

# Broadband Breakthrough

Industry at the cusp of high-speed connection's prevalence

By Angel Abcede

**For those who** remember when pay-at-the-pump was an oddity—only to see within two short years the trend roll over metro markets like a technological cloud—that moment for broadband has arrived.

A perfect storm of reasons backs this trend: falling costs; improvements in both the accessibility and reliability of high-speed technology; the proliferation of network management companies; and the return on investment when contemplating improvements such as faster transaction times, digital video surveillance or just plain old e-mail. Any one of these reasons may ignite the coming broadband flashpoint, but what makes the potential so palpable is not any single factor but a confluence of elements maturing at the same time.

For Jared Hurta, CIO of the 101-location Speedy Stop Food Stores chain in Victoria, Texas, a number of factors both big and small played into the company's decision to move to DSL (digital subscriber line), a broadband technology gaining widespread acceptance. For Hurta, who completed the transition to a combination network of DSL and other communications technologies in January, the decision was less about money and more about function.

First off, the company cashes its own checks. The high-speed connection makes comparing checks against their database of fraudulent check writers more efficient. Another reason was how their dial-up format periodically

allowed tank gages to answer the phone. This prompted employees to unplug data lines, and if they forgot to plug the line back, corporate would have to contact the store.

But one of the most compelling reasons for Hurta's move to broadband was an eye on the future. "We knew if the competition forced us in a [new] direction, a wide-area network is nothing you put up overnight," Hurta says. "We wanted to be prepared for whatever operations or marketing threw at us. We wanted to [be able to] respond quickly."

Worldwide, the number of DSL subscriptions rose 56% in the third quarter of 2004, climbing to 85.3 million by the end of last September, according to London-based Point Topic, a research firm covering the broadband industry. The United States added the most lines in that quarter, with 1.2 million new subscriptions.

The reason so many are adopting high-speed technology is falling costs. Don Moffat, president and CEO of New Edge Networks, Vancouver, Wash., says prices per store have dropped dramatically, and today high-speed DSL service can cost \$100 per site, vs. other more widespread telecommunications technologies that cost \$300 to \$400 per location.

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So many c-store customers approached credit-card services provider Don Tomasian that he became a broadband reseller. He says a majority of his clients have taken on the new service while the rest have provided him with existing phone bills to do cost analyses.

"Broadband can take a 15–20 second credit-card transaction and turn it into two to three seconds," says Tomasian, president of Complete Payment Systems Inc., Scottsdale, Ariz. "In high-volume stores, [people shouldn't be] waiting on that transaction."

Scott Hartman, president of Rutter's Farm Stores, York, Pa.,

agrees that many retailers are moving to broadband, "but the term 'persistent connection' is probably the baseline of what they are aiming for regarding connectivity."

He says that DSL is becoming a solid choice for many as it continues to become more prevalent and less expensive. However, Hartman says that frame relay remains very popular because of its perceived security over other options that are connected via the Internet or "public routing."

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Speedy Stop Food Stores**

In either case, he believes retailers, due to their stores being located in varied and dispersed geographies, will always need to explore a wide range of high-speed options.

### High Speedy

Like many c-store retailers moving ahead with a high-speed, wide-area network (WAN) to link their stores, Hurta of Speedy Stop has found the process an evolutionary one.

Prior to its present high-speed network, the chain had dial-up phone lines for voice and data transfer. The back-office software was maintained via dial-up downloads to computers

at the store and credit-card transactions were run via major oil company satellite hookups.

Beginning last summer and ending in January, the company turned over the bulk of its network to a firm that specializes in private DSL links, namely New Edge. Today, 80% of Hurta's stores are hooked up through an agreement with the network management company. Hurta set up and manages the rest of the stores himself, with individual deals made through public DSL and other wireless and cable carriers.

He's had a few surprises. Most of them have come with how much time

his technicians have saved in maintaining back-office software at the store, and how area managers love the convenience of hooking their laptops to high-speed access while visiting sites.

The company now has its in-store back-office computers, along with digital video recorders, hooked up to the WAN. The next phase will be the company's ATMs. "We're trying to be systematic," Hurta says. "We're doing one device at a time until it's all networked."

Hurta envisions many opportunities now that the network is in place. Among these are loyalty programs; a client-server model in which all soft-

## 10 Tips for Better Broadband Buying

**Retailers looking to** upgrade their current communication system to high-speed, broadband connectivity should slow down and ask important questions to help them make sound decisions.

Rick Olivieri, retail marketing manager for Vanguard Managed Solutions, Mansfield, Mass., offers a list of 10 factors to consider:

- 1 **Coverage.** How many of your current and future locations can your carrier reach?
- 2 **Network reliability.** Ask how they will monitor the devices at your stores, what they will do in the event of an outage and how they will notify you and when.
- 3 **Price.** Not all access is equal. Costs vary based on technology and service level requirements. Look for the lowest average blended cost per location. (Divide the total monthly cost of your network by the number of locations on your network.)
- 4 **Service accountability.** Look for a provider that is willing to be your "one throat to choke" so you can focus on creating new value for your customers.
- 5 **Management options.** Look for a provider that can provide the full range of options, from basic broadband access (for smaller sites) to fully managed services, and will offer a mix based upon the size of the

store in the chain.

- 6 **Network security.** Choose a carrier that has the ability to customize your network to fit your applications and needs. This means providing both private (non-Internet based) and public (Internet is used for transport) networking options that include intrusion detection and firewall policy management services.
- 7 **Choice of technologies.** Different locations may require different solutions that can save you time and money. What access technology options (for example, DSL, cable, frame relay, asynchronous transfer mode, satellite or private lines) can your carrier provide?
- 8 **Service terms.** Technology changes bring opportunities for cost reductions and new applications. Avoid selecting a provider with rigid contracts.
- 9 **Billing.** How will you be billed and by whom? Demand a single, simple-to-understand monthly bill for all of your network services.
- 10 **Financial stability.** Will your network provider be around next year? A brand name does not equate to a strong balance sheet. Ask your carrier simple questions such as, "Are you generating quarterly and year-over-year revenue growth from your core business?" Or, "Are you generating cash or losing cash on a monthly basis?"

## Understanding Private vs. Public Networks

**For many retailers,** confusion arises with the type of wide-area network (WAN) they will ultimately need.

Sal Cinquegrani, an executive with New Edge Networks, Vancouver, Wash., says retailers often fail to understand the difference between public and private data networks. One type travels over the public Internet, while the other is a closed network, operating through privately linked communication cables.

“A private network doesn’t touch the public Internet,” Cinquegrani says, noting that such a connection eliminates concerns over unwanted viruses and a host of other data security issues.

ware resides at corporate and stores log in for access; credit-card transactions done on the company network instead of the ones provided by major oil companies (an option under negotiation); connection of in-store devices (such as digital cameras at the point of sale, or POS) to help reduce shrink; conduct business analysis; and the ability to add locations.

“This is a big deal for us,” Hurta says. “We wanted a solution that we could [connect] 100 or 200 more sites to without adding a ton of additional staff. It allows us to scale up in a rapid manner.”

### Broadband History

The high-speed breakthroughs that Hurta and Speedy Stop are experiencing didn’t develop overnight. Moffat of New Edge says the technology has its roots in the 1970s. At that time, he says, businesses had so-called private networks.

A retailer back then could lease a private line for \$800 to \$1,200 per month per location. It was a connection that offered what would today be considered an astoundingly low 56 kilobites of data transfer capability, Moffat says. Of course, the costs were prohibitive for many retailers.

Then in the mid-1980s through the mid-1990s, the technology of “frame

relay” drove costs down to \$300 to \$400 per site per month. That technology transferred data in “packets” and shared the high-speed pipeline with other data streams to reduce costs. Up until three years ago, that \$300 to \$400 also bought a 56K capability.

Competition is forcing carriers of many types of high-speed access—frame relay, virtual private networks (VPNs) and cable—to come down in price, fostering yet another trend among retailers, namely the use of multiple technologies to link their store networks.

“Retailers can save vast amounts of access-technology money by shopping for multiple carriers ... and use a mix of ... technologies,” says Josh Levine, vice president, North America, Vanguard Managed Solutions, Mansfield, Mass. “The more geographically dispersed the store locations are, the more different local carriers will be involved in the data transport and the more options will exist.”

The new broadband rush does not negate past efforts, Moffat of New Edge says. Many have linked networks using satellite solutions or a combination of

frame-relay and dial-up hookups.

At the same time, retailers have become more technologically savvy, according to Amanda Cauley, vice president of marketing for Nashville, Tenn.-based Cybera Inc. Retailers have developed strong information technology (IT) departments and have specific visions for back-office and in-store applications, she says.

The void, Cauley says, exists with the knowledge of high-speed networks, especially when geography dictates a solution that involves multiple carriers and technologies.

“[Retailers’] focus has been hardware and software that’s proprietary to their businesses and not wide-area networks,” she says. “They see a turnkey [WAN] solution as a great fit.”

### Other Trends

As more and more retailers find the numbers to justify their broadband projects, Cauley of Cybera has seen at least one short-term trend emerging. She

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describes the need to somehow update perfectly good equipment to communicate in an Internet protocol (IP) format. In other words, several types of POS registers, pumps and other in-store automated devices just aren’t equipped to

send Internet-ready signals.

To help in the interim, manufacturers have created devices that can translate non-IP data into IP formats. “It’s a great advantage to operators,” she says. “You don’t have to upgrade equipment, but you still get the benefits [of broadband].”

Beyond near-term trends, most experts in this field see the industry continuing to embrace broadband technology. Moffat of New Edge believes the technology will remain constant for the next few years and sees no state or local laws on the horizon that may impede broadband expansion.

So for retailers looking to take the high-speed plunge, Moffat suggests two key steps. First, retailers must decide whether they want to build and manage their own network, or bring in a company to do it for them.

Second, Moffat suggests developing criteria to help them decide on a vendor—be it a wholesale carrier or a managed-solution provider. Some of

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these questions include: Which company has the largest coverage? What are the service and maintenance terms? And what about reliability? “You want someone that’s 100% reliable,” Moffat cautions. “If it goes down, you’re out of business. It becomes a very strategic decision.”

While the next step for retailers may lie in researching the specifics of their

own broadband programs, those in the field believe the time to act is now. James Stroud, a former retailer and now national accounts manager for Atlanta-based Datawire Communication Networks Inc., says broadband has evolved to the point where retailers can trust it. In the past, reliability was an issue and retailers were hesitant to put what he calls “mission critical” applications on it.

But times have changed. Today, Stroud says, broadband has become the “enabler for all those applications we’ve always wanted to do—security cameras, device monitoring, transaction data—all real time, in a pipe that’s always on and having enough bandwidth. This is a watershed moment.” ■