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Sunrise Telecom gets modular with DSL testing

UDSL-3Play module tests copper facilities and emerging services
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Beginning with early adopter countries such as South Korea—the very first to launch ADSLbased broadband service in 1999—DSL continues to evolve amidst growing penetration of HFC-based DOCSIS and FTTH deployments.

Service providers can now take advantage of a host of DSL flavors: ADSL, ADSL2+, VDSL, VDSL2 and VDSL2 with bonding. What's more, advanced techniques (MIMO and Dynamic Spectrum Management) will expand the rate and reach of existing copper even further.

All of this choice, however, comes with a price: service providers have to verify all of these variations and ensure the viability of the lines that carry services.
Instead of making a service provider purchase yet another test set, Sunrise Telecom's answer is to leverage and extend its existing MTT ACM II chassis with the introduction of its 'Universal DSL (UDSL)—3Play module. As its name implies, the UDSL-3Play module can provide universal testing for all of the typical DSL flavors—VDSL2, ADSL2+, ADSL2 and traditional ADSL. (see *FTTH 2008: Sunrise Telecom takes testing inside out*).

"There's been a good market for DSL for many carriers, but the pain piece of the equation has been all of the flavors of DSL and different chipsets that don't talk all the same language even when they are part of the same standard," said Bahaa Moukadam, VP of marketing for Sunrise Telecom. "How this relates to testing is a lot of the industry has had a variety of test sets, or in our case, a variety of modules to address ADSL, VDSL and all the variations."

All about integration

Sunrise's MTT and the UDSL-3 represent the ongoing trend to integrate various functions into handheld testers. The notion of integrated modular test sets for broadband has been a model also driven by fellow vendors EXFO, JDSU (Smart Class Triple Play Services), Spirent (Tech-X Flex). (see: *EXFO gives Ethernet techs a quick verdict* and *Spirent takes on the home network*)

With the MTT chassis, a service provider's technician crew can not only test all of the traditional DSL flavors (VDSL2, ADSL2+ and SHDSL), but also other optical services encountered in a Fiber-to-the-Node/Fiber-to-the-x environment.
Taking the thinking out of the technician's hand, the MTT and its corresponding UDSL-3 plug-in module can perform various roles that would have required multiple devices, including a resistance fault locator, spectrum analyzer, dual trace time domain relfectometer (TDR) and a digital multimeter.

In a VDSL2 test scenario, the MTT and corresponding UDSL-3 incorporates Power Spectral Density (PSD) measurement capabilities to allow service providers to assess spectral compatibility issues for multiple VDSL2, ADSL2+, and SHDSL signals that reside in the same copper binder group.

What's more, an integrated TDR can help a service provider locate bridge taps, and load coils in the pre-qualification process for VDSL2. Because VDSL2 uses up to 30 MHz spectrum, it is susceptible to outside noise sources.

Designed to take manual guesswork out of the technician's hands, the MTT and the UDSL-3 feature a One Button Test to verify and measure traditional DSL metrics, including data rate, Signal to Noise Ratio (SNR) and line errors.

Integrated copper testing functions will come in handy as carriers like AT&T and Qwest expand their respective VDSL2 deployments.
While Sunrise would not acknowledge specific customer names, the MTT platform that the module runs on has a healthy customer base of 50,000 deployed units.
But the benefits of the UDSL-3 module aren't limited to technology. "The other dimension of this is more about a carrier's investment," Moukadam said. "Instead of having to invest in a totally brand new platform and play the price point for a new solution all they have to do is buy the module and plug it into an existing chassis that they are familiar with and are already using."

Analysts continue to take notice of the integrated testing trend.
According to a Frost and Sullivan report, the integrated triple play test and monitoring equipment market reached $180.1 million in 2008 and will exceed the $1 billion mark by 2014. "Sunrise's latest release of the MTT ACM module (UDSL Triple Play module) clearly shows the industry's continuous move to IP, triple play or now multi play services," said Olga Yashkova, Industry Analyst, Frost and Sullivan. "This product release also confirms the trend towards product integration. Sunrise MTT ACM with its new 3-Play UDSL module is an example of such integrated solution that is capable of testing ADSL, ADSL2, ADSL 2+ and VDSL-based networks in one solution."

It's the services, stupid
While testing the copper links is a key factor in activating copper-based triple play services, including IPTV and VoIP services, telcos realize they will need to also ensure those services are running properly at the customer site. "People are saying okay that's great to test DSL all-in-one, they're realizing they also have to test services," Moukadam said. "They have to test VoIP, Internet download speeds, video quality and this module will test both the infrastructure and the services on top of that." Incorporating both DSL and Ethernet test interfaces, the UDSL-3 can perform both customer premise CPE or CO DSLAM emulation. If used for CO IP DSLAM emulation, the UDSL can measure Impulse Noise profiles, while the CO emulation capabilities for CPE verification and DSL line pre-qualification tests.
"Customer premise and central office DSL emulation is one of key features of this product and another example of such integration," Yashkova said. "Sunrise is known for its effective, easy to use, feature rich, yet, lightweight field testing tools."
To test Internet speeds or an IP phone, the UDSL-3 contains both a DSL and a 10/100 Ethernet port to sectionalize problems at the customer premise.

For IPTV testing at the home, the UDSL-3 module can emulate a Set Top Box (STB). These capabilities allow service provider technicians to conduct throughput tests to determine both Internet access and video Quality of Experience (QoE). "This solution is rather intuitive and provides an efficient way to measure QoE for VoIP and IPTV services as well," Yashkova said.