

Hospital Ensures Quality Clinical Care with Nimsoft

Service Level Monitoring Delivers Peak Clinical System Performance

Industry

Healthcare

Challenge

To ensure that service level objectives (SLO) for key clinical information systems are met

Solution

Deploying the NimBUS for SLA monitoring and reporting solution for comprehensive, flexible, and reliable monitoring capabilities

Results

- Real-time views of network, device, and applications health
- Proactive recovery of systems and performance if SLO metrics are threatened
- Broad performance diagnostics for troubleshooting problems

Central DuPage Hospital is an independent healthcare network with over 800 dedicated physicians and 4000 staff supporting convenient care centers, occupational health services, and a full range of options for senior living, home health, and hospice care. Located in the western suburbs of Chicago, the hospital has built a nationwide reputation for promoting the latest advances in cardiology, orthopedics, neurotechnology, spinal fusion, and neonatal/pediatrics.

The hospital's focus on advanced care and treatment and diversified services has led to an increased reliance on technology to deliver superior patient care. Central DuPage Hospital is undertaking several large technology initiatives, including a recent deployment of voice over Internet protocol (VoIP) and telemetry to provide patient-monitoring in the cardiology unit, and fully implementing a computerized physician order entry (CPOE) system by 2007.

Information systems professional Rusty Sweet joined Central DuPage Hospital after a long tenure at another large Chicago healthcare institution. At Central DuPage Hospital, Sweet is responsible for the organizations network infrastructure, telephony system, and network security. Sweet worked exclusively with OpenWater Solutions, a technology partner focused exclusively in the technology management arena, at his previous employer to build an industry-leading technology management solution.

Sweet arrived at Central DuPage with a strong belief in systems monitoring and technology management. At Central DuPage, he found that no monitoring was being implemented or considered. He warned the management team, "You'd better not deploy computerized physician order entry, VoIP, or any other critical system without monitoring. If you do, you are setting yourself up to fail." Due to his success with OpenWater Solutions at his previous employer Sweet quickly contacted OpenWater to help him to design and implement a system to address Central DuPage Hospital's needs.

"Being ex-military, I understand the value of building a strong team culture. OpenWater Solutions is clearly a part of my team. I've been able to rely on Jeff Parker and the rest of the team at OpenWater to build a world class solution to address our unique needs. It is not an easy task to find experts in both the technology management and the healthcare fields. That is what OpenWater brings to the table," says Sweet.

Monitoring Service Level Objectives

Sweet conducted a staff and system evaluation and presented a proposed plan for deploying a new information systems enterprise network, which included defined service level objectives.

To ensure that the technical infrastructure was performing as required, Central DuPage Hospital needed a monitoring solution that would verify that outlined SLOs were being met and would provide an alarm system if they weren't. Sweet had used the NimBUS for SLA reporting and monitoring solution from Nimsoft to monitor devices on the network and was impressed with the solution. Based on his previous experience with the product, he brought it into Central DuPage hospital and has deployed it against several critical clinical systems.

With the deployment of NimBUS, Central DuPage hospital is currently monitoring all of the network devices within the infrastructure, which total over 500 network devices & 300 servers. This includes network switches, routers, wireless access points on the network, application servers, DNS and DHCP servers, and key packaged application suites from McKesson. Sweet started by establishing SLOs, such as availability, utilization levels, and access time for each

component. He established a goal of 99.999% availability for clinical applications and considers the NimBUS solution to be instrumental in achieving this objective.

NimBUS monitors how the components of the network are performing against SLO targets and provides a warning if the SLO threshold is threatened. For example, if an individual laptop goes off the network for a certain amount of time or the DNS server times slow, NimBUS will automatically page the appropriate people for problem resolution. The NimBUS implementation has been deemed so successful that the applications team at Central DuPage has requested monitoring of additional clinical applications.

Sweet also uses NimBUS service level dashboard displays to provide a quick snapshot of the health of the network, key network services, critical application, and their underlying components. "I can click on any agency application and it will bring up a dashboard showing me all of the elements and I can drill down if I see an element outside of our acceptable threshold," says Sweet. He has also designed an executive dashboard that enables the CIO to quickly see how the IT department is performing overall.

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— Rusty Sweet
Central DuPage Hospital

Troubleshooting Performance and Availability Issues

Systems monitoring with NimBUS also helps Central DuPage to identify the root cause of availability issues. Often the network is immediately blamed for performance or availability issues when in fact the cause may be due to the application itself. As Sweet states, "One of the reasons I wanted NimBUS was so that I could start to take the network and the device out of the picture."

At one point, he had received complaints from the users of a key clinical application that tablet devices were unusable because they kept dropping off the network. NimBUS was used to monitor the application and the availability of the tablets, so Sweet turned to its dashboards and availability reports. They showed that the server was in order and that the tablets were not losing connectivity. This ultimately led him to believe that there was an application issue.

Central DuPage was then able to bring together the vendors to look at the issue. "Because we had NimBUS up and running, we were able to display reports showing the connectivity issues and to get our vendors to look into the problem," said Sweet. Ultimately it was determined that there was a driver problem. Once new drivers were issued for the tablets, they stopped dropping off the network.

Devices Critical to Patient Care Need to be Monitored

Central DuPage Hospital recently invested in a pioneering patient-monitoring capability for the hospital's cardiology unit. Critical patient data can be sent directly to the nursing staff's wireless VoIP phones, providing information that helps them gain insight into a patient's condition so they can respond more rapidly to critical patient health events.

Telemetry information – the electrocardiogram (ECG) data that shows doctors and nurses how the patient's heart is functioning – is output as digitized data to a network. As a result, patient events can automatically generate high-priority calls to nurses' wireless VoIP phones, with the patients' telemetry data displayed on the phones. This information allows them to immediately begin the best care options for the patient.

The nurses' wireless VoIP phones have now become critical devices that must be monitored. Once again, Sweet turned to the NimBUS solution to ensure that the devices are properly monitored. As he explains, "In a healthcare environment, when you base your patient care on

information systems, you must be able to monitor them to ensure that they are functional and performing well.”

The Advantage of a Holistic View

The NimBUS solution enables Central DuPage Hospital to monitor its entire system infrastructure from a single location. According to Sweet, “the biggest advantage we see with NimBUS is the ability to have a holistic view – from client to server – from one central dashboard.”

The success of the current application monitoring has led the hospital to extend the implementation of NimBUS to other critical applications. “We intend to build NimBUS into all of our mission-critical and patient-affecting applications,” says Sweet. Projects are currently underway to begin monitoring the hospital’s Horizon Ambulatory Care application from McKesson and to develop dashboards for its transcription and coding services, which have recently been moved offsite.

About Nimsoft

Nimsoft's mission is to deliver business-focused Service Level Management solutions that customers can easily deploy and use. Nimsoft solutions are used by hundreds of companies across diverse industries to manage complex networked systems and meet service level agreement targets. Nimsoft solutions combine advanced SLM functionality and broad platform coverage with unprecedented ease of implementation, deployment, and use. For more information, visit www.nimsoft.com.

About OpenWater

OpenWater’s solutions and services are designed for any organization that desires to improve service delivery, reduce disruptions and measure service level objectives. OpenWater Solutions, LLC better aligns IT with business leaders, allowing IT to be an effective strategic asset versus a cost center. We specialize in delivering the right solution to clients whether big or small – one size does not fit all. For more information, visit www.openwatersolutions.com.

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