NORTON HEALTHCARE
EMC Smarts enables better management for rapidly growing virtualized environment

OVERVIEW
Norton Healthcare, the largest healthcare system in Kentucky, is continuing to grow; recently opening a hospital and preparing to unveil a new pediatric center. Accompanying this growth has been the expansion of Norton Healthcare’s IT infrastructure, which today incorporates one petabyte of storage and 900 servers. The company has already virtualized 44 percent of its physical servers and plans to rapidly virtualize further.

BUSINESS CHALLENGE
Amid this transition, different Norton Healthcare IT teams began adopting individual operations monitoring tools. Because the tools were not integrated, highly complex, and had limited reporting, it became difficult to ensure critical information flowed to doctors, nurses, administrators, and other staff.

Scott McCarty, Norton Healthcare’s server team supervisor, said, “We were almost blind to our systems because we didn’t have a complete view of our environment. We would occasionally run out of disk and our servers would crash without warning, so doctors couldn’t access test results or order drugs. Our nurses would need to work overtime to catch up on their charts. And we didn’t have the resources to train our IT teams to use so many tools.”

SOLUTION
Norton Healthcare uses EMC® Smarts™ to automate the collection of service alerts and events and generate root-cause analysis across the entire infrastructure. The environment comprises IBM physical servers and VMware® ESX® Server virtual machines, and major applications such as MEDITECH, Lawson ERP and payroll, Kronos time tracking, Microsoft Exchange and Active Directory, and McKesson PACS.

Smarts also supervises Norton Healthcare’s network environment and a storage infrastructure utilizing EMC Symmetrix® VMAX™, and DMX™-3, EMC CLARiiON®, EMC Celerra®, and EMC Centera® systems. The IT infrastructure is spread across 140 locations, including a data center, hospitals, clinics, and physician offices in metropolitan Louisville and Southern Indiana.

Smarts enables network operators to acknowledge and react to alerts from a Microsoft IT service management solution without needing training in Microsoft tools. Smarts also receives SNMP alerts from IBM Systems Director, which oversees Blackberry Enterprise Servers and UPS battery backups for network equipment.

RESULTS
Information availability and reliability have improved because Smarts provides Norton Healthcare with a 24x7, centralized view of potential operational issues and root-cause analysis across the entire IT environment. Since deployment, downtime incidents have been reduced by 20 percent.
"We've been able to deliver more reliable IT services to the clinical and administrative staff," explained McCarty, "which enables them to deliver better patient care and services."

According to McCarty, Norton is also using Smarts to plan for growth by identifying which devices are approaching capacity and need resources. "It's the first operations management tool we've had that actually worked out-of-the-box and allowed us to be proactive."

Smarts trending and reporting capabilities have been especially valuable as Norton Healthcare converts physical servers to virtual machines that are stored on EMC systems.

“Our network operators now have a common pane of glass to look through and the tools to identify and analyze issues quickly,” explained McCarty. “We’re more efficient because we’ve shifted routine monitoring tasks from our server and network infrastructure teams to our operations staff, which is available 24x7 to handle such activities. We’ve also been able to reassign 1.5 full-time equivalents to other tasks, which has allowed us to focus more on IT design, planning, and innovation.”

Scott McCarty
Server Team Supervisor, Norton Healthcare

“We have a single tool to monitor disk usage and capacity across our physical and virtual environments. This allows us to trend and plan for rapid growth of our virtualized environment and overall infrastructure, which is essential as we branch-out in the community with new facilities.”

Norton Healthcare is planning to implement EMC Smarts Server Manager to monitor VMware from a guest and host operating system perspective, as well as manage its increasing number of virtualized and clustered servers.

Smarts also has enabled a 40 percent reduction in monitoring costs due to automating a variety of operations management tasks. Lower costs were also achieved by eliminating monitoring solutions, such as HP OpenView and IBM Tivoli Netcool, which were highly specialized and did not provide the reporting functionality that IT needed.

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Smarts once played an important role in protecting systems during a violent rain storm and flash flooding.

“When water started pouring through our data center roof and our backup power was operating at only 50 percent, we needed to shut down our servers and air handlers,”
recalled McCarty. “That’s when Smarts came in. By seeing what systems were online and offline without having to run around the data center, we were able to shut down systems and then later restart them quickly. Smarts also alerted us to some servers exceeding temperature thresholds, so we brought in portable cooling units and removed some floor tiles.”

“With Smarts, we were able to avoid potential loss of some very expensive equipment and get our systems back up and running more rapidly.”

Norton Healthcare is planning to broaden its use of Smarts to further improve reliability and availability. When a new disaster recovery site opens shortly, Norton Healthcare will use Smarts to manage the new infrastructure as well as the replication links and software between the new site and primary data center.