



## **Case Study: Knology, Inc.**

### **Leveraging PON technology to provide industry-leading services to businesses**

The enterprise market represents a substantial revenue opportunity for telecommunication service providers. Realizing and maximizing this potential requires the ability to meet demanding QoS standards, seamlessly integrate with existing technology, and provide comprehensive service in an efficient manner.

#### **Customer Profile**

Knology Inc., headquartered in West Point, Georgia, is a leading provider of interactive communications and entertainment services in the Southeast. Knology serves both residential and business customers, targeting those cities in the southeast with a home count of 70,000 – 300,000 and a geographic density of 75 homes per mile, with one of the most technologically advanced broadband networks in the country. Innovative offerings include over 200 channels of digital cable TV, local and long distance digital telephone service with the latest enhanced voice messaging features, and high-speed Internet access, which enables consumers to quickly download video, audio and graphic files. Knology's fiber-based business products include a Passive Optical Network (PON), which supplies IP architecture with segmented voice and data bandwidth, and Managed Integrated Network Solutions (MATRIX), an integrated IP-based technology which supports the convergence of data and voice.

#### **Seizing the business market**

Today's business customer is faced with three fundamental challenges when obtaining telecommunication services: 1. high prices, 2. long delays for service activation, and 3. limited service options. Using Alloptic's ePON (Ethernet Passive Optical Network) solution, Knology was able to exploit exploding demand and seize opportunity in the lucrative business market. Alloptic's ePON network interoperates with Knology's existing infrastructure, while its robust bandwidth enables Knology to offer customers a wide range of premium services including ultra high-speed internet, and dedicated LAN.

Alloptic's TDM capability allows Knology to offer customers a competitively priced T1 replacement with greater functionality and flexibility than traditional telecommunications alternatives. Combined with Alloptic's ability to provide multiple VLANs, each capable of 1-100Mbps, the enterprise market is an ideal target for Knology to pursue.

#### **The Opportunity- Increase Top Line Revenue and Bottomline Profit**

With their goal of serving 1.5 million homes and businesses by 2005, Knology has invested heavily in the deployment of fiber optic cable throughout several key cities in its Southeast United States territory. To date, the company has over 37, 000 miles of installed fiber. This fiber remained an underutilized asset which passed by scores of businesses, both small and large. Knology recognized that, in order to increase its revenue per user (RPU), it needed to focus on increasing the number of business customers served.

Business customers typically demand "bandwidth intensive" services, services that command a much higher price than comparable residential services. By adding more business customers to its base, Knology would have a direct impact on its top line revenue and bottom line profit.

Understanding both the value of their fiber investment and the potential revenue that it represented, Knology sought a technology that would allow them to quickly seize new business customers, while not requiring a large up-front investment. Their key selection criteria included:

1. Ability to support TDM services
2. Ability to support Ethernet services



3. Cost effective to own, operate, and maintain
4. Ability to integrate seamlessly with existing network elements
5. High reliability
6. Modular growth

Based on this criterion, Knology chose the Alloptic Ethernet Passive Optical Network (ePON) as its primary means to serve business customers in eight key cities in its service territory.

### **Complete Solution**

The key to gaining market share among business customers is the ability to seamlessly interconnect with existing customer premises equipment at an effective price point. Combining Alloptic's bizGEAR 200 customer premises device and its edgeGEAR 2000 head end, Knology delivers true TDM service including T1 services as well as a wide array of Ethernet services. With Alloptic's ePON in place, Knology has a state-of-the-art network that will grow and adjust with Knology and their customer base.

Use of the bizGEAR 200 Optical Networking Unit (ONU) allows Knology to provision high-speed data services which scale in 64Kb/s increments up to the capacity of each Ethernet port. This granularity creates the capability to provide Service Level Agreements (SLAs) that truly meet the needs of large and small business customers. Additionally, the modular bizGEAR 200 provides expansion slots in which additional 10/100BaseT ports, T1/E1 ports or 100BaseFX ports may be added. This ability to "customize" services allows Knology to more closely address the needs of potential customers, thus offering a higher probability of winning their business.



Alloptic bizGEAR 200



Alloptic edgeGEAR 2000



### ***Marketing the ePON Fiber Network***

Having identified its marketing direction, Knology put in place a targeted marketing and sales program designed to quickly take advantage of the ePON infrastructure deployed in eight of its largest cities. Alloptic assisted in this program by training Knology's Sales and Marketing force and providing input for marketing collateral to support this effort. Emphasized in the materials and training are the company's key messages:

**Speed**

All the bandwidth needed for data transfer and storage, multimedia, or other business needs.

**Scalability**

Bandwidth available within 72 business hours, with a phone call.

**Facilities-based**

Knology-owned network for greater accountability and service simplicity.

**Direct connection**

Guaranteed bandwidth with fiber direct to the customer's premises.

**Converged services platform**

Superior technology for segmentation of bandwidth across voice, data and video.

**Ease of use**

Simple and fast provisioning with low maintenance.

**IP/Ethernet architecture**

"Future-ready" technology for compatibility with emerging standards.

**Local**

Top-level services based in the local community.

To "jumpstart" this renewed entry into the business services market, Knology provided monetary incentives for its sales force to sell their Passive Optical Network (PON) services.

Additionally, Knology recognized the value of "bundling" multiple services into a few comprehensive packages specifically created for the business market. These packages are outlined below:



<b>Knology Prime</b>	<b>Knology Plus</b>	<b>Knology Platinum</b>
1 Mbps Data Bandwidth T1 Voice Package (24 lines) 500 long distance minutes Biz Choice Package	2 Mbps Data Bandwidth T1 Voice Package (24 lines) 1000 long distance minutes Biz Choice Package	3 Mbps Data Bandwidth T1 Voice Package (24 lines) 1500 long distance minutes Biz Choice Package
<ul style="list-style-type: none"> <li>• Caller ID Deluxe</li> <li>• Hunting</li> <li>• Voicemail with Call Forward Busy and Call Forward Don't Answer</li> </ul>	<ul style="list-style-type: none"> <li>• Caller ID Deluxe</li> <li>• Hunting</li> <li>• Voicemail with Call Forward Busy and Call Forward Don't Answer</li> </ul>	<ul style="list-style-type: none"> <li>• Caller ID Deluxe</li> <li>• Hunting</li> <li>• Voicemail with Call Forward Busy and Call Forward Don't Answer</li> </ul>
Clickhost1 Web Hosting	Clickhost2 Web Hosting	Clickhost2 Web Hosting
<ul style="list-style-type: none"> <li>• 50 MB Web Space</li> <li>• 1 GB Network Traffic</li> <li>• 5 Email Accounts</li> </ul>	<ul style="list-style-type: none"> <li>• 100 MB Web Space</li> <li>• 2 GB Network Traffic</li> <li>• 20 MB SQL Space</li> <li>• 10 Email Accounts</li> </ul>	<ul style="list-style-type: none"> <li>• 100 MB Web Space</li> <li>• 2 GB Network Traffic</li> <li>• 20 MB SQL Space</li> <li>• 10 Email Accounts</li> </ul>
2 Cable TV connections	2 Cable TV connections	2 Cable TV connections

\* All Packages are available with 1, 2 or 3 year terms. Subject to Knology's Terms and Conditions.

\*\* "Bandwidth Only" services also available in 1 Mbps increments

These packages provided an opportunity for the sales force to displace several different service providers while greatly simplifying the process for the end-user. Instead of receiving multiple invoices from individual service providers, Knology provides the end-user with a single, all-inclusive invoice. Additionally, Knology's ePON solution brought voice, video and data services to the desktop. Now customers who previously did not have access to all of these services, are able to access bundled services at a price that is often less than what they were paying for a fraction of the services.

### **Retail, Wholesale: Market Options**

In addition to its pursuit of retail customers, the company has also positioned its ePON access network as "the best source for local fiber access solutions in the Southeast." This is their pitch to long distance and other carriers that may desire direct access to carrier POPs, ILEC CO's and enterprise customer buildings

Knology provides the local connection through its Alloptic ePON and extensive installed fiber base. Already an established provider of metro connections for carriers, Knology offers high-capacity bandwidth services with fiber access to the end customer. Because they are a facilities-based carrier, the company can offer a robust network which is monitored 24/7 to ensure protection, reliability and security.

For the wholesale part of its business, Knology relies on its Alloptic ePON to deliver advanced services at the lowest cost. Its literature states, "The economies of Knology's state-of-the-art network offer significant savings over typical ILEC cost structures."



## **Summary**

While Knology's sales numbers pertaining to business services remain proprietary, they have recently upgraded their Alloptic ePON network to include the Alloptic GEMS (GigaForce Element Management System) to both monitor the network, and to provide provisioning and turn-up functionality across their entire Alloptic ePON network. This signifies a strong "vote of confidence" in this equipment, and more completely embeds ePON as a permanent access solution in the Knology network. Both retail and wholesale business markets continue to experience healthy growth as reflected in the following statement by Knology President and CEO, Rodger Johnson:

*"We made great progress with our passive optical network [PON] product which we rolled out to help us open up more business accounts and drive a higher RPU (revenue per user) as a result,"*

Knology's efforts at targeting the business market has begun to pay off, with its most recent results (First Quarter, 2004) reflecting a 16.2% increase in business connections from the same period last year. This builds on a 13% increase in the previous quarter. Overall, the focus on business connections appears to be directly contributing to Knology's bottom line.

With the success of its PON network providing business services, Knology can also see its Alloptic equipment as a possible solution for providing voice, video and data services to residential customers. Already a well-established provider of cable television services throughout the Southeast U.S, Knology is beginning to establish itself as the premiere provider of "triple play" services for residential customers throughout its service territory. The capability of the Alloptic ePON system makes this a natural progression in the further deployment of fiber in Knology's network.