This holiday season, consumer electronics manufacturers will be tracking Verizon’s progress instead of Santa’s. Last month Verizon announced a major upgrade to its FiOS high-definition channel lineup, and it’s now followed that up with a high-definition VoD service, which it is rolling out gradually across its markets. The quality of HDTV over fiber, along with the promise of abundant high-definition content, must have convinced more than a few buyers to take the HD plunge. About a quarter of US households now have at least one television set that can receive high-definition programming – essentially double the penetration of two years ago, according to Leichtman Research Group (www.leichtmanresearch.com) – and still more plan to buy these sets in the coming year. (Oddly enough, Leichtman’s survey indicates that many owners of HD sets think they are receiving HDTV broadcasts, or watching HD DVDs, when they really aren’t. Yes, flat screens are more clear than CRTs, but we’ll resist the temptation to comment further on that finding.)

Verizon’s Japanese counterpart, NTT, seems to be thinking along very similar lines. It’s helping Nintendo sell Wii game consoles and Wii Web services, on the assumption that Wii and FTTH are a natural fit, and that young Wii enthusiasts represent the next big market for fiber services.

Verizon Intros High-Definition VoD
Just in time for the holidays, Verizon is launching high-definition video-on-demand. HD VoD is now available over FiOS TV systems in Richmond and Virginia Beach, Virginia; Tampa, Florida; Fort Wayne, Indiana; and Pittsburgh. The service is coming soon to the Washington, DC, metro area, as well as to Massachusetts and Rhode Island. By next year, it will reach Verizon’s remaining FiOS TV markets.

Verizon’s initial HD VoD offering contains around 75 titles, including a mix of free programs and recently released blockbuster movies. In the coming months, the company will continue to add HD titles to its VoD library, which now totals more than 10,000 titles. Customers need an HDTV and an HD set-top box to view on-demand titles in high definition.

Verizon continued to expand its FiOS fiber-to-the-home services, adding Internet access in Florida and video service in Massachusetts and Florida. In addition, it won video franchises in New York and Massachusetts.

Three More Wins for Connexion; More Munis Look at Fiber
Three new planned communities – Summerwind Plantation, an active adult-planned development in Garner, North Carolina (Parker Development); Canyon Ranch Living Miami Beach, a high-rise in Florida (WSG Development); and River Bend Estates, a high-end mixed-use development in Ehrenberg, Arizona (Bayside Land) – have all selected North Carolina-based Connexion Technologies to build their fiber-to-the-home networks. Connexion, whose business model includes financing the networks it builds, bundling service fees into homeowner association dues, and relying on third parties for service delivery, has been growing rapidly over the past year. Connexion became the first deployer to purchase Corning’s new ClearCurve bendable fiber product offering, Corning Cable Systems announced recently. After evaluating an MDU field trial in West Palm Beach, Connexion found that the cost savings justified purchasing ClearCurve Rugged Drop Cable for future multiple dwelling unit deployments. Founder Glen Lang says ClearCurve technology enabled his company to realize at least a 30 percent time savings, in addition to materials savings. Connexion also announced recently that it is using video server technology from BitBand to deliver IPTV-based video on demand to customers over its fiber optic infrastructure.

Red Wing, Minnesota, a city of 16,000 south of the Twin Cities, appointed a Fiber Task Force earlier this year to consider a municipal fiber-to-the-home system. After several months of meetings, the Task Force recommended
that the City Council fund a feasibility study by an outside firm. The City Council and the Port Authority have set aside funding for the study and the city has applied for additional funding from the Blandin Foundation.

In Portland, Oregon, the City Council adopted a staff report recommending the development of a Community Fiber Network using either a retail or wholesale open-access model. The staff report concluded that a FTTP network built on an open-access model would reduce the incentives that providers have today to limit capacity and restrict access to and performance of Internet-based applications. (See “Why We Need More Fiber” in this issue for a summary of the benefits the city expects to receive from the network.) The report recommends issuing a Request for Information to seek private-sector partners for financing, leasing of City-owned fiber, or other participation.

The Portland report also recommends that the city pursue selected pilot projects, such as tying West Coast cities together with fiber in order to maximize economies of scale and negotiation leverage. Apparently Seattle and San Francisco have both expressed interest in exploring collaborative approaches with Portland, noting the potential leverage a combined approach would give this group of cities in negotiations with providers or vendors.

Another recommendation was that the city consider installing fiber optics during road construction or repair, sewer or water line replacement or repair, electrical work, sidewalk repair and replacement, relocation to underground of aerial utilities, other utility open trenching opportunities, and other circumstances under which city departments are working in the right-of-way. The city will also consider using commercial carrier construction to simultaneously install fiber or conduit, or negotiate conduit or dark fiber during permitting. Portland has already evaluated the potential for using sewers for collocations of fiber optics, and the report recommends continuing to evaluate this potential.

FTTP provider Bristol Virginia Utilities (BVU) OptiNet has launched its first converged application, TV Caller ID. Marketed as “OnScreen CallerID,” this service, which displays the names and numbers of incoming phone calls on as many as three TVs, will be deployed throughout BVU’s market area. The service is free for BVU OptiNet customers who subscribe to video, video and Internet services, or can be purchased separately for a monthly fee of $1.99. BVU is also considering additional Integra5 converged services, including personalization features, which let users associate pictures, photos, nicknames and fonts with TV Caller ID alerts; Visual Voice-mail on TV, which lets users play back voice messages from the TV; and Message Waiting Indication, which displays an indicator light on the set-top box when voice messages are waiting.

**Independent Telcos: Did You Say 400 Mbps?**

**Alpine Communications** of Elkader, Iowa, is upgrading its network to provide triple play services over fiber to the premises, using Occam’s Broadband Loop Carrier (BLC) 6000 system. Alpine serves 6,300 subscribers in seven rural communities throughout northeast Iowa. Occam’s BLC 6312 Optical Line Termination Blades and ON 2342 Optical Network Terminal Active Fiber Triple Play Gateways will enable Alpine to manage an all-IP network, one of the largest FTTP networks in the state and the first incorporating Nortel’s CS 1500 communications server, which will act as the IP voice switch.

Chris Hopp, Alpine’s general manager, says the company chose an Active Ethernet solution because its dedicated ‘pipe’ provides full bidirectional bandwidth: “As services evolve to include bandwidth-intensive applications like video, we believe having intelligent devices at the edge of the network is advantageous for the following reasons: multicast streaming, ease of management and troubleshooting, flexibility in providing new services and low first subscriber costs.”

With fiber cable installed at every home and business in Bloomer, Wisconsin, **Bloomer Telephone Company** is offering high-speed services unmatched nearly anywhere in the country – 100 Mbps Internet access, going up to 400 Mbps in the second quarter of 2008. “It’s going to open up a whole new world of convenience and efficiency for our customers,” Jim Smart, general manager of the 100-year-old company, says with a bit of Midwestern understatement. He adds, “It’s not only about greater convenience for residential Internet users, but this represents a significant investment in the city’s economic future because it provides another tool to use in selling Bloomer to new businesses. No other city in Wisconsin offers a gigabit Ethernet connection to every home and business.” Pending franchise approval, BTC also plans to offer 150 channels of video early in 2008.

The FTTH project cost $5.2 million over 14 months. Vendors included Finley Engineering for design and construction supervision, Tjader-Highstrom for buried fiber optic cable construction, and Calix for GPON electronics.

As a thank-you to its Internet customers for their cooperation during network construction, BTC is offering existing high-speed Internet customers six months of its new 15 Mbps Internet service at no additional charge.

**Horizon Chillicothe Telephone** of Chillicothe, Ohio, received notice of a $603,200 grant from USDA Rural Development and will use the funds to extend its fiber-to-the-home network to the nearby village of Darbyville. Darbyville Mayor Harold Tackett says, “I know this will help the kids and give them a future they deserve.” Horizon also hopes to deploy the same network capabilities to Williamspoit, another nearby village, provided that there is similar community interest.
Fiber Deployment Roundup

European and Asian Deployments

Stadwerke Schwerte, an energy and communications company, is planning to build a fiber-based network for the German city of Schwerte, using technology from PacketFront. This is PacketFront’s first contract in Germany, according to CEO Martin Thunman. PacketFront will supply its BECS control and provisioning system, its customer premises equipment and the ASR 5000 Series of advanced services routers and service selection portal, SSP. Triple-play services (IP telephony, Internet and IPTV) will be available from the start, and Stadwerke Schwerte is also considering opening up the network to external service providers.

The first area to be covered by the network is the region of Westhofen, where approximately 1,600 households will be connected. Within the next five years, Stadwerke Schwerte will connect all 28,000 residents in the city of Schwerte.

The OnsBrabantNet cooperative has been bringing FTTH to municipalities in Brabant, the southeastern section of the Netherlands. Municipalities that are interested in constructing fiber optic networks sign a letter of intent, specifying the services they want (including municipal applications) and allowing residents to register for fiber optic service. Once enough residents register, the municipality can become a member of the cooperative. The latest municipality to reach the 50 percent signup requirement is Best, a town near Eindhoven.

Incumbent telco TeliaSonera Sweden signed a letter of intent with Örebro County in central Sweden to bring fiber-to-the-premises to all towns with more than 200 residents, or about 60 towns in all. The new network will allow very high speeds – Telia expects to offer up to 100 Mbps in the near future – and bandwidth-intensive services such as HDTV, multiple TV services, online gaming and CAD/CAM applications.

The first community connected will be Grythyttan, in the municipality of Hälsingland. Customers in Grythyttan, including tenants in multifamily and single-family housing, small businesses and university programs, will be able to sign up this month and receive broadband service by the end of February. The initial offering will include 10 Mbps broadband, 11 digital television channels, video rentals over the network and telephone, all for about $35 per month.

Örebro County Governor Sören Gunnarsson says the network will open up many opportunities: “It’s all about furthering growth and development outside city areas. The new network will make living in our county even more attractive but it will also give regional companies a new competitive edge, which is completely in line with the other advantages that our county offers, such as good transportation and an attractive geographic location. But the new potential of the network also opens up major opportunities for establishing new business ideas and new companies throughout the region.” One reason TeliaSonera decided to offer FTTP in Örebro County is that the county already has a solid basic network infrastructure, with fiber extending to all the telephone exchanges, built partly with broadband funding from the Swedish government.

Hong Kong Broadband Network Limited (HKBN) announced the deployment of the first GPON system in Hong Kong. Using a FTTH solution and maintenance from Alcatel-Lucent, HKBN will deliver triple play services to subscribers and expand its FTTH network coverage there. The new network is expected to be in service in January 2008. Hong Kong is the world leader in the percentage of fiber-wired buildings, though most MDUs there have fiber to the basement and copper wire to the individual units. HKBN was the first provider in Hong Kong to launch fiber-to-the-home 100 Mbps and 1 Gbps services in 2005, and it plans to increase its coverage from 1.4 million to 2 million homes passed within three years.

Reuters reports that Japanese telco NTT is cooperating with video game maker Nintendo to promote broadband access for Nintendo’s popular Wii game console. Nintendo wants Wii users to download software from the Internet, while NTT wants to attract subscribers to its fiber-to-the-home services. Nintendo and NTT are operating joint telephone support centers and offering equipment and setup services for Wii users. NTT’s two regional units have 6.1 million FTTH subscribers between them, but plan to reach 20 million by March 2011. They see Wii users as a pool of potential new customers for FTTH.

Bahrain Bay, the $2.5 billion waterfront community being built in Bahrain’s capital city of Manama, has announced plans to become the region’s most connected urban community. Its design for public-space amenities will include high-speed broadband connectivity, integration with cultural centers, a curated public arts program, and a community events calendar. Enabling this connectivity will be Alloptic’s GePON solution, which will provide Bahrain Bay’s complete communications, entertainment, security, and building management systems infrastructure.

Hong Kong Broadband Network Limited is delivering fiber to the apartment unit.
Residents and visitors will have access to wireless broadband connectivity everywhere in Bahrain Bay. They will be able to interact with their environments—such as by controlling the type of background music to be played in the public area they are sitting in. Many facilities services will also be controlled and automated through the network.

Bob Vincent, CEO of Bahrain Bay says, “Bahrain Bay is committed to helping develop a commercially sound and ecologically viable approach to development… In developing the Bahrain Bay community, we recognized early on the importance that digital connectivity plays in both residential life and creating enhanced productivity for businesses.”

The community is anchored by three key developments: the Kingdom’s only Four Seasons Hotel; CapitaLand’s first Gulf-states development, Raffles City Bahrain; and the new headquarters for investment firm Arcapita, which we reported on last month. The entire project will take five to seven years to complete.