

Purchasing Bandwidth

Bandwidth isn't all the same. Make sure the circuit you purchase is appropriate for your community's needs.

By Sebastian Pereira / *Multifamily Broadband Council, Broadband Enterprise*

Service providers and property owners that don't own middle-mile networks must purchase bandwidth to connect buildings and communities to the internet. Before choosing a bandwidth source, type and technology, it's important to be clear about the application the bandwidth is intended for. These typical applications all have different requirements:

- Gigabit internet bulk services for multiple tenants
- Multiple senior housing sites with centralized servers for email, administration and other uses
- High-availability cloud IPTV and low-latency traffic in a hotel
- Residential, non-bulk internet with over-the-top services
- Fixed wireless network offering internet to underserved areas
- Municipal or rural network offering residential internet and critical public services
- Small cell towers providing mobile or cellular backhaul
- VoIP traffic with 911 calling.

The ideal, best-in-class internet offers zero packet loss, low latency and high availability. Unfortunately, only a few carriers provide that level of service. Most carriers oversell bandwidth, some by as much as 300 percent. Some carriers lack the personnel to configure changes, with the result that their networks collapse or drop packets during peak periods.

To choose a bandwidth provider, begin by knowing your region and the providers in your area. There are usually only two operators in each vicinity. Some are willing to build fiber to a site within 2 miles of existing construction; others will build only within 500 feet.

Reaching out to carriers directly makes sense only if you purchase 20 or more circuits per month. Otherwise, dealing with a reseller or wholesaler is more advantageous.

Even dealing with resellers or wholesalers can pose problems. Some resellers sell bandwidth only from providers they have contracts with. Some wholesalers may not contract

with providers in your area. However, wholesalers often have better purchasing clout and terms with carriers than you can obtain on your own, and they can remove an early termination penalty by transferring the liability to another customer. If you need bandwidth urgently, they can get expedited installation on their dime. They also offer higher layers of support, enabling you to have four to five levels if needed. Wholesalers vary in the pricing they offer – some have high operating costs, and a number of them do not pass along savings – and some are difficult to build relationships with.

THE BEST PRICE

Today, the best bandwidth prices and technology are provided by telco and cable operator networks. Trying to mimic a telco network by taking Layer 2 point-to-point or multipoint is much more expensive than using dedicated internet access (DIA) or software-defined WAN (SD WAN) – it could easily add \$18,000 per year to 1 Gbps service.

Sometimes mixing and matching different types of fiber connections makes sense. In some metro areas, fiber 50/50 Mbps service with 99.999 percent performance is available for only \$40–\$45 per month wholesale. A 200/200 Mbps connection is comparably inexpensive, and sometimes promotions enable no-cost fiber construction. Find a wholesaler willing to give you a price as close to wholesale as possible.

Getting the best price may require knowing how to rig the system. If you're off the beaten path, your construction cost for a 1 Gbps connection will be high. Start by asking for a low-bandwidth service, such as 50 or 100 Mbps. Once that bandwidth is deployed, the carrier will consider the building to be "on-net" and offer a 1 Gbps price about \$300–\$400 lower than if you had requested gigabit service originally. Again, use a wholesaler to make this happen.

THE RIGHT TECHNOLOGY

Not all carriers are technologically equal. Only Tier-1 companies that own facilities end-to-end offer best-in-class

technology, including sufficient virus, spam and DDoS protection. These companies offer the highest class of service at no extra cost and usually have enough 10 Gbps termination ports with little or no oversubscription. Be sure to ask questions about these features, and never compare offerings based on price alone. I often hear bandwidth buyers make statements such as “We got a 2 gig connection for less than \$2,000 a month” with no concept of how the telco manages or manipulates network traffic.

Next-generation WAN technologies are so interesting that keeping them on your radar is a good idea. For example, non-line-of-sight technologies that offer 200 Mbps to 1 Gbps are being introduced; they allow antennas to sway more than 90 degrees in a storm and still function. Some telcos have announced new managed services that offer a router, a firewall with DDoS protection and a software-defined

Next-generation WAN technologies offer many benefits, and their prices are dropping.

WAN in one box with licenses from the best in class. Cloud virus protection, which eliminates viruses before they hit a user’s PC, is available. Today these services are expensive, but keep them in mind as prices drop.

Relationships are key in the telco space. That’s why telcos visit wholesalers at least three times per year. End customers often do not work well with telco reps; issues such as price, delivery and support often get in the way. Wholesalers typically have power to give end customers the best price, resolve issues and release them from liability. Hence, relationships are key when working with a telco agent or partner. However, if another agent

suddenly sells the same product at a 20 percent lower price, switching vendors right away is a good idea. Asking an existing vendor to match the price is often a relationship killer, and in most cases, the vendor is unable to do so. ❖

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