

# CASE STUDY

## UNIVERSITY OF MIAMI



### UNIVERSITY OF MIAMI: A SUCCESSFUL PARTNERSHIP

The University of Miami (UM) is the largest private research university in the Southeast. Established in 1925, UM is known for its outstanding faculty, groundbreaking research, diverse student body and history of athletics excellence. The University is comprised of 14 schools and colleges located on four campuses. UM has been described as a major research university set in a tropical garden. One of only 23 private research universities to operate both a law and medical school, UM is located near one of the nation's most dynamic and diverse metropolises: The city of Miami.

UM has consistently been an early adopter of leading-edge network technology. In 1998, with network and bandwidth requirements growing, the university began searching for a replacement to their FDDI backbone. ATM was an option, but by then Gigabit Ethernet was beginning to make a presence. Gigabit Ethernet equipment from network equipment providers, including Foundry Networks, was beginning to ship in quantity. When UM purchased one of the first Gigabit Ethernet switches produced by Foundry Networks, a long and successful partnership between UM and Foundry was born.

"That first Foundry switch is still in operation in our network today," said Stewart Seruya, Chief Network Officer of the University of Miami. "Through the years, we have bought every product that Foundry makes. And they are all in operation in our network."

The practice of Seruya's group, and throughout the university, is to extend the life of networking equipment by moving it from the core to the edge as the equipment matures. As new products are introduced, existing core products are uprooted and pushed out to the edge, and they continue their productive life there. This practice extends the life -- and lowers the overall cost -- of networking gear over time. A Foundry solution provides great investment protection.

"To this day, we haven't replaced even one Foundry box," said Seruya, "not ever for failure or for being outdated." Through partnership with Foundry, UM has been able to keep infrastructure costs down while enjoying leading-edge technology throughout the network. The core-to-edge strategy, along with Foundry IronClad performance and reliability, has served them well.

What initially interested Seruya and UM about Foundry Networks was Foundry's ability to route and switch at line speed. Also, Foundry products have the ability to filter protocols at Layer 2 (considered a big issue in 1998). These two features got their attention. But what really solidified the partnership was how rapidly Foundry responded to feature requests from the university. UM requested the ability to switch multiple subnets on a single interface, and for a special feature for the AppleTalk protocol.

"We asked for the AppleTalk feature on a Friday," says Seruya. "Over the weekend, the Foundry engineers worked on it and had working code for us on Monday. That type of responsiveness from an equipment vendor is unprecedented in my mind."

At the university's main campus, there are over 100 buildings and four major data centers. The data centers are networked together through fiber links in a Metropolitan Area Network (MAN). BigIron 8000 or 15000 switches reside at the core of each data center, supporting the various buildings that make up the campus. Gigabit Ethernet or DWDM is the transport medium for the MAN. Over 100 miles of leased fiber connect the various campuses, data centers and buildings on the university. Foundry chassis and stackable products populate the network in the various campus buildings to support the Law, International Studies, Architecture, Communication and Business schools. With over 10,000 nodes, and multiple-sized chassis with multiple configurations, product sparing would normally be an enormous issue -- but this has not been the case with Foundry products.

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“With a network of this size, product sparing can be a very big issue,” said Seruya. “What is great about Foundry products is that almost every blade and power supply is interchangeable with every chassis. Spares are kept to a minimum, as is the complexity of keeping the right spare for the right chassis.” Total cost of ownership (TCO) is greatly reduced when investing in a Foundry solution.

As UM has introduced Voice-Over-IP (VOIP) and connectivity to Internet 2, Foundry products have again exceeded expectations. Two major installations of VOIP services, by competing vendors, are now in production on the UM network. This VOIP traffic is being switched and routed across the LAN and MAN all by Foundry products. “Never have we had an interoperability issue with these competing solutions and Foundry products,” said Seruya. UM also is a major supporter of Internet 2, a consortium of over 180 universities working in partnership with industry and government to develop and deploy tomorrow’s Internet. UM uses the Foundry NetIron 800 Internet Core Router to connect UM to Internet 2, passing terabytes of data between UM and other Internet 2 partners at OC-3 speeds.

Over the years, the Foundry and University of Miami partnership has grown and strengthened. As the relationship progresses, Foundry intends to listen and stay responsive to long-standing customers like UM.