

## Colgate University Students Connect Anywhere, Anytime on Campus or Around Town

### Customer Highlights

#### Challenges

- Provide students and faculty with wireless access for a range of mobile devices both on and off campus
- Reliable solution in harsh, cold environments

#### Solution

- Reliable wireless network covering campus and around town

#### Results

- Students and faculty have free access to the Internet, email, and academic resources on campus and around town
- Hamilton townspeople or campus guests can connect to the network for Internet access at no charge
- Tropos units support wireless network with thousands of simultaneous users

#### Systems and Services

- Tropos Networks 5210 routers
- Integral Wireless Solutions, Inc. (IWS): System integration
- Colgate University: Network owner and operator

Colgate, one of the leading liberal arts colleges in the country, is located in the village of Hamilton (named for statesman Alexander Hamilton), near Syracuse, New York and about 10 miles from the geographic center of the state. Colgate is home to 2,750 undergraduates, who hail from 48 states and 27 countries. With 51 programs and more than 250 faculty members, Colgate combines the intimacy of a liberal arts college with the depth and breadth of a research university. The growth of the mobile Internet and Colgate students' increasingly digital lifestyle, with an average of three to four mobile devices per student, drove demand for ubiquitous broadband wireless access.

### THE CHALLENGE

If you browse the "student life" section of the Colgate website, you'll find a list of residence-hall essentials that places a laptop in the number one spot, outranking a bed and a fridge - so you know Colgate students are serious about their digital tools. In addition to laptops, students are bringing with them an array of mobile devices that connect to the Internet, including music players, PDAs, and gaming devices. Colgate administrators saw a growing demand for wireless broadband so students could access academic resources, email, and the Internet wherever they were, including residential dorms, study areas, the campus' outdoor areas and the surrounding town. "Students really wanted to be able to connect anywhere, rather than being tethered to the wall," says Jen Servedio, Colgate University Network and Systems Administrator, "whether it's on their beds in their rooms, open study areas or outside on patios or the quad, they want to go where they're comfortable and not have to fight for spots where they have to plug in." Colgate needed a solution that was cost-effective to install and maintain and could meet the students' high expectations for reliable, pervasive access. In addition, the university needed an outdoor wireless solution that would reliably withstand Hamilton's long, cold winters.

### RESULTS

Colgate launched an initiative to deploy a metro Wi-Fi network that included coverage for outdoor campus areas as well as portions of downtown Hamilton, such as the village square, the Colgate Inn, and the popular Barge Coffee House, encompassing close to two square miles, according to Rich Grant, Associate Director of Technology Planning.

One of major reasons that the Tropos Networks MetroMesh solution was selected by Colgate is its flexible technology platform. "We weren't really creating a mesh network such as a municipality might need," notes Grant. "We're much smaller than a city, and looking to support more users rather than cover a huge area. The flexibility of the Tropos system allowed us to implement it so each of the Tropos units is connected to our LAN using Ethernet. It's working beautifully for us."



“To me, the best technology is the kind where, after it’s installed, I never have to worry about it again – that’s definitely true of our Tropos wireless network.”

Rich Grant  
Associate Director of Technology Planning  
Colgate University

As students enroll at Colgate, they are issued a user account and password, which they can use to log into the wireless network for immediate access to the course management system as well as to the Internet.

Jocelyn Recht, class of 2010, connects to the wireless network all over campus, including her dorm, the library, and O’Connor Campus Center (the “Coop”), a central meeting place. She has also connected at The Barge, a favorite student hangout in Hamilton. Recht uses the network to do Internet research, request books and other

materials through interlibrary loan, check her email, and access Blackboard, an application that allows Colgate professors to connect with their students and provide online course documents. “I’m dependent on my laptop, and Colgate’s wireless access lets me take my laptop everywhere – I can study where I want without having to be plugged in. It’s a huge convenience to have wireless everywhere on campus.”

The network is owned and operated by the university, and averages 1,500 to 2,000 users at any given time. While the primary use of the network is for the students and faculty, members of the public within range of the network are allowed to connect as guests, using any valid email address, for Internet access at no charge.



## TROPOS SOLUTION

The outdoor wireless network was constructed using Tropos MetroMesh 5210 wireless routers, chosen by Colgate for their flexibility, reliability, ease of management, and cost-effectiveness. “One of the real concerns we had was our horrible winters and how well the outdoor units would fare,” said Grant. “They have clearly passed that test.” Integral Wireless Solutions, Inc. (IWS) provided the system integration.

Installation and deployment were accomplished in less than four weeks. Tropos units are mounted on buildings or on powered poles constructed for the purpose. The majority of the Tropos units are in the lower campus area, covering student residence buildings, the stadium and track, athletic center, field house and playing fields, while those on the upper campus cover Colgate’s open quad area and the areas around the student union and the administration building.

## LOOKING FORWARD

Grant emphasized that the primary priority for the network is to reserve bandwidth for the user community of students and faculty. Future applications for the network may include:

- **VoIP:** Wireless headsets that connect to the campus phone system that could be utilized by faculty and administrators.
- **Asset tracking:** Enabling the university to keep better inventory on the whereabouts of high-value mobile assets such as laptops, audio visual equipment, and textbooks.