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WHITEPAPER

Device Lifecycle Management

Using
SolarWinds® Network Configuration Manager

solarwinds
Unexpected Simplicity™

Introduction

With the ever-increasing number of devices, business-critical applications, and data, enterprise network administrators are now under tremendous pressure to deliver round-the-clock network availability, optimized performance, and quick resolution of issues. However, the fact is, in many organizations the management of network infrastructure elements is disorganized and scattered. Administrators are using spreadsheets, network diagrams in MS PPT or Visio®, and isolated databases—all maintained separately and often not updated. With such demanding network requirements, it's high time that organizations adopt a unified approach to managing their network infrastructure elements.

Furthermore, to justify the spend on the maintenance of their networks, organizations are now required to assess and optimize everything from hardware upgrades, firmware upgrades, capacity upgrades, maintenance contracts, and configuration backups. To achieve this, administrators need complete visibility, real-time alerting, and analytical data to help them make informed infrastructure investment decisions.

The Network Device Management Challenge

Maintaining a unified platform to collect and monitor details of all devices in the network continues to remain the top most challenge for network administrators. What every administrator needs is a common platform that simplifies device discovery, configuration, monitoring, and administration of all devices in the network.

Some of the difficult areas of device administration include:

1. Manually keeping track and assessing the status of all device details by building and maintaining an updated database
2. Performing regular device configuration backups and maintaining an archive of device configurations
3. Managing device configuration, firmware upgrades, capacity upgrades, maintenance contracts, replacements, etc
4. Detecting and reporting on compliance policy violations
5. Tracking device End-of-Life (EoL) and End-of-Sale (EoS) status to prevent loss of vendor support in the event of a device failure

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Device Lifecycle Management

Device lifecycle covers the span of a device from the time it's inducted into the network, to the time it's removed and no longer in operation. Network admins must execute a series of tasks in order to ensure smooth and optimized network operation. Let's take a look at the steps involved in the management of a device through its lifecycle:

Steps Involved in Device Lifecycle Management

1. **Enroll -** Maintain detailed inventory of networked devices. Build and keep a configuration database for easy access—especially for validation of device maintenance contracts. Administrators must at all times have firsthand information of device serial numbers, interface and port details, IP addresses, ARP tables, installed software, etc.

2. **Configure -** Maintain a safe archive of device configurations that's easy to search. Periodic and regular network configuration backups should be carried out and prepared in the case of need. This could be restoring a particular configuration or copying and using the same configuration for a new device.

3. **Collect -** Ensure that all devices are up to date on upgrades, collect device status information on the OS and software details, and analyze device data to make informed investment decisions.

4. **Secure -** Constantly keep an open eye for policy violations on both internal standards and federal regulations. Eliminate the threat of devices that could be accessed by unauthorized users, pose a security risk, or do not meet internal configuration standards.

5. **Service -** Ensure all devices are up to date in firmware upgrades. Proactively monitor End-of-Life (EOL) or End-of-Support (EOS) status of all devices in the network. Avert any network downtime caused due to EOL or EOS.

Manually managing and executing all device lifecycle tasks in a multi-vendor environment with hundreds of devices is an extremely time-consuming and error prone task. Here

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rises the need for a tool that can automate and simplify the effort that goes into managing these device lifecycle events.

SolarWinds® Network Configuration Manager (NCM)

SolarWinds Network Configuration Manager (NCM) is a powerful tool that helps network administrators keep track of devices in their network. With immediate visibility into device details and configuration data, it enables them to stay ahead of network issues, save time and money, make smart decisions, and ultimately stay in control.

What are the specific features that NCM offers to support effective management of your devices and, in effect, your network?

Automatic Device Import

Perform a quick scan and automatically import devices into the NCM database. NCM, equipped with a robust network discovery engine, quickly scans your entire network and automatically imports all devices into the NCM database. It saves network engineers valuable time by eliminating manual effort and decreasing device deployment time.

Furthermore, NCM provides multi-vendor device support for your heterogeneous network. Therefore, administrators can easily modify or build device templates and support plans to scale to more heterogeneous environments.

NCM also provides real-time total network inventory reports that can be emailed, printed, or exported to Excel®, HTML, PDF, or as a plain text file. Detailed information on device serial numbers, interface and port details, IP addresses, ARP tables, installed software, and many other data stored in the database can be generated as reports.

Scheduled Device Configuration Backup

The most important step in device lifecycle management is performing regular network configuration backups and archival. NCM supports this critical step by carrying out both tasks automatically.

NCM leverages Windows® Task scheduler to organize and schedule backup jobs. Every job created can be viewed and modified from within NCM or Windows Task Scheduler. These configuration backups are not only stored in a relational database for archival, but also as files in an intuitive folder structure that makes it available for easy viewing.

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In the event that a device fails and needs to be quickly replaced, NCM configuration archives will prove to be a lifesaver. You'll be able to automatically export full device configurations to an archive in text file format and easily restore or copy to setup a new device.

Additionally, the global configuration search feature enables quick search for any IP address, device name, or text within the NCM database. You can perform a global search for specific text in any of the configuration files or find any node with matching text, making it easy to track down a specific configuration or node in seconds!

Device OS and Software Updates

Checking the device inventory reports, admins can find devices that need IOS or firmware updates or upgrades. NCM helps you easily keep all devices updated from a single console. It enables you to perform IOS/firmware updates in real time or scheduled on devices individually, or as a group. You also have the option to upload and download IOS images with the built-in SolarWinds TFTP Server.

Network inventory reports provide a large amount of data for analysis, enabling administrators to make decisions on capacity upgrades, replacements, and renewal of maintenance contracts.

Compliance Policy Violations

With NCM, network administrators can keep devices compliant with federal as well as internal standards of an organization. The device remediation feature within NCM permits you to automatically remediate any policy violations directly from the report level. By right-clicking on a policy violation within the Windows® client reporting interface, it's easy to immediately apply a remediation script to repair any devices that are found to be in violation of policies. In doing so, SolarWinds NCM streamlines the configuration policy verification and remediation process for SOX, PCI, HIPAA, and other regulations.

The NCM Policy Reporter helps organizations automate the policy compliance processes. Scheduled reports help identify devices with configuration violations, those that could be accessed by unauthorized users, pose a security risk, or do not meet internal configuration standards. Therefore, admins can easily create policy reports and check configuration rules before pushing out devices into the production environment.

Tracking Device End-of-Life and End-of-Sale

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This feature of NCM assists administrators in tracking devices approaching EOL/EOS dates beforehand and adopting a proactive stand to plan for a smooth device replacement. Based on recommendations from the NCM EOL database, the administrator can easily assign EOL/EOS dates to the device.

Once these key service dates are associated with each device, profile reports generated through NCM can furnish information to audit and control maintenance costs. NCM fetches data on devices approaching (or past) their EOL dates. With this information, admins can prepare accurate capital budget forecasts, plan and coordinate device replacements, and more.

With tens, hundreds or even thousands of devices in use, administrators find it very difficult to know when a device is approaching the end of its service life. It's extremely risky to have obsolete, underperforming, or non-compliant devices in the network. All critical devices must be covered under vendor support. Device EOL information also helps admins decide and budget for annual maintenance.

Solving Day-to-Day Management Problems

Good network lifecycle management is in many ways the best tool that network managers have for cutting maintenance and service costs. It can also save organizations loads of time in how they manage devices that reach their end-of-life stage. How does NCM help organizations save time and money and increase performance or quality of the network?

- Save time with NCM's ability to scan your entire network and automatically import devices into the NCM database. Ensure your network devices are imported regardless of vendor.

- Configuration backups save the day in the event of device failures and help you quickly recover from network downtime caused due to device failure or configuration errors.

  - With NCM, you can be certain that all network devices are up-to-date on IOS and firmware versions—all from a single console.

- Ensure compliance by easily creating policy reports as well as gain the ability to check configuration rules before pushing out to devices. In case of a policy violation, you'll be able to immediately take remedial action.

- Eliminate the painstaking manual process of finding End-of-Sale and End-of-Life dates for your devices. Ensure that vendor support exists for all devices operating in the network.

Conclusion

If you're still managing enterprise assets manually through spreadsheets or other means, it's time to transition to an automated solution. A powerful, affordable solution that keeps network devices up to date and helps perform tasks like device backup, total network inventory and compliance, and EOL maintenance. Be proactive and plan ahead for device replacement and stop worrying about unknown data on obsolete devices. In short, automate your device lifecycle management process of enrolling, configuring, collecting, securing and servicing all your network devices.

SolarWinds Network Configuration Manager (NCM)

Streamline and effectively scale network configuration management with SolarWinds Network Configuration Manager (NCM). NCM takes the hassle out of network configuration tasks and takes change management to the next level with powerful automation and validation.

- Scan, discover, and import multi-vendor devices automatically
- Automate and schedule backups of network device configurations
- Deploy bulk configuration changes to thousands of devices simultaneously
- Protect against unauthorized or erroneous changes and get real-time alerts
- Automatically detect and remediate policy violations to ensure compliance

Try Network Configuration Manager FREE for 30 days!

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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, **thwack**, to solve problems, share technology and best practices, and directly participate in our product development process. Learn more today at **http://www.solarwinds.com/.**

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