

# University of Minnesota Uses Entuity's Eye of the Storm® to Strategically Manage & Upgrade Complex Network Environment

The University of Minnesota is dedicated to teaching, learning, and research. The University serves more than 70,000 students and faculty. It offers degrees in over 370 fields of study through its four campuses in Minnesota, USA (Twin Cities, Duluth, Morris, and Crookston). Keeping its distributed community well-connected 24x7 is vital to the University's Office of Information Technology (OIT). OIT's Networking and Telecommunications Services (NTS) group operates and manages the Twin Cities campus network.

"The ability to integrate leading edge emerging technologies into our network infrastructure to support and improve it for future growth and sustained availability is crucial," states Pete Bartz, Manager Data Network, Design and Operations within the Networking and Telecommunications Services group. Reliable access to the network for its entire community helps the University in its overall goal of providing premier research and educational services. An in-depth review of the University's existing infrastructure highlighted that the Twin Cities campus data network, installed in 1997, had outlived its life expectancy of five years. "We were hitting a ceiling – we could not easily extend and add new technologies and services to the network to effectively support our community," explains Bartz.

The NTS group determined a major upgrade of the Twin Cities' campus network infrastructure was required. With a distributed and expanding network that already included 60,000 ports, the NTS group also determined it required a more effective and proactive means to monitor and manage the upgrade to a new network. The NTS group developed a detailed Request For Proposal (RFP) for the network upgrade, including a thorough section on network management, to replace the outdated systems.

## University of Minnesota's Challenges

- Reliable, proactive IT support to students, faculty, staff and departments.
- Inventory management to reveal network resource capacity and bandwidth utilization
- Understand the impact of infrastructure changes on the network and University
- Effective monitoring of devices for proactive network fault management
- Consistent, reliable management reporting
- Ability to provide department administrators with views that securely show key statistical information on their LANs and the core network.

## The Solution

Through its extensive RFP scoring process, the University chose new equipment – Cisco 6500's for the border, backbone and core infrastructure, and over 2,200 Cisco 3750 switches across 300 buildings for the distribution and edge devices. The NTS group also evaluated several network management tools. Entuity's Eye of the Storm (EYE) was selected based on its scoring performance against the RFP.

"We needed network monitoring and management that could easily handle our complex, changing environment," states Mike Faust, Design Engineer. "Entuity's EYE scored the highest in our RFP evaluation. EYE's integrated performance, fault and inventory management, reporting capabilities and extensibility helped it attain a leading score."

"Entuity's EYE satisfied our network management system requirements and did so all in one solution. EYE minimizes the number of tools we need, helping us to manage our costs and deliver services more effectively," explains Pete Bartz.

Also critical in the University's RFP scoring evaluation is that EYE consolidates and correlates three operational disciplines using a centralized repository, a powerful analytics engine, presentation and notification and unprecedented reporting. The convergence of different types of information allows Eye of the Storm a unique understanding of network events, changes in network usage and their impact on a business. EYE provides:

- Performance Management, using Service Degradation Sensitivity to predict problems so infrastructure managers can take action before users notice
- Availability Management which distinguishes between network, server and application faults and then reports the True Cause of its business implications.

- Resource Management-- a full inventory of IT infrastructure assets and what they are connected to. The Spare Ports Report saved costs just hours after deployment.

According to Bartz, Entuity's EYE was selected for its RFP scoring on the following features and capabilities:

- Extensibility: The University's network constantly changes as new technologies are added, such as BGP, VPN and new security firewall services. EYE is easily extensible and configurable to quickly add these components to monitor and manage them. The University plans to 'tune' EYE to collect the specific information needed to improve the management and operation of the entire network
- Ease of use: EYE requires less overhead, administration and maintenance. Infrastructure discovery is up-to-date and information is quickly available. EYE provides a distributed view down to the object level – device, port, WAN link, etc.
- Reporting: EYE's reporting offers access to important statistical data, providing for proactive network management and the ability to extend information to all customers
- Rapid implementation and out-of-the-box flexibility: EYE is quickly installed, up and running and collecting network data within a few hours.

"Entuity is a partner. They quickly respond to our questions, training and operational needs, continuing to demonstrate their commitment as a strategic element of our leading edge Network Upgrade Project," explains Pete Bartz. "We have input into product planning for EYE. Participating with Entuity in this process will help us meet our goals and objectives as we evolve to more proactive network management for the future."

### The Result

"With Entuity Eye of the Storm to monitor and manage our network, we are in the process of implementing an effective, successful network upgrade," according to Bartz. "Without EYE, we would be blind to potential network collisions and blockages. Instead, we are able to manage proactively, avoiding major issues."

Upon implementation, EYE discovered the University's production network within a few hours, allowing the NTS group to begin to easily monitor and manage a wide variety of 86,000 ports, devices, WAN links, interfaces, etc. EYE was fully operational within 2 months of installation.

The new upgraded network now delivers 10/100/1000 MB services to all ports. Entuity EYE makes it easy to see edge port conditions. As new departments are added to the network and connections turned on, the NTS group easily views port errors previously unseen. The NTS group now proactively manages these errors, working with departments to help correct and fix the problems.

EYE's extensive reporting capabilities provide easy access to statistical data such as WAN link usage and edge port usage to the University's IT team. The University no longer has to use/maintain home-grown reporting systems, saving time and costs.

The NTS group plans on using EYE's Impact Analysis in the management of its new network to help the team forecast future needs. With greater visibility for the entire University, the NTS group is more proactive and effective in delivering network services.

Utilizing EYE met the University's network goals:

- Proactively managing network and connections; providing more reliable service
- Leveraging inventory management/statistical reporting; determining resource limitations to improve network utilization
- Utilizing impact analysis; understanding the impact of changes and forecasting future needs.



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