

MORE BANDWIDTH, MORE OPTIONS

Technology needs of today's students are increasing. As a result, students are driving the demand for more bandwidth and more video options in today's student housing environments.

By Randall Shearin

Aside from location, technology is one of the key amenities that students list as important when they choose student housing. "Technology" has a very individual meaning to students. To one student, it might be how quickly she can watch a movie online; to another it might be how quickly she can upload her term paper. Yet another may be more concerned with whether he and his roommates can watch the university's lacrosse team play every week on his flat screen via the complex's cable or satellite channels, while another may be concerned with how he's going to play *Call Of Duty* with 20 other people tonight on his Xbox. All of these applications require two things: a lot of bandwidth and a good network. Providing more bandwidth more efficiently to new and existing student housing complexes is the challenge facing student housing providers today.

"[The need for bandwidth] is growing because of the population that we serve," says Derek Benavides, vice president of information technology at Campus Advantage. "College students are increasing the things they are doing on the Internet, while the media on the Internet are also increasing."

Campus Advantage has developed its own best practices for its Internet use, and it has scaled those practices as the need for Internet broadband has increased throughout the years. The company did a study of students who renewed leases at its properties and rated the Internet speed positively. It found that it had a ratio at 10 users per 1 megabit of bandwidth at those properties with the basic levels of satisfaction.

"We are now intending to improve to the ratio of five users per 1 megabit in the future," says Benavides. "With student housing, you always see a consistency in the usage, no matter what time of day. At 6 a.m. you will have high usage, and come Saturday morning, you may have a good percentage of your residents uploading and downloading data. Student housing sees very high traffic."

Ten years ago, the popular thing for many student housing owners to do was to outsource to technology companies who bought Internet



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bandwidth, telephone services and cable packages from larger companies, repackaged them and resold them to multifamily owners. When telephone services weren't necessary for students and the need for Internet bandwidth increased, some of these companies didn't have the knowledge or the technology to sustain the requirements that student housing needed. A few companies, says Benavides, began to look at student housing as a niche and quickly figured out the technologies and applications that were needed to manage the bandwidth that would be required.

"They are the ones who have been mastering this market for years," says Benavides. "They are at a point where they know how to control and manage the bandwidth and balance the loads."

In student housing, there are a number of providers who cater to the niche. Among them are Austin, Texas-based Korcett Holdings; Cary, North Carolina-based Connexion Technologies;

and Austin-based Apogee.

"We really started to notice changes when the upload bandwidths started to grow," says David Daugherty, president and CEO of Korcett Holdings. "That was due largely to peer-to-peer applications like BitTorrent. On college campuses, one of the largest applications seemed to be pirating content of all sorts. We guessed that's what was driving the growth. For the last three years, we've seen that the upload bandwidth is equal to download bandwidth requirements. It is not asynchronous."

Today, bandwidth growth is driven by new services that are provided through the Internet. Most recently, Netflix introduced its streaming service for Playstation and Xbox. Within 30 days, Korcett saw a 20 percent growth in bandwidth usage. With college students being early adopters of any new technology, the demand was up at student housing properties.

"Social networking is, in itself, a catalyst for finding new technologies," says Daugherty.

Traffic is only supported by good infrastructure. Having the right cabling and network setup, and the right hardware to handle it is key, says Benavides. Some of that may start with education.

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Among students, the most popular non-academic Internet applications are downloading music; watching streaming video; online gaming; peer-to-peer applications; and social networking.

"Today, owners are paying a lot more attention to infrastructure than they were in the past," says Carter Teague, executive vice president of Connexion. "They seem well versed, and they know the difference between coaxial cable, copper cable and fiber optic cable. They understand the bandwidth demands of students and know what they need to lease units."

Whether a project is new or old, generally when a property is upgrading its technol-

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ogy equipment, every one is a greenfield, says Daugherty.

“Older infrastructure simply isn’t adequate to accommodate demand,” he says.

Today’s networks require fiber optic cable into the main distribution frame (MDF) to supply the bandwidth that students need. The MDF is usually located in the clubhouse or office. Fiber is also fairly standard to have from the MDF to intermediate distribution frames (IDFs), generally housed in each building. In each rung, managed switching is also required. From the IDFs to the wired ports in each unit, CAT-5E or CAT-6 cabling is a must. Site-wide wireless is usually done using an inexpensive wireless router in every unit.

According to Teague, each property — even within a portfolio — is evaluated based on its needs before any recommendations on technology are made. The number of units, and number of beds, is key to the recommendation, as well as the layout of the property.

“There is an emphasis [from owners] to create an infrastructure that has the capability to support the bandwidth requirements of students,” says Teague. “Many owners who are installing new infrastructure want it to be capable of supporting students’ needs today and 10 years from today.”

“Data is increasingly important and the amount of bandwidth needed is increasing at least 20 percent per year,” says Henry Pye, vice president of resident technology solutions at RealPage. “This year and next year, the huge problem is with bulk video.”

The way that bulk cable and Internet services are managed, portfolio-wide, is also changing, he adds.

“When you look at bulk broadband or cable television, as a general rule \$1 per month is more than \$100 per unit,” says Pye.

Running a coaxial cable to each bedroom for video service costs about \$125 per bed, including the living area, according to Pye. Developers have the choice of putting the cabling in themselves as a construction cost, or getting the private video services contractor to install it. Providers will build that cost into the bulk rate of services, making the install costs back over time.

While it is difficult to do, Pye recommends analyzing multiple bids and making sure they offer the same services before comparing prices. RealPage, who does cost comparisons on student housing properties, has asked as many as nine providers to bid on a single project in recent times. Pye has seen as much as a 30 percent difference in cost once each provider offered the same parameters in its package. On data, even similar comparisons will have differentials. While the pipe may be the same, some providers may offer a faster speed than others for the same price, for instance. For video, an extended channel line-up more suitable to students may be offered for a lower price.

“Getting an apples-to-apples comparison among bulk video and bulk data can help you get the best financial deal,” he says. “The economy has made some interesting deal points.”

The burden of the Internet extends beyond an owner’s cost for bandwidth. Electricity demand — and expense — also becomes an issue for many owners with the increased use of the Internet. If electricity is included in rents, it can be something that owners begin to watch carefully and amalgamating their energy usage

across their portfolios.

“If you are pulling 1.5 to 2 million kilowatt hours of electricity, little things that result in increases of three minutes of kilowatt-hour difference can add up to a lot of money,” says Pye. “Energy conservation will be a technology driven strategy.”

While the Internet takes the major focus of technology, television isn’t that far behind. While traditional players like cable operators dominate in older student housing complexes, satellite operators are also a popular choice in new developments. DIRECTV has even introduced a new package that is tailored to student housing. With 3-D television launching in June, expect more demand from students for new television technology in the near future.

“3-D is going to be like high-definition television (HDTV),” says Teague. “Once you see something in 3-D, you don’t want to go back to the old way.”

Much of television viewing is shifting from broadcast oriented distribution to time shifted demand through the Internet. This has resulted in the increasing popularity of services like ESPN 360. ESPN 360 is free to military and student housing. The amount of television programming watched over the Internet is up 12 percent over a year ago, says Teague.

“Over time, this will shift buying patterns away from buying video services altogether,” says Daugherty.

“At the end of the day, it is going to be how you are managing all that traffic,” says Benavides. “Part of it is the bandwidth that you are bringing to the property, but a big percentage is how well you are running your network.” **SHB**