

Deployment News

By Masha Zager ■ *BBP Telecom Editor*

Verizon FiOS Recap

The nation's largest fiber-to-the-home deployment continues to expand rapidly. As of the end of 1Q 2007, communications provider Verizon (www.verizonfios.com) said that its FiOS network had passed nearly 6.8 million homes and businesses in 16 states, putting the company more than a third of the way to its 2010 goal of passing 18 million homes.

FiOS Internet service was marketed in 1,700 communities and had garnered 864,000 customers. By year-end 2010, Verizon expects to attract as many as 7 million customers to the service, and now says it expects the penetration rate to be between 35 and 40 percent.

FiOS TV service was deployed in only 10 of the 16 states where Internet service was available, and was available to 3.1 million households, of which 348,000 were subscribers. By 2010, Verizon expects between 3 and 4 million TV customers, with a market penetration of between 20 and 25 percent.

While the FiOS TV deployment had initially been slowed by the difficulty of obtaining video franchises, it appears that this is no longer true. As of March, Verizon had franchises in more than 760 communities totaling 10 million households – more than three times the number of households it is actually marketing FiOS TV to. Nearly half of these franchises are in New Jersey, where a statewide video franchise law was recently enacted.

Residential Communities

Several fiber deployments were announced for luxury developments. Digital Streets, a California company that provides communications services to residential communities, has wired the Plaza Irvine project in Southern California with fiber-to-the-home, and will provide triple play services to residents of the two 15-story high-rise towers. The network uses the BECS provisioning system from PacketFront (www.packetfront.com); Digital Streets intends to take advantage

of BECS' self-provisioning to make the network open access in the near future.

In Graham, North Carolina, Connexion Technologies is building a FTTH network in the community of Old Fields to deliver triple-play and additional services, using technology from Corning Cable Systems (www.corningcablesystems.com). Old Fields is a traditional neighborhood development spanning more than 200 acres.

Municipal Broadband

Smaller cities are continuing to look at FTTH as a means to economic development. Recent reports in local media indicate that the university city of Oxford, Mississippi is studying possibilities for bringing FTTH to its residents, possibly by partnering with other entities, and that the city of Enid, Oklahoma is considering a proposal to create a broadband utility to support both local services and fiber-to-the-home for residents. And in Washington State, the Grant County Public Utilities District, which operates a wholesale fiber optic system, is holding

hearings to consider various possibilities for expanding that system to enhance broadband access.

International Deployments

French competitive provider Iliad announced that it signed "vertical" rights to connect close to 60,000 homes to its FTTH network in Paris during 1Q 2007. The company aims to connect 30,000 FTTH subscribers by the end of this year.

In Denmark, Bredbaand Nord, a telecommunications company that is a joint venture of three local utilities, launched video services using a headend from Scientific Atlanta (www.scientificatlanta.com) and a Cisco Ethernet fiber-to-the-home network (www.cisco.com). The service will provide a 100 Mbps connection to each home and will carry 46 video channels along with voice and data services.

Another Danish provider, MidtVest Bredbaand, is also using a Cisco Ethernet solution for an FTTP network that will deliver triple play services to more



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than 200,000 customers. The project also involves HP (www.hp.com), which worked with Cisco, MVB and its subsidiary Content Denmark to build the network, implement HP operations support systems (OSS) management software, train the Content Denmark staff and provide support services for network operation.

Hafslund, a utility in Norway, has signed a contract with PacketFront (www.packetfront.com) to build an open access FTTH network in and around Oslo. Hafslund is by far the largest power utility company in Norway and this is considered one of the year's most important contracts in the Norwegian telecom sector, according to PacketFront. In the first stage, Hafslund will

offer IPTV and other broadband services to selected cooperative housing areas in Oslo. PacketFront's partner, NetNordic (www.netnordic.no), will be responsible for the integration of Hafslund's FTTH network, and Datamatrix (www.datamatrix.no) will install the core network.

China Telecom is using a GePON FTTH network from FiberHome (www.fiberhomegroup.com) for testing and deployment. Other vendors are required to benchmark their systems against the FiberHome system, according to Teknovus (www.teknovus.com), which supplies the chipsets that FiberHome uses.

Australian competitive provider TransACT has started construction of its first FTTH system in the new master planned community of Forde, a Can-

berra suburb. Forde residents will have access to broadband speeds of 30 Mbps downstream and 10 Mbps upstream.

Panamanian telecommunications company CTV Telecom is building Panama's first FTTH network, which will deliver triple-play services to 3000 homes. Suppliers include Cisco partner and system integrator Sonitel (www.sonitel.com) and 42Networks, a unit of PacketFront (www.packetfront.com) that focuses on customer premises equipment and VoIP software. Says Juan McKenzie, director of CTV Telecom: "Television focused around the needs of the service provider is about to disappear, television based on the particular needs of each and every customer is the future."

Focus on Multiple Dwelling Unit/ Multi Tenant Unit Deployments

Berk-Tek Introduces New Fiber Optic Drop Cable

From BBP Wires

NEW HOLLAND, PA – Berk-Tek (www.berktek.com), a Nexans Company, announced a new indoor/outdoor fiber optic drop cable for security and fiber-to-the-premises applications, including multiple dwelling units. Adventum ATR (Riser Rated) and ATP (Plenum Rated) cables are available in one or two tight-buffered fibers in a loose tube cable design incorporating DryGel technology,

one of the industry's most advanced and convenient all-dry water-blocking systems. The cable performs well in a wide range of temperature and environmental conditions, enabling significant cost reductions over traditional indoor/outdoor installation methods. In addition, no transition points are required.

Berk-Tek calls the Adventum a tight buffer cable with all the benefits of a loose

tube cable, because its small size and its flexibility make it easy to install and terminate and also to eliminate strand waste. Although the cable was developed for a security application, it is also well suited to MDUs, where long runs in non-dedicated pathways are common and require cable robust enough to be pulled with forces of up to 300 pounds alongside other types of cables.

TXP Launches GPON Mini-ONTs

From BBP Wires

RICHARDSON, TX -- TXP Corporation (www.txpcorporation.com) announced the launch of its new 7200G family of mini-size, Power-over-Ethernet-based GPON optical network terminals (ONTs). The small size and ease of installation of these ONTs makes them well-suited for deployments in multiple dwelling units as well as

small single living units.

The new models can be mounted indoors and require no tools to install. At only a quarter the size of on-the-wall conventional GPON ONTs, they are less intrusive. Their compact packaging, coupled with the benefits of remote powering with Power over Ethernet, translates into

lower cost and ease of installation for service providers.

The new ONTs provide a single Gigabit Ethernet port that supports triple play IP-based services of high-speed Internet, IPTV and VoIP. Multiple-port models will be brought to market over the next few months.

New Charles Industries' Fiber Interconnect Pedestals Are Designed for Multi-Tenant Applications

From *BBP Wires*

ROLLING MEADOWS, IL – Charles Industries has added a new line of Fiber Interconnect Pedestals designed to provide pre-connectorized interconnect fiber drops to multi-tenant sites such as cellular towers, campus environments and strip malls.

CFDP Interconnect Pedestals serve as environmentally protected fiber distribution points for wireless backhaul, private network and broadband service applications. Each pedestal houses fiber splice trays and a bulkhead with 18 or 24 SC/UPC or SC/APC adapters for simplified fiber provisioning. Technicians have above-grade access to the full splicing and distribution work area, allowing them to turn up, move or disconnect services to wireless customers on an “as needed” basis. This gives service providers added flexibility to meet their customers’ bandwidth requirements as they fluctuate due to seasonality or major events.

All CFDP pedestals offer two-stage environmental protection of fiber distri-

bution points, accomplished by housing a weather-tight interior enclosure within a non-metallic buried distribution pedestal. This “enclosure within an enclosure” combination is designed to exceed

Telcordia GR-771-CORE specifications and defend against floods, fire, dirt, debris, insects and corrosion.

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Focus on Semiconductors

iamba Networks Introduces End-to-End GPON Solution

From BBP Wires

CUPERTINO, CA – iamba Networks (www.iamba.com) announced the iamba GPON Eco-System (iGES) solution, based on iamba's chipsets and offering a complete solution for optical line terminal (OLT) and optical network terminal (ONT) vendors.

The solution allows telecom equip-

ment manufacturers to move directly to production and product delivery. The OLT component includes a dual-PON system on chip (SoC), a complete GPON management software suite and a reference design tested by several operators. A quad-PON SoC will be released later in the year. The

ONT solution is certified manufacturable and includes PON management and triple play application-layer software, electronic and mechanical design. The ONTs have passed interoperability tests with most major OLT vendors and have also been tested by a number of operators.

Conexant System-on-Chips Support GPON and GePON ONTs

From BBP Wires

NEWPORT BEACH, CA – Conexant Systems (www.conexant.com) has delivered the first family of system-on-chips (SoCs) for both GPON and GePON residential gateway applications. The devices, which are designed for the optical network terminals (ONTs) used on the customer premises of fiber-to-the-premises networks, have a processing capacity of more than 10 Gbps.

The Xenon-IIIIG and Xenon-IIIE include several features that improve

performance and lower system costs:

- Full line rate performance at 2.4 Gbps downstream and 1.25 Gbps upstream with complete physical layer encryption, security, bridging and routing required to enable quality of service (QoS) in IP video applications.
- Integrated functionality for four concurrent voice-over-IP channels, three-way calling, and a T.38 fax demodulator to provide a highly integrated, cost-effective

voice gateway solution.

- Enhanced routing capabilities combined with deep classification and filtering support to enable superior QoS, robust security and complete management of a customer premises device from the central office.
- Interfaces for home networking technologies including Multimedia over Coax Alliance (MoCA), HomePNA, HomePlug A/V and gigabit Ethernet.

Freescale Markets Voice-Enabled GPON System-on-Chip

From BBP Wires

SAN JOSE, CA – Freescale Semiconductor (www.freescale.com) introduced the first voice-enabled GPON system-on-chip, which the company developed jointly with Alcatel-Lucent (www.alcatel-lucent.com), the worldwide market leader for GPON equipment. The MSC7120 delivers a complete PON subsystem in a single device, addressing the high throughput requirements of applications such

as triple play (voice, video and data) broadband services to the home or small business.

The MSC7120 combines high channel voice density with high-speed networking capabilities. The device supports the G.984 GPON GEM protocol and is designed to be compliant with the ITU-T standards.

Development tools, hardware platforms, software building blocks and

application-specific software solutions for the MSC7120 are available. Through an agreement between Alcatel-Lucent and Freescale, terminal vendors can license critical technologies, including a reference design and support for GPON that is compliant with Alcatel-Lucent's 7342 ISAM fiber-to-the-user (FTTU) product family. The expected result is faster time-to-market.

New Detector Allows Remote ONT Verification

From BBP Wires

DUNCAN, SC – The new OFI-FTTx from AFL Telecommunications (www.afltele.com) identifies active Optical Network Terminals (ONTs) from the Fiber Distribution Hub (FDH). Because fiber does not have to be removed from service during testing, the OFI-FTTx can verify whether a splitter pigtail at

the FDH is connected to an active circuit before it is disconnected for fault location or re-use. The OFI-FTTx can help verify FTTx network records and recover splitter pigtails and F2 fibers that are connected at the FDH but are in fact available for new customers.

When applied to a splitter pigtail

at the FDH, the OFI FTTx will report either that the ONT is 'Active' or 'Not Detected.' Time to complete each test is typically one second. The OFI-FTTx is compatible with 2- or 3-mm jumper cable, which can contain either standard single-mode fiber such as SMF-28e or bend-insensitive fiber such as AFL BendLite.

Motorola Introduces "Cable PON"

From BBP Wires

LAS VEGAS – Motorola (www.motorola.com) has bridged the worlds of cable and fiber-to-the-home with the announcement of Cable PON, a technology that delivers PON solutions over certain types of existing cable infrastructures. While hybrid cable networks are not new, Motorola says this cable-

operated fiber approach is unique both in its cost-effectiveness and in its migration path to GPON.

By emulating a traditional coaxial network, Cable PON allows cable providers to deliver deep-fiber services that plug directly into their existing cable infrastructures and back-office opera-

tions. Cable providers can continue to use set-top and DOCSIS equipment located in homes and headends over PON while adding new FTTP connections in nearby greenfield locations.

The technology allows combining bundles of copper wires in one cable, with crosstalk canceled.

BridgeWave Launches Field-Upgradeable Wireless Links

From BBP Wires

SANTA CLARA, CA – BridgeWave Communications(www.bridgewave.com), a supplier of gigabit wireless solutions, announced a line of 100 Mbps wireless links that can be upgraded in the field to full Gigabit Ethernet speeds. For network operators and enterprises seeking a "future proof" alternative to traditional 100

Mbps, 18-to-38GHz links, the FE80U and FE80XU offerings provide virtually unlimited frequency re-use in the 80GHz licensed spectrum to support a wide variety of metropolitan applications.

Bandwidth on these point-to-point bridges can be increased from 100 Mbps to Gigabit Ethernet by simply activating

a Web-enabled software key, eliminating the need for time-consuming and expensive hardware upgrades. When upgraded to GigE speeds, the products can switch capacity from GigE to 100 Mbps transmission to provide continuous operation over some distance even during intense downpours.

Occam Networks' Aggregation Blade Helps Support High-Bandwidth Applications

From BBP Wires

SANTA BARBARA, CA – Occam Networks (www.occamnetworks.com) announced its new Broadband Loop Carrier (BLC) 6450, the first 10 GbE access aggregation blade. The blade, which is expected to ship in June 2007, is designed for two applications:

- Inter-central office or access aggregation – integrating IPTV, multiservice (for example POTS, VoIP, Internet,

T1) and mobile backhaul networks.

- Business access and aggregation – including 10/100/1000 Active Fiber Ethernet, transparent LAN service and Ethernet Private Line or Ethernet Virtual Private Line services as defined by the Metro Ethernet Forum.

“Rapidly increasing bandwidth demands that range from IPTV on land-

line networks to mobile backhaul of video clips and social networking content are challenging telcos like never before,” said Russ Sharer, vice president of marketing for Occam. “As telcos rethink their aggregation strategy, which now must include consideration of FTTH, IPTV, SOHO, xDSL and other access technologies, the 6450 combines flexibility with operational simplicity.”

Sterlite Introduces Fiber for FTTH Market

From BBP Wires

PUNE, INDIA – Sterlite Optical Technologies (www.sterliteoptical.com), India's only global provider and integrated manufacturer of optical fiber, announced the launch of Sterlite BEND-LITE (E) Single Mode Optical

Fiber, which is designed for the requirements of fiber-to-the-home applications and other installations that require very small bending radii. BEND LITE supports these installations for cable mounting inside and outside the premises. The

fiber's enhanced bend radius capabilities enable tighter routing and higher fiber density for component design and deployment of fiber in central offices, subscriber equipment, backplane solutions and premises wiring.

Tellabs Multiservice Access Platform Supports VDSL and GPON

From BBP Wires

NAPERVILLE, IL – The new 1134 multiservice access platform from Tellabs (www.tellabs.com) lets service providers offer both VDSL2 and GPON for high-speed Internet. According to Tellabs, the platform's small size and low power requirements offer greater flexibility to respond to diverse deploy-

ment needs ranging from hundreds to millions of subscribers.

Service providers must consider many factors when deciding how to deploy fiber, including the condition of existing copper, the population density and the ratio of homes to businesses. The Tellabs 1134 platform enables providers to de-

liver fiber where it makes sense, so they can choose to deploy fiber to a region, a neighborhood or all the way to a home. The platform uses only seven inches of rack space and provides an upgrade path for existing Tellabs 1000 multiservice access series customers. It will be available in July.

Allied Telesis Announces New Modular Multiservice Gateway for Outdoor Deployment

From BBP Wires

CHIASSO, SWITZERLAND – Allied Telesis (www.alliedtelesis.com) launched a new intelligent Multiservice Gateway (iMG), the AT-iMG646MOD. Designed for outside installation, the gateway can deliver high-performance broadband for residential and business

applications. It enables network service providers to install uplink modules for subscriber-facing options; the first release of the product, available now, supports a 100BX single-fiber uplink plug-in module and an HPNAv3 module for delivering 100 Mbps data rates over existing

in-home coaxial cables. The gateway is supplied with six user 10/100TX Ethernet ports and four FXS ports providing full-featured lifeline POTS services.

The AT-iMG646MOD's packet processing technology provides low latency, wire-speed throughput, and fine-grained

quality of service control. As a result, it is optimized for reliable delivery of voice, Internet data, and multiple channels of standard definition and high definition TV.

Subscriber installation time is minimized because video and Internet access can be distributed throughout the home over existing wiring. Installation is also simplified through a suite of management tools that decreases the time

needed to provision and deploy large networks. Built-in home wiring diagnostic capabilities provide further opex savings: Standard metallic loop test capability is built into each FXS port, while each 10/100TX port comes with integrated Time Domain Reflectometry (TDR) capabilities that identify CAT5 opens and shorts. These tests can quickly identify faulty home wiring, accelerating both in-

stallation and service restoration.

The gateway is certified for use with nearly all Class 5 equivalent MGCP or SIP softswitches. Its digital signal processing supports VoIP quality in the presence of other packet-based services. It also includes POTS line drivers that can adapt to loop conditions and ensure trouble-free performance with all types of telephones.

Hitachi GPON System Cleared for Rural Development Broadband Loans

From BBP Wires

ATLANTA – Hitachi Telecom (www.hitachitelecom.com) announced that its AMN1220 GPON product has been accepted by the U.S. Department of Agriculture's Rural Development Utilities Program (RDUP) for deployment under the Rural Development Broadband Loan and Loan Guarantee Program. The Hitachi GPON system will be listed in the "ac-

cess Equipment" category, FTTH Systems. Acceptance for the program requires that the product is standards-compliant, has been deployed in a "revenue-generating service environment" with at least six months of operating experience, and is recommended by current customers.

RDUP acceptance means that com-

munities of up to 20,000 inhabitants can now install Hitachi's GPON solution using funding obtained under the USDA Rural Development funding programs. The Broadband Access Loan program provides loans for funding the costs of construction, improvement, and acquisition of facilities to provide broadband service to eligible rural communities.

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