

Competitive Telecom Advisor



NEW PARADIGM RESOURCES

Strategic Consulting and Research for Communications Innovators

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A True Solution or Another Stopgap To Access Demands? Ethernet over Copper

The high costs associated with fiber deployment, upgrading already deployed copper bundles and the growing demand for 2 Mbps to 10 Mbps bandwidth have service providers and equipment vendors embracing the concept of copper bonding. As a metro Ethernet application, copper bonding is making great strides in popularity as a means of rolling out the new technology.

Carriers are offering *Ethernet over Copper* both as a lead product and as a support service to optical-based Ethernet. As a lead service, it offers carriers an economic opportunity to meet business customers' increasing bandwidth demands. Providers that primarily sell wholesale to the carrier market gain additional capability to access enterprises and businesses on a retail basis. As a support service, Ethernet over Copper complements optical-based Ethernet services by allowing carriers to extend their reach in areas that lack fiber facilities or where fiber deployment is a cost prohibitive option.

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BellSouth and XO are offering Ethernet over Copper as a standard service. XO embraced the technology in early 2006 and BellSouth is the latest entrant in the arena.

As first of the Bell operating companies to adopt Ethernet over Copper as a standard offering, BellSouth's entrance is a major milestone in the Ethernet over Copper space. BellSouth's Ethernet over Copper application will allow small businesses requiring up to 8 Mbps of bandwidth to take advantage of Ethernet access without incurring fiber-like cost. The provider casts it as a success-based strategy as new services will be rolled out only on customer request. Copper bonding has thus enabled BellSouth to offer a range of speed options, 2 Mbps to 1 Gbps to its business customers *with* performance guarantees.

The Vendor Opportunity

Increased adoption of the technology by carriers bears significant implications for the equipment vendors. To keep pace with the evolving market, equipment vendors have begun to step up to the plate by introducing new and improved products. Their current focus is on tackling the dual issues of distance and density, thereby expanding their total suite of marketable products. Since Actelis Networks is among the forerunners with whom we've spoken, we use this vendor as an illustrative example on the current direction this sector is taking.

Actelis Networks offers a range of products that support both point-to-point and point-to-multipoint configurations over 1 to 8 pairs of voice grade copper. Its product portfolio includes the ML platform, which utilizes EFM Plus technology. Based on IEEE 2 Base-TL, the EFM Plus technology is a combination of several patented techniques that convert copper pairs into Ethernet links. The EFM Plus switches use signal processing, which is said to groom and enhance the performance of each copper pair necessary for best overall performance from the bundle.

Actelis ML Products				
Product	Platform	Bandwidth (mbps)	Number of pairs	Type
<i>ML 50</i>	<i>Point-to-Point</i>	<i>1 - 45</i>	<i>1 - 8</i>	<i>Switch</i>
<i>ML150E</i>	<i>Point-to-Point</i>	<i>1 - 70</i>	<i>1 - 16</i>	<i>Ethernet transport system</i>
<i>ML150</i>	<i>Point-to-Point</i>	<i>1 - 45</i>	<i>2 - 16</i>	<i>Symmetric transport system</i>
<i>ML600</i>	<i>Point-to-Point</i>	<i>1 - 45</i>	<i>1 - 8</i>	<i>Ethernet Access Device</i>
<i>ML1500</i>	<i>Point-to-Point</i>	<i>1 - 52</i>	<i>1 - 32</i>	<i>Symmetric transport system</i>

Source: Actelis Web site, NPRG Research

Actelis Networks most recently released its newest product, dubbed as XR239, augmenting the company's existing EFM copper transmission products. Based on the EFM Plus technology, it is a repeater for Ethernet over Copper and uses G.shDSL modems. The XR239 is claimed to extend the reach to 20 miles in contrast to the standard 12,000 feet (approx.

2.5 miles) maximum and is said by Actelis to be the first of its kind.

Technology providers and communications innovators are working in tandem to address the evolving communications needs of end-users. The innovators have converted facilities, in this case, copper, which were previously crossed off as having their best days behind them, being offered new life.

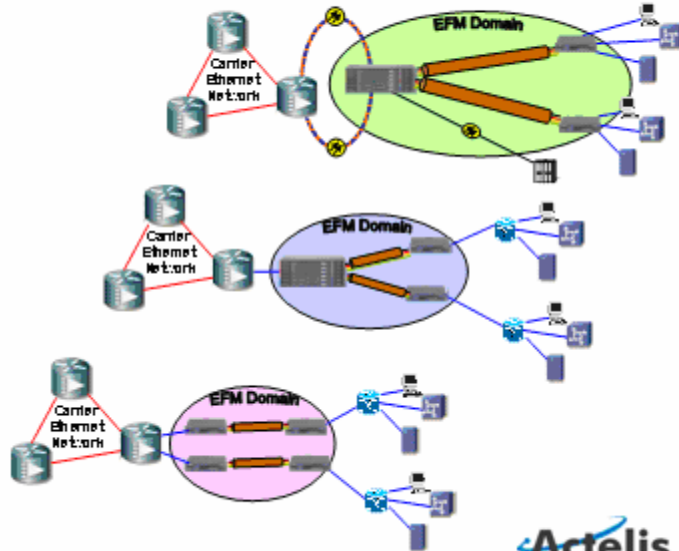
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Optical Networking Confidence – over Copper

3rd Gen. EFM
Carrier Ethernet
Access

2nd Gen. EFM
Aggregated
Access

1st Gen. EFM
Copper
Media converter

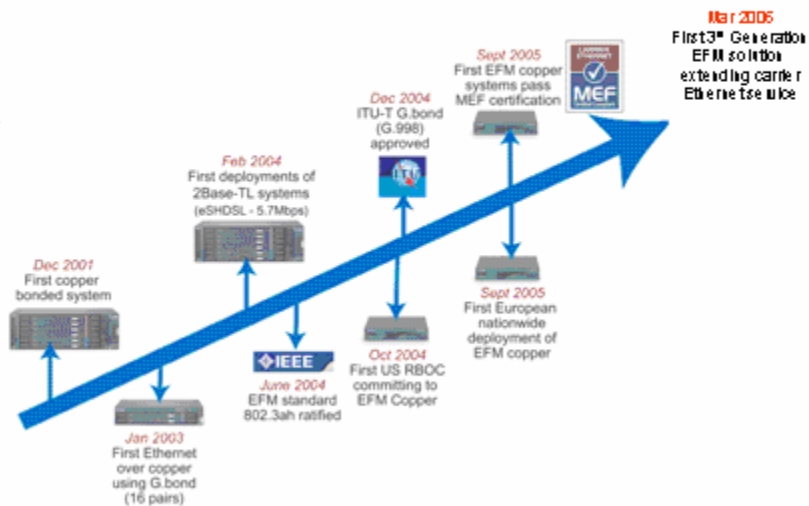


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Actelis Networks

Actelis Networks – Leading the EFM Space

Optical Networking Confidence – over Copper



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