GL●BAL VISION

magazine

EUROPEAN DATA BREACH

DSL ALIVE & WELL

FAIR GAME

ADDING A TWIST

LAST MILE MAKES DSL VALUABLE IN FIBER WORLD

By **Bruce** Christian

DSL stays valuable in last-mile connections

ASSIA Inc. continues to show that DSL is alive and well.

The company's recent release of ASSIA DSL Expresse 2.7 is the newest version of its award-winning product for optimizing the performance of digital subscriber line networks.

DSL Expresse 2.7 takes the first step in letting incumbent and competitive local exchange carriers and local loop unbundlers offer and manage high-speed 100 megabits per second (Mbps) vectored very-high-bit-rate digital subscriber line (VDSL) services.

The original version is a solution that includes a mobile application for field technicians and software tools to evaluate ADSL lines for conversion to high-bandwidth VDSL, or vectored DSL.
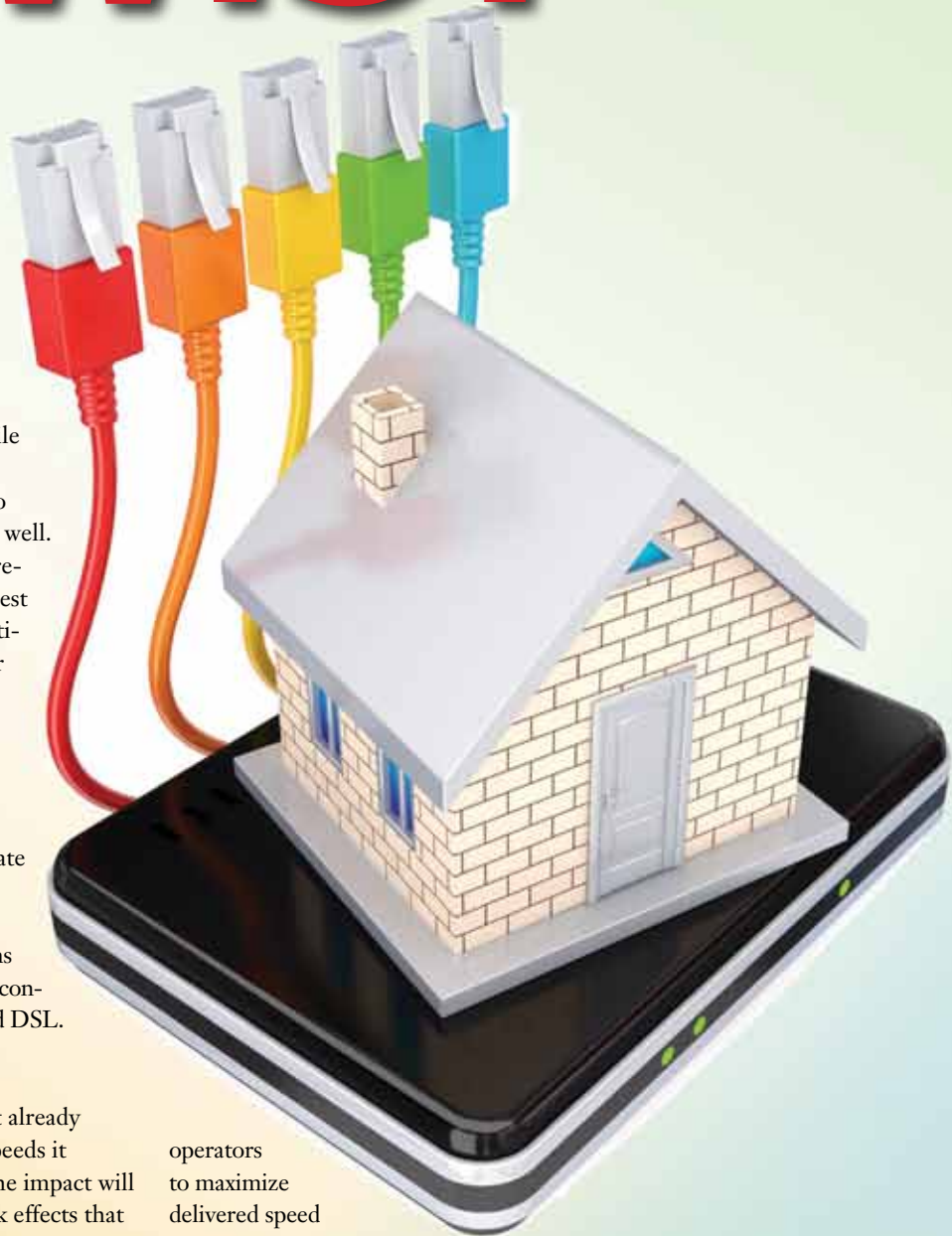
REDUCING NOISE

What's the big deal with VDSL? Well, it already has proven itself to be important with the speeds it delivers, and as it become commercialized the impact will be greater. Vectored DSL mitigates crosstalk effects that form serious performance bottlenecks for dense deployments of DSL lines operating in the very-high-speed region (above 15 Mbps).
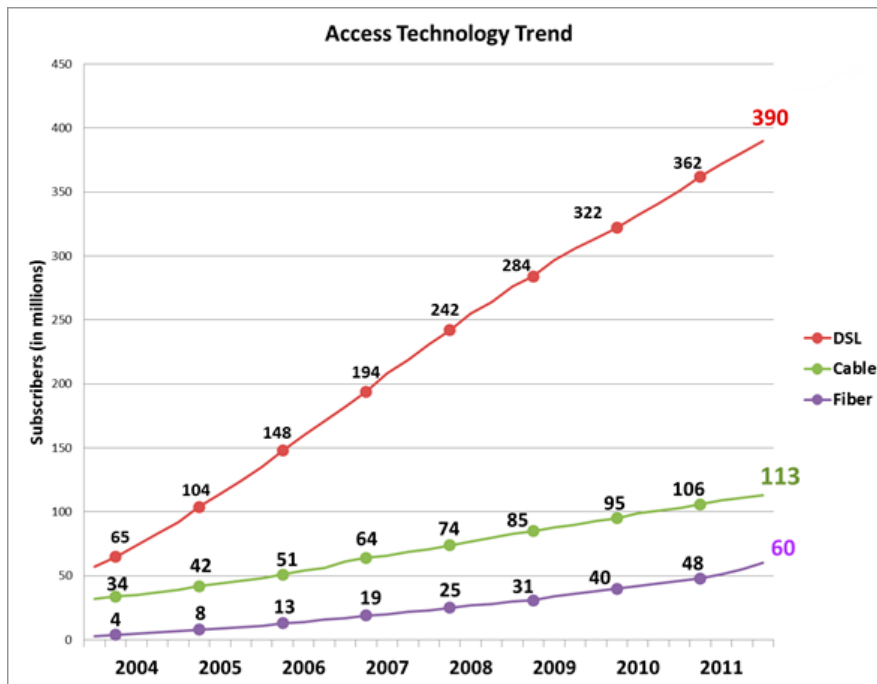
Today, more than 50 million DSLs around the world are managed by major service providers using DSL Expresse. The sophisticated software allows broadband operators to maximize delivered speed and bandwidth, improve quality of service, reduce operating costs, and improve customer service.

DSL in all its combinations delivers about 70 percent of all consumer broadband worldwide, and according to ASSIA the market is worth about $150 billion per year.

DSL Continues to Dominate Consumer Broadband Worldwide

Access Technology Trend

Source : Point Topic and ASSIA analysis

Moreover, DSL technology has evolved steadily so the copper wires that already serve 1.2 billion homes international are capable of achieving very-high broadband speeds. ASSIA believes that to get 100 Mbps in every residence, the technology used will include copper wires. The company also believes it can double the speed by 2015.

Even in China, where the largest fiber-optic broadband network is being built, the last mile to the residence will require mostly DSL broadband technology over copper wires.

ADVANCED TOOLS

In its latest version of the ASSIA Expresse, the 2.7 offers advanced diagnostics tools and real-time line optimization that permits ASSIA's DSL service providers to lower their capital and operating expenses, increase revenue and deliver multimedia content to broadband-enabled homes.

According to ASSIA's Senior Director of Product Marketing Jerome Joanny, the 2.7 release provides for dynamic spectrum management and real-time

line optimization.

As he explained during a briefing, vectoring is a noise cancelling technique. Adding vectoring to VDSL allows service providers to deliver the higher broadband speeds from a central office for a further distance (400 meters). Without vectoring, the distance at 100Mbs is cut to about 100 meters.

So with this ability to increase speed and cancel noise, it is anticipated that VDSL will proliferate this year and next.

Other features of the improved solution include:
- Real time line optimization, which improves customer satisfaction and reduces service calls and repair costs
- Support for single-ended loop test (SELT) for enhanced diagnostics, cost savings and service delivery, such as the ability to pinpoint faults and dispatches to their exact location
- Time-variable trend detection for lines that experience random, sporadic problems

Joanny said the multi-tenant architecture of the 2.7 release actually facilities carrier unbundling by enabling

multiple service providers to use the same software simultaneously to optimize interplay and performance.

He added that improved multi-tenancy features offer several advantages including:
- Improved economies of scale in compartmentalized ISPs
- Accelerated ISP VDSL deployment through coordination of co-existing copper pairs' management in preparation for vectoring
- Shared infrastructure costs among ISPs
- Added regulatory "super-user" to monitor quality and performance

With the high speeds and improved performance possible with VDSL, ASSIA believes the technology will maintain its global lead in fixed-access broadband services.

BROADBAND CAPACITY

Furthermore, the increased broadband capacity is expected to help DSL networks play a vital role in offloading network traffic from overloaded cellular networks via DSL-connected Wi-Fi

access points. Driving this demand of course is the higher broadband speeds needed for IPTV pay TV services that telecoms have started offering.

Standard-definition (SD) video requires 1 Mbps to 2 Mbps per stream, but HD videos need 3 Mbps to 4 Mbps per stream. Telecoms typically install a fiber network to the neighborhood (or node or cabinet) and connect it to the copper wires that run the last mile or so to the home.

Using VDSL technology, the telecoms can get 24 Mbps to 40 Mbps to the home, which is sufficient to allow two to three streams of HD pay TV and 10 Mbps or so broadband for an Internet connection.

Some telecoms are installing fiber-to-the-home (FTTH) in parts of their footprints, which allow speeds up to 100 Mbps. But all this needs to be managed for efficiency, and that is where ASSIA comes in, because the DSL Expresse 2.7 is the first product on the market to offer advanced network management software for multi-tenant environments.

"The new features in ASSIA DSL Expresse 2.7 address many of the challenges that I've heard operators are having with VDSL deployments, such as micro filter detection and diagnostic accuracy," said Jeff Heynen, directing analyst, broadband access and video, at research firm Infonetics.

"Clearly, ASSIA is paying attention and has designed the latest version of its powerful, vendor-neutral DSL Expresse solution to help make VDSL rollouts cheaper, smoother, and faster. Real-time optimization, improved diagnostics, and multi-tenancy support all add up to faster broadband over copper and reduced time to revenue for operators," he said.

BEING RESPONSIVE

Company Chairman and CEO John Cioffi said, "ASSIA continues to respond to operators' needs as they adjust their existing infrastructure to meet consumer demand for high-speed broadband.

"The innovative diagnostics and optimization included in DSL Expresse 2.7 allow these service providers to enhance the broadband consumer's experience while reducing costs," Cioffi continued.

"ASSIA recognizes that multi-tenant technology is critical for service provid-

ers to offer next-generation vectored VDSL for high-bandwidth multimedia content, as well as emerging applications, such as offloading traffic from cellular networks, and these new tools pave the way for rapid deployment," he said.

Senior Vice President Marketing Steve Timmerman argues that while many industry pundits portray DSL as a declining broadband technology, the opposite is true, saying DSL is "alive and well – and growing."

Citing a January study from research firm Point Topic, Timmerman emphasizes that DSL and next-generation VDSL boast 70 percent of the consumer broadband line market share worldwide.

POSITIVE GROWTH

DSL and VDSL also added 50 million lines from the third quarter of 2010 through third quarter in 2011. Cable and fiber to the home, in the meantime, increased by only 10 million and 3 million lines, respectively.

In a blog he wrote for the ASSIA website, Timmerman said the promise of FTTH is still largely a promise, with only 2.5 percent of access lines worldwide, due to the high cost of deploying fiber. And that fact bolsters the importance of DSL in the growing market for "carrier offloading."

Timmerman explained that DSL is playing an increasingly critical role in offloading cellular data traffic when dual-mode cellular and Wi-Fi mobile devices connect to consumer Wi-Fi networks that DSL backhauls.

Of course many companies are investing in next-generation VDSL. In cases, such as AT&T's U-verse triple-play service, VDSL complements fiber deployments to a node or building by completing the last-mile connection from fiber to the customer premises.

"ASSIA continues to play a leading role in pushing the envelope on high speeds over copper," Timmerman said. "Judging by the facts, it's clearly the dominance of cable and fiber that is currently the real subject of exaggeration among purported industry pundits and naysayers."

The company, which has a large footprint in the United States and strong presence in Europe, says it is

looking to expand in the Asia-Pacific region, including in India and China. With more than 50 million lines under contract worldwide with top-tier service providers, ASSIA is backed by strategic investors, including AT&T, Mingly China Growth Fund, SFR Development, Sandalwood Partners, Sofinnova Partners, Stanford University, Swisscom Ventures, T-Ventures, and Telefonica.

EXPANDING FURTHER

During a recent interview with Telecom Lead, Cioffi disclosed that ASSIA opened an office in Beijing and is working closely with a partner in India to prepare the market for its DSL network optimization solutions.

"ASSIA has worked to penetrate all Tier 1 and 2 service provider customers in the regions it serves," Cioffi said.

Primarily a direct sales company, Cioffi said that where local partners are required or preferred, ASSIA has formed alliances.

"As ASSIA expands its product portfolio, the company is increasingly seeking partners that can help deliver a broader set of solutions to customers whose business relies heavily on the quality of the consumer's broadband connection," he said.

Known as the "Father of DSL," Cioffi points out that cellular data traffic is proliferating at a rapid rate, outstripping the ability of the cellular network to accommodate.

"Although smaller cell sites, spectrum re-use, and improvements in cellular technology provide stopgap solutions, the only long-term solution is to offload cellular traffic to wired networks," he told Telecom Lead. "All new smartphones and tablets are Wi-Fi enabled, so the offload from the cellular network to Wi-Fi is easy, since Wi-Fi is free, pervasive, and supports high-speed broadband.

"The key element, however, is the wired broadband access link to provide the data backhaul to the core network," he continued. "Since DSL provides 70 percent of consumer broadband service worldwide, most of that backhaul role falls on DSL. Making those DSL links stable, reliable, and high-speed is fundamental to building a strong cellular network."