Overview

Customer
Denver Health runs VoIP, PACs and EMR applications throughout their network and were experiencing substantial wireless usage growth.

Business Challenge
The network team needed a network and application performance management solution to detect and diagnose problems that might arise with their applications with the escalating growth.

Solution
Using the nGenius® solution for visibility into voice and data applications, the network team is able to find and monitor all the applications on the network and can more effectively troubleshoot issues.

Business Results
With the nGenius solution in place, real-time and historical tracking and trending reveals the Voice, PACs, EMR, QoS and traffic details necessary to deliver applications effectively throughout Denver Health’s network.

Introduction
Denver Health is the healthcare safety net for the city and county of Denver, Colorado, delivering services to more than 25 percent of all Denver residents. Additionally, one third of the children in Denver are cared for by Denver Health physicians. A 477-bed hospital with a Level 1 trauma center anchors their services and is supplemented by eight family health centers, 12 school-based health centers, a drug and poison center, and a 24x7 nurse phone line to answer questions from the community. As all the full-time physicians at Denver Health are also University of Colorado School of Medicine faculty, this teaching hospital trains medical interns and residents in more than two dozen different specialties while simultaneously supporting a paramedic school.

Denver Health’s IT organization has implemented a fiber backbone network sufficient to support the large campus environment with 18,000-ports. It presently has 20 remote sites and plans support for even more new users. There are over 300 wireless access points campus-wide, currently averaging 600 simultaneous wireless user sessions, both of which are expected to grow significantly over the next year.

Recently, a critical Voice over IP (VoIP) pilot project led Denver Health to use the nGenius solution to manage performance of voice traffic along side other critical applications such as Electronic Medical Records (EMRs), Picture Archiving and Communication Systems (PACS), and streaming video during a time of unprecedented growth in network usage.
Rapid Diagnosis Depends on nGenius Solution

Denver Health chose the nGenius solution for a number of reasons. First, it provided detailed visibility into the VoIP traffic side-by-side with the patient treatment applications, e.g. EMR and PACS. And second, it supplied graphical, historical reports of network performance. Other uses for nGenius solution include:

Application and conversation analysis offers high-definition granularity

One of Denver Health’s clinics had recently migrated from a Gigabit Ethernet campus backbone to two T1 links. Using the nGenius solution’s real-time views and one-minute historical granularity, the network team uncovered previously averaged traffic spikes. Conversation and application statistics revealed a database that was pulling large volumes of data to the local clinic with each query. Once the spikes in traffic were identified, database queries were able to be scheduled for off-hour and improved network performance for the users.

Converged networks benefit from converged performance management

With an aggressive initial pilot program of hundreds of VoIP phones, Denver Health immediately realized the criticality of application visibility for VoIP success. Using the nGenius solution, the network team was able to view key campus segments, their QoS classes, and all the voice and data applications traversing them. The views of the applications assigned to each QoS class enabled the network team to ensure voice is being delivered in a priority manner across the network.

Improved collaboration between network and application teams

Denver Health also leveraged the nGenius solution to enhance communication between the network and application teams during a cutover to Siemens’ Enterprise Document Management that was replacing an existing medical records system. The old application was used by 300 clinicians; however, the integrated clinical and administrative capabilities in the online Siemens medical record application would dramatically increase the number of users. On-demand and scheduled reports from the nGenius solution enabled the network and application teams to collaborate on the use and performance of the new Siemens EDM application.

Built-in investment protection

Denver Health plans to increase their use of networked streaming video for education and collaboration. The IT team will need to ensure quality and bandwidth availability for these services. It is important that potentially bandwidth-intensive streaming video not consume resources needed by other essential networked applications such as PACS.

For the past two years, Denver Health’s IT staff has delivered 100 percent uptime in a network that supports communications of lifesaving treatment information. Using the Solution to detect, diagnose, verify, and manage the projects is just one more way for them to help maintain this level of service to its user community.

“We have VoIP, PACs and EMRs. We have medical devices, streaming video and new users coming on to the network, plus we have substantial growth in our wireless usage. NetScout allows us to see what traffic is coming across.”

- Denver Health’s network manager

For more information, please visit www.netscout.com or contact NetScout at 800-309-4804 or +1 978-614-4000

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