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Case Study

KTL

Industry/Market: Independent lab testing services

The Environment: A leading test lab providing adherence-to-standards assessment services for DSL CPE manufacturers.

The Challenge: To lead the market worldwide with a robust, comprehensive TR-069 testing service.

The Solution: Netopia's NBBS and value-added suite of TR-069 test cases.

The Benefits: Netopia's solution, the combination of a testing platform and test cases, allows KTL customers to confidently declare TR-069 interoperability.

Epilogue: Rolf Bienert, vice president of KTL North America, says "We recognized that to provide our customers with a real-world testing environment in our labs, we needed to use a system like Netopia's NBBS, which many top-tier DSL providers in the US and Europe already rely on."

Customer profile: KTL is a world leader in testing, certification, accreditation and approvals.

KTL

Independent Test Lab Uses Production Network Equipment – Netopia's NBBS – to Test for Adherence to Broadband Industry Standards and Protocols

The explosive growth of DSL high-speed Internet access has resulted in the deployment of hundreds of millions of DSL gateways, modems, routers, VoIP phones, IPTV set-top boxes, and other IP devices in homes and businesses around the world. As telecommunication companies and Internet service providers worldwide continue to deliver new, enhanced services using this customer premises equipment (CPE), it has become clear that supporting these devices can be cost-effective only if companies can reduce or eliminate dispatching a service technician for troubleshooting or upgrades – the aptly called "truck roll".

Telecommunications service providers have long recognized the value of remote device management and support from a network operations center. However, in the case of DSL CPE the language of communication, or *protocol,* between the operational servers in the network and the devices in the home or office never achieved an acceptable level of standardization until the advent of the DSL Forum's TR-069 specification for remote device management.

But that still left a dilemma: how could CPE vendors prove that their products meet the expectations of broadband service providers for conformance to the TR-069 standard?

KTL, a world leading independent test laboratory, immediately saw the market need and decided to fill it.

KTL Provides a Valuable Service Evaluating Adherence to Standards

Established in 1985, KTL offers testing services that cover many aspects of telecommunications, DSL, safety, EMC and environmental evaluations, accreditations, approvals, and certifications. KTL's unique expertise in fixed wire telecommunication technologies has propelled the company to become a world leader in the testing and evaluation of broadband technologies. Indeed, KTL is registered with the DSL Forum as an independent test laboratory (ITL) for DSL interoperability testing.

Upon seeing the market's need the company decided to create a new service aimed at validating CPE products for their level of adherence to the DSL Forum's TR-069 WAN management protocol. KTL recognized that the service would ideally be based on the foundation of an actual auto configuration server (ACS) – the technology service providers deploy for remote device management. For that testing foundation, they chose the Netopia Broadband Server (NBBS).

Netopia Offers Technology Leadership and Industry Reach

"Within the DSL technology ecosystem today – vendors, operators, and standards bodies – there's no true test suite for TR-069. The DSL Forum has not yet published a simulation suite to evaluate CPE modems against," says Rolf Bienert, vice president of KTL North America and general manager of its Silicon Valley operation. "Under these conditions, we

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KTL

"One advantage Netopia offered is that they designed a robust suite of test cases delivered along with NBBS. This combination of a test suite and testing platform made it a straightforward decision to choose Netopia and NBBS for our test lab requirements."

Rolf Bienert

Vice president of KTL North America

Corporate Headquarters
Netopia Inc.

6001 Shellmound, 4th Floor
Emeryville, CA 94608
Main (510) 420-7400
Fax (510) 420-7601

Europe Headquarters

2 Rue du Docteur Lombard
92442 Issy Les Moulineaux cedex
France
+33 (0) 1-45-29-91-00 main
+33 (0) 1-45-29-91-09 fax

Asia Pacific Headquarters

No. 8 Jalan Senyum
Singapore, 418143
+ 65 6492 0300 main

www.netopia.com

recognized that to provide our customers with a level of assurance commensurate with the expectations of today's service providers, we needed to use an actual ACS like Netopia's NBBS, which many of the top DSL service providers in the US and Europe already rely on.

"Netopia added further value with a suite of test cases they had created," says Bienert. "We can run these test cases according to a proposed draft of the DSL Forum, PD-128. Netopia incorporated these test cases with their NBBS platform, so it was a straightforward decision to choose Netopia and NBBS for our testing service requirements."

NBBS is a service management platform developed for broadband service providers according to the DSL Forum's TR-069 specification. NBBS provides centralized service and device management for IP-based CPE, including broadband gateways, modems, VoIP phones, Webcams, and set-top boxes. It allows service providers to automate service provisioning and device management, and thereby implement new services faster, while helping to reduce operational and support costs.

Full End-to-End Integration, Verification, and Validation Testing

In KTL's labs, "round trip" traffic is simulated between DSLAMs, such as those actually installed in a DSL network, and the CPE manufacturer's equipment. "From the DSLAM, traffic gets routed to the Broadband Remote Access Server – or BRAS – the aggregation point for subscriber traffic between the network and service providers," Bienert says.

"NBBS taps into the BRAS, through the DSLAM, and reaches out to the CPE – which can be virtually any CPE device we want to test. This creates a complete round-trip circuit for traffic over which we execute the TR-069 test cases using NBBS. Everything came together beautifully with Netopia."

Market-Leading TR-069 Testing Service

Nick Cleary, managing director of KTL Worldwide, is especially interested in offering a broad DSL testing service.

"We are the only third-party test house offering TR-069 interoperability testing in both Europe and North America, enabling us to work with a broad range of CPE manufacturers to help ensure their existing products and those in development implement the requisite remote management protocols and meet service providers' expectations," says Cleary. "We can now test CPE remote manageability to TR-069 guidelines in addition to CPE performance using the TR-067 standard. This greatly expands our test offerings for the telecoms industry."

Bienert sums up, "In our industry, speed to market is everything. We wanted to be the first testing house to offer TR-069 testing services. That would not have been possible if we'd had to spend the time and effort to create the TR-069 test cases. With Netopia's NBBS, the fit was perfect because we needed the testing platform and the test cases. Only Netopia was able to provide such a world-class solution."