Safe, Secure and Hassle-Free Broadband

By Brighid Riordan ■ *Nsight Telservices*

Today's high-speed broadband for data transfer has given consumers numerous options for Internet and inter-office connectivity. But each of these tried-and-true methods as well as emerging technologies has its hitch, until now. The newest broadband accessory takes away the aches and makes fast, seamless connections seem like child's play. But to put things into perspective, let's review connectivity options available to consumers and the downsides they present.

Small businesses with only a handful of employees or those in their early stages, not desiring to make a hefty investment into their data needs may simply need Internet connectivity. This group luckily has choices beyond painfully slow dialup that are affordable.

At about twice the cost of dialup, but still cheap by relative standards, is the Integrated Services Digital Network (ISDN). Users receive a 128 kb per second dialup connection that is purely digital, which is more accurate than analog. A more popular choice at double the price of ISDN, is a cable or digital subscriber line (DSL) connection. While speeds can reach up to 1.5 mbps, users typically receive a connection at 768 kbps. A downside of this technology, however, is that it does not offer a symmetrical connection. Users do not receive the same capacity in both directions, meaning the uploading speed is not nearly as fast as the downloading speed. DSL presents some distance limitations, as well, and users must be 18,000 feet or less from a central office of the provider. But if we consider that more and more consumers have one of these options in their homes, it many times pales when faced with business needs.

"...when activated in tandem with the Mobile VPN (virtual private network) client, alleviates wireless broadband security concerns."

As businesses begin to grow and expand into new territory, their data needs change. Employees may need to communicate across office locations located throughout the state, region or nation and with higher capacity data needs. A T1 is a suitable choice in this situation. It provides a relatively high capacity (1.5 mbps) and a symmetrical connection. On the other hand, companies with widely dispersed offices may want to consider using frame relay, a cost-effective solution because the technology is not distance sensitive like it is with a T1.

Companies with even greater data needs may benefit from a technology called asynchronous transfer mode (ATM). While it's technologically complicated and relatively expensive, it promises high speed (up to 45 mbps), high quality and high

reliability. It also allows for real-time applications (voice and video).

Beyond ATM, customers move to fiber optic connectivity, providing outrageously high-capacity connections and optimal security, but best suited for very large businesses. Costs run high for technologies such as a T3, OC12 or DWDM, but users receive connections beginning at 155 mbps that are the most reliable in the industry. At this level, businesses may also have access to a SONET (synchronous optical network) ring, which is a network technology built around dual fiber-optic rings. If one ring fails, the network is designed to immediately switch traffic to the other ring—in less than 50 milliseconds.

All of this is well and good and as you climb the ladder, speeds get faster and capacity, larger. Security for wired services is unmistakable. But those wires and cables can be limiting in the case of remote offices and seem impractical in our mobile world. So now we have the capabilities that WiFi or 802.11 bring. All the capacity and speed you need in crystal clear packaging—via the air. But there is a huge drawback to this latest and greatest option. Anyone can drive by, stop by or hack by and delve into your private network. Not to mention that until suitable licensed services become available, interference with others on the spectrum is worrisome and annoying.

"Mobile IP works with any type of transport. "

Sweeden-based ipUnplugged (www.ipunplugged.com) has come forward with two products that work together in a way that is convenient and secure. Nsight Telservices, a relatively small wireless and wire line convergence company headquartered in Green Bay, is the first company to trial their Mobile IP product, and will launch it commercially in short order as a product that is technology agnostic, provides seamless coverage as users move to various transporting technologies and, when activated in tandem with the Mobile VPN (virtual private network) client, alleviates wireless broadband security concerns.

This is the wave of the future in broadband and the product combination is unprecedented. Various scenarios illustrate the benefits of this subtle technology that is invisible to users, affordable and simple to add to a customer's communication portfolio. First, Mobile IP works with any type of transport.

A classic retail situation is a shopping mall with individual store owners. Many times, these stores are attached to a larger corporate LAN to which they connect to through a wall jack via cable modem or DSL, etc. With Mobile IP, the store employees would be able to take a laptop around the store to log inventory while connected wirelessly through the mall's WiFi connection, connect into the wall jack while back at a desk to download some files, and then leave the building, still connected on the same laptop, through a cellular phone without ever losing connectivity. The original session would maintain its connection throughout each move between technologies. The user never had a need to log in or out, and never had to restart the connection. While this seems a given with today's wireless phones, it is new where broadband connectivity is concerned.

A similar scenario would amplify productivity in a hospital station where nurses and doctors can read or add to patient information from room to room via WiFi connection or plugged in at the nurses' station. The added benefit that ipUnplugged offers is a Mobile VPN (virtual private network). Doctors and nurses could actually be logged in to the hospital's corporate LAN but it would be shielded from any visitors or patients that wanted to log on to the Internet while waiting or while recovering. Unauthorized network users could be guided even more by using a captive portal, which guides these users to a website that gives limited Internet use. Full Internet use could be granted if a credit card is charged, creating the business model that brings in revenue for the hospital as well as the service provider.

This demonstration of hosting a private and public WiFi connection at the same location is full of potential. The ability to protect a customer's network while allowing the general public, including visitors, waiting in the lobby or vendors dropping off inventory opens the door to a new way of doing business and be connected at high speeds in ways formerly unheard of. Airports will now be able to manage the airlines, shops and restaurants that all have their own networks as well as the public waiting between flights needing to access the office or the Internet simultaneously. The list of possibilities is endless.

The technology really hits home when users find that they can stay connected while they are at work as they move from meeting to office, as they head out the into a cab and then at home after supper. Throughout these transitions, the user has access to email, the Internet and the office network. It may revolutionize the concept of spending more time working from home. The element that is crucial to a company like Nsight, headquartered in Green Bay, WI and specializes in service to its rural customers is that the technology is flexible enough to fit any size customer. This is not a large company-only solution with a matching large price tag. ■

About the Author

Brighid Riordan is the Public Relations Manager at Nsight Telservices. Nsight Telservices is a telecommunications entity based in the Upper Midwest. The list of subsidiary companies under the Nsight Telservices name includes Cellcom, Local Nsight, NetNet, NET Cable, Northeast Telephone Company, Nsight Long Distance and St. Paul Tower. The author may be reached with questions or comments via email at Brighid.Riordan@Nsighttel.com.