

ADARA Customer Spotlight: New York Downtown Hospital Leverages SDN to Improve WAN Quality of Service

About Downtown Hospital

New York Downtown Hospital (NYDH) is the primary healthcare provider serving Lower Manhattan. It provides NYC emergency medical services and preventive care in state-of-the-art facilities. As the closest acute care hospital to the 600,000 people who work and live in Lower Manhattan, it serves the people who comprise the diverse business and residential communities of Wall Street, Chinatown, SoHo, TriBeCa, Battery Park City and the Lower East Side. The hospital has approximately 1,800 employees.

Doyle Research interviewed Joe Sorrenti, Director of Infrastructure at Downtown Hospital for this profile.

Current Network Architecture

Downtown Hospital's network architecture consists of 1 main (headquarters) location with 9 branch sites. Its network is hub and spoke relying on a mix of WAN links (gigabit ethernet, T-1, and 10 Mb ethernet from a variety of service providers) to link its branches to its campus network. The campus network consists of Cisco Catalyst 4500s and Nexus 7000s for end-user and data center connectivity. Downtown Hospital recently upgraded its aging Rolm PBX to a voice over IP (VoIP) system from Cisco.

Network Challenges

The primary network challenge at Downtown Hospital was poor quality of service over its WAN links. Several of its WAN links were prone to jitter and high latency. Downtown Hospital relies on its voice network for real time communications between staff and doctors. The poor quality and unpredictable nature of its WAN links had an adverse effect on voice quality and VoIP reliability (e.g. dropped calls).

SDN Improves WAN Quality of Service

Joe Sorrenti approached his channel partner, NetConnect, to propose a solution to Downtown Hospital's WAN challenges. NetConnect recommended installation of ADARA's Sirius router and Comet service assurance products at headquarters and at 3 branch locations to improve WAN quality of service. Joe had been interested in SDN technology in the abstract, but was not looking specifically at SDN solutions until suggested by NetConnect. ADARA Sirius products were installed in Sept 2012.

The ADARA solution provided Downtown Hospital with the ability to prioritize voice and other high value traffic. As a result of installing ADARA's SDN products, Downtown Hospital has "solved" the VoIP quality issues.

SDN Installation Process

Working with NetConnect and ADARA, the installation process went smoothly. Downtown Hospital spent a few days with its partners learning about the new technology and architecting the network upgrade. Downtown Hospital identified the "problem" WAN links, key application (VoIP), and key users. ADARA then customized the IP routing scheme to allow its software to tie its logical network to the physical WAN links. Specific quality of service rules were applied by tagging traffic types and users (and leaving other less critical traffic untouched).

Downtown Hospital reports that the ADARA installation is "solid" and does what it was specified to do. There are no ongoing management challenges. Downtown Hospital may "tweak" data flows as necessary in the future.

Benefits of ADARA SDN solution at Downtown Hospital

The primary benefit to the network at Downtown Hospital was the ability to solve the quality of service, latency, and jitter problems on its WAN. VoIP service quality is now high and users satisfied. A secondary benefit of the improved WAN efficiency is that Downtown Hospital does not have to (at this point) upgrade the bandwidth on its WAN links – an expensive proposition. SDN technology also enables Downtown Hospital to easily add new WAN users to the network and the flexibility to prioritize additional traffic/user as new needs arise.

Next Steps: SDN to the Data Center

Downtown Hospital's favorable results with its current ADARA SDN solution has led it to consider use of ADARA to facilitate disaster recovery as it sets up a new remote data center. Downtown Hospital is considering ADARA products to enable data center to data center networking with guaranteed quality of service. Downtown Hospital also hopes SDN technology can reduce its need to overprovision bandwidth and thus result in lower WAN bandwidth between data centers (reducing costs).

Key Points

- Downtown Hospital experienced significant gains in WAN quality of service, traffic prioritization, and efficiency.
- ADARA product installation is straightforward and the products are easy to use
- SDN implementation has "lived up to expectations"
- Downtown Hospital is considering additional use of ADARA SDN products for DC-DC connectivity

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