



Tech Tip: 3 Preliminary Steps to Quickly Troubleshoot Slow Networks

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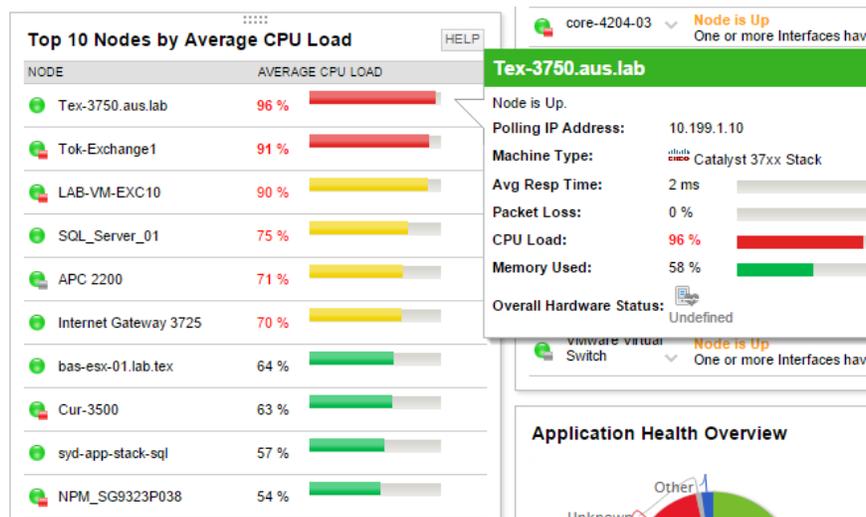
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Unexpected Simplicity™

After hours of troubleshooting a slow network, you finally discover the issue. Then you might think about how you could have averted the problem if you had known earlier what you know now. In your network administration tasks, you might rule out network issues while troubleshooting slow networks. You've heard complaints from users that the network is slow, but you don't know where or why. You don't want to simply increase bandwidth because that gets expensive fast. So you check for newly configured devices on your network. Naturally, you are monitoring the routers and switches in the network, which gives you an indication of what is going on there. You can substantially reduce your troubleshooting time with a combination of proactive and reactive network monitoring tools. For example, you can quickly troubleshoot slow networks using proactive [SolarWinds Network Performance Monitor \(NPM\)](#) and reactive tools in [SolarWinds® Engineers Toolset](#). Here are 3 preliminary steps that you can take to troubleshoot slow networks that are powered by Cisco® routers.

1. Set alerts to monitor top 10 nodes by average CPU loads
2. Set up CPU gauges and monitor routers with high CPU loads
3. Set up Bandwidth gauge to view sent/received data

Step 1 - Set alerts to monitor top 10 nodes by average CPU loads

The CPU loads on your vital switches and routers indicate the source of your network hogs. Say one of your [Cisco routers](#) at the remote site has recorded peak load at a specific time. Zeroing in on the troubled spot becomes easier. You can set your alerts to monitor the top 10 nodes by average CPU loads. This gives you an overview of the nodes that record the highest CPU load.



NODE	AVERAGE CPU LOAD
Tex-3750.aus.lab	96 %
Tok-Exchange1	91 %
LAB-VM-EXC10	90 %
SQL_Server_01	75 %
APC 2200	71 %
Internet Gateway 3725	70 %
bas-esx-01.lab.tex	64 %
Cur-3500	63 %
syd-app-stack-sql	57 %
NPM_SG9323P038	54 %

Tex-3750.aus.lab

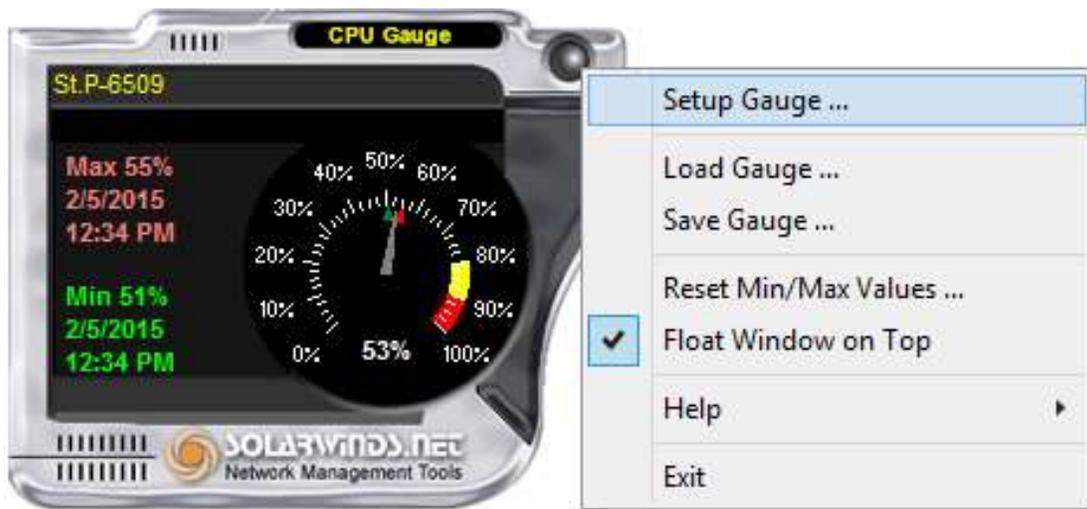
Node is Up.
 Polling IP Address: 10.199.1.10
 Machine Type: Cisco Catalyst 37xx Stack
 Avg Resp Time: 2 ms
 Packet Loss: 0 %
 CPU Load: 96 %
 Memory Used: 58 %
 Overall Hardware Status: Undefined

When you see a spike, check if the problem is due to interrupts or processes. Interrupts could have happened due to incorrect router configuration, or the router is overloaded with traffic. Check the device configuration. If it is neat, then check which process is loading the CPU. If the CPU loads are balanced, but your network performance is still slow, look at the traffic that goes through the remote location. This provides details of your bandwidth utilization. Chances are, your Cisco router performance might have been hit by excessive bandwidth utilization on the remote link, which would result in slow response times.

Once you have sorted out the issue, you might want to keep watching the CPU load bandwidth usage of the troublesome device. For this, you don't need to access the monitoring system. Instead, you can just run the handy gauges from [SolarWinds Engineer's Toolset](#).

Step 2 - Set up CPU gauges and monitor routers with high CPU loads

[SolarWinds Engineer's Toolset's CPU Gauges](#) is an easy-to-use graphical tool that can monitor CPU loads of a remote device. You can customize these gauges to monitor CPU loads on Windows® machines, Cisco routers, and switches via SNMP.

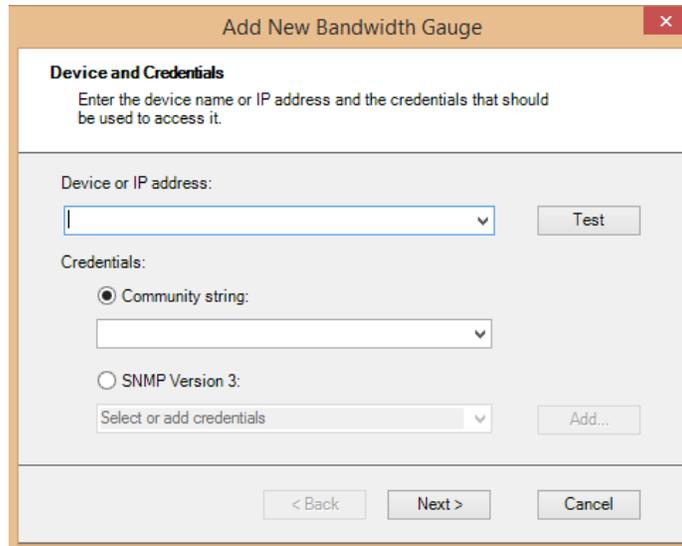


Just enter the IP address and SNMP string and start monitoring CPU loads. Maximum load since monitoring began displays in red, whereas the minimum load would be shown in green, and the current load is displayed in the center of the gauge.

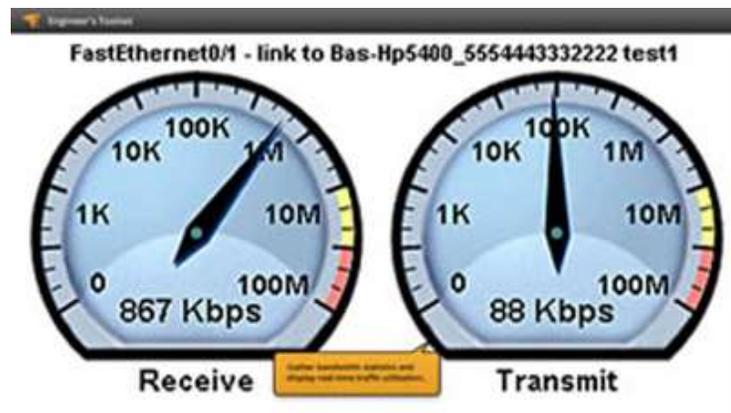
You can create and save individual gauges for each of your vital devices for quick access while troubleshooting.

Step 3 - Set up bandwidth gauge to view sent/received data

One of the basic metrics that describe the performance of a network path is the available bandwidth of that path. You can use [SolarWinds Engineer's Toolset's Bandwidth Gauge](#) to get an idea of how much data is being received and transmitted from any remote network device.



Enter the device name/IP address and its credentials to create your own bandwidth gauge, and start collecting statistics of sent/received data.

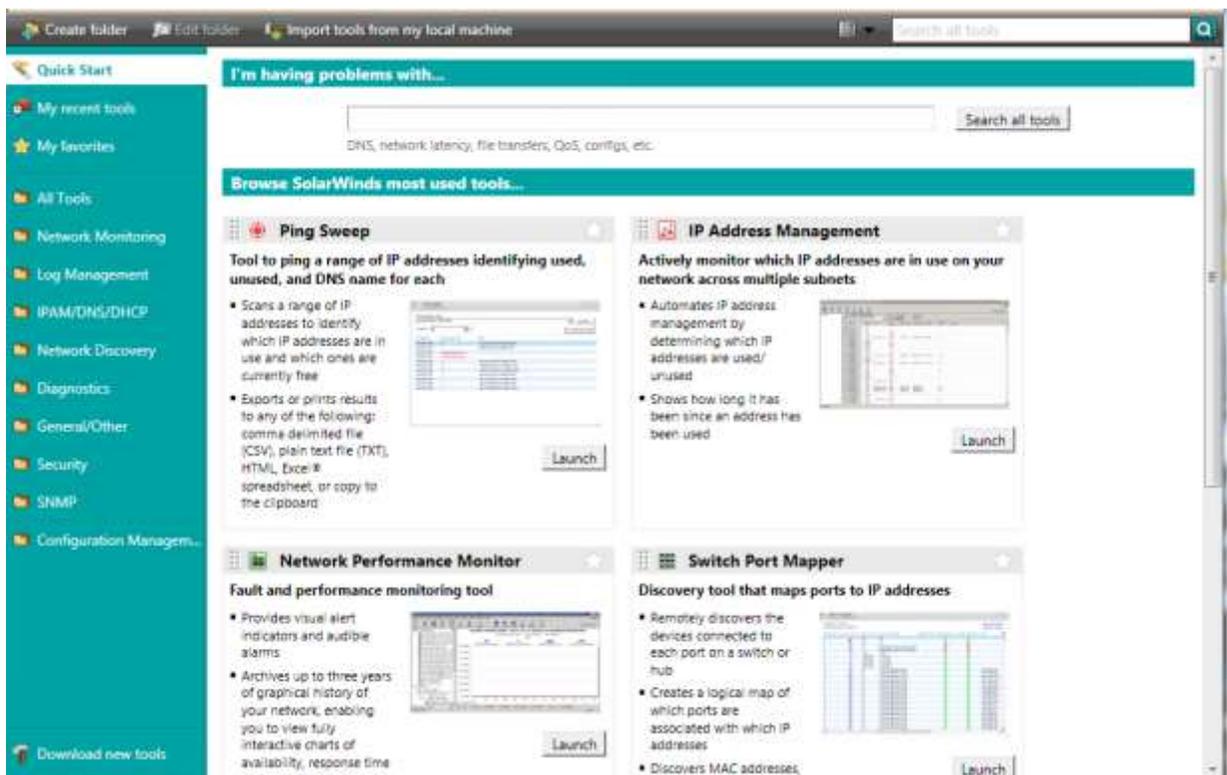


It is important to monitor the network to track changes in utilization and ensure that adequate bandwidth is available in the right locations. You have the option to show bandwidth gauges on top of all windows, even when working in another application.

Top five reasons to try SolarWinds Engineer's Toolset

[Engineer's Toolset](#) delivers an advanced collection of monitoring, discovery, diagnostic, and Cisco® tools. Here are the top five reasons to use SolarWinds Engineer's Toolset:

- Includes all the network tools you need in one complete package
- Monitoring tools include Interface Monitor, SNMP Graph, and more
- Diagnostic tools include Ping Sweep, DNS Analyzer, TraceRoute, and more
- Network discovery tools include Port Scanner, Switch Port Mapper, Advanced Subnet Calculator
- Cisco management tools include NetFlow® Analyzer, Config Downloader, and more



SolarWinds Engineer's Toolset has more than 60 network tools that help you easily perform your daily network management and troubleshooting tasks.

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