Kansas: State of network efficiency

Standardized and consolidated network management reduces mean-time-to-repair by 15-20 percent

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"HP NNMi software saves our networking group hundreds of hours a year, thanks to its sophisticated functionality and ease-of-use. Our mean-time-to-repair has improved by 15 to 20 percent, and we're delivering operational cost-savings to our state taxpayers as well—we're truly doing more with less."
—Scott Steves, Systems Network Software Consultant, Network Analysis Group, Division of Information Systems & Communications, State of Kansas

HP customer case study: HP Network Lifecycle Management software helps reduce the complexity of a state's network management environment

Industry: Public sector

Objective:

Drive operational efficiencies to help keep Information Services and Communications budgets in check—while improving network availability

Approach:

Consolidate and standardize network management with an integrated solution; automate troubleshooting and other network management tasks

IT improvements:

- Replaced multiple tools with one, reducing management complexity
- Improved mean-time-to-repair by 15-20 percent
- Reduced incidents during major network events by 25-30 percent due to automated event correlation and root cause analysis
- Doubled the tier-one incident resolution rate
- Saved more than 3,300 man hours per year using automated and integrated solution

Business benefits:

- Improved network availability
- Reduced operational costs by tens of thousands of dollars
- Reduced administrator training costs
- Empowered IT staff to be more proactive about service improvements
- Reduced business risk through IT standardization and automated control
- Achieved payback on investment in six months

The State of Kansas Division of Information Services and Communications (DISC) is a fee-based organization best known for serving state government. However, its customers also include local governmental organizations such as city and county governments, law enforcement agencies and the departments of labor, transportation, revenue, and education, among others. DISC's top priority is to support governmental effectiveness with high quality services at the lowest possible cost.

When the state's DISC organization mandated that all of its departments find ways to consolidate operations and boost staff productivity, its networking services group was ready for the challenge.

"We were interested in how we could leverage technology to perform network fault and performance management more efficiently," says Scott Steves, Systems Network Software Consultant, Network Analysis Group, State of Kansas.

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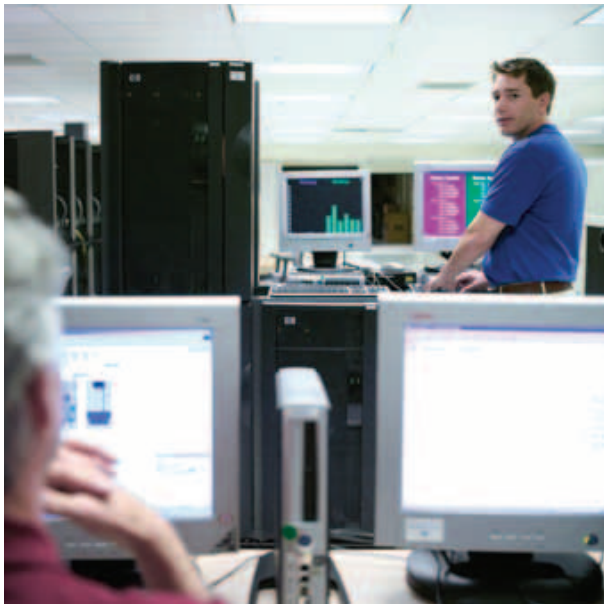

The results have been impressive. In just a matter of months, the group has been able to reduce the number of network management applications they need to maintain, and they've enabled their system administrators to work more efficiently.

They've also laid the foundation for delivering long-term cost savings to the DISC organization and the State of Kansas.

Mixed technology infrastructure
Kansas operates a heterogeneous environment with various operating systems. About half of the state's servers are industry-standard HP ProLiant DL145, DL380, and DL385 Servers.

Some 22,000 employees, plus several hundred contractors, use the infrastructure, as well as several thousand citizens who access services daily via agency websites.

The networking group of the state's DISC department is responsible for a core network, connecting Topeka and Kansas City, and, to varying degrees, the infrastructure connecting the state's 500 regional offices to that backbone.

Altogether, it adds up to about 1100 network devices—750 routers and 350 switches—serving 105 counties across 82,000 square miles.

Six management tools retired
"With such a large and complex network, it's critical from an efficiency perspective to implement standardized management methodologies wherever possible," says Steves.

His not so secret weapons in that effort are the HP Network Node Manager i-series (NNMi) software and the HP NNM iSPI for Performance add-on module. The open solution supports the state's Aruba, Nortel and Cisco network devices and its scalability allows DISC to bring additional state agencies under the umbrella of the MPLS network as needed.

By consolidating fault, performance and configuration management using HP software, DISC was able to eliminate six point solutions and the problems that accompany siloed tools.

Says Steves, "Working with point tools leads to inconsistent trap definitions and polling cycle issues. It also makes root cause analysis and event correlation services more difficult. It's just not efficient enough."

The fewer the tools, the lower the state's software licensing, maintenance and training costs. But more important, according to Steves, are the efficiencies gained in a standardized management environment.

Today, DISC and the Network Operating Center view the same data, which helps eliminate rework. Root cause analysis and event correlation are faster and easier. And by reducing the complexity of the management environment, DISC has lowered the risk of technical glitches.

Rich functionality
NNMi and the new iSPI for Performance add-on module provide unified network fault and performance management across multi-vendor networks to improve network availability and performance. DISC also uses iSPI for Performance for trending and to measure network performance against service level agreements.

Because iSPI is integrated with NNMi, operators don't have to jump between two different applications to view the two applications' variables. Both applications

describe events the same way, making it easier for administrators to understand the environment. NNMi functionality also makes it less likely that DISC will have multiple operators working on the same trouble ticket. The advantage to DISC is the ability to manage staff resources more effectively, which translates into cost savings.

The networking group has also begun using the NNMi dynamic root-cause analysis (RCA) module. Steves describes a problem during testing in which a tail switch link associated with a router was down. "NNMi automatically figured out that the link was the issue," says Steves.

Previous versions of the software would have generated a number of alerts, which administrators would then have had to troubleshoot manually. "It saves us phone calls and time," Steves says. "We're not chasing ghost alarms—what our staff sees and has to act on is very minimal."

Overall, Steves estimates the latest features of NNMi are reducing the state network's mean-time-to-repair by at least 15 to 20 percent. In addition, DISC has reduced incidents during major network events by 25-30 percent. And through automation and integration, DISC has gained the ability to satisfy 160 percent more tier-one tickets.

Improved network uptime—visible and critical

Reducing mean-time-to-repair improves both the quality of network service and productivity of the network group's staff. Even more important, reducing mean-time-to-repair improves network availability—and the state's ability to deliver services and to function.

"Reducing downtime of our core network is a visible benefit of more effective management processes," Steves says. Recently, the state's improved network availability was cited as an example of DISC program success in the Kansas State Legislature.

Network availability could even be a matter of life and death under certain not-so-farfetched scenarios, notes Steves. "Our police officers use the network to perform real-time operations, like running background checks on suspects," Steves explains. "Being able to access their data when they need it could potentially save someone from being injured or worse."

Ease-of-use saves operators hours per week

Upon implementing HP NNMi and the iSPI for Performance add-on module, DISC was able to discover 800 nodes in less than two hours, thanks to the solution's incremental discovery capability. Over the course of a year, this capability saves the organization 780 hours.

Customer solution at a glance

Primary applications
Network management

Primary Software

- HP Network Node Manager i-series (NNMi) software
- HP NNM iSPI for Performance add-on module
- HP Network Automation software

The ability to configure the filters for discovery via the tool's GUI and to customize individual views also contributes to efficiency, according to Steves. In addition, ease-of-use, automated control and the ability to annotate incidents yield a time savings of 2,500 hours per year.

Efficiency gains and a reduction in network downtime have allowed DISC to realize payback on its investment in HP software in just six months.

Good for staff, good for the taxpayers

NNMi isn't the only HP software in the Kansas toolbox. The state also uses HP Network Automation software to automate security compliance across its network. The software proactively detects problems and manages releases so network devices adhere to predetermined policies. Were the state to monitor configuration and software changes manually, five additional FTEs would be required.

Steves' next goal is using the network automation software to further optimize his group's ability to track and regulate network configuration and software changes. "We'll automate tasks like provisioning, and integrate it with NNMi to give us a single interface for fault and configuration management," he says. "That way, it will be easy to correlate changes with faults."

The easier-to-use, more integrated management tools even contribute to morale. More network problems are resolved before an administrator's shift ends, which increases their sense of satisfaction and reduces the need to work late or bring work home.

And because the state's network administrators spend less time chasing and analyzing alerts, they have more time to devote to proactive management processes—which, in turn, helps improve the services the state can deliver across multiple departments and to citizens in all parts of the state.

"Because NNMi automates so much of the troubleshooting, we're free to add value in other ways," Steves says. "It's good for us, and it's good for Kansas taxpayers."

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