HP Enterprise Services automates network tasks for IT services’ customers

HP Network Automation software reduces device management costs by millions, while ensuring data integrity, device security

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—Wendy Wheeler, content manager, HP

Objective
Manage network devices on behalf of IT infrastructure outsourcing customers, meeting customers’ requirements for cost-savings and high standards of service

Approach
Leverage network management automation to eliminate manual, labor-intensive tasks, ensure data integrity

IT improvements
• Automating device security checks and configuration updates, reduces time per device from 15 minutes to seconds
• Upgrade of 7,000 devices took 5,353 hours less than it would have if performed manually
• Accurate, up-to-date network data supports integrity of configuration databases and management tools
• Reduces operations, engineering and project management costs to deploy network devices
• Improve ability to generate reports for consumption by IT and business managers

Business benefits
• Automated lockdown of customers’ devices ensure security, compliance standards are applied to devices consistently
• Cost savings on two accounts of up to $1 million per customer per year
• Faster and more cost-effective to equip customers’ employees with new devices as required to meet changing business needs
• Provides accurate data to solve many business questions
One way HP Enterprise Services does this is by leveraging HP Network Automation (NA) software, a technology that supports the automation of tasks such as network device configuration and compliance checks. HP Enterprise Services currently manages over 149,000 network devices using the HP NA solution; the devices are deployed in conjunction with a wide range of operating systems, applications, and databases. Eventually, HP Enterprise Services will manage about 260,000 devices with HP NA software.

Another benefit of HP NA solution is that HP Enterprise Services can centralize configuration management processes, even when deployments are highly distributed. This not only makes device management easier, but also supports the efficient allocation of resources. And it enables HP Enterprise Services to follow ITIL standards for change and problem management, which in turn helps HP Enterprise Services to rapidly identify device changes and supporting faster trouble-shooting and diagnosis.

In some cases, the benefits of the software are straightforward, measured in cost and time savings. But in other cases, HP Enterprise Services demonstrated that HP NA software helps customers achieve other goals, including responding to the changing needs of their businesses.

**Automation drives cost savings**

In one example, an international bank outsourcing its IT infrastructure to HP Enterprise Services required HP to check the security settings of its network devices, a common requirement for any company operating in an industry where security and privacy regulations are business-critical considerations. This task would take 15 minutes per device to perform manually.

So instead, HP Enterprise Services wrote HP NA scripts to automatically check and configure the devices AAA (Authentication, Authorization, and Accounting), SNMP (Simple Network Management Protocol), ACL (Access Control List), and other security parameter settings.

“**When network managers begin considering the different ways they can utilize HP Network Automation software, the results often extend far beyond its out-of-the-box capabilities. The potential for labor and cost-savings alone is enormous.**”

Wendy Wheeler, content manager, HP

By automating these security checks, HP Enterprise Services can perform them 300 to 400 times per month. This saves around 15 minutes per device, and ensures the devices are always compliant. Eliminating the need for manual security checks also translates into cost-savings for the customer. “It’s a great example of how the HP NA software helps us achieve year-over-year cost savings in infrastructure management,” says Wendy Wheeler, content manager, HP.

HP Enterprise Services also automated another task it performs on behalf of the bank: managing upgrades to the bank’s Cisco device Internetwork Operating System (IOS). This task, done manually, would be even more time-consuming than the security checks. It would take 45 minutes per device, and multiple IOS upgrades are required per week.

Instead, by performing the upgrades automatically using HP NA software, HP Enterprise Services ensures that the bank’s 58,000 Cisco devices are always up-to-date, while minimizing infrastructure management costs. The team recently performed an upgrade of 7,000 of the devices; automation reduced the time needed to perform this upgrade by 5,353 hours.
Data integrity: another benefit of automation

Cost savings is only one benefit of automating network device management. Another is data integrity. Because inventory data is manually entered by associates it is often not accurate, HP Enterprise Services continually seeks ways to leverage device data collected by HP NA software. “We know the HP NA data is clean, because the information comes directly from the devices,” Wheeler says. “So whenever possible, we use it to populate and validate information in other databases.” For about 350 customers, for example, HP Enterprise Services exports device fields from HP NA into other management systems, such as inventory databases, client portals, or third party tools. Doing this ensures those databases and tools will have clean, up-to-date information about their respective infrastructure networks.

“One of the biggest challenges IT managers face is how to reconcile databases containing device information, when they are maintained by different departments, on different update schedules, and through different processes,” Wheeler explains. “It can be a nightmare when these databases get out of synch. But with HP NA software, you can easily fix data integrity issues by either running audit reports or auto populating other systems using HP NA data.”

Automating device management . . .

When network managers need ways to reduce operational costs, they can also use HP NA software to automate device management.

“We have numerous examples where HP Enterprise Services has found ways to use HP NA software as a device management tool,” Wheeler notes.

In many cases, this allows HP Enterprise Services to help customers become more flexible and agile as they respond to their business needs. One bank, for instance, wanted to give around 10,000 of its employees the option of telecommuting. To do this, it needed to extend its network by deploying Cisco routers and voice over IP (VoIP) phones at each of the employees’ homes.

This would have been prohibitively expensive to manage manually: it would have required an additional operations, engineering and project management time per device. So HP Enterprise Services devised an alternative. “We built a tool with a web-based front end that allows a project manager to enter user ID, location, and phone number,” Wheeler says. The tool pushes configurations for ASA to HP NA. HP NA then uses the API to create a command script and schedule a configuration push to each ASA group. The project manager sends the end device configuration to the warehouse for staging. Once the device is plugged in, HP NA starts managing the device configuration.

“The bank can meet its business objective of enabling telecommuting, without incurring 20,000 hours of resource costs.”

HP Enterprise Services solved another problem for the same bank by leveraging HP NA software to swiftly migrate 2,400 users from an ASA Virtual Private Network (VPN) that had exceeded capacity. “We developed HP NA scripts that allowed us to migrate everyone in a single day, with zero outages,” Wheeler says.

. . . And even data center management

HP Enterprise Services used HP NA software to help another customer, a major manufacturer, gather more accurate data about its network device power consumption. “We used our software to generate power usage data right from the customer’s network devices,” Wheeler says. “Our customer presented this data to its data center operator, and the operator subsequently reduced the customer’s charges for power consumption.

As more companies focus on reducing power usage,” Wheeler adds, “HP NA software will emerge as a powerful tool for understanding and managing their data center costs.”

Security and compliance

HP Enterprise Services also uses NA software on behalf of its customers to meet their security and compliance requirements.

In one example, HP Enterprise Services uses HP NA software to verify the ACL configuration comments statements on each of a major manufacturer’s Cisco Firewall devices. This ensures the devices are properly configured and locked down.

HP NA software is also useful for helping companies comply with internal, industry-specific, and governmental regulations such as PCI and Sarbanes-Oxley. “It can gather and validate data on device location, make, model, serial numbers, and manufacturer,” Wheeler says. This data can then be exported into inventory databases, and used to generate required reports.

If device manufactures send out alerts about bug fixes or patches, HP Enterprise Services uses HP NA software to automate device remediation. “HP Enterprise Services maintains configurations of all of the 149,500 devices we manage on behalf of our IT services customers,” Wheeler notes. “With HP NA software, we can script changes to fix compliance issues.”
Reporting made easy

Another task faced by network managers is the need to generate reports for consumption by people outside the network management team, such as IT and business managers.

This is another task for which HP NA software proves highly useful.

For some HP Enterprise Services customers, including a bank and a global technology provider, HP Enterprise Services must be ready to generate device configuration reports on demand. The customers use these reports to verify that the devices deployed in their networks meet their security standards, to understand where they have extra capacity in their networks, and to monitor their network management costs.

“The HP Network Automation solution is one of the most important tools that HP Enterprise Services has deployed within its data centers. The software’s flexibility and functionality allows HP to meet a wide range of requirements, including those set by its customers.”

Wendy Wheeler, content manager, HP

At one time, it took HP Enterprise Services around 30 minutes per device to gather and format these reports. Today, HP Enterprise Services uses HP NA software to automatically gather device data and generate the required reports. “Using HP NA software for this task saved HP Enterprise Services $1 million USD on those two accounts alone,” Wheeler notes.

The software also lets HP Enterprise Services filter the data as it populates reports—a function that network managers can use to ensure reports are tailored to their intended audience. “Managers can show a subset of their device data in their reports or through web portals,” says Wheeler. “The reports can be configured to be more meaningful, while protecting data that might be considered sensitive from wider distribution.”

Because the reports are automatically generated from data pulled from network devices, they are also highly accurate.

Report generation is another example of how network managers can leverage HP NA software in the service of a wide array of tasks, including those that meet business needs as well as those of the network management team itself.

“So many network professionals use HP NA for basic, out-of-the-box tasks,” Wheeler says. “But what we’ve found within the HP Enterprise Services organization is the software is useful in many ways that might not be obvious at first glance. We’ve learned to ask ‘what else can HP NA do for us?’ And very often, we learn that it can not only save us time and money. It can also help us meet our customers’ business requirements in ways we never expected.”