5 Tips for Creating Your Own Network Operations Center
A network operations center (NOC) is the focal point for monitoring your network and ensuring uptime. NOCs aren’t just limited to networks. They can also pan out to provide visibility into IT security, virtualized infrastructure, systems management, and more. Many times only large organizations have the resources necessary to create a dedicated NOC infrastructure. However, even smaller organizations can gain visibility into the availability and performance of their networks by creating their own NOCs. To create your own NOC you don’t need to have a snazzy room full of expensive high-tech gear for network surveillance. You can actually create your own just about anywhere and gain the ability to know how and where network issues occur—just in time for troubleshooting. So the question is, “How do I do that?” Below we’ll look at a few useful capabilities you can build into your network management system (NMS) that will give you an NOC field of vision at all times.

#1 Centralize Alert Management
Alerts can be a handful when dealing with a growing network with hundreds of types of devices from different manufacturers. You need to be able to receive them all in a single, central location for easy access and actionable insight. Alerts include, but are not limited to, availability statistics, performance metrics including device fault tolerance, errors and discards, hardware thresholds, syslog messages, and SNMP traps. The challenge with alert management not only lies in receiving alerts in a timely fashion, but also in managing them at a centralized level to help compare alerts, eliminate false positives, track alert history, deduce alert patterns, and more.

#2 Group Your Network Elements
It’s possible that you could have network hardware of different types, models, versions, from different makers, in different locations, and compatible with different platforms just to name a few possibilities. Given this medley of network devices, it’s difficult to get a logical understanding of network issues. The best solution is to create logical grouping of your devices, allowing you to monitor devices as a group instead of disparate entities. You could create static groups where you can manually add network nodes, dynamic groups that add devices automatically based on a pre-defined condition, or nested groups that can contain groups within a group, etc.

- Grouping devices for network monitoring helps you get a logical understanding of the situation.
- Grouping helps you set parent-child dependencies between network elements allowing you to eliminate redundant alerts and understand the impact of a faulty device on its dependents.

For example, if you have a group for your location and sub-groups for data centers that are further divided into sub-groups based on device type or vendor, it’ll be easier and faster to pinpoint the issue and decide upon the administrative action.
#3 Customize How You Want to View Network Diagnostics

At times you may find it frustrating that although you have the ability to obtain network health and performance statistics, you’re not able to dissect the information as quickly as needed. Many times this problem is due to the dashboard view used to see network performance data. The best dashboard is one that is Web based and can be viewed from anywhere. Moreover, the ability to customize your dashboard will allow you to understand your data even faster because you’ll be able to see what needs attention first, such as:

- What are the top interfaces facing maximum percent utilization?
- What are the top interfaces by traffic?
- What are the top nodes response time, packet loss, CPU load, or memory used?
- What are the top errors and discards today?

The ability to see what you want, when it’s needed most, will solve most of your NOC concerns.
#4 Map Device Topology

As a network administrator, you’re sometimes faced with the task of cluelessly searching for the reason your network went down. But how much easier would it be if you could instead just pin the problem on a map and trace its source? By mapping your network topology, you’ll be able to monitor network availability by simply looking at a geographical map. This is how you can do it:

- Discover your network nodes (network devices, interfaces, servers, etc.)
- Place network nodes on a custom-map (could be the map of your network site, data center, or physical location)
- Connect your network elements based on the ARP table data for a graphical depiction of both physical and virtual links

Network management software will help you build network maps at both Layer 2 (MAC address level) and Layer 3 (IP address level), so you can just look at the map and know which site is down, which node is down, and later drill down to find out further causes. A network map is a key ingredient to a successful NOC!
#5 Unify Network Management Platforms

It’s not just the budget involved but also the management overhead and operational expertise that are needed to run different network management platforms for different network requirements. Unifying the management platform could cut back on both time and money expenditure and give you a comprehensive view for your NOC functions. Look for a solution that can standalone but is also compatible with other IT management modules for network configuration management, systems management, virtualization management, etc. Having the same management platform simplifies operations, allows you to customize your interface conveniently, and certainly does not require more workforce just to manage your NOC.

Being able to access network performance monitoring data from the comfort of your workstation could be the most effective NOC that a network admin could ever have. The right NOC dashboard gives you a comprehensive view that is right there in front of you. It clearly shows how your network devices are performing and what is causing your network downtime. It’s simple—you don’t need a chief network engineer designing your NOC. You can do it by yourself and create your own network administration HQ at arm’s length, right there on your workstation.

Resources for Additional Learning

White Paper: Network Management Back to the Basics
White Paper: How to Create the Ultimate Network Management Dashboard
White Paper: Rightsizing Your Network Performance Management
White Paper: Network Management System (NMS) Buyers Guide
About SolarWinds Network Performance Monitor

SolarWinds Network Performance Monitor (NPM) makes it easy to quickly detect, diagnose, and resolve performance issues before outages occur. SolarWinds NPM is an affordable, easy to use tool that delivers real-time views and dashboards that enable you to visually track and monitor network performance at a glance. Plus, using dynamic network topology maps and automated network discovery, you can deploy and keep up with your evolving network without breaking a sweat. Discover, map, and monitor your network in less than an hour!

Feature Highlights:

• Simplifies detection, diagnosis, and resolution of network issues—before outages occur
• Tracks response time, availability, and uptime of routers, switches, and other SNMP-enabled devices
• Shows performance statistics in real time via dynamic, drillable network maps
• Includes out-of-the-box dashboards, alerts, reports, and expert guidance on what to monitor and how
• Automatically discovers SNMP-enabled network devices and typically deploys in less than an hour

About SolarWinds

SolarWinds (NYSE: SWI) provides powerful and affordable IT management software to customers worldwide. We are focused 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, to solve problems, share technology and best practices, and directly participate in our product development process. Learn more at http://www.solarwinds.com.