St Luke's™

Industry	Company Size	Location
Healthcare	3,000 Employees	Allentown, PA

Company Background

St. Luke's University Health Network (SLUHN), founded in 1872, is one of Pennsylvania's leading healthcare organizations, and is home to the oldest school of nursing in the U.S. They're bringing that deep history to the future with modern healthcare technology, as the organization continues building new hospitals and using cloud-based applications to add flexibility and centralize as remote locations increase. SLUHN is the fastest-growing hospital system in Pennsylvania.

Growth Spurt

As SLUHN has grown, adding three hospitals in eight years, IT challenges have become more complex. The network engineering team, with Bryan Smith and Mandy Stauffer leading the way, enables business-side users to solve application problems. The rapid growth of the organization means they've scaled IT services quickly.

The network engineering team, part of the overall infrastructure team, provides services to the rest of the non-technical staff. The network engineering team's customers are application owners from all different areas of the organization. With the growth of cloud applications in many departments, the team needed to ensure that apps work without issue for all application owners. SLUHN includes seven major locations and close to 300 remote locations, adding another layer of complexity in supporting end users.

"Application ownership with the cloud isn't clear," Smith said. Within St. Luke's, each department had at least one cloud application. For example, the HR department had recently moved disparate apps into Workday for all their needs. Help desk tickets go through ServiceNow, Cornerstone provides online training, and there are also apps for financials, EMR and other business needs. Since individual application owners at St. Luke's don't have IT training or backgrounds, it's more difficult for them to navigate vendor support as well as troubleshoot issues.

Healthy Apps, Independent Users

When Smith started looking for a performance monitoring tool, he liked AppNeta for its patented packet train dispersion technology, and he read about a hospital CIO who'd had great success with AppNeta.

Since implementing AppNeta, Smith and Stauffer have set up test accounts for each SaaS app in use throughout the healthcare organization. They use the tool to see traffic patterns and any issues, and can explain to the application owners what's gone wrong in a simple way.

Smith then started exploring how to do more packet inspection and prepare for a new hospital opening. "That one feature for us is extremely valuable," he said. Smith was especially impressed the first time he saw how quickly the tool processed a month's worth of data. He used it when the organization's seventh hospital recently opened, and he could see that single sign-on traffic was eating up nearly a third of the bandwidth on the hospital's 100MBps uplink. That information let Smith do some cleanup at the new site.

As that new site was getting ready to launch, Stauffer looked at the network hops involved and the change in QoS that occurred over the network for an older legacy application. She made some configuration changes on the network to improve the app's performance. The utilization improved a lot after the changes she made, though round-trip time and jitter increased slightly. The detailed view they saw helped the team understand the impact of configuration changes as they built the best user experience.

Stauffer uses alerting for the VoIP WAN and internal links, and set alerts up for ServiceNow and Workday, making sure she tweaked the configurations so she wouldn't be bombarded with notices.

Workday served as a good illustration of the type of support that app owners from separate departments would need from IT. Within a week of going live, the app was experiencing performance issues. As is often the case, users blamed the network—but Smith and Stauffer were able to eliminate the network as the problem.

Getting Better All the Time

As part of their strategy to enable application owners, Smith and Stauffer have used AppNeta to help drive more ownership of any performance challenges that arise. They're able to see quickly if there are network issues, then use data to back up those findings to end users. The calls they used to receive from users have almost disappeared, since application owners can now handle most problems without contacting IT. If a problem needs escalating, Smith and Stauffer then tackle the issue. That strategy has created a single point of contact, which is a big improvement over the multiple calls from different users that the team used to receive. "Every cloud app has a process to which it can be monitored," Smith said, now that AppNeta is in place.

The network engineering team also monitored the cloud-hosted ServiceNow app to get an idea of whether its problems were network-related. Stauffer saw that it was hosted out of the wrong data center on an instance that was too small. The team was able to document the performance changes once ServiceNow moved the cloud app to a larger instance in another data center. The details they got from AppNeta helped confirm the dramatic performance improvement to the application owners inside St. Luke's.

That experience led Smith and Stauffer to begin establishing a process around baselining connections from day one of a new site getting started. "We can do the data assessment ahead of time," Smith said. With further growth expected, the network engineering team is constantly working to streamline processes.
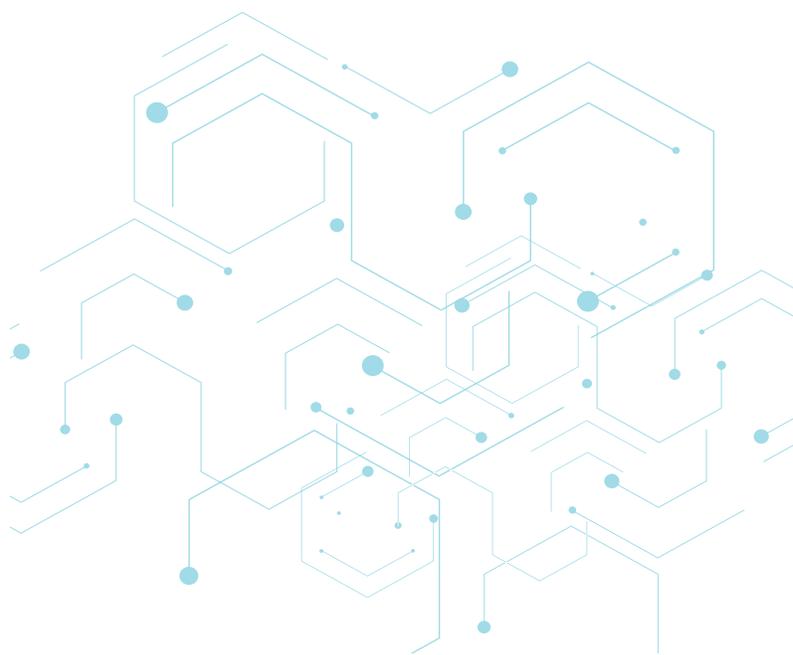
The time saved with AppNeta made it easy to prove value to leadership, Smith said, especially compared to time spent before they had the solution. "It's already paid off," he said. In one case, Smith had to troubleshoot an end-user experience issue, which only took five minutes to discover that it was an ISP problem. He got the information to the third-party network provider for the fix. The radiologist experiencing problems lost just one hour of productivity, compared to the many more hours it might have taken before—plus it was easy to explain to him what was going on. "Operationally, the time we've saved is days or even weeks in troubleshooting," Smith said. "MTTR is so much faster, and we can give a reason for what's happening, especially with cloud services."

During one "Is it us, or is it our ISP?" situation, Stauffer saved hours of time when she presented the provider with proof, using AppNeta data, that the ISP needed to make fixes. The team at SLUHN works closely with their mostly local service providers, and they work continuously to keep bandwidth lower at remote sites.

Smith's big-picture IT goals are to gain a complete picture of all cloud-hosted applications using AppNeta, in line with the organization's long-term strategy of moving infrastructure to the cloud. Stauffer and Smith are tracking the types of successes they've had with different use cases to show app owners and management how easily they can resolve issues or move more quickly toward resolutions. They're able to focus on big-picture performance success to plan for a modern, agile healthcare IT infrastructure.