The 10 Essentials Of Bulk Internet Access

Delivering bulk high-speed Internet access to student communities is a science, not an art. Study these guidelines, and you'll ace the final exam.

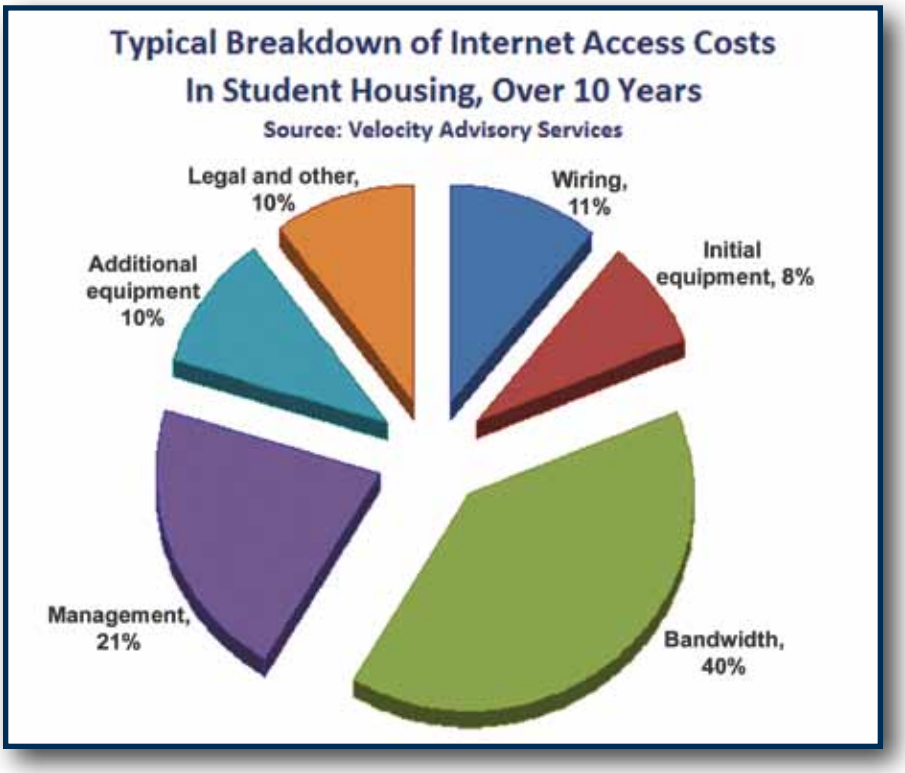
By Henry Pye ■ *RealPage Inc.* and Scott Craig ■ *Davis, Craig and Taylor*

1. Ethernet. For almost all Class A and B, purpose-built student communities, the primary platform for delivering high-speed Internet access is Ethernet. Ethernet continues to be the most cost-effective platform for delivering both wired and wireless access. An Ethernet platform enables a provider to deliver the same user experience with less overall bandwidth and far less operating expense than traditional residential technologies.

Although FTTP, xDSL and DOCSIS are strong delivery platforms for Internet access in conventional multifamily housing, they struggle to be competitive for purpose-built student living communities.

2. Network management. Ethernet is so cost-effective in student housing because it allows management of specific classes of traffic, applications and users. This enables a provider to deliver a better user experience than it could by using other platforms. Providers with greater Ethernet network management expertise can be even more efficient. The best providers commonly need only half or less the amount of bandwidth that a less experienced provider would need to deliver the same experience. After platform, management expertise is the most important determinant of service quality and cost.

3. Bandwidth per bed. Property owners tend to focus too much on the total bandwidth connection to a site. Admittedly, using this metric to compare communities is easy. However, depending on the platform and the quality of bandwidth management, comparisons of communities by site bandwidth can be misleading. Student community owners, developers and operators who lease by the bed should focus on **bandwidth per bed**. This is not as easy as it sounds, and providers are understandably reluctant to guarantee per-user speeds.



4. Annual increases. The most obvious pressure on bandwidth is the continual increase in speed per bed. Ten years ago, the highest-end student-living communities might have offered 1 Mbps per bed. Today, the newest student-living developments include 10 Mbps or higher per bed in the rent.

About the Authors

Owners Corner is written by Henry Pye and industry peers. Henry is vice president of Velocity Advisory Services for RealPage (www.realpage.com). He can be reached at henry.pye@realpage.com. Scott Craig is a partner at Davis, Craig and Taylor and can be reached at scott@mdulaw.com

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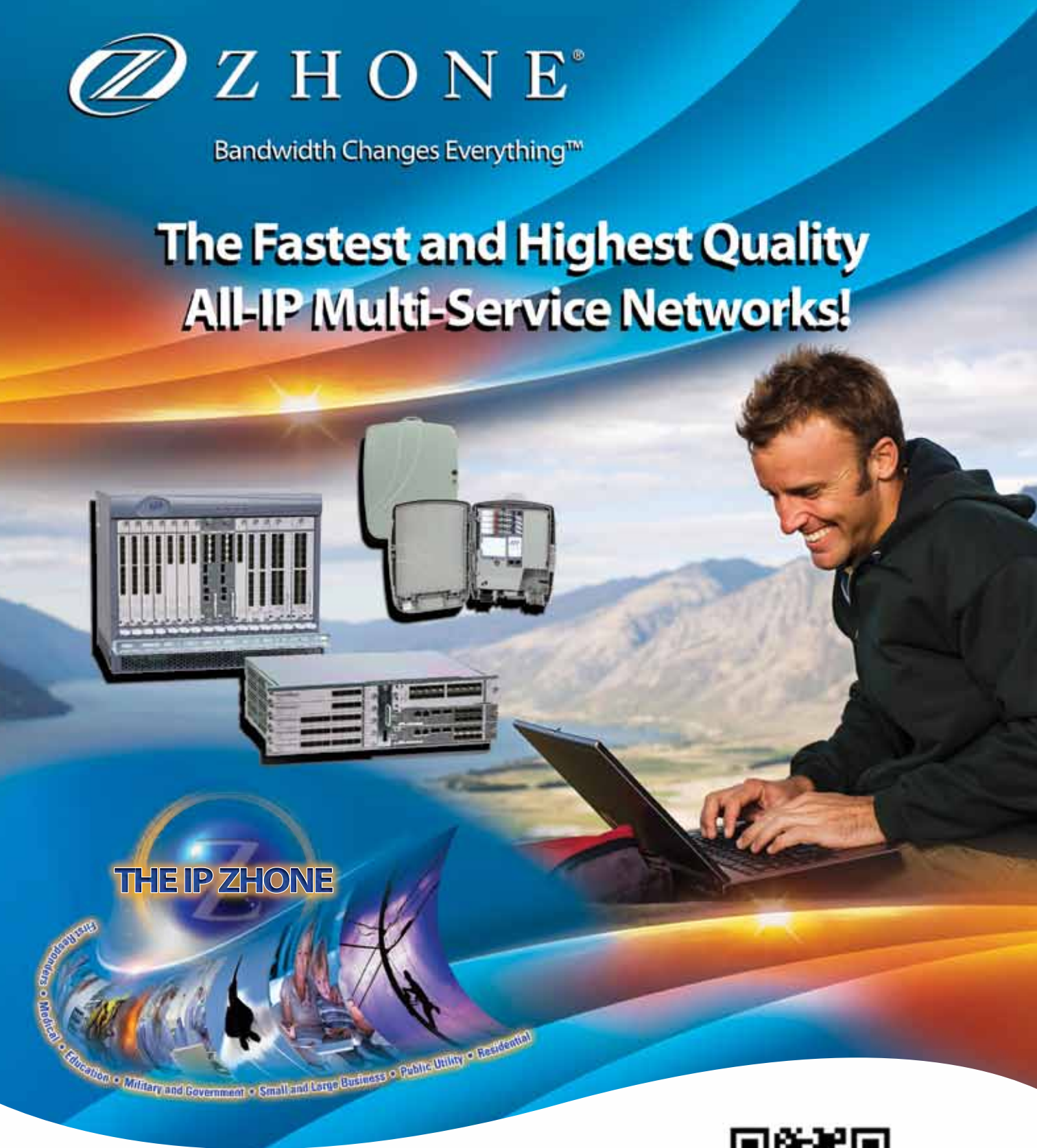

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Somehow, these increases must be budgeted for and addressed in service contracts. Many new proposals and offers include some annual increase beyond the bandwidth needed to maintain a given per-bed speed in the contract. However, in almost every circumstance, neither the owner nor the provider can afford to pay for enough bandwidth today for the entire contract term.

As a result, these annual increases are not meant to address all bandwidth needs, but simply to build in some increase and to delay the need to amend contracts or increase cost. This is an imperfect solution, but it allows owners to stretch the period between service amendments from an average of two years to four or five years.

However, the bandwidth needed to support a constant speed per bed is not constant. It changes over time. The pressure to increase overall site bandwidth doesn't just reflect demands for higher maximum or average speed per bed but also reflects demand for more continuous usage.

As online behavior changes and media evolve, Internet usage becomes less bursty and more constant, and oversubscription ratios must be decreased. Thus, overall site bandwidth must increase even if there is no change to the average user speed or ceiling. Providers understandably try to shift this liability and any resulting cost to the community.

5. Wi-Fi (but not only Wi-Fi). Supplemental Wi-Fi is essential for every new development and should be added to almost any purpose-built community built in the last decade. Students still want and need many of their high-bandwidth devices to be wired, but for every wired device, students also have multiple wireless devices. A lot of wire goes into a reliable Wi-Fi solution. For student-living developments, the additional cost is often around $100 per bed – a reasonable expense to ensure that students can always get online and achieve the speeds they expect.

We are often asked why a property cannot rely on Wi-Fi alone. Unfortunately, Wi-Fi service is fickle, Wi-Fi standards are short-lived and Wi-Fi equipment is usually expensive. The most common problems with Wi-Fi connections are caused by residents' equipment that is not working or that creates interference. For all these reasons, relying on Wi-Fi alone is not a wise strategy for owners that want to meet residents' expectations and avoid budget surprises.

As video and high-speed Internet services converge, coordination between them will be critical. This is easier with one vendor than two.

6. Equipment. The network equipment needed to deliver high-speed Internet access must be maintained, repaired and upgraded during a contract term. The provider that manages the service and uses the equipment is far better suited for these responsibilities than the owner. Provider responsibility for equipment also helps ensure service-level guarantees and avoid finger-pointing when challenges arise.

7. Legal liabilities. Any bulk high-speed Internet agreement must address responsibility for network security and compliance with service-related legal requirements, including those imposed by the Digital Millennium Copyright Act and the Communications Assistance for Law Enforcement Act. Property owners and managers are ill-equipped to handle these responsibilities or even track the ever-growing list of related requirements. A service provider must be obligated to maintain network security, comply with legal requirements and indemnify the property owner and manager for related claims.

8. TV Everywhere. TV Everywhere is roughly the online version of a traditional linear or on-demand video offering from a cable, telco or satellite company. An example would be Time Warner Cable's allowing a subscriber to use his or her Time Warner video account to watch HBO's "Game of Thrones" on an iPad via the Internet. As we will explain in more detail in the next issue, TV Everywhere requires close coordination of video and data services. Increasingly, whether students can use TV Everywhere will determine their satisfaction with both their video and high-speed Internet access services. Depending on how the provider routes the programming, TV Everywhere may also dramatically affect network management, site bandwidth and related costs.

9. Convergence. TV Everywhere is only one example of how cable TV and high-speed Internet are increasingly interrelated or converging. As these services converge, coordination will be critical. Obviously, this is far easier when the same vendor provides both services.

Choosing best-of-breed vendors is a favorite strategy of owners; however, if this strategy results in choosing different cable TV and high-speed Internet access vendors, providing converged products may be impractical. Moreover, because of shared overhead, one provider can often offer both services more cost-effectively than two providers can.

10. Outside help. Negotiating bulk Internet proposals and agreement documents requires specialized skill and experience. Although some owners and managers have dedicated personnel with the necessary background and skill sets, many find it necessary to seek outside assistance. The services are too important, and mistakes are too costly, for on-the-job learning.

Extra credit: specialized services. Increasingly, top-tier providers of high-speed Internet access to student communities offer suites of services to assist operations. These range from messaging systems that log residents' acknowledgements of messages to slow-down functions that reduce Internet connection speeds of residents who are late paying rent. In the coming year, such additional benefits will expand to assist operators with leasing and turn. ❖