

## MARKET BRIEF

# Optical Networks Speed Learning in Higher Ed

In today's digital world, colleges and universities must offer the best data transmission networks available in order to attract and keep quality students, faculty and staff. A student downloading course material, a faculty member uploading research data to a colleague or a staff member sending compliance reports to a government agency all expect the network to be available and able to handle their needs without interrupting their workday.

Colleges and universities must provide high levels of connectivity across not only individual campuses, but among multiple campuses and remote research or teaching facilities in other cities, states or even countries. Finally, they must provide network services at the lowest possible cost to leave as much money as possible for the schools' core missions of teaching and research.

AT&T provides a range of scalable optical network services that meet users' needs for bandwidth, while reducing network complexity and operations costs.

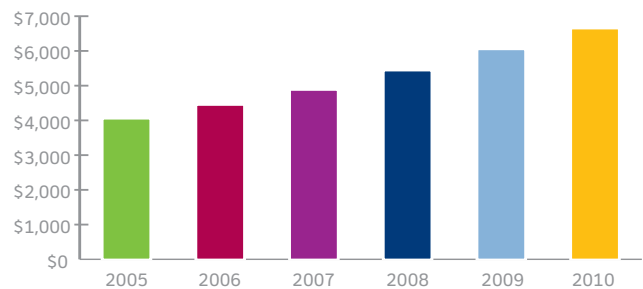
### Within the Campus

A scientific laboratory generates Tbytes of experimental data. An administrator puts the final touches on a department budget or a compliance report for an accreditation agency. Students crowd the Internet at semester's end to finish their research papers. In each case, users at disparate locations around the campus need reliable, secure bandwidth at their fingertips.

### AT&T ACCU-Ring® Network Access Service

AT&T ACCU-Ring® Network Access Service is the solution of choice for secure, reliable and scalable communications throughout a campus environment. AT&T ACCU-Ring® service employs a private SONET (synchronous optical network) ring to provide private line, switched and enhanced services and all distance voice, data and video traffic. AT&T ACCU-Ring® service provides high reliability and millisecond restoration of service due to SONET's self-healing architecture and allows customers to change network speeds without the need for special equipment. And because it is fully managed by AT&T's expert staff, AT&T ACCU-Ring® service reduces in-house network administrative overhead.

## Wireline Data Spending in Higher Education (in Millions of Dollars)



Source: In-Stat Report: "In-Depth Analysis: Telecom Trends and Expenditures: US Education"

### Multi-Site Connectivity

The days when only the computer lab or a research facility needed high-bandwidth connectivity are long gone. Today, students, faculty and staff in geographically dispersed locations all need instant access to fast network and Web connections. When data intensive facilities such as a teaching hospital or research facility are scattered among the multiple buildings, the need for multi-site conductivity becomes even more critical. AT&T's Ethernet networking service offerings provide high levels of bandwidth at a reasonable cost and are relatively easy to implement and maintain so that each doesn't need a full-time IT director.

### OPT-E-MAN® Switched Metro Ethernet Service

This service transmits information among any network points using Ethernet LAN packets. This service provides connectivity speeds from 2 Mbps to 1 Gbps running over optical fiber (or in some cases, copper) to the Internet or to any campus location, providing the ideal platform for high-speed connectivity among LANs in multiple locations and the Internet.



### AT&T's DecaMAN® and GigaMAN® Services

These services offer, respectively, 10 Gbps and 1 Gbps private line point-to-point fiber-optic Ethernet transport service suitable for large file transfers, sharing resources among multiple metropolitan locations and interoffice collaboration. GigaMAN service provides an easy migration path for upgrading networks to higher performance levels.

These services also provide a cost-effective way to connect local sites to the Internet; to SANs which store research data, or to backup and disaster recovery sites. They also support the deployment of virtual LANs (VLANs) to help assure the security of critical data and applications.

### Changing Needs

The rush to register for classes at the beginning of the semester, the crunch to close the books at the end of the fiscal year or even just word of a hot new video clip can instantly create a flood of concurrent users on various parts of the campus network. Network managers need a communications infrastructure that can quickly reallocate bandwidth, without forcing expensive overbuilding of the network just to meet peak demands.

The AT&T OPT-E-MAN service is flexible enough to allow network administrators to choose from multiple service levels as the needs of their users change.

### Reducing Costs

Colleges and universities face many competing claims for every budget dollar and must provide core services (such as network connectivity) at the lowest possible cost.

### AT&T Ultravailable® Managed OptEring Service

AT&T Ultravailable® Managed OptEring Service reduces the total cost of network ownership by offering a fully managed solution, using its unique Integrated Global Enterprise Management System (iGEMS) to provide end-to-end monitoring and cohesive management across networks, servers and applications. This service provides a scalable platform for applications such as Ethernet, video, data and Voice over IP, which holds down telecom costs by transmitting voice and data traffic over a converged network.

### Videoconferencing

Videoconferencing is a time- and cost-effective way to interview new faculty or staff, for faculty to collaborate with peers in other institutions and for schools to extend their student base – and their revenue stream – into new geographies. However, videoconferencing requires large amounts of network bandwidth that can slow the performance of other applications if not managed correctly.

### Key Benefits

#### AT&T's Optical Network Services Provide:

- **A scalable, flexible platform for connecting multiple local area networks within a campus, or connecting multiple sites around the world**
- **A managed service that improves network performance while reducing network complexity and the associated operating costs**
- **A cost-effective, flexible platform that meets changing needs for bandwidth and that support data-intensive applications such as videoconferencing, backup and Voice Over IP**

AT&T's high-bandwidth network services make it easy for colleges and universities to incorporate videoconferencing into their networks without adding new connections or sacrificing performance for other applications. AT&T's wide range of network service options allow colleges and universities to save money while offering students, faculty and staff high-bandwidth connections such as videoconferencing.

### Summary

Colleges and universities cannot afford to overbuild their metropolitan networks to be prepared for periodic spikes in traffic. They also cannot afford the large staffs required to monitor and manage complex internal networks. AT&T OPT-E-MAN® service is a flexible, managed service that simplifies the IT infrastructure, reduces network complexity and associated operations costs and improves overall network performance.

### AT&T At Work: OPT-E-MAN Service in Higher Ed

When Oakland Community College (OCC) in Michigan needed a fast and more cost-effective way to handle the growing data flow across its five campuses, it turned to AT&T OPT-E-MAN® service. OCC, the largest community college in the state, will use the high-bandwidth networking solution for secure transmission of data among the campuses, to improve communications among the sites and as the foundation for an optimized application infrastructure.

"The solutions provided by AT&T will equip us with the tools needed to expand our bandwidth and increase productivity among faculty and staff to better serve our students," said Andrew R. Hillberry, the schools chief information officer. "In addition, this new technology provides a more robust network, which positions OCC to provide information technology continuity for our students and faculty," Hillberry noted.

**For more information contact your AT&T Representative or visit us at [www.att.com/edu](http://www.att.com/edu).**

