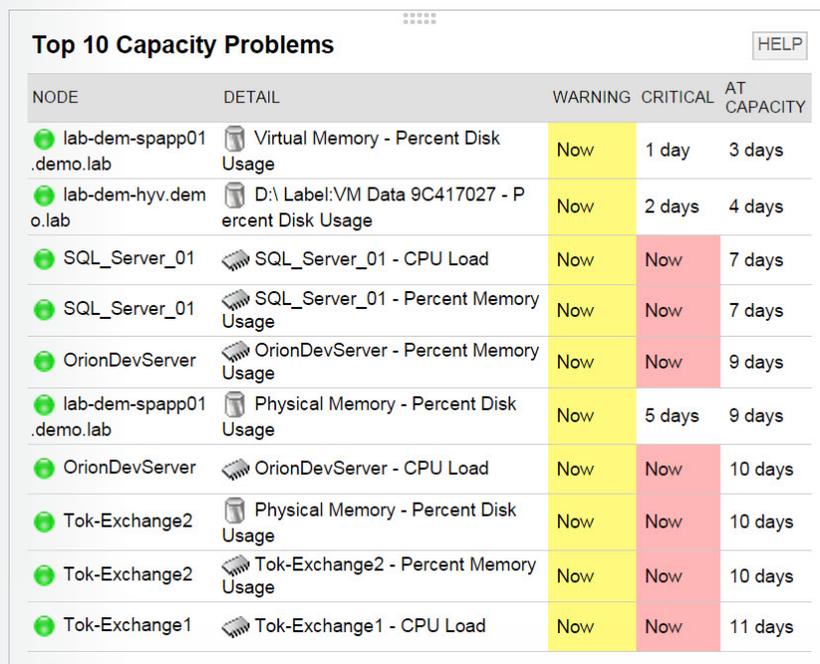
The capacity forecast is calculated based on gathered historical data with default thresholds to help network engineers identify capacity issues before they become a problem.

Step 1 - Go to Orion home page.

Step 2 - Click Customize Page.

Step 3 - Add the Top Capacity Problems resource.

Step 4 - Edit the resource and click Submit.



NODE	DETAIL	WARNING	CRITICAL	AT CAPACITY
lab-dem-spapp01.demo.lab	Virtual Memory - Percent Disk Usage	Now	1 day	3 days
lab-dem-hyv.demo.lab	D:\Label:VM Data 9C417027 - Percent Disk Usage	Now	2 days	4 days
SQL_Server_01	SQL_Server_01 - CPU Load	Now	Now	7 days
SQL_Server_01	SQL_Server_01 - Percent Memory Usage	Now	Now	7 days
OrionDevServer	OrionDevServer - Percent Memory Usage	Now	Now	9 days
lab-dem-spapp01.demo.lab	Physical Memory - Percent Disk Usage	Now	5 days	9 days
OrionDevServer	OrionDevServer - CPU Load	Now	Now	10 days
Tok-Exchange2	Physical Memory - Percent Disk Usage	Now	Now	10 days
Tok-Exchange2	Tok-Exchange2 - Percent Memory Usage	Now	Now	10 days
Tok-Exchange1	Tok-Exchange1 - CPU Load	Now	Now	11 days

Figure 1 - Identify Top 10 Capacity Problems



2 - Customize Capacity Threshold Metrics

You can customize key threshold metrics based on your current network utilization. **SolarWinds NPM** helps you accurately forecast capacity exhaustion by calculating the average or peak daily utilization of your critical devices. In the example below, you can either select the option to use either average daily values or peak daily values to calculate capacity exhaustion.

Step 1 – Click Settings on the home page.

Step 2 – Under Thresholds & Polling, click Orion Thresholds.

Step 3 – Enter threshold values for the Critical and Warning levels.

Step 4 – Under capacity planning, choose calculate exhaustion using average (or peak) daily values.

Step 5 – Click Submit.

Orion General Thresholds
Configure node and volume thresholds for all Orion modules.

Avg CPU Load

Critical Level	<input type="text" value="90"/>	1% to 100%	Nodes with CPU Load above this level will appear on "High CPU Load" reports. The Gauges will also be colored Bold Red.
Warning Level	<input type="text" value="65"/>	1% to 100%	Nodes with CPU Load above this level will appear on "High CPU Load" reports. The Gauges will also be colored Red.

Capacity Planning Calculate exhaustion using average daily values Calculate exhaustion using peak daily values

Disk Usage

Critical Level	<input type="text" value="95"/>	1% to 100%	Disk Usage will be colored Bold Red and appear on "High Disk Usage" reports when Percent Disk Usage is above this level.
Warning Level	<input type="text" value="80"/>	1% to 100%	Disk Usage will be colored Red and appear on "High Disk Usage" reports when Percent Disk Usage is above this level.

Capacity Planning Calculate exhaustion using average daily values Calculate exhaustion using peak daily values

Percent Memory Used

Critical Level	<input type="text" value="90"/>	1% to 100%	Nodes with Percent Memory Used above this level will appear on "High Percent Loss" reports. The Percent Loss Gauges will also be colored Bold Red.
Warning Level	<input type="text" value="80"/>	1% to 100%	Nodes with Percent Memory Used above this level will appear on "High Percent Loss" reports. The Percent Loss Gauges will also be colored Red.

Capacity Planning Calculate exhaustion using average daily values Calculate exhaustion using peak daily values

Figure 2 - Customize Network Capacity Thresholds



3 - View Capacity Forecast Chart

Drill-down into specific nodes for current and projected capacity utilization data. The node details page provides detailed information about interface, disk, memory capacity, and CPU capacity with forecast data. Figures 3 - 5 show the capacity forecast chart for CPU and memory for the Core Router. The projected capacity exhaustion for this device is two weeks (i.e. to reach >100% capacity), which allows enough time for you to plan for additional capacity.

Step 1 – Drill down to a specific node and click Customize Page.

Step 2 – Add the following resources: CPU Capacity Forecast Chart, Memory Capacity Forecast Chart, and Volume Capacity Forecast.

Step 3 – Click Submit.

Step 4 – View Forecast Charts.



Figure 3 - Forecast Capacity for Node Resources

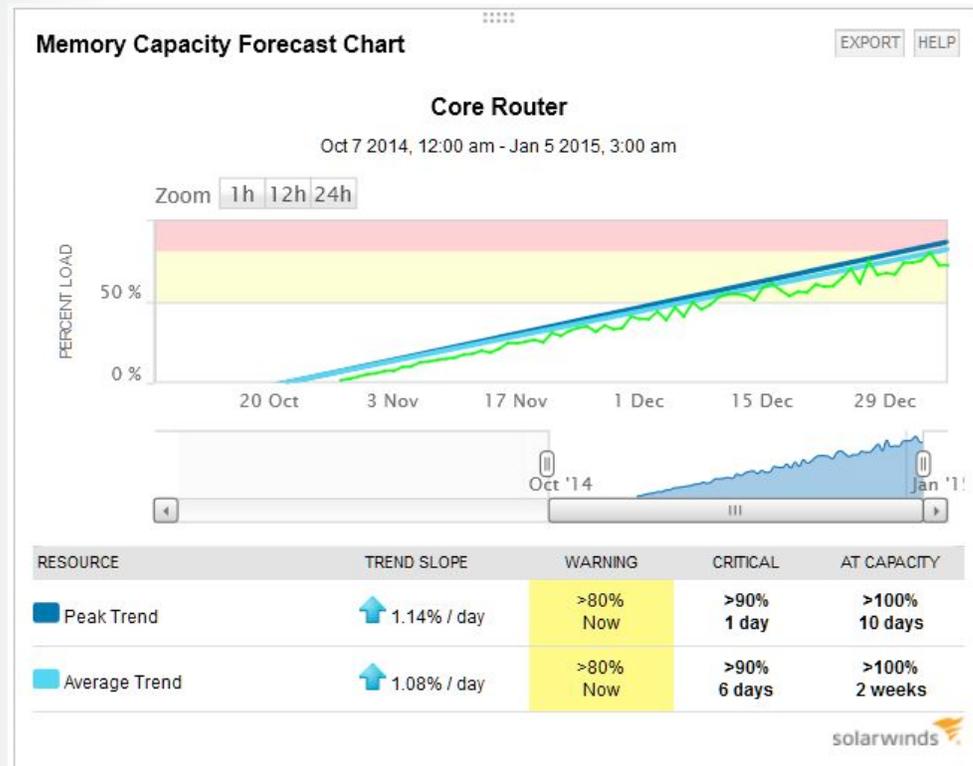


Figure 4 - Forecast Chart for Memory Capacity



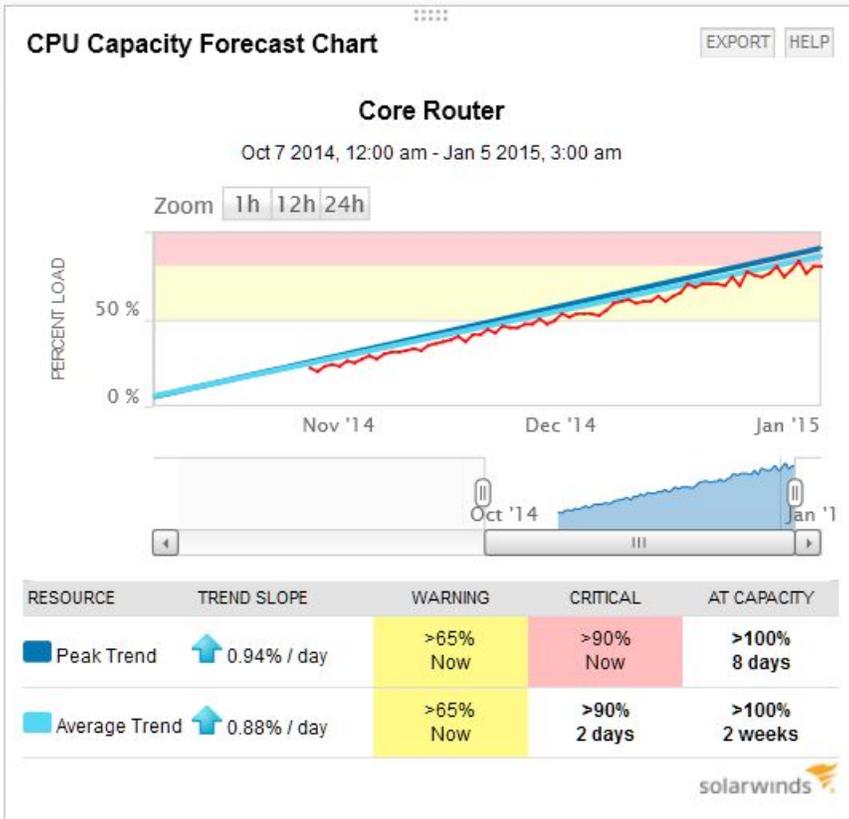


Figure 5 - Forecast Chart for CPU Capacity

4 - Plan Network Capacity Needs

Once you have forecast data for the particular device you can create alerts by defining Warning and Critical thresholds to plan and alert on capacity utilization and exhaustion. Using **SolarWinds NPM**, you can create reports, which helps you manage existing or additional capacity to avoid unwanted network slowdowns.

With NPM, it's easy to stay on top of your capacity needs without all the tedious work.

TOP 5 REASONS TO TRY SOLARWINDS NETWORK PERFORMANCE MONITOR

SolarWinds Network Performance Monitor (NPM) provides an at-a-glance summary of network and application performance metrics using deep packet inspection, and helps to quickly & accurately identify network & application reliability. With Quality of Experience (QoE), SolarWinds NPM:

- Speeds troubleshooting, increases service levels, and reduces downtime
- Monitors & displays response time, availability, and performance of network devices
- Analyzes user quality of experience using deep packet inspection and analysis
- Improves operational efficiency with out-of-the-box dashboards, alerts, and reports
- Automatically discovers network devices and typically deploys in less than an hour

Using deep packet inspection and analysis, **SolarWinds NPM** gives you the ability to quickly identify changes in application performance and compare them with network metrics to determine if performance issues are actually on your network or caused by the application.



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ABOUT SOLARWINDS

SolarWinds (NYSE: SWI) 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>.



Fully Functional for 30 Days