



Beware the Bandwidth Hogs

George L. Koroneos, Contributing Editor

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You know who they are. They are the handful of guests that trickle into your hotel with nothing but a cell phone, two laptops, and plans of vegging out in a king-size bed with World of Warcraft on their PC, the latest hollywood blockbuster downloading on their MacBook, and an iPad streaming "Hackers" via Netflix on-demand.

Bandwidth hogs represent a small minority of the millions of guests that visit hotels each year, but the number of people that are using the Internet for more than information gathering is growing and Internet speeds are starting to choke up. What's more, guests no longer pay for on-demand movies when they have dozens of quality films available through Hulu or Netflix. The only cost is to the hotelier who has to pump out enough bandwidth so that guests can watch these gigabyte-size movies.

Hotels face a catch 22. If they give Internet away for free, will guests be happy with sluggish speeds due to network splitting? If hoteliers charge for Internet, how much bandwidth is appropriate at a particular pay scale, and at what point should the hotel choke the pipe to limit excessive use?

Many full-service hotels believe in the à la carte pricing model for services, which means that

not much is bundled with the room and guests have to pay for amenities such as food, Internet and phone. As competition started to rise, some hotels started offering free breakfast, free Internet, etc.

"The brands have created this odd dichotomy in the industry where at the low end of the industry you have a bundled product where you pay one price for the room and get everything, but at the upper end of the market you don't have that," explains Ron Hardin, VP of technology at Davidson Hotel Company (www.davidsonhotels.com). "We generally believe that services such as Internet service for guests should be a chargeable service, and it fits in with the philosophy of matching up our revenue stream with an investment or expense for the service."

Davidson Hotels has implemented tiered bandwidth pricing at a few of its properties. Tiered pricing allows hotels to charge more money for more bandwidth depending on a guest's preference. Most hotels simply provide a flat fee and guests receive the same quality of Internet no matter how fast or slow it is. However, with a tiered model, hotels must ensure that the quality is substantial for guests paying the higher cost for more bandwidth.

"We like the idea of tiered pricing, particularly when there's competitive pressure to provide free internet access," Hardin says. "In a full-service hotel, it only makes sense that if you are going to offer free access to only offer a basic level free, and offer a more premium level of service for an additional charge."

Tiered pricing using bandwidth throttling is being called the wave of the future for hotels with additional revenue being garnered from guests who really need the extra Internet speed.

Davidson currently uses AFL Telecommunications (www.afitele.com) for three networking projects it's currently running on BelAir (www.belairnetworks.com) wireless networks. The network is being distributed to guests using the Procera (www.proceranetworks.com) bandwidth management system.

Active management

Some hotels have installed an active bandwidth management where a package shaper is integrated into the network to better manage the bandwidth available to the guest at the application or protocol level. So basically, bandwidth is increased or decreased

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depending on the actual need.

"If it were up to us, we would always want to see an active bandwidth appliance because there's never enough bandwidth," Hardin says. "We could put in an obscene amount of bandwidth and there are applications and users that could consume a significant amount of it. Peer-to-Peer file sharing is a perfect example. P2P users don't realize that as a peer on a file sharing network, they are essentially a server from which files can be downloaded, and if they the users haven't regulated the number of connections they allow from their machine out, then a single guest on a P2P file sharing network can consume a huge amount of bandwidth."

Active bandwidth management can be as simple as capping the total amount of bandwidth each user is allowed to consume, which turns into a numbers game, depending on how robust the system is. The package shaping type of appliance allows hotels to create rules based on the application and the protocol, so it can differentiate between peer-to-peer file sharing traffic, normal Web traffic, and streaming video. It can limit bandwidth by the application and severely limit the amount of bandwidth to guests using the Web for bandwidth intensive programs.

"That's why throwing more bandwidth at the problem isn't going to fix the problem," Hardin says. "Active bandwidth management is the only true answer to the problem."

The price for bandwidth

"More hotels are aggregating their bandwidth than actually managing it," says James Lingle, VP of IT at Sage Hospitality (www.sagehospitality.com).

Bandwidth management traditionally refers to the use of hardware and software to prioritize what traffic passes through the pipe and what traffic is more important than other traffic. Aggregating bandwidth is the tactic of simply increasing bandwidth as the need arises.

"There are two pieces to the puzzle and you really have to solve one before the other becomes a part of it," Lingle says. "The most important thing, from my perspective, isn't necessarily the amount of bandwidth coming into the building. The most important thing is can your infrastructure handle it?"

For example, a hotel won't see much of a performance boost if it tries to run 10MB of bandwidth on the backside of CAT3 Cisco long-range ethernet.

The reality is, there are technological limitations to that kind of infrastructure, so hotels can install as much bandwidth as they want on the back end, but they won't get the full advantage of using it.

The question, then, is how to bring in all that bandwidth and then how should it be divvied up?

"The problem with bandwidth management is that the technology can be cost prohibitive," Lingle says. "Take a small or mid-size hotel and it's actually cheaper to bring in a commercial-grade circuit like a T1 or fiber and then spend a couple of thousand dollars on an aggregating device like a Fat Pipe (www.fatpipeinc.com). It's just often cheaper to bring in a \$59 a month DSL circuit to supplement the current bandwidth."

Lingle uses an iBahn (www.ibahn.com) system to aggregate bandwidth from various providers on an as-needed network. Sage has hotels in Portland that have fiber cable coming into the buildings because that's what's readily available in that area. On the backside of that, the hotel can bring in cable or DSL to provide redundancy and to augment the bandwidth.

"It's really hard to tell just how much speed and bandwidth

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guests really need, because need is such a matter of perspective," Lingle says. "Do I need to download this 800 megabyte movie? I don't know if I need to, but I sure might want to. For those of us in the guest service industry, need often bleeds into what our guests want. But I don't think we'll ever get to a point where we don't need bandwidth management. It just continues to grow."