Sentara Healthcare optimizes the health of critical technology

New Epic enterprise health system backed by an enterprise approach to technology management

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—Jason D. Siegrist, Technical Manager, Enterprise Systems Management, Sentara

HP customer case study: HP Business Availability Center software helps monitor and measure applications from the user's point of view

Industry: Healthcare

Objective:
Optimize performance from the end user's perspective and increase return on new enterprise-wide healthcare technology investments

Approach:
Implement technology management tools that inter-operate, automate support processes, and provide meaningful data for better decision-making

Technology improvements:
- Automated monitoring of infrastructure systems
- Alerts to help support staff become aware of issues before users are affected
- Faster response times to system issues

Business outcomes:
- Data captured from the user's perspective provides a more meaningful measure of business value
- Fewer FTEs needed to monitor technology infrastructure
- More informed decision-making to optimize performance, achieve 99.9 percent availability service levels, and improve return on technology investments
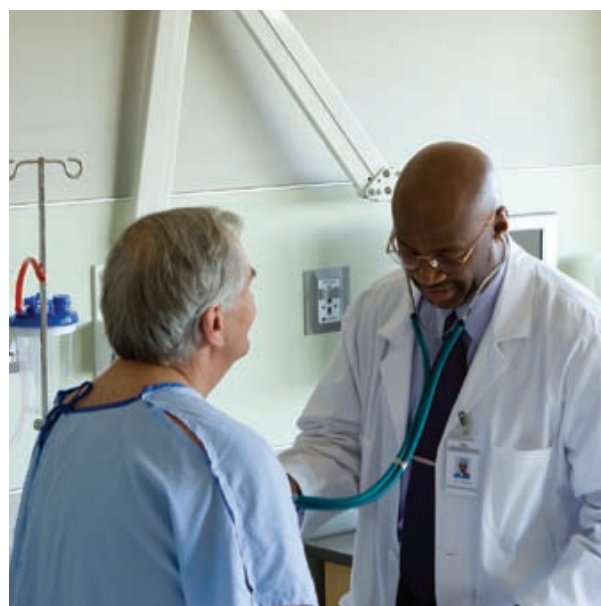
To effectively serve the 2 million residents that turn to them for healthcare services, Sentara Healthcare must coordinate operations across some 112 separate facilities in Virginia and North Carolina, including seven acute care hospitals, three outpatient care campuses, seven nursing centers and three assisted living centers.

Technology plays a pivotal role in empowering Sentara to achieve its objective of delivering the highest quality, patient-centered care. Currently,

for example, the provider is implementing Epic enterprise healthcare software, which will facilitate the transfer of patient records and diagnostic imaging services across its facilities and departments. Once fully implemented, the enterprise software will also help Sentara control costs by enabling end-to-end administration of patients' care—from admissions and managing insurance claims, to booking surgeries and tracking prescriptions.

As Jason D. Siegrist, the Technical Manager of Enterprise Systems Management at Sentara, knows, however, it isn't enough to roll out a sophisticated applications environment: You need to be able to monitor, measure and manage it. "We invest significant capital in our technology," Siegrist says. "We need to maximize the return on that investment with management tools that, first, ensure that technology meets the end user's needs and second, doesn't overtax our support resources."

Improving user productivity
For many years, Sentara monitored its infrastructure performance with an Internet services plug-in to HP Operations Center software. But, just as Sentara as a whole needs to measure success from the patient's perspective, Siegrist and his team are realizing that the true measure of system performance is from the user's point of view.

To get a better idea of the end user's experience and to be able to manage from the application level, the team has upgraded to HP Business Availability Center (BAC) software.

"The BAC software has a Business Process Monitor tool that lets us create scripts that accurately simulate the user's experience," says Siegrist. "So now we're collecting data about how users experience system performance."

Writing such scripts, he adds, is easy with BAC software. Probes that typically would have taken weeks to write can now be developed in just a few hours using BAC tools.

"With BAC monitoring we learn about server issues as they occur, instead of having to wait until our clinicians contact us. Often we can fix the issue before the clinician even realizes there was a problem. The technology provides peace of mind because the team knows immediately if any of our devices go offline."
Raphael Aquino, Technical Manager, Sentara

Upgrading to HP BAC software also represents a major step toward modernizing the healthcare provider's approach to technology management, says Siegrist. "We're moving toward an enterprise framework for our technology management processes." To this end, the BAC environment integrates seamlessly with Sentara's system monitoring tools, which enables the software to detect alerts generated by HP Network Node Manager (NNM) software, HP SiteScope software, and HP Operations Manager software—and to track and report on incidents that impact performance.

To further refine its business technology management, Sentara is also integrating HP BAC software with HP Service Manager software, which Siegrist is rolling out to standardize and consolidate an aging, heterogeneous help desk infrastructure. Integrating the BAC and Service Manager software will help Sentara understand how availability impacts end-user productivity and service desk costs. "The goal is to track performance in two areas," Siegrist says. "One is how quickly technicians can address a system issue. The other is how the user experience is affected."

The latter is critical, he continues, because it captures the business impact of availability and performance. "Our goal as an organization is three-

> "HP consistently demonstrates leadership in business technology management. The solutions Sentara uses today—like HP Business Availability Center software—are effective because they meet our needs from both a technology management and business perspective. They help us run our systems more effectively, and they help us keep our technology in line with our goals as an organization."
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> Jason D. Siegrist, Technical Manager, Enterprise Systems Management, Sentara

trends and averages on the five UPSs in production. As a result, the department is better able to prioritize its power needs and anticipate demand spikes, as well as troubleshoot UPS-related issues. The comprehensive data gathered by the BAC tools also allows the department to validate—and refine—its power capacity forecasting.

Sentara is also using BAC software to support its Epic eCare Bedside Medical Device Integration (BMDI) project. The project enables medical personnel to view data gathered by patient medical devices, such as ventilators and fetal monitors, via networked computers. Once the project is fully implemented, it will encompass 307 terminal servers and 11 database servers and central stations.

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nines of uptime," Siegrist says. "Tracking the impact on user experience is an unbiased way to measure uptime in terms directly tied to our operational processes."

Peace of mind

HP BAC software has also allowed Sentara to enhance and automate system monitoring—more critical than ever as the healthcare provider rolls out its new Epic environment.

To help make sure Sentara's technology professionals were taking full advantage of all of the BAC tools, Siegrist's team took a proactive approach. "We approached it almost like a marketing campaign. We created pamphlets and distributed them so that people would understand BAC's features and functionality."

Once word about the capabilities got out, technology managers responded with new ideas about how to use it. At the request of Sentara's Data Center Operations, for instance, Siegrist's team used BAC software to gather information on the data center's Universal Power Supply (UPS) load. Previously, explains Tom Johnson, Director of Information Technology, the department's staff tracked that data manually on a periodic basis. Now the BAC software provides continual status updates and tracks load

The BAC software is already enhancing Sentara's ability to meet its patient care standards, says Raphael Aquino, Technical Manager, Sentara. "With BAC monitoring we learn about server issues as they occur, instead of having to wait until our clinicians contact us," Aquino says. "Often we can fix the issue before the clinician even realizes there was a problem. The technology provides peace of mind because the team knows immediately if any of our devices go offline."

More efficient technology management

The BAC software also helps keep costs down, Aquino notes. "With HP BAC software, it takes fewer people to manage these systems. We expected we'd need at least one more full-time employee, once we've rolled out BMDI to all of our hospitals, than we would without this tool."

The reporting capabilities supported by BAC software are also crucial, says Aquino, because he can see exactly how well the systems have performed. "We can trend uptimes and downtimes," Aquino says. This, in turn, will enable Aquino's team to fine-tune the BMDI systems to meet the minimum uptime requirement of 99.9 percent. "These systems are a critical component of Sentara's bedside medical care," he says. "HP BAC software not only improves our

## Customer solution at a glance

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As quality of healthcare becomes ever more dependent on technology, Sentara recognizes the need to become ever more sophisticated in how

it manages that technology. On the horizon, says Siegrist, is an initiative to improve asset tracking and change management by consolidating several configuration management databases (CMDBs) into one HP Universal CMDB environment. And he's looking closely at HP Release Control software (previously called Change Control Management software) and HP Discovery and Dependency Mapping (DDM) Inventory software, as well. "As Sentara transitions to digital technology, it becomes more important to understand its impact on our users and their ability to deliver care," Siegrist says. "HP software gives us the tools to capture the meaningful data that we need to measure the success of our business technology."
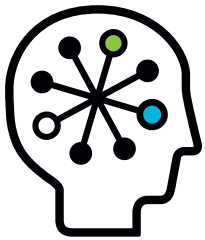
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