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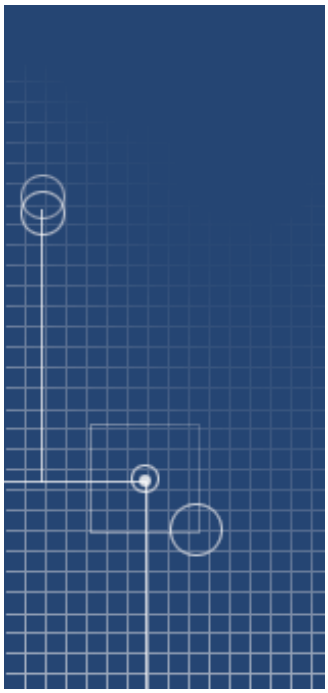
A Large Dish Of Broadband?



Satellite-Based Network Connectivity Offers A Viable Alternative To DSL & Cable

For businesses in metropolitan areas, broadband access is usually easy to come by. Cable modems and DSL service offer megabit bandwidth at a fraction of what it would have cost just a few years ago.

But suppose you are setting up shop in a rural area or need to get connected at a different location every day. Suppose you need to wire up a few dozen stores across the country and don't want to negotiate service with a different ISP at each location. For a solution, you may only need to look to the sky.

Satellite data communications used to be the domain of multinational corporations and broadcast networks. It was outrageously expensive and required huge dish antennas. The first real sign that things were changing was when direct-to-home satellite service started to gain market share. Hybrid systems using the satellite stream for downlink and a phone line for return traffic followed, but the snail's-pace uplink speed limited their usefulness.

But a new generation of satellite-based technologies has brought the speed up and the price down, making it an attractive option for a number of reasons, according to Arunas Slekys, vice president of corporate marketing for Hughes Network Systems.

"The offering is competitive at the consumer level with conventional DSL [and] cable modem type offerings. But we also have various plans moving up the price performance into the kind of bulletproof business-class service that major corporations require," says Slekys. "So at the lowest end, the price points are around $50 to $60 a month for broadband satellite [with] Direct Way, and then you can move up the bar with offerings including applications, content, package distribution, multimedia content distribution, and so on, taking it up into $100 or more depending on the nature of the service plan."

The Hookup

A modern satellite-based setup starts with a 0.75-meter elliptical dish, a little bigger than the familiar DirectTV dish found on the sides of houses. The difference is that this dish both receives data from orbit and transmits data back. Any site with a good southern exposure can access the service. From the perspective of a network administrator, it acts just like a DSL connection. At the low end of the service spectrum, you can expect 500Kbps download and 100Kbps upload for your $60 a month, with faster speeds and more optional services available for more money.

The drawback of satellite service is latency, or the amount of time it takes for a packet to travel round-trip between you and the location you are trying to talk to. Terrestrial data traffic can go round-trip in as little as 100ms, or 0.1 of a second. But satellite service has to contend with the speed of light. With the satellite in geosynchronous orbit, the signal has to go up and down 24,000 miles each way for a total round-trip delay of about half a second.

"The latency is an issue that's going to be very difficult to solve for satellite providers," says Matthew Davis, director of the Broadband Access Technologies Group for The Yankee Group. "You know, you just can't ignore the fact that the signal has to go up to a satellite and bounce back down. I would have to say that if there's anything really latency-sensitive, whether it's live video, live voice, [or] online gaming, that's going to be a difficulty."

Slekys doesn't deny that latency can be an issue. "Satellite was never intended to be a voice service primarily, but it can be a very nice add-on. You know there is some delay because you've got a satellite and it's a half-second round trip. But most people don't realize [that] even with a cellular network, you're dealing with probably a third of a second or a quarter of a second—you don't notice it. And we prioritize the appliance so if there's both data and voice being transmitted, it'll prioritize in favor of the voice."

The Future For Satellite

With new technologies such as WiMax becoming available, what is ahead for broadband satellite? Davis sees them as largely complementary technologies rather than competitors. "They do sort of focus a lot of the time on the same story . . . certainly in bringing broadband to people or businesses that can't get it via other means except for maybe a T-1. [WiMax is] aiming at that, and so they will come up against satellite, I think. But I think that broadband wireless is likely to be a much higher-quality service [in terms of bandwidth capability] than satellite. So they will overlap, but I'm not sure if they compete directly."

Slekys doesn't seem worried about WiMax. Because you still need to backhaul the connectivity to the local area, there will still be a need to get service into remote parts of the country. "There's no question that WiMax . . . will have some penetration. There's no question; I think that's definitely going to happen over time. But you still have the last mile you have to get to—that last 100 meters or 100 feet or even a kilometer or two—with WiMax." ■

by James Turner

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