SolarWinds Network Configuration Manager
Table of Contents

1 PURPOSE OF THIS DOCUMENT ............................................................................ 3

2 WHY YOU MAY NEED A (NEW) NETWORK CONFIGURATION MANAGEMENT SOLUTION .................................................. 3

3 EVALUATOR’S GUIDE .......................................................................................... 6
   3.1 Installation .................................................................................................. 6
   3.2 Discovery .................................................................................................. 6
   3.3 Orion Web Console .................................................................................. 7
   3.4 Managing configuration files ................................................................... 7
   3.5 Additional NCM functionalities ............................................................... 8
   3.6 Network Insight ....................................................................................... 9
   3.7 Discover network paths with NetPath ..................................................... 9
   3.8 Alerts and reports ................................................................................... 10

4 VALUE OF A NETWORK CONFIGURATION MANAGEMENT SOLUTION .................. 12

5 HOW IS NCM LICENSED? .................................................................................. 14

6 GET A QUOTE .................................................................................................... 15

7 ADDITIONAL RESOURCES .............................................................................. 15

8 ABOUT SOLARWINDS ...................................................................................... 16
Purpose of this document

We're glad you decided to evaluate SolarWinds® Network Configuration Manager (NCM) for your configuration management needs. You can download the free trial here. The trial version is a fully featured version of the product, and is functional for 30 days. After the evaluation period, you can easily convert your evaluation license to a production license by purchasing and applying a license key.

This document will get you started with Network Configuration Manager and help you explore for yourself how SolarWinds NCM features work in your environment. It will guide you through installation and initial discovery, and provide an overview of key features and functionalities.

To view a live install of NCM (and other SolarWinds products) without introducing it to your environment, take a look at our live demo. It includes guided tours of NCM, where you can experience the workflow for restoring an archived configuration and using config change templates.

If you require further information or troubleshooting at any time, do not hesitate to contact sales@solarwinds.com or visit our Success Center, especially the Administrator Guide and Getting Started Guide.

Why you may need a (new) network configuration management solution

If the following issues often happen in your organization, you might need to consider a (new) network configuration management tool:

» Changing configurations of your network devices across your environment is cumbersome and error-prone
» Configuration change errors often cause network issues that are difficult to troubleshoot and resolve
» Numerous devices across various locations makes adhering to monitoring and auditing policies more challenging
» Device information is mostly inaccurate and obsolete
» Configuration backup methods usually include a combination of utilities, scripts, and manual tasks, which are prone to errors
» Archives are disorganized and difficult to search, making it hard to locate the most current configuration backup
» Extensive admin time and effort is required to organize and oversee multi-vendor device environments
» You cannot easily delegate administration and set who can view device details and make configuration changes

78% of surveyed customers say their favorite SolarWinds products are Network Performance Monitor or Network Configuration Manager.

— TechValidate survey of 50 users of SolarWinds Government
## Benefits of Network Configuration Manager

<table>
<thead>
<tr>
<th>FEATURE</th>
<th>BENEFIT</th>
</tr>
</thead>
<tbody>
<tr>
<td>Scheduled configuration backups</td>
<td>Schedule configuration downloads, configuration uploads, device reboots, command script execution, and more. In addition, configuration backups are stored in a relational database for archival history and as flat files in an intuitive folder structure for easy viewing.</td>
</tr>
<tr>
<td>Policy management</td>
<td>Help ensure device compliance with federal regulations, as well as corporate standards. The Policy Reporting Manager includes policy reports, such as SOX, HIPAA, CISP, and Cisco® Security.</td>
</tr>
<tr>
<td>Role-based access control</td>
<td>Integrate your Windows® Active Directory® or local system user accounts with SolarWinds NCM. You can manage users based on their role, and establish individual device login credentials per user. SolarWinds NCM logs all user activity, allowing you to keep an archive of changes.</td>
</tr>
<tr>
<td>Multiple vendor support</td>
<td>Monitor network devices from multiple hardware vendors in a hybrid network environment.</td>
</tr>
<tr>
<td>Bulk changes</td>
<td>Make changes to community strings, passwords, and black lists across many devices. Execute bulk changes either in real time or within a scheduled change window. Uploads, changes, and global command scripting can be scheduled by device type, physical location, owner, or custom property.</td>
</tr>
<tr>
<td>Configuration change history</td>
<td>Receive reports on what devices have had configuration changes over a specified time period. Configuration change reports can also compare current configurations with a baseline configuration, alerting you whenever a change is discovered.</td>
</tr>
<tr>
<td>Establishing baseline and understanding config drift</td>
<td>Save time identifying out of compliance configurations using multi-device baselines. Use a single baseline or multiple across your network to monitor the configs critical to you and leverage the baseline diff viewer to quickly identify changes within those configs.</td>
</tr>
<tr>
<td>Configuration viewing, tracking, and comparing</td>
<td>Use SolarWinds NCM to remotely view, track, and make changes, and compare network device configurations without logging in to the physical SolarWinds NCM server. The Orion® Web Console offers these functions to the users you select.</td>
</tr>
<tr>
<td>Orion alerts integration</td>
<td>Use a default SolarWinds NCM alert in the Orion Alert Manager and specify actions to run when this alert triggers. View the results of those actions along with the notification.</td>
</tr>
<tr>
<td>Feature</td>
<td>Description</td>
</tr>
<tr>
<td>---------------------------------------------------</td>
<td>----------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Device configuration change templates</td>
<td>Use templates to generate an appropriate sequence of commands for relevant devices for which you need to make a specific configuration change.</td>
</tr>
<tr>
<td>Orion alerts integration</td>
<td>Use a default SolarWinds NCM alert in the Orion Alert Manager and specify actions to run when this alert triggers. View the results of those actions along with the notification.</td>
</tr>
<tr>
<td>Device configuration change templates</td>
<td>Use templates to generate an appropriate sequence of commands for relevant devices for which you need to make a specific configuration change.</td>
</tr>
<tr>
<td>Device configuration change management</td>
<td>Set up a request and approval system for processing the workflow of device configuration changes.</td>
</tr>
<tr>
<td>Device end of support and end of sales tracking</td>
<td>Track the end of support and sales status of your SolarWinds NCM nodes.</td>
</tr>
<tr>
<td>Firmware upgrades</td>
<td>Upgrade the firmware on several devices at one time. Because security fixes are distributed as new firmware revisions, upgrading firmware helps network administrators correct security vulnerabilities.</td>
</tr>
<tr>
<td>Vulnerability assessment of your network devices</td>
<td>Generate vulnerability reports of your network devices and compare your firmware versions against warnings provided by the National Institute of Standards and Technology (NIST®).</td>
</tr>
<tr>
<td>Network Insight™ for Cisco ASA firewalls</td>
<td>Gain complete visibility into Cisco’s next generation firewalls: Adaptive Security Appliance (ASA), including support for multi-context, access control lists (ACLs), and firmware upgrades.</td>
</tr>
<tr>
<td>Network Insight™ for Cisco Nexus®</td>
<td>Automate the management of your Cisco Nexus devices with virtual device context (VDC) support, access control list management, and firmware upgrades.</td>
</tr>
<tr>
<td>Consultant and services-free deployment</td>
<td>Install and deploy typically in about an hour, with out-of-the-box monitors, alerts, and reports.</td>
</tr>
<tr>
<td>Orion Platform integration</td>
<td>Access all your network and system monitoring solutions from SolarWinds through the Orion Web Console. Troubleshoot faster with our unique cross-product tools such as PerfStack™ or NetPath™.</td>
</tr>
</tbody>
</table>
Evaluator’s guide

HOW TO INSTALL AND CONFIGURE

INSTALLATION

To install SolarWinds NCM, please follow the SolarWinds Orion Installer instructions. The guide has a handy checklist that guides you through the installation steps, including:

» Systems requirements and preparing your environment
» Gathering credentials
» Preparing your environment

The single installer allows you to install all SolarWinds products available on the Orion Platform. You might also consider evaluating the following products, which are often chosen by our customers to complement SolarWinds NCM.

Network Performance Monitor - Multi-vendor fault, performance, and availability monitoring, with visibility into the cloud providers’ network.

Server & Application Monitor - Monitoring the performance, capacity, and health of Linux® and Windows® applications across data centers, remote offices, and the cloud.

DISCOVERY

Discovery is the process NCM uses to identify network elements. During Discovery, NCM scans the network for nodes, and when a node and associated elements are found, you can add them to the SolarWinds database for monitoring.

For a first evaluation, a limited range of IP addresses should be sufficient to try out NCM features. For a more in-depth look into monitoring capabilities, you can run the Discovery Wizard at any time to look for IP ranges, subnets, IP addresses, and Active Directory domain controllers.

You can follow articles found in the Discovery section of the Getting Started Guide to help you determine what to monitor, guide you through Discovery, and add devices to the Orion database.

After you discover and add devices to the Orion Platform for monitoring, you also need to add the devices to NCM by establishing a connection profile between NCM and the node you want to manage. Please follow this walkthrough on how to add devices to NCM: Add devices to SolarWinds NCM.
ORION WEB CONSOLE

After a successful installation, you can log in to the Orion Web Console, which starts filling up with monitoring data. While waiting for it to complete, explore the interface.

![Orion Web Console with Configuration views](image)

Learn more about how to navigate the Web Console

MANAGING CONFIGURATION FILES

The core functionality of Network Configuration Manager is managing config files: editing, backing up and restoring them, comparing versions, and setting baselines. With NCM, you get all this with the least effort possible for the administrator, which means that routine operations are automated. The goal is to provide peace of mind that your configs can be restored at any time, whether for troubleshooting or other purposes.

Please review the following articles on the most common tasks when managing configs.

» Ways to edit configs

» Back up a config manually
» Edit a config using a script
» Run an inventory scan on a node
» Edit a config using a template

ADDITIONAL NCM FUNCTIONALITIES

**Backups**
Before you make a change to a config, SolarWinds recommends that you back up the config in case the change is unsuccessful. If the change is unsuccessful, you can revert to the version you backed up. Configs monitored by NCM are scheduled to automatically back up each night. You can use that schedule or you can schedule a backup job to run at any time.
Learn more: [Schedule daily backups of config files](#)

**Baselines and config drift monitoring**
Establish baselines that can be used to identify any out-of-compliance config changes (drift) that may occur.
Learn more: [How do I configure a baseline?](#)

**Change detection and approval**
Real-time change detection provides instant notification through email whenever a change occurs to any of your device configurations. Combined with a system of change approval in NCM, no config change will go live unapproved and undocumented.
Learn more: [What is real-time change detection?](#)

**Firmware updates**
NCM allows network administrators to upgrade the firmware on many devices at once.
Learn more: [Firmware upgrades](#)

**Firmware vulnerability data**
SolarWinds NCM imports into its database the firmware vulnerability warnings provided by National Institute of Standards and Technology (NIST). SolarWinds NCM sources that data into the Firmware Vulnerabilities resources on the Config Summary page.
Learn more: [Firmware vulnerability data](#)
NETWORK INSIGHT

Going beyond the basic monitoring data, SolarWinds NCM offers deeper integration into selected brands of devices. Usually combining functionalities across multiple products in the Orion Platform, we offer these features as Network Insight.

The following articles go into greater detail about configuring and using the Network Insight features.

Network Insight for Cisco Nexus provides insight into the health of your Nexus devices and visibility into your virtual port channels (vPCs). It also automates the management of your Nexus infrastructure to help ensure service availability.

With NCM, you can view the config details of vPCs; easily manage access control lists (ACLs) of your Cisco Nexus devices; compare ACLs, search and filter rules, identify rules that have not been applied and detect shadowed rules; automate firmware upgrades of selected devices; and run device inventory reports.

Network Insight for Cisco ASA automates the monitoring and management of your ASA firewall infrastructure. Monitor health and performance of the ASA, get visibility into VPN tunnel connectivity, analyze access control lists, and identify shadowed and redundant rules.

DISCOVER NETWORK PATHS WITH NETPATH

If you are evaluating SolarWinds Network Performance Monitor together with NCM, in this section you can learn how these two products enrich each other and show a comprehensive picture of your network.

With NetPath™, you can see inside internet cloud service providers’ networks. More than a visual traceroute, the NetPath feature lets you see into all your critical network paths for deeper insights and faster time to resolution.

We’re managing a large fleet of network devices from different manufacturers and it’s nice to do this in a single management console.

— Chief Information Officer, Membership Organization
NCM enriches the data in NetPath, showing relevant prompts when a config change might be the culprit of problems with the network.

» Troubleshoot a network issue caused by a config change

» How was it done? Troubleshoot a network issue caused by a config change

» See NetPath in action

ALERTS AND REPORTS

The most common task of a monitoring product is to draw the user’s attention to a problematic area of their network that requires action. Alerts, when set up correctly, are the best way to go about it.

NCM comes with predefined alerts for common problems such as a node going down, high interface utilization, packet loss, and many more.

Many predefined alerts are enabled by default, so if there are problems, you are alerted as soon as you discover your network and add discovered devices to SolarWinds NCM.
Learn more: Create and manage alerts in SolarWinds NCM

Reports for all Orion Platform products are located on the main menu under Reports. There, you can view a list of predefined reports, customize the predefined reports, or create your own reports. You can also manage their delivery schedule.

Learn more: SolarWinds NCM reports

The following terms will help as you explore SolarWinds NCM:

» Orion Web Console: The web interface you see when you log on to Orion that is used to view, configure, and manage all of your monitored objects. You can access the Orion Web Console from any computer connected to the internet.

» View: An individual page in the web console.

» Resource: The widgets or informational blocks that make up a view.

» Element: Anything that can be monitored by the Orion Platform.
Value of a network configuration management solution

Are you looking to evaluate the added value of a network configuration management solution to your enterprise? It’s not a straightforward task, because the benefits are often not directly quantifiable and need to be approximated.

Benefits ultimately come down to:

» Cost savings
» Avoiding unexpected remediation efforts

Below is a list of areas where the benefits and costs of network monitoring come into play.

BENEFITS:

Salary/staff time savings

Today’s complex networks require highly trained network professionals to maintain the network, configure new users, respond to support calls, and plan and support network expansions and changes. Automated technology that helps maintain or even reduce headcount offers a directly quantifiable return. In most cases, network management and monitoring solutions free network professionals to work on more strategic projects, which can help to reduce costs and drive increased revenue.

Reduced network downtime

Network downtime can be directly quantified by simply calculating the cost of the time a network professional spends troubleshooting and resolving the cause of the downtime. This cost, however, is simply the tip of the iceberg as far as the total cost of network downtime is concerned. Lost employee productivity, lost revenue, and lost customer goodwill are all examples of costs that are harder to calculate, but have a much greater impact.

Reduction in support calls

Network management and monitoring solutions alert network management and support teams to potential problems before users start to complain and generate support calls. The cost of support calls can be easily calculated by looking at the number of calls per week, the time to resolve a support call, and the cost per hour of support time. By reducing the number of support calls through proactively monitoring and managing the network, you can directly quantify the cost savings.

100% of surveyed IT organizations save up to 25 hours or more each month managing network configurations by using NCM.

— Source: TechValidate survey of 164 users of SolarWinds Network Configuration Manager
Decreased time to resolution

Time to resolution is the amount of time that it takes to resolve an issue once the network professional is notified. Network monitoring and management systems with real-time diagnostic data viewable through dynamic network maps can greatly reduce the amount of time required to troubleshoot and pinpoint the source of the issue.

Managing service level agreements (SLAs)

Network operations teams are typically held to or measured against a quantifiable service level agreement, usually a percent of network uptime. This SLA can be an internal SLA or an external SLA with your service provider, for example. If network availability is directly attributable to a company’s revenue, then the cost of downtime can be easily measured based on the average revenue that would have been generated during the downtime.

COSTS:

License cost

Monitoring and management solutions can be licensed perpetually (one-time license fee) or on a subscription basis (monthly or annual fee). The number of devices, nodes, interfaces, elements, or applications that are being monitored and managed typically determines licensing costs.

NCM, like all SolarWinds products, has transparent and readily available price lists and licensing tiers, allowing you to quickly assess the license costs. Read about licensing tiers for NCM below.

Product maintenance, support, and upgrades

These costs are typically optional but need to be factored into the total cost of ownership (TCO). What level of customer support is offered? Are product upgrades included, or are they separate?

SolarWinds automatically includes one year of maintenance with the purchase of our licensed products. This allows our customers to experience the SolarWinds difference, including frequent product releases and 24/7 support, for a full year without an additional charge. After the first year, your annual renewal preserves access to SolarWinds world-class software updates, support, and virtual instructor-led product training.

There are three easy ways to renew: via the Customer Portal, email, or a SolarWinds reseller. Read more on product maintenance and renewals here.

Dedicated hardware or software

This is the price of the hardware, such as a server or appliance that is required to run the solution. There may also be additional software components, such as database software (SQL), virtualization software, or Windows licenses.

Would you recommend SolarWinds Network Configuration Management? Highly, great tool, reasonably priced, easy to use, and very powerful if used correctly.

— Craig Norborg, Network Engineer, Genesis HealthCare Corporation
Installation/implementation/consulting

In some cases, the cost of installation, implementation, and fine-tuning of the solution can be as high (or higher) than the cost of the upfront license.

SolarWinds products are famous for their ease of install, not requiring any outside consulting. An NCM install can be up and running typically within an hour.

Training

Determine if there are any training costs required to implement or operate the solution. Training costs need to include both the initial training costs, as well as any ongoing instruction that will be required as staff is turned over.

SolarWinds Orion Platform’s intuitive user interface lends itself to discovery. Even without training, network administrators can start monitoring and creating alerts and reports almost immediately. NCM’s feature depth and customization options allow for great fine tuning; all of the nuances are well-documented in the Success Center. The very active THWACK® community has over 150,000 registered members sharing ideas and best practices.

How is NCM licensed?

SolarWinds NCM can manage almost any network device, including routers, switches, and firewalls. Any of your version 3 or earlier SNMP-enabled devices can provide configuration files to SolarWinds NCM. It is licensed by the number of nodes. A node is defined as an entire device, such as a router, switch, server, access point, or modem.

The following list provides the different types of NCM licenses that are available:

<table>
<thead>
<tr>
<th>License</th>
<th>Number of Nodes</th>
</tr>
</thead>
<tbody>
<tr>
<td>DL50</td>
<td>Up to 50 nodes</td>
</tr>
<tr>
<td>DL100</td>
<td>Up to 100 nodes</td>
</tr>
<tr>
<td>DL200</td>
<td>Up to 200 nodes</td>
</tr>
<tr>
<td>DL500</td>
<td>Up to 500 nodes</td>
</tr>
<tr>
<td>DL1000</td>
<td>Up to 1000 nodes</td>
</tr>
<tr>
<td>DL3000</td>
<td>Up to 3000 nodes</td>
</tr>
<tr>
<td>DLX</td>
<td>Unlimited nodes</td>
</tr>
</tbody>
</table>

Learn more about licensing of NCM and other SolarWinds products
Get a quote

It is quick and easy to generate a quote online.

On our Contact Us page, you can find a list of toll-free numbers for a number of countries, as well as a web form to contact our sales team. We will be more than happy to answer any of your questions.

For direct technical support with installation, configuration, setup, operation, or other product-related issues, you can directly submit a ticket via our Customer Portal (even without a SolarWinds Customer ID).

AMERICAS
Phone: +1 866.530.8100
Fax: +1 512.682.9300
Email: sales@solarwinds.com

EUROPE, THE MIDDLE EAST AND AFRICA
Phone: +353 21 500 2900
Email: sales@solarwinds.com

ASIA
Phone: +65 6422 4123
Email: apacsales@solarwinds.com

FEDERAL, FEDERAL RESELLER, AND SYSTEM INTEGRATORS
Phone: +1 877.946.3751
Email: federalsales@solarwinds.com

EUROPE NATIONAL/CENTRAL/ FEDERAL GOVERNMENT
Phone: +353 21 2330440
Email: nationalgovtsales@solarwinds.com

PACIFIC
Phone: +61 2 8412 4910
Email: apacsales@solarwinds.com

RESELLER, VARS, DISTRIBUTORS
Tel: +1 512.682.9877
Fax: +1 855.498.4155
Email: reseller@solarwinds.com

Additional resources

» Getting Started Guide

» Release notes

» Administrator’s guide

» NCM Success Center

» NCM section on THWACK
  • Product roadmap
  • Product blog
  • User content exchange

» Scalability for Orion products
About SolarWinds

SolarWinds (NYSE:SWI) provides powerful and affordable IT management software to customers worldwide, from Fortune 500® enterprises to small businesses, managed service providers (MSPs), government agencies, and educational institutions. We are committed to focusing exclusively on IT, MSP, and DevOps professionals, and strive to eliminate the complexity that our customers have been forced to accept from traditional enterprise software vendors. Regardless of where the IT asset or user sits, SolarWinds delivers products that are easy to find, buy, use, maintain, and scale while providing the power to address key areas of the infrastructure from on-premises to the cloud. This focus and commitment to excellence in end-to-end hybrid IT performance management has established SolarWinds as the worldwide leader in both network management software and MSP solutions, and is driving similar growth across the full spectrum of IT management software. Our solutions are rooted in our deep connection to our user base, which interacts in our THWACK online community to solve problems, share technology and best practices, and directly participate in our product development process. Learn more today at www.solarwinds.com.