

Bursting with Speed: US Signal Direct Fiber Access Provides Needed Redundancy and Bandwidth to College

Executive Summary

Customer: Aquinas College

Industry: Education

Location: Grand Rapids, MI

Business Challenge

- Increases in student population and devices per student were causing serious internet access shortages
- High cost of increasing bandwidth over third party fiber connection.

US Signal Solution

- Geographically diverse fiber build
- Increased bandwidth

Business Results

- Secure and reliable Direct Fiber Access that is fully redundant
- Reduced monthly bill
- Internet capacity that exceeds current student needs
- Dependable Disaster Recovery in case of Fiber Cut

Business Challenge

The roots of Aquinas College date back to 1886, when the Dominican Sisters established the Novitiate Normal School in Traverse City, Michigan. The school prepared young women to take their vows to the Dominican religious order. In 1888, the sisters moved the school to Grand Rapids, Michigan to staff the area's first home for orphan children, St. John's Home. By 1914, over 300 sisters were placed in 38 parochial schools across Michigan and religious academies were established in three other cities. During this time the normal school evolved into the Sacred Heart College and then into a two year institute for women called Marywood College.

In 1922, the Dominican sisters merged their newly created college for lay woman with Marywood and shortly afterward received a charter from the state of Michigan to grant degrees. By 1931 the school was reorganized into the Catholic Junior College and became the first Catholic college in the United States to go co-ed. The college began to operate as a four-year institution in 1941 and renamed itself in honor of Saint Thomas Aquinas.

Today, Aquinas College resides on a spacious campus in the heart of Grand Rapids. It has more than 2,100 students and confers Bachelor's and Master's degrees for over 60 majors. Approximately 90% of the college's pre-med students are accepted into medical schools. Their international programs include semesters in Italy, Japan, Spain, Germany, and Ireland.

Brad Vedders is part of the school's Information Technology and Services department. He is a Network Systems Administrator on the Infrastructure Support Team and has been with Aquinas 14-years. When he started the residential halls were in the process of being wired for Internet service so students could access the web from their dorm rooms. Once completed, the students mostly used personal computers for that access because laptops were too expensive and smartphones were not yet available.

Internet access eventually expanded from the classrooms to the dorms eventually expanding to campus-wide wireless access that was labeled AQNet. Brad explained this evolution was propelled by more and more course materials, such as syllabi, lesson plans, exams, and electronic textbooks being delivered online. Also, the methods of accessing the Internet have proliferated dramatically. Today, it is not unusual for a student to have three or more electronic devices that can access the campus network.

US Signal Solution

Aquinas College was already a customer of US Signal with Internet access using Ethernet service with 100 Mb of bandwidth. Within a year, because of the increased demand for bandwidth, the college upgraded to 200 Mb of bandwidth. US Signal leased the fiber for these services through another carrier. Aquinas College also had a second carrier that brought in a second fiber connection.

The IT staff knew that another liberal arts institution in Grand Rapids had US Signal Direct Fiber services and were very satisfied with them. The US Signal account team proposed changing the last mile connection to US Signal Direct Fiber with 400 Mb of bandwidth and keeping the second fiber connection for redundancy.

The resulting configuration created a multi-homed, dual ISP redundant connection. Because they were now directly on US Signal fiber, the new services cut the college's monthly cost in half while doubling their bandwidth.

Business Results

The secondary connection US Signal provided not only meets the increased bandwidth demands, it also allows for dependable and efficient recovery from catastrophic events. For example, if one fiber-optic cable was cut the other would still be connected which would enable business as usual until the other was repaired. Also, because US Signal placed their fiber at the other end of campus, the school now has an element of disaster recovery built-in with the geographically diverse access points.

Academically, this connection prepares Aquinas for the future because in the coming years more courses are planned to be exclusively online. In fact, Brad, who also teaches a few Computer Information Systems classes, has not used a piece of paper in his classroom for three years!

Aquinas College's IT department values the responsiveness of US Signal's Network Operations Center (NOC). Brad said that US Signal's pricing is fair and that the company responded quickly to the school's periodic bandwidth crunches with very quick and efficient upgrades. Plus, over the last four years, US Signal services experienced only two technical issues; both resolved quickly with less than 30 minutes of combined downtime. Finally, he believes US Signal understands Aquinas College's current and future technological needs and looks forward to continuing the partnership.