



St. Luke's University Health Network uses Savvius tools to proactively diagnose and troubleshoot systems critical to high quality patient care.

“Because patients' quality of treatment is on the line, it's imperative that we have tools on hand that allow us to identify and resolve the root cause of network issues quickly. We have relied on Savvius products for over a decade to give us the visibility and troubleshooting insight to resolve network issues. In the high-stress world of patient care, seconds and minutes can make all the difference.”

BRYAN SMITH
SENIOR NETWORK ENGINEER
AT ST. LUKE'S



St. Luke's University Health Network (SLUHN) is a Pennsylvania-based non-profit network of exceptional healthcare services at seven hospitals and more than 200 remote doctors' practices and health centers. With over 10,000 employees at its locations in Lehigh, Northampton, Carbon, Schuylkill, Bucks, Montgomery, Berks and Monroe counties in Pennsylvania and in Warren County, New Jersey, St. Luke's is nationally recognized for its inpatient and outpatient care, particularly in the fields of oncology and cardiology.

The Challenge

Having a reliable, high-functioning network is arguably one of the most important things for almost any enterprise, but especially so in the healthcare industry where dependable networks contribute directly to the quality of patient care. Healthcare as a whole has undergone significant changes in the past decade, particularly when it comes to the role of technology in every aspect of a patient's experience, from medical records through to scanning, diagnosis and treatment, all relying on a robust network.

savvius Omnipeek®

Savvius Omnipeek, best-in-class network diagnostics software, delivers intuitive visualization and effective forensics for faster resolution of network and application performance issues. Savvius packet intelligence enables Omnipeek to provide rapid analysis and troubleshooting of wired and wireless networks, local and remote.

savvius Omnipliance®

Savvius Omnipliance, an industry-leading packet capture and analysis appliance, enables real-time and post-event analytics at up to 25Gbps. Using Savvius packet intelligence, Omnipliance gives IT engineers the power to resolve network and application performance issues on 1/10/40 Gigabit Ethernet, 802.11ac WLAN, VoIP, and video-over-IP networks.

Capture Engine for savvius Omnipeek®

Capture Engine for Omnipeek software captures and analyzes network traffic in real time and records that traffic for post-capture analysis. Used to monitor and perform diagnostics on distributed networks remotely or locally, Capture Engine for Omnipeek software probes runs as a service on dedicated Windows servers.

SLUHN's network is highly virtualized, spanning seamlessly across its seven major locations in addition to the remote practices and clinics. Comprised of more than 40,000 individual ports, multiple core routers in each hospital and dedicated BioMed sub-networks, SLUHN's network has grown over the past decade into a vast and complex system.

The demand for innovative patient care at St. Luke's has been a driving factor in the modernization and expansion of the network. For instance, physicians and nurses use the network to review lab results, prescribe medication to patients and access EPIC, the hospital's electronic medical records (EMR) application. Connected devices for patient assessment and care, such as MRIs and CT scans, require stable throughput in order to deliver their high-resolution patient scans to radiologists in a timely manner. In addition to these internal requirements, SLUHN's network also powers guest Wi-Fi access and other internet-enabled services for patients and their guests. Last but not least, the hospital network's systems also support critical business functions including email, billing and payment services, scheduling, Human Resources and more.

"When you consider the sheer number of connected devices we have on a network of this size, and the incredible volume of traffic that this creates, some problems are bound to happen," said Bryan Smith, senior network engineer at St. Luke's. "But because patients' quality of treatment is on the line, it's imperative that we have tools on hand that allow us to identify and resolve the root cause of network issues quickly. We have relied on Savvius products for over a decade to give us the visibility and troubleshooting insight to resolve network issues. In the high-stress world of patient care, seconds and minutes can make all the difference."

The Solution

"We started migrating to Savvius back in 2011 once we had decided to move away from NetScout's InfiniStream and Sniffer products," Smith continued. "With more than one Savvius solution at each hospital location, our collection of Savvius tools has grown to include Savvius Omnipeek software, two Savvius Omnipliance TL units, the Capture Engine for Omnipeek and most recently, a Savvius Insight appliance. In all, we have over 20 Savvius products deployed across our facilities."

When network issues arise throughout SLUHN's campuses, the network engineering team uses Omnipeek to initiate packet captures at the source of the problem, allowing issues to be found and resolved as quickly as possible. The team has Omnipliance TL units deployed in both of their primary data centers, used largely for troubleshooting issues as they arise. Additionally, Capture Engine for Omnipeek has been set up in each of the network's VMware vCenter instances, and is moved to the relevant ESX host when a virtual pcap is required, making it possible to capture packets right off the virtual

savvius Insight™

Savvius Insight provides Savvius packet intelligence in a compact and economical all-in-one appliance perfect for monitoring the performance and security of small business and remote office networks with external data rates up to 100 Mbps. By including Omnipeek software, Savvius Insight is a complete solution for local and remote monitoring and troubleshooting.

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network interface card. Savvius Insight is SLUHN's newest Savvius appliance, which Smith is testing with the ELK stack before executing a full deployment.

“I love the visualization in Omnipeek, especially the peer map that draws lines between the network devices communicating with one another,” added Smith. “These solutions allow us to access a lot of information at a glance, like number of packets, number of bytes, broadcast vs. multicast, and even how much data was transferred. Having all of that data at our fingertips is half the battle won.”

Benefits

With such complex and distributed network environments supporting connected medical devices, business critical systems, as well as patient and guest services, SLUHN's network engineering team requires tools that cut down on troubleshooting time and enables resolution of network issues before patient care is impacted.

With Savvius solutions, Smith and his team go beyond short-term diagnostics, having access to long-term network data and analytics that allow them to benchmark network and application performance, and identify where and when specific problems began. This information allows them to find anomalies and resolve performance issues with greater speed and efficiency.

“The ability to drill down into network utilization, current activities and other key metrics allows us to skip the endless ‘blame game’ and pinpoint network or application issues quickly,” said Smith. “Ultimately, the visibility provided by Savvius solutions empowers us to address problems proactively and maintain a high-performing network that supports the highest quality patient care here at St. Luke's. We're able to get ahead of problems in a way that wouldn't have been possible even five years ago.”

About Savvius

Savvius offers a range of powerful software and appliance products that automate the collection of critical network data for network forensics in security investigations and for network and application performance diagnostics. Savvius products are trusted by network and security professionals at over 6,000 companies in 60 countries around the world. Visit www.savvius.com for information about Savvius Omnipliance®, Savvius Omnipeek®, Savvius Vigil™, and Savvius Insight™, and to learn about Savvius technology and channel partners.

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