



Wentworth Institute of Technology

A Robust Network Keeps Wentworth Students on the Cutting Edge of New Technologies

Founded in 1904, Wentworth Institute of Technology is a private, co-educational university located on 35 acres in the heart of Boston, Massachusetts. The fully equipped campus currently accommodates 3,000 students and provides advanced, industry-leading network technology throughout the academic buildings and residence halls.

Industry:

Education

Number of Students:

3,000 students attend this four-year technical and engineering University

Challenge:

Deploying a robust and secure network to support cutting-edge technology and learning tools

Solution:

X-Pedition switch router, Matrix E7 multilayer switch, NetSight Atlas management and RoamAbout R2 wireless

Benefits:

- Lower cost of ownership due to the system's extreme reliability
- Expanded academic, social and economic capabilities based on robust network functionality
- Increased bandwidth to manage academic and business programs, as well as personal applications in the residence halls
- Enhanced price/performance on a fail-safe network
- Security that protects Wentworth's information assets from both sides of the firewall
- Extreme availability that allows Wentworth to stay up and running efficiently 24 x 7

Wentworth strives to ensure that its students have all of the latest tools and technology to prepare them for successful careers upon graduation. In fact, each student is required to participate in a cooperative education (co-op) experience—two semesters of work in a paid position directly related to their major—before earning a degree.

The Challenge:**Deploying a Robust and Secure Network to Support Cutting-Edge Technology and Learning Tools**

To attract and retain technically advanced students, Wentworth needed to provide a robust network capable of running the latest engineering applications and Internet-based business functions, as well as managing the entire campus infrastructure. For example, some students deploy personal servers and mini-networks from their dorm rooms, using them to run high-bandwidth applications, such as audio or video files through the school's network.

“Students want 24 x 7 access to their grades,” said John Van Domelen, President of Wentworth Institute of Technology. “They want 24 x 7 access to be able to register for courses. And our co-op students, who work and study off campus, use the network to interface with their on-campus colleagues to participate in group projects.”

Many of these co-op students are operating complex design programs such as CAD—in which they're likely to perform demanding manipulations, such as rotating a green couch with an orange pillow 360 degrees. These extremely large files have to run in real time to allow students to share with one another across various points within the network.”

The Solution:**X-Pedition, Matrix, NetSight and RoamAbout Deliver Powerful, Secure Connectivity**

Wentworth leverages its high-speed, high-bandwidth Enterasys network to support administration, faculty, staff, residence halls, and its 30 computer labs. Wentworth's computer science networking courses are taught on Enterasys equipment, and the school plans to expand its Enterasys network to other classrooms. The network also supports a 24 x 7 web portal that gives students access to necessary applications whenever they need it.

The core of the Wentworth network runs on highly reliable X-Pedition switch routers and Matrix multilayer switches. Enterasys switches and routers ensure high-density, scalable switching and comprehensive traffic control at critical network access points, guaranteeing delivery of essential applications, such as Voice over IP and multicast video. From the core, a Gigabit Ethernet backbone extends connectivity throughout the campus, and a DS3 line connects to the University's Internet provider. Throughout the campus, Matrix E7s provide end-user connectivity, and the RoamAbout R2 wireless access platform enables students, faculty, and staff to access the network from laptop computers in residence halls or University common areas.

To increase the efficiency and security of the network, NetSight Atlas management software supports different classes of service for individual users based on a user or application profile. Wentworth will use the inherent features of the Matrix E7 and NetSight Atlas Policy Manager to deploy the Enterasys User Personalized Network (UPN), a unique policy-based system that allows the network to allocate resources based on specific users and their roles. The UPN will give Wentworth's network improved accessibility, bandwidth control and security to meet its business-critical goals.

Enhanced learning and living experience.

Via its Enterasys network, Wentworth delivers a complete range of services to its students, including the ability to register for classes online. The residence halls offer card-operated washing machines and dryers for ease of operation, while Ethernet connections support a card-key system that allows students to swipe their cards to pay for meals, check out books from the library, and purchase soda from vending machines.

Wentworth's robust network provides powerful functionality for academic applications as well. Where students formerly tested engineering practices on real jet engines or architected buildings with balsa wood models, they can now run realistic simulations on their computers. With the Enterasys network, many laboratories are interfacing the computers into measurement equipment for simulation and modeling. Today, all 30 of the Institute's computer labs, with 575 computers, are running the latest high-end applications—including AutoCAD and strength and materials modeling.

ROI and lower cost of ownership.

Wentworth's Enterasys network was designed with security features that have translated to fast return on investment (ROI), with competitive initial costs through low operational and upgrade costs. "We found the network to be very price- and cost-competitive," said John Heinstadt, Vice President of Finance at Wentworth Institute of Technology, "but the most striking thing to us is that it's just very reliable—that's the most important payback we've seen at this point. The time spent chasing down issues has been wiped away, which allows us to integrate more powerful tools. And that translates to significantly lower cost of ownership."

Peace of mind.

Running a secure network provides Wentworth staff members the peace of mind they need to manage and improve educational and technical resources for students and faculty. "We have the luxury of a very powerful network in an academic/residential environment," Van Domelen said. "At the same time, we're able to protect what we need to protect and keep things operating so classes can meet and business operations can go on without a lot of worry." While Wentworth Institute did shop around before deciding on the Enterasys network solution, none of the competition equaled Enterasys' keen interest in working closely with the school to define and meet its many unique requirements.

"Enterasys didn't just come in with a sales person," Van Domelen pointed out, "they came with an engineer. So we got questions answered, and that made us feel comfortable. That's been very valuable. Enterasys is always willing to take our call and help us out—and give us referrals where we can find things or look for new things."

Why Enterasys?

Manageability.

The more complex and robust the network is, the more of a management challenge it presents. Fortunately, Wentworth's Enterasys network has built-in management features that make it easy and realistic for the school to manage its complex, policy-based networking through system-level control and automation. Enterasys engineers helped Wentworth design a re-configurable networking laboratory so the systems don't have to be manually reconfigured every time a class meets.

By dynamically assigning the tools and resources each user needs to do his/her job, Enterasys networks introduce simplicity to Wentworth's complex network-management operations."

Security.

At Wentworth, the new standard in residence hall construction is two data drops per pillow because today's students want to run multiple computers and devices with networked printers. Enterasys equipment gives the school the flexibility to allow technical students the maximum degree of bandwidth to experiment, while protecting key aspects of the network. Students can experience a very powerful network in a residential environment, while the Institute protects its operational functions so that classes can meet and business operations can go on without concern.

Dragon—Enterasys' industry-leading intrusion defense solution--provides protection at the network edge so intruders never get in to obtain an IP address. The solution delivers complete visibility into where a security threat exists so Wentworth can quickly mitigate the threat.

Availability.

Enterasys networks are designed to deliver 100% availability through no single point of failure and redundant architectures, so they allow Wentworth to stay up and running efficiently 24 x 7. The network also improves uptime by providing the intelligence, visibility, and management tools to reduce mean time to diagnose and repair—so the school's technical resources can be allocated to deliver new capabilities and proactive maintenance—instead of reactively putting out fires.

Enterasys' application-aware networking solution lets Wentworth easily prioritize how much bandwidth is distributed to each application at any given time. For example, certain labs may need more bandwidth at certain times of the day than others. And, during registration, registration applications receive top priority so students can be served efficiently.

"One of the best things about the Enterasys network," said Van Domelen, "is that it gives us the availability and flexibility to allow these technical students to experiment to a maximum degree. They participate in projects and share resources to problem-solve and work collaboratively. We're able to provide them that dimension of the academic experience."

Contact Us

For more information, call Enterasys Networks toll free at **1-877-801-7082**,
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