New Bendable Optical Fiber Technology from Corning

From BBP Wires

CORNING, NY – Fiber optic pioneer Corning (www.corning.com) announced a new bendable fiber technology that it says solves a major technical problem for carriers installing fiber-to-the-home (FTTH) networks. Until now, because existing optical fiber installations lose signal strength and effectiveness when they are bent around sharp corners and routed through a building, running fiber all the way to customer premises in large buildings has been particularly difficult.

Corning's breakthrough, which it says is based on a new way to texture the surface of the light-carrying fiber, allows cabled fiber to be bent around very tight corners with virtually no signal loss. Peter F. Volanakis, president and chief operating officer at Corning, calls the technology "game-changing," saying that the new fiber cable is as rugged as copper cable and more than 100 times more bendable than standard fibers. The new fiber technology also maintains compatibility with industry performance standards, existing manufacturing processes and installation procedures, unlike some alternatives.

An early proponent of the technology was Verizon Communications, which is rolling out the largest fiber-to-the-premises network in the US. While many fiber deployers limit their deployments to rural towns or new single-family-home developments, Verizon plans to pass more than 18 million premises in its service area with its FiOS network, including many premises in metropolitan areas where multiple dwelling units (MDUs) and commercial multitenant units (MTUs) are common.

In February of this year, Corning and Verizon commissioned a joint working team to solve the problems of multiple dwelling unit installation using this new fiber solution. Paul Lacouture, an executive VP at Verizon, noting that continued innovation is "critical to the long-term success of Verizon and our ability to provide our FiOS service on a mass scale," says the company is working closely with Corning to solve the challenges of providing fiber solutions to high-rise apartment complexes.

The August issue of Broadband Properties will provide more details about this new technology.

TXP's New FTTP Powering Architecture Enables Power-Over-Anything

From BBP Wires

RICHARDSON, TX – TXP (www.txpcorporation.com), a provider of GPON optical network terminal (ONT) equipment, announced a new customer-premises powering architecture that it says can slash costs in delivering fiber to the premises. TXP developed the solution in collaboration with ILECs and power supply vendors, after examining the processes that ILECs go through to turn up FTTP services.

The new Power-Over-Anything (PoA) GPON ONTs allow fiber to be installed at the customer premises with no new wires. Instead, the subscriber's inside wiring – whether coax, twisted pair, or Cat 5 – is used to power the ONT. PoA eliminates "through the wall" power cabling and the time-consuming effort of getting subscribers' approval for the location of their backup power supplies. TXP is now in the process of providing PoA as a standard capability to its entire ONT product line. Existing power alarm monitoring and management features will be retained.

TXP is also collaborating with UPS provider CyberPower Systems (www.cyberpowersystems.com) on the FTTP-PowerHub, a device that is installed inside the home close to the computer or router and that uses Power-over-Ethernet to power the ONT, the residential gateway and/or the personal router through inside wiring. The PowerHub consolidates existing FTTP powering components and transforms them into a single, indoor, under-the-desk powering solution. During a power outage, backup power can be selectively applied to the connected devices.

The PowerHub also monitors and reports power alarms to the ONT using a standard software interface. It enables longer power backup duration, extends battery life, and makes battery replacement easy and convenient.

The PowerHub's integrated multiport Gigabit Layer 2 switch allows it to serve as the "inside-the-home IP service demarcation point" to separate carrier and subscriber networks. When the subscriber connects the internal network to the PowerHub for local switching of in-home applications, this can increase carriers' revenue potential while reducing support costs.

PacketFront Acquires DynamicCity, Adding Open-Access Network Design and Management Skills to Its Solution

From BBP Wires

DENVER and LINDON, UT – PacketFront (www.packetfront.com), a manufacturer of equipment and software for open-access broadband networking, announced that its US subsidiary, PacketFront Inc., has acquired DynamicCity (www.dynamiccity.com), the operational force behind the UTOPIA fiber-to-the-premises initiative. UTOPIA is a 14-city municipal open-access fiber network in Utah.

"This acquisition is about taking the best thinking in North America on open access broadband and public broadband initiatives and combining it under one roof," says Matt Wenger, president of PacketFront Inc. "Our most important product is our customer's success, and we all know that technology alone does not guarantee that. With the addition of the DynamicCity team, we can now offer the local experience, knowledge and capacity our clients need to design, finance, build, manage and market large-scale, successful open-access networks."

The company will integrate its operations in North America over the next several months, with the Utah office becoming the primary operations center and the new Denver location serving as the Management and Sales office.

Telect Launches Outside Plant Product Line

From BBP Wires

LIBERTY LAKE, WA – Telect (www.telect.com) unveiled a range of products for outside plant applications, expanding its product portfolio beyond its traditional line of central office connectivity, power and equipment housing products. Key to the outside plant product line is the new 96-home optical distribution cabinet, a compact enclosure that houses patch and splitter capabilities in minimal space. Engineered for providers that are delivering fiber to the home in smaller neighborhoods, the lightweight cabinet can be mounted on a pole.

"Not every neighborhood needs a large-capacity, bulky optical distribution cabinet," says Mark Hawley, Telect's broadband solutions program manager. "This new enclosure provides ample capacity up front for most applications, and it's scalable to allow for growth." Scalability is managed with splitter modules that can be installed as paying customers request services, and with the ability to stack cabinets to enable network growth in 96-home increments up to a total of 288 homes. Cabinets can be stacked either on top of each other in pad-mount applications or below each other in aerial applications. Finally, the cabinet's high-density design enables the use of passive splitters with ratios as low as 1 x 4. This helps ensure that end users continue to receive maximum bandwidth as demand grows. With comparable systems that only handle 1 x 32 splitters, future upgrades require additional cabinets. With the Telect cabinet, providers need only change out the splitter modules to a lower split ratio to deliver more optical bandwidth capacity to each end user.

Additional features include compact footprint, lightweight design, stackable architecture, versatile mounting (pole-mount, pad-mount and vault-mount), and integrated emergency restoration/maintenance feed for enhanced safety.

Corning's Field-Installable Connector Simplifies Fiber Deployments

From BBP Wires

HICKORY, NC – Corning Cable Systems (www.corning.com/cablesystems), part of Corning's Telecommunications segment, introduced the OptiSnap Connector, a field-installable no-epoxy, no-polish connector that enables quick and cost-effective termination of fiber optic cables.

The OptiSnap Connector installs in less than one minute through the use of a high-precision mechanical splice technology. It is intended for single-mode fiber-to-the-x applications, maintenance and restoration of building cable, and MDU applications where installation setup and teardown time is critical.

The connector's factory-polished ceramic ferrule ensures consistently low insertion loss and high-performance return loss. The OptiSnap Connector is available in single-mode SC, ST and LC connector styles and features a typical insertion loss of 0.2 dB for UPC versions and 0.4 dB for APC versions.

ADC Adds a High-Powered FiberGuide and an Optical Transport Platform for MDUs

From BBP Wires

MINNEAPOLIS – ADC (www.adc.com) has added a higher-capacity 24-inch Fiber Management System to its FiberGuide product family, which protects and routes fiber optic patch cords, multifiber cable assemblies and intrafacility fiber cable to and from fiber splice enclosures, distribution frames and fiber optic terminal devices. The 24-inch by 4-inch system doubles the network capacity and flexibility of traditional 12-inch systems.

ADC also announced a new access transport platform, PONy (Passive Optical Network over wavelengths) Express 16, manufactured by Novera Optics (www.noveraoptics.com) and based on both passive optical network (PON) and dense wave division multiplexing (DWDM) technologies. Using DWDM, the PONy Express 16 provides access to business parks, campuses, and multidwelling unit/multitenant units over a shared network infrastructure without sacrificing security or limiting bandwidth. Up to 16 customers can be simultaneously connected, with each having up to 1 Gbps of dedicated, symmetrical bandwidth. This solution enables service providers to address multiple markets such as fiber to the building and fiber to the curb with a single product.

PONy Express 16's benefits include bandwidth of up to 20 Gbps on a single fiber, support for multiple services and mixed bit rates, and ease-of-service upgrades without service interruption to other users. Operationally, each optical network terminal (ONT) is 'colorless,' which eliminates the sparing issue that plagues traditional DWDM systems and provides 'plug-n-play' system provisioning. Integrated with ADC's FTTX connectivity products, the PONy Express 16 enables the company to offer a complete solution to service providers that is simple and cost-effective to implement while remaining adaptable enough to support existing and future technologies.

ADTRAN Platform Brings Broadband to Rural Areas

From BBP Wires

HUNTSVILLE, AL – ADTRAN (www.adtran.com) has announced the Total Access 5006 Multi-Service Access and Aggregation Platform, whose pure Ethernet core provides the same functionality as the larger Total Access 5000 Series, but in a smaller form factor. The Total Access 5006 is suited for environments with low to medium line counts and enables retrofit for existing cabinets.

The Total Access 5006 provides interfaces for next-generation and legacy services, supporting even the most bandwidth-intensive applications. Its architecture is designed to migrate with the network, providing flexible options for copper and fiber termination as well as uplinks to both Ethernet and ATM networks and support for both TDM and VoIP switches. Its ability to convert traditional voice and legacy data to IP lets carriers seamlessly integrate with next-generation network standards.

"The Total Access 5006 addresses an underserved market by allowing carriers to cost-effectively reach customers in lower-density service areas," says Eric Vallone, director of product management, ADTRAN Carrier Networks Division. "The Total Access 5006 provides carriers with the unique ability to offer voice, data, and video services in areas where traditional multi-service access options are not viable due to economic, size, power or functionality obstacles."

The Total Access 5006 provides up to 144 ports in a five rack-unit-high hardened chassis. It can utilize any existing or future line card developed for the Total Access 5000. It supports a wide range of network applications including IP DSLAM, Broadband Loop Carrier (BLC), Fiber to the Node (FTTN), Fiber to the Premises (FTTP), Metro Ethernet, and network aggregation. Key standards-based technologies will be available, including Ethernet in the First Mile (EFM), GPON, ADSL2+, VDSL2, eSHDSL, Resilient Packet Ring (RPR), and Pseudowire Emulation Edge-to-Edge (PWE3).

Aurora Releases New Cable PON Module

From BBP Wires

SANTA CLARA, CA – Aurora Networks (www.aurora.com), whose equipment enables cable operators to upgrade to fiber-to-the-premises, released a new addition to its product line. The GE4132M PON Module is compatible with HFC, Fiber Deep, Fiber on Demand and FTTP architectures. A series node fully populated with four of these PON Modules can achieve a combined data throughput rate of 4 Gbps to service up to 256 homes passed. This node reaches distances up to 80 kilometers and can be serviced with a single fiber or two fibers for optical path protection.

Alloptic Introduces New GePON and Cable PON Equipment

From BBP Wires

LIVERMORE, CA – Alloptic (www.alloptic.com), a provider of fiber-to-the-home solutions, introduced several extensions to its product line:

• The Home Gateway 300 Optical Network Terminal (ONT), which provides a low-cost alternative for indoor deployment of GePON ONTs in high-density residential environments, is now generally available. Shane Eleniak, Alloptic's VP of Marketing and Business Development, says the Home Gateway 300 has already been well received in Korea: "In a metropolitan high-density living environment, an operator has a different set of challenges and opportunities as compared to rural deployments. Our HG300 line leverages shorter loop lengths to provide a cost-effective, feature-rich residential ONT."

• The home4000 ONT now includes carrier-class VoIP functionality. With a new-model home4000 ONT that supports both TDM and VoIP from the same interfaces, operators can migrate to a VoIP infrastructure transparently – no truck rolls for the carrier, and no new handset for the customer.

• Finally, the MicroNode line of transceivers, which allows cable operators to extend fiber to the premises while leveraging their existing investment in RF and DOCSIS technology, has been expanded to include the MicroNode 190. Earlier transceivers required using a proprietary overlay to support an RF return path – an expensive solution. The MicroNode 190, which provides a standard RF return over a fiber infrastructure and is agnostic to the devices located on each end, offers a more economical approach.

UTStarcom Launches End-To-End FTTX Product Suite

From BBP Wires

CHICAGO -- UTStarcom (www.utstar.com) announced two extensions to its Fiber-to-the-X product suite, itself an extension of the GePON platform announced in 2005. The FTTX product line helps service providers transition from hybrid fiber and copper networks to all-fiber networks in a full spectrum of deployment scenarios. The suite offers an end-to-end IP architecture.

The product suite already included a Multimedia Network Edge, two Optical Line Terminals (OLTs, or central office equipment), an IPDSLAM, and an ADSL2+ and VoIP Combo. The two new products added by UTStarcom are the iAN8K B1000 – a Unified Multi-Service Access Platform that supports both DSL and PON – and a new OLT, the BBS 4000.

The unified multiservice access platform allows carriers to migrate seamlessly to next-generation broadband offerings such as IPTV, VoIP and high-speed internet access while maintaining their legacy TDM services and applications. Offering these services from an integrated platform decreases both capex and opex, while allowing high-performance switching and advanced video streaming support features.

The new OLT provides a direct optical interface to the Ethernet/IP network core. In combination with UTStarcom's customer-premises equipment, it completes the optical last mile. BBS 4000 offers a cost-effective triple play transport, customized broadband service offerings, flexible provisioning and effective Layer3 Ethernet Switching no matter which optical network terminal is used at the customer premises.

Ikanos Expands into GPON Market

From BBP Wires

FREMONT, CA – Ikanos Communications (www.ikanos.com), a provider of chipsets and software for broadband networks, announced that it is adding fiber-to-the-home (FTTH) solutions to its broadband product line, which currently includes solutions for VDSL2 and ADSL. Ikanos has licensed GPON technology with Ethernet Layer 2 functionality from Terawave Communications, and will combine Terawave's GPON physical layer technology with its own Fusiv Vx170 gateway processor to develop a GPON residential gateway reference platform.

Offering GPON products along with its VDSL2 solutions allows Ikanos to sell a complete solution for carriers that use a mixture of technologies (FTTH, FTTN, FTTC, FTTB) for delivering triple play and IPTV services. Michael A. Ricci, president and CEO of Ikanos, says, "Our Fusiv architecture … enables us to offer a common software architecture across PON, VDSL2 and ADSLx, while bringing significant quality of service advantages in delivery of voice, video and data services."

Calient Networks Introduces "Green" Cross-Connect System

From BBP Wires

SAN JOSE, CA – Calient Networks (www.calient.net), a provider of carrier-class fiber optic cross-connect systems, announced that its new Diamondwave FiberConnect system is compliant with the EU's Restriction of Hazardous Substances Directive and is also designed to help carriers reduce greenhouse gas emissions.

The Diamondwave FiberConnect, which reduces lead and other hazardous substances below standards set by the European Union, is an intelligent fiber optic cross-connect system. Calient says the product offers carriers cost savings, reduction in electrical consumption, and significant contribution to reduced greenhouse gas emissions when they deploy fiber for FTTX, video, wireless backhaul, data center or metro fiber rollouts. The FiberConnect also streamlines and centralizes network operations by enabling:

- Rapid, remote test and installation verification of fiber for new services
- Certification of construction, separating fiber construction from service provisioning
- Automated fiber records management and real-time inventory
- Optical layer protection and/or restoration
- Automated network testing
- Lights-out, remote site operation
- Instant fiber reconfiguration
- Automated optical power monitoring and alarming.

The FiberConnect consumes less than a quarter of a watt per fiber connection, or less than 150 watts for a 640-fiber termination fiber optic cross-connect system. In addition, it lets operators provision and troubleshoot fiber network problems remotely and, with its any-fiber-to-any-fiber cross-connect capability, can directly resolve many failures. This capability could take thousands of trucks and their crews off the road. When a field visit is required, such as to repair a fiber cut, Calient's FiberConnect can isolate the location and dispatch the team precisely, reducing time spent searching for the cable break. FiberConnect also dramatically reduces the release of cleaning chemicals into the environment because its fiber connections are made with mirrors; no cleaning is required after initial installation.

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