

Gigabit Ethernet over SDH

Case Study



Gigabit Ethernet over SDH
Telefónica Deutschland GmbH., Germany



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Ingo Stampe, Director of Networks at Telefónica Deutschland

Environment

Integrated data and telecommunication solutions service provider for businesses is extending its nationwide broadband infrastructure

Goals

- Transport any Ethernet traffic transparently over conventional SDH lines
- Enable broadband services, including ADSL 2+, and multimedia services, such as Triple Play, on an advanced, Ethernet-based DSL infrastructure

Solution

- RAD's RIC-155GE Ethernet-over-SDH converters connect GbE interfaces over an SDH infrastructure
- IPmux TDMoIP gateways transport E1 lines and phone calls transparently using a free GbE interface at the IP DSLAM

Benefits

- Affordable and simple solution requires minimal effort for installation, training and maintenance
- Telephony services can be provided to customers over an IP DSLAM infrastructure

RIC-155GE Connects IP DSLAM Infrastructure Transparently over Dedicated Leased SDH Circuits

A German provider of integrated data and telecommunication solutions for business users, Telefónica Deutschland is in the process of extending its nationwide broadband infrastructure for ISPs. With a full-coverage, nationwide MPLS-based backbone in place, Telefónica is in the process of setting up an unbundled local loop platform. By the middle of 2006, as many as 40 percent of households in Germany will have been connected. Service providers will be able to offer broadband services, including ADSL 2+, and multimedia services, such as Triple Play, on this advanced, Ethernet-based DSL infrastructure.

Some 1,600 IP DSLAMs are being interconnected on Gigabit Ethernet (GbE) lines to create ring-type metropolitan networks, mostly on dark fiber. However, dark fiber is not available at every IP DSLAM location. Telefónica Deutschland, therefore, is bridging this “missing link” by renting third-party carriers' SDH lines to carry the Ethernet traffic. In order to be equipped and ready to meet tomorrow's requirements, the company went hunting for an affordable product that would not just work transparently, but also support multicast traffic on such an infrastructure. RAD's RIC-155GE™ Ethernet-over-SDH converters were selected to connect the GbE interfaces over that SDH infrastructure.

Time-to-Market Crucial Factor

“When rolling out new services, rapid time-to-market is a crucial factor,” notes Ramon Horkany, Product Manager at RAD. “In places where you don't have your own Ethernet or IP lines for DSLAM backhaul, and no dark fiber is available either, you can use widely available SDH networks instead,” Horkany adds. “Renting dedicated circuits is often more economical than setting up your own complete infrastructure, not least because current price trends are very much in your favor,” he explains.

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Ramon Horkany, RAD Product Manager

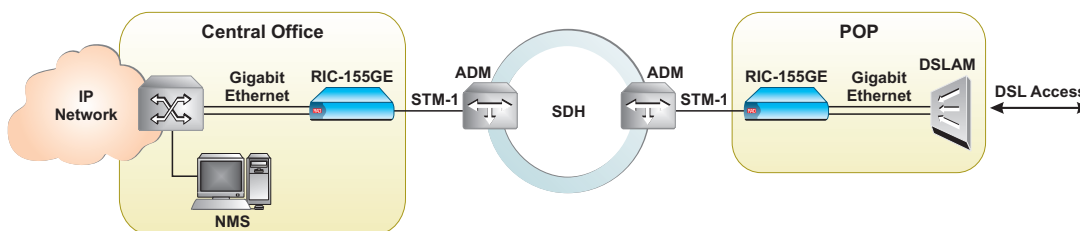
Affordable, Simple Solution

“Of all the solutions we tested, RAD’s RIC-155GE proved to be the most affordable when it came to running Gigabit Ethernet over SDH lines,” states Ingo Stampe, Director of Networks at Telefónica Deutschland.

What also convinced Telefónica was the converters' simplicity. The RIC-155GE is plug-and-play and SNMP-enabled, and installation, training and maintenance all involve minimal effort. The converters transport any Ethernet traffic, including multicast traffic, transparently on conventional SDH lines using the entire available bandwidth.

Conventional Telephony over Gigabit Ethernet

Telefónica's telephony customers – who are currently serviced on Deutsche Telekom interconnection access units (so-called ICAs) – are also to be hooked up to the new metropolitan networks via the IP DSLAMs. Given that ICA service crossover points are also situated at a number of IP DSLAM locations, these too are to be carried over the IP DSLAM infrastructure. Calculations showed that it would not be worthwhile to set up an SDH metro network parallel to the GbE network at smaller crossover points equipped with just four to eight E1 interfaces. RAD also offered a cost-effective solution for this as well. Its IPmux™ series of TDMoIP® gateways transports E1 lines and phone calls, including signaling data, transparently using an available GbE interface at the IP DSLAM.



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