

# XDSL

Monthly Newsletter Devoted to  
Worldwide Developments in Digital  
Subscriber Line Technologies

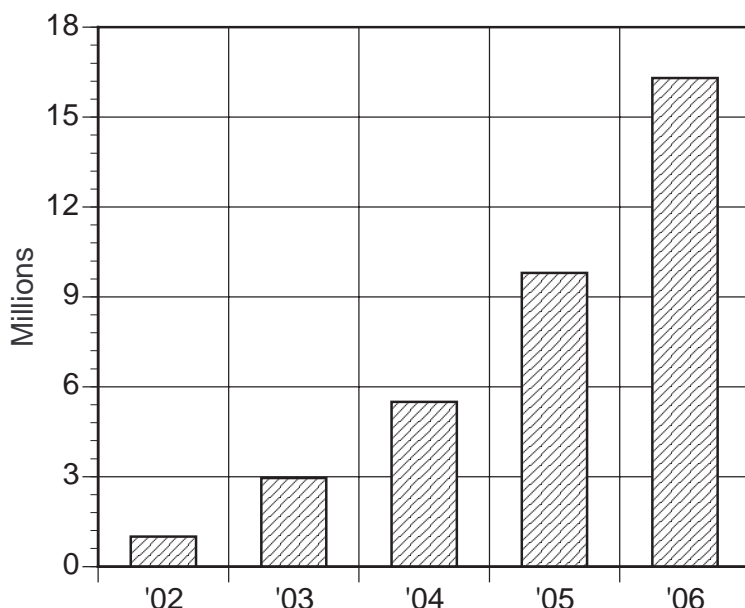
## NEWS

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### Subscribers to Voice over the Internet (Cable and DSL)



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### INTERNATIONAL

#### Uruguay's Antel Data Closed September with 11,000 ADSL Customers

The data affiliate of the state-owned operator Antel, according to its business unit executive Daniel Fuentes, closed the third quarter

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with 11,000 ADSL customers and 200,000 Internet customers. The operator currently offers Internet access in some 150 towns. The service provider expects to add 65 ADSL stations by the end of the year to address the corporate sector's growing demand. There is just over 3 million people in Uruguay which is wedged between the two largest markets in South America Brazil and Argentina.

### **Chile's Broadband Customers Estimated at 1.3 Million**

According to the Santiago Chamber of Commerce nearly 60 percent of all broadband customers are from the residential sector. The chamber attributes the rapid growth of the service to the lower prices being offered by the key players. From December 2001 to last month the price, including installation, had dropped by nearly 25 percent. There are currently 1.4 broadband connections for every 100 inhabitants, far behind South Korea's leading position at 25 connections per 100 inhabitants.

### **Lucent Supplies Portuguese Broadband**

Lucent announced a two-year framework agreement with Portugal Telecom to supply solutions and services that will enable Portugal Telecom to deploy more than 100,000 high speed lines in its home market. Lucent will install its ADSL equipment in more than 300 different locations across Portugal, spreading out from initial installations in and around the capital city of Lisbon, allowing Portugal Telecom to offer broadband services to both residential and business customers.

ADSL enables carriers to provide high-speed voice, data and video service over existing copper lines. Portugal Telecom selected Lucent's advanced solutions because they offer enhanced capabilities to deploy new services, ranging from simple voice and broadband Internet access through to Video over DSL, should the carrier decide to move into that market space.

### **BlueCom Picks Alcatel for DSL**

Alcatel announced a frame agreement with BlueCom for their planned national DSL network to deliver enhanced broadband services to the Norwegian service provider's approximate 20,000 DSL customers. The agreement solidifies Alcatel's DSL leadership in Norway, and provides BlueCom with a future-proof network to keep up with the region's growing demand for broadband services.

BlueCom, the number three ADSL service provider in Norway, will benefit from a facilities-based business model that enables a larger variety of services to be offered to their customer base. BlueCom will deploy the Alcatel Advanced Services Access Manager (ASAM), and is expected to be an early adopter of new DSL line technologies, including ADSL2plus\*. Over a two-year period, BlueCom will install approximately 200 Alcatel ASAMs throughout its network with a strategy to upgrade them in the near future to deliver video services over DSL.

BlueCom has historically been a wholesaler of broadband services, however this agreement with Alcatel allows BlueCom to better serve the growing demand for broadband services in the region. With a global leadership of 37.6 percent of the DSL market, Alcatel will work with BlueCom to achieve their objective of growing its user base to 40,000 DSL customers by the end of 2004 and 80,000 by the end of 2005.

**Ericsson Wins Contract with Saunalahti Group For Ethernet DSL Access**

Ericsson and Saunalahti Group Oyj, a Finnish operator that offers Internet and telecommunications services, have signed a contract for delivering Ethernet DSL Access equipment and related support services. Saunalahti is building their own broadband access network to selected locations in Finland to provide a more competitive service offering to Finnish consumers. The ADSL connections will be delivered using Ericsson's ultra-compact and scalable Ethernet DSL Access solution which offers a broadband network with low cost of ownership and excellent scalability.

**Teletron To Provide South Korea's Second Largest Broadband Operator With 50 Mbps VDSL IP Platform Powered By Metalink**

Metalink Ltd. announced that Teletron Inc. will provide South Korea's second largest broadband operator with 50 Mbps IP equipment, powered by Metalink's QAM VDSL technology. Metalink's four-band QAM VDSL products are designed to meet the specifications of Korean service providers of 50 Mbps IP-VDSL in real deployment scenarios, enabling simultaneous video, data, and voice services over single-pair copper wires. Metalink's QAM VDSL chipsets support the ITU, ETSI, Chinese, and ANSI band allocation plans.

**Nokia Extends Its Supply Contract for ADSL Equipment to China Telecom**

Nokia and China Telecom have signed a supplement to their existing frame agreement for further supply of DSL equipment. Nokia will supply the Nokia D50 as well as the Nokia D500 next-generation multi-service access platform and related services. The current agreement covers the supply of equipment for 2004 and is a supplement to the frame agreement signed in June 2003. Delivery and implementation have already begun. Nokia will also be providing implementation and project management services, as well as care services to maintain the competitiveness of the network.

The Nokia D500 is a multiservice Digital Subscriber Line Access Multiplexer (DSLAM) for broadband networks. It can handle IP, ATM and Ethernet traffic simultaneously, unlike any other DSLAM on the market today. And with its high-density and high-capacity capabilities, operators can future-proof their DSL access networks, operating in the ATM world of today while migrating toward the IP world of the future.

As one of the broadband industry's leading vendors, Nokia has a renowned track record in broadband and narrowband products. Nokia works together with best-in-class companies to enable broadband services for more than 50 customers across the globe, covering the European, Asia-Pacific, China, and the North and South American markets.

**Alcatel Wins Chinese DSL Deal**

Alcatel announced that it has once again been awarded several significant expansion contracts by China Telecom to supply more than 1 million DSL lines in China. The contracts were won through Alcatel Shanghai Bell, Alcatel's flagship Chinese company and the Chinese leader in broadband solutions. These contracts follow the earlier China Telecom orders for nearly one million lines announced in July 2003 and further strengthens Alcatel's world-wide broadband leadership.

China Telecom is the major provider of broadband services in southern China. It has been seeing tremendous growth in the total number of broadband subscribers, from 400,000 in 2001 to more than 6 million by September 2003.

Under the contracts, Alcatel will provide its industry-leading Alcatel 7300 Advanced Services Access Manager (ASAM) to China Telecom subsidiaries in 18 provinces and municipalities in southern China, including Shanghai, Sichuan, Jiangsu, Hubei, Guizhou, Zhejiang, Guangdong, Fujian and Shaanxi, all of which are experiencing fast growth in the number of broadband users. When deployment is completed by mid 2004, China Telecom will have greatly enhanced their network capacity to meet the growing market demand for high-quality, multi-media broadband services.

## **BUSINESS**

### **Covad Bundles with AT&T**

Covad Communications announced the introduction of Covad's DSL broadband service in AT&T's communications bundle for residential users in Illinois, Ohio and Wisconsin. Covad's DSL service is bundled with AT&T local and long distance services, offering consumers the advantage of a single, convenient telecommunications package. Launched earlier this year in Indiana, Maryland, Massachusetts, Michigan, New Jersey, New York and Virginia, AT&T plans to offer Covad's DSL service in all states where AT&T provides bundled local and long distance residential services. AT&T provides local phone service to 24 states – representing 61 million households – and is currently conducting local service trials in another 11 states.

The ability to bundle AT&T local and long distance services with Covad's DSL service is based on a process called line splitting. AT&T "splits" the loop it buys from local phone companies to offer AT&T local and long distance with Covad's DSL service on the same line. Covad's nationwide network is the only national DSL footprint. Covad's network enables ISPs and CLECs alike to partner with Covad for their broadband needs. A growing number of companies nationwide including AT&T, AOL, EarthLink, Sprint, Speakeasy, MCI, MegaPath and XO work with Covad to power their consumer and business broadband offerings.

### **Ericsson Wins Contract with Major Local Finnet Company For Ethernet DSL Access**

Ericsson and KPY Networks Ltd., a network operator of Kuopio Telephone Company, have signed a contract for delivering Ericsson's Ethernet DSL Access equipment and related services. KPY Networks Ltd. is one of the major local operators of the Finnet Group. KPY Networks Ltd. is currently enhancing its service offering for customers living in multi-tenant buildings with Ethernet DSL Access. The key feature for this application is a shared broadband uplink based on existing copper cable from the customer premises and re-use of cable installations in the building with the latest ADSL technology. The low cost of ownership and excellent scalability makes Ethernet DSL Access a perfect match for the price sensitive customers that KPY Networks is targeting with this offering.

### **Centillium Communications Ships 20 Million DSL Ports in Four Years**

Centillium Communications announced that it has shipped in excess of 20 million ports in less than four years. Continuing its growth in the burgeoning DSL market, Centillium's ability to innovate ADSL technology coupled with its unwavering commitment to serving the customer's needs has made it a major supplier of central office (CO) and customer premises equipment (CPE) chipsets to manufacturers around the world.

Centillium reached the 20 million-port milestone in a relatively short-time frame, but the market for new DSL subscribers still exhibits signs of robust growth. At the end of the second quarter of 2003, there were 45 million active ADSL lines in service globally with each active ADSL line requiring both a CO and a CPE port, according to market research firm Dell'Oro Group. The firm predicts that the worldwide ADSL market will grow to more than 78 million lines by fourth quarter 2004.

Centillium is well positioned to participate in the growth of DSL in markets such as China, Japan and Europe by continuing its track record of bringing successful innovations to market as a leader in the industry. Centillium's Maximus CO and Palladia 220 CPE chipsets are the first in the industry to produce downstream data rates of up to 50 Mbps and the first to extend the reach of ADSL up to 22,000 feet from the central offices.

Centillium was also the first company on the market to introduce ADSL CPE chipsets capable of downstream data rates of up to 24 Mbps and the first company to introduce ADSL chipsets capable of up to 12 Mbps. In addition Centillium was the first company to introduce the multiple channel CO line card and the first to introduce chip sets for Annex C in Japan as well as many other innovations.

### **Qwest Reports Q3 Profits**

Qwest Communications International announced third quarter 2003 net income of \$1.8 billion, or \$1.05 per fully diluted share. Revenue for the third quarter was \$3.6 billion, a 5.4 percent decrease from the third quarter 2002. Third quarter revenues declined primarily because of competitive pressures in local voice and wireless services. These declines were partially offset by growth in data and long-distance services within the local service territory.

The combination of cost of sales and selling, general and administrative expenses for the third quarter increased \$265 million or 9.6 percent compared to the third quarter 2002. One-time charges of \$393 million to terminate arrangements with Calpoint and another vendor were recorded in the third quarter of 2003.

Operating income declined to a loss of \$523 million from income of \$76 million in the third quarter 2002. The decrease in operating income was primarily due to the pretax charges of \$393 million discussed above and a \$230 million impairment charge to reflect the anticipated decrease in usage of Qwest's wireless network as a result of the new wholesale wireless arrangement with Sprint. Net income of \$1.8 billion included income from discontinued operations and a gain of \$2.5 billion following the completion of the second phase of the QwestDex sale.

In the third quarter, Qwest reduced its total debt by \$1.2 billion. This reduction was achieved through payments on its credit facility to reduce the balance from \$1.57 billion to \$1.25 billion and the repayment in full of the \$750 million Dex term loan. The company also reduced debt by \$106 million through private debt-for-equity transactions and cash repurchases.

In the quarter, Qwest added long-distance service to 572,000 access lines in its local service territory. By the end of the third quarter, 1.7 million access lines had Qwest long-distance service. On September 4, the company submitted a filing to the FCC for long-distance authority in Arizona, the final state in its local service region. On October 9, the U.S. Department of Justice recommended that the FCC approve Qwest's application to re-enter the long-distance business in Arizona. A final FCC ruling on Arizona is expected in early December.

Earlier this month, Qwest began using its own network to carry long-distance traffic within its local service territory. Qwest immediately commenced selling advanced business-class services to mid-market and large companies. The company continued with its region-wide DSL expansion efforts during the quarter and introduced or expanded coverage in more than 300 communities and neighborhoods. As of September 30, 2003, Qwest had 577,000 in-region DSL subscribers, which represents a subscriber growth of 41,000 lines, or 7.6 percent, from the previous quarter.

### **ViaSat, ZyXEL, Infineon Partner**

ViaSat, ZyXEL, and Infineon announced that they have joined their technologies to introduce a new broadband terminal package for the Multi-Tenant Unit (MTU) market.

The new system called “Constellation” allows delivery of Internet access and broadband applications via satellite link to an in-building switch and access for individual units using conventional copper wiring. It enables service providers to offer low-cost broadband access to multi-tenant unit customers in reach of satellites using the existing in-building infrastructure.

The Infineon 10BaseS (Ethernet over VDSL) chipset is integrated into the ZyXEL VDSL VES-1012 Ethernet Switch, which routes broadband services over existing telephone copper wires in multi-tenant buildings. The high-speed return channel and bandwidth-on-demand (BoD) features of the ViaSat LinkStar broadband satellite terminals provide efficient and low-cost two-way broadband access to the ZyXEL switch, and then on to building tenants.

### **SBC Communications Makes SBC Yahoo! DSL Available at 2,000 Retail Stores**

To further fuel DSL Internet growth, SBC Communications Inc. announced it has formed agreements with many leading retail providers to make SBC Yahoo! DSL available at more than 2,000 popular stores across its 13-state operating region. The agreements are expected to help the company increase DSL demand and grow market share by giving consumers and businesses another convenient way to order SBC Yahoo! DSL.

Major retailers now offering SBC Yahoo! DSL include Best Buy, RadioShack, Cingular Wireless and Gateway. The service is also available at Staples and Micro Center stores through an agreement with GetConnected Inc., as well as at Sam’s Club, OfficeMax, BJ’s Wholesale Club, Menards, Kmart, and Super Kmart through an agreement with Wireless Retail Inc. SBC companies expect to forge agreements with additional retailers and to add more stores in the future.

SBC Yahoo! DSL will be promoted through in-store kiosks, brochures, advertisements and signage. Many stores will train their sales representatives on the service features, benefits and current promotional offerings. In addition, some retail chains will offer their own incentives for customers to order SBC Yahoo! DSL, including gift cards, rebates and merchandise discounts.

### **NTELOS Uses Catena CN1000 Broadband Loop Carrier to Deliver Broadband DSL Services to Business & Residential Subscribers**

Catena Networks announced that NTELOS Inc., an integrated communications provider serving a five-state area in the mid-Atlantic region, is using Catena’s CN1000 Broadband Loop Carrier (BLC) to deliver broadband DSL services to its business and residential subscribers. NTELOS has deployed the CN1000 BLC in both central office and outside plant environments, and it gives the carrier the

flexibility to address a variety of applications, including new-build, overbuild and legacy-system replacement opportunities.

### **SBC Yahoo! DSL Business Edition Becomes a Recommended High-Speed Internet Choice for Microsoft Small Business Retail Customers**

SBC Communications announced that SBC Yahoo! DSL Business Edition has become a recommended high-speed Internet service for Microsoft Business Solutions small- and mid-market retail customers and industry partners. Under an agreement with SBC companies, Microsoft Business Solutions is offering SBC Yahoo! DSL Business Edition to independent retailers seeking faster, more efficient online access through broadband services and features designed specifically for the workplace.

Initially, Microsoft will offer SBC Yahoo! DSL Business Edition as an addition to its Microsoft Business Solutions Retail Management System 1.2, a complete store automation solution designed to assist single- and multi-store retailers in streamlining point of sale (POS), customer service and retail management.

The solution empowers independent proprietors, store managers and cashiers through affordable and easy-to-use automation. SBC Yahoo! DSL Business Edition compliments the Microsoft solution with a secure, always-available, high-speed broadband connection that improves credit and debit card-processing transaction speeds, enhancing the customer experience at the point of sale. And, as more retailers transfer their operations to the Web, the networking capabilities of SBC Yahoo! DSL Business Edition will make it easier and more cost efficient to integrate with supplier networks.

### **Occam Networks Enables Amherst Telephone to Expand DSL Service-Availability from Zero to 90 Percent**

Occam Networks, a supplier of innovative Ethernet and IP-based loop carrier equipment to telecommunications companies worldwide, announced that Amherst Telephone Co., a Wisconsin-based independent telephone carrier, has chosen its BLC platform to expand DSL service across its entire service area. Kratz Communications, a telecommunications integrator and Occam channel partner, worked closely with Amherst Telephone providing installation of BLC 1200 systems across the Amherst network to expand DSL service. Upon completion of the BLC deployment, Amherst will be able to offer DSL to customers in every part of its 250-square-mile service area while planning for future broadband video service using Occam's IP-based BLCs.

Amherst Telephone Co.'s multiple remote switching offices are distributed across SONET fiber optic rings within its service territory. Occam Networks' BLC 1200 systems are deployed in all of the 22 remote offices, allowing Amherst to reach rural and urban customers across its entire market.

Amherst was considering various access equipment vendors for its DSL expansion initiative when Kratz Communications, an integrator and value-added reseller to independent telephone companies throughout the Midwest, approached the company with Occam Networks' BLC platform. Kratz Communications, which recently became an Occam channel partner, offers various levels of central office (CO) equipment sales and installation services.

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## MARKET INTELLIGENCE

### **Business Class DSL Provides Competitive Edge: Announcing DSL Forum's SHDSL Technical Report 060**

The DSL Forum's new technical report (TR-060) specifies the equipment interoperability testing plan for SHDSL. As part of the business suite of DSL services, SHDSL offers customers higher speeds – up to 2.3 megabits per second (Mbps) and a longer reach of 18,000 feet. SHDSL equipment interoperability is critical to economically deliver the latest high-speed content, services and business class solutions, such as video-conferencing, file sharing and voice over IP (VoIP) applications. This enables service providers to increase their profitability on DSL services, better addressing the largely untapped market of small and medium-sized businesses that require cost-effective broadband connections.

TR-060 builds on TR-048, the DSL Forum's testing plan for ADSL equipment interoperability that has become the international industry measure used by independent testing laboratories (ITLs) authorized by the DSL Forum. In order to drive consistency to the quality of work that the ITL performs, the DSL Forum empowers the industry's interoperability efforts for all DSLs by providing a framework for efficient and economical testing and reporting practices.

SHDSL, the ITU standardized symmetric DSL, is expected to become the preferred high-speed access technology for small and medium-sized businesses and for remote offices of larger organizations. Also known as G.991.2, G.SHDSL is an international standard for symmetric DSL developed by the International Telecommunications Union (ITU). G.SHDSL was ratified by the ITU in February 2001.

Point Topic's Tim Johnson highlights the potential for enhanced telecommuting over symmetric DSL, providing high performance virtual private network (VPN) services that will include video events, video and voice telephony, enabled by TR-058 and 059 and furthered by TR-060. "With current market growth on track to achieve around 60 million global DSL subscribers by the end of 2003, clear quality of service levels are needed by businesses." Final Point Topic DSL deployment data for the third quarter of the 2003 is still being compiled and will be published in December.

Three further DSL Forum TRs published this month update existing core work on interfaces and system configurations for ADSL customer premises (TR-061), auto-configuration (TR-062) and VDSL network element management (TR-063). Starr continued, "These new TRs continue to further the DSL industry's progress for businesses, residential and mass market customers by making it easy for non-technical customers to connect their DSL equipment." Full details of TR-060 and all DSL Forum Technical Reports are available from its website at [http://dslforum.org/aboutdsl/tr\\_table.html](http://dslforum.org/aboutdsl/tr_table.html).

In March 2004, the DSL Forum will meet in Brussels, Belgium, where its European Market Focus Group plans to hold a service provider round table session regarding broadband DSL in the new European Union countries that will accede in May. Year-end Point Topic subscriber figures for 2003 will also be announced at the meeting.

## NEW PRODUCTS/NEW SERVICES

### **DSL.net Expands Integrated Voice and Data Offerings Over T-1, SDSL Platforms and Adds Unlimited Calling**

DSL.net Inc., a nationwide provider of broadband communications services to businesses, said that its NETgain One integrated voice and data service offerings have been expanded from two to 17



bundled packages over T-1 and business-class DSL platforms with speeds up to 1.5 Mbps. All bundled services now include unlimited local and domestic long-distance calling, while each bundle varies by number of phone lines and broadband speeds.

The expanded service offerings were launched in the Washington, D.C., metro region, including parts of Maryland and Virginia. Previously, the NETgain One voice and data service was offered only over a T-1 line in a bundle of either eight or 16 phone lines. The new bundles, which now include DSL offerings, range from two to 16 phone lines to meet the voice and data needs of a variety of small and medium-sized businesses. A variety of voice and data optional services are also available for each bundle.

### **Fujitsu Europe Launches ADSL Line Card**

Fujitsu Telecommunications Europe Ltd., the leading supplier of high performance telecommunications solutions, has unveiled a cost-effective, integrated solution for migrating legacy carrier-voice services to broadband. With Fujitsu's new GeoStream Integrated Voice and Data ADSL Line Card (IV-LCSS), the same exchange equipment supports conventional and broadband services concurrently. This ensures that traditional voice revenues can be generated from a new network platform without any customer disruption. For voice-only customers, the upgrade process to broadband is handled by straightforward remote configuration, eliminating the need for engineer intervention at the exchange. With the IV-LCSS, the door is also opened on a cross-section of innovative possibilities, such as customers enabling their broadband access via the web, and the integration of voice and data services.

Fujitsu has designed the IV-LCSS to fit into any slot on its existing widely deployed multi-service access node equipment - the GeoStream Access Gateway. It allows the termination and packetization of the baseband POTS, enabling voice traffic to be transported via the packet-based network. In effect, Fujitsu's IV-LCSS provides a single solution that eliminates three existing line cards - the external splitter card, ADSL line card and the existing POTS line card - combining major cost savings with a fast, efficient migration solution.

### **AT&T Adds DSL Service to Communications Bundle in Illinois**

AT&T announced that consumers in Illinois can now add residential DSL high speed Internet service to their AT&T bundle of local and long distance communications services. The company also announced that consumers in Ohio and Wisconsin can now have AT&T bundled DSL service. AT&T now offers DSL as part of its communications bundle in 11 states with plans to roll out the new service in all states in which it provides bundled local and long distance residential services. The company provides local phone service to more than 3.8 million consumers in 24 states and expects to expand its footprint by testing or marketing its bundled local and long distance services in 35 states by year-end.

The offer, which utilizes a nationwide data network provided by Covad Communications, enables consumers to bundle AT&T's DSL service with other AT&T local and long distance services. The ability to bundle AT&T DSL service is based on a process called line splitting, which involves AT&T "splitting" the loop it buys from the Bells to offer AT&T local, long distance and DSL service on the same line. Line splitting for large volumes of customers is an innovative process that gives consumers more choice for high-speed Internet access.

Consumers can choose the standard AT&T DSL plan for the price of a dial-up Internet connection – \$19.95 a month for the first three months – and \$39.95 a month thereafter. Or, consumers can choose

the preferred AT&T DSL plan and enjoy even faster premium speeds. Consumers who choose the preferred plan get a \$20 discount off of the regular price for the first three months. The preferred plan is available for \$49.95 a month thereafter.

### **Netopia Introduces 3-D Reach Wi-Fi Starter Kits for DSL and Cable Subscribers**

Netopia announced two new 3-D Reach Wi-Fi gateway starter kits. Intended for use by both cable and DSL broadband subscribers, the Netopia Wi-Fi starter kits incorporate a Wi-Fi CERTIFIED 3-D Reach Netopia gateway, Wi-Fi PC Card, and Netopia's WEP Configuration Wizard. Available for shipment with WEP security features auto-configured and enabled by default, the Netopia 3-D Reach Wi-Fi starter kits provide total security out of the box.

With Wi-Fi security under scrutiny, Wi-Fi has come under fire for being an "insecure" technology. Robust Wi-Fi security measures are widely available, but many are complicated to install and ineffective when not deployed properly. Most Wi-Fi equipment vendors today ship their products with security features turned off, leaving users vulnerable to wireless hacker attacks or "Wi-Fi mooching" from neighbors or other casual wireless users. To limit these risks, Netopia ships its 3-D Reach Wi-Fi Gateways with security features turned on, along with an easy-to-use wizard for automated WEP configuration.

The Netopia WEP configuration wizard is delivered on a CD-ROM and installs the necessary drivers for the Wi-Fi PC Card and automates the installation of 128-bit WEP security on the wireless laptop or desktop PC. The user enters nothing more than the gateway's serial number – the wizard takes care of the rest. Since Netopia's Wi-Fi gateways also come pre-configured with WEP on, the user is securely up and running in minutes – all over a Wi-Fi connection. This streamlined installation approach is unique in the industry and eliminates at least three installation and security configuration steps generally needed to secure products from other vendors. With the Netopia solution, the user eliminates the gateway configuration step, WEP key generation process, and the equally daunting step of configuring WEP on the wireless client.

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