

Case Study

Voice over Metro Ethernet Network

Voice over Metro Ethernet Network Erenis, France



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Fausto Geromel, Head of Technical Department, Erenis, Paris, France

Challenge

Provide telephone services to apartment building residents over alternative carrier's Ethernet MAN

Solution

IPmux-11 TDMoIP gateways are deployed in each building to connect local E1 PBX voice traffic, while a high capacity IPmux-16 gateway is deployed at a central site to interconnect with other carrier networks.

Benefits

- TDMoIP solution is much more cost-effective than VoIP, allows offering lower rates to subscribers
- Supports all legacy telephony features, including fax
- Combining TDM voice traffic and Internet access on single link cuts costs
- Compact size ideal for deployment in residential buildings

Erenis uses RAD's IPmux Gateways to Deliver Telephone Services over IP to Paris Public Housing RAD's Advanced TDMoIP Technology Guarantees Lowest Possible Rates to Consumers

Launched in October 2002, Erenis is the first French fixed broadband telecommunication operator to deploy and operate its own alternative last mile network. Since Erenis is both the owner and operator of the Ethernet Metropolitan Area Network (MAN) infrastructure, it can afford to offer telephone services to customers with limited incomes for less than €5 per month. Several thousand renters living in public housing units managed by Sagi (Société Anonyme de Gestion Immobilière), one of the largest landlords in Paris, are already hooked up to this service. Other public housing management firms have also opened up their properties to Erenis. This strategic partnership with the main public housing authorities in Paris has enabled Erenis to install a point-of-presence (POP) in each apartment building's basement, as well as the cabling that prepares the building to receive its telephony services.

"To facilitate installation of its fiber optic cable, Erenis has even received authorization to use the sewers of the city of Paris, right up to the foot of the building," comments Fausto Geromel, head of the technical department at Erenis. The property management companies provide Erenis a space in each building to install a PBX and a router. In parallel, Erenis deploys a copper pair inside each building's duct space. "In fact, we try to piggyback our copper with the incumbent carrier's or cable TV operator's," he adds.

IPmux as Telephony Gateway

Voice and Internet data communications are transported over the Erenis MAN to a data center located in a Paris suburb that serves as a hub for all the region's telephony operators. To transport the TDM-based voice traffic over their Ethernet MAN, Erenis chose to deploy RAD's IPmux™ TDM over IP (TDMoIP™) gateways. In each building, the PBX is connected to an IPmux-11. Equipped with a 2 Mbps E1 port on the PBX side, the IPmux-11 is connected to a router on the IP side. At the other end of the MAN, an IPmux-16 gateway (which features up to 16 E1 ports) receives all the communication flows and delivers them to a central PBX at the data center for interconnection with the networks of other telecom operators, as well as with the incumbent France Telecom.

Erenis didn't choose the IPmux gateways when they started out. Initially, they tried integrating VoIP cards into the PBX of every building they served. During the deployment process, however, traffic to the central site PBX became terribly congested, which, in turn, resulted in selected connections being cut. When that happened, Erenis considered a telephony-over-IP solution from a European manufacturer, which proved to be too expensive. Then, in January 2005, FONEX Data Systems, an international telecom network integrator active in North America and Europe, proposed the IPmux as an alternative. RAD's standards-based TDMoIP technology met with all of Erenis' technical and commercial requirements.



data communications

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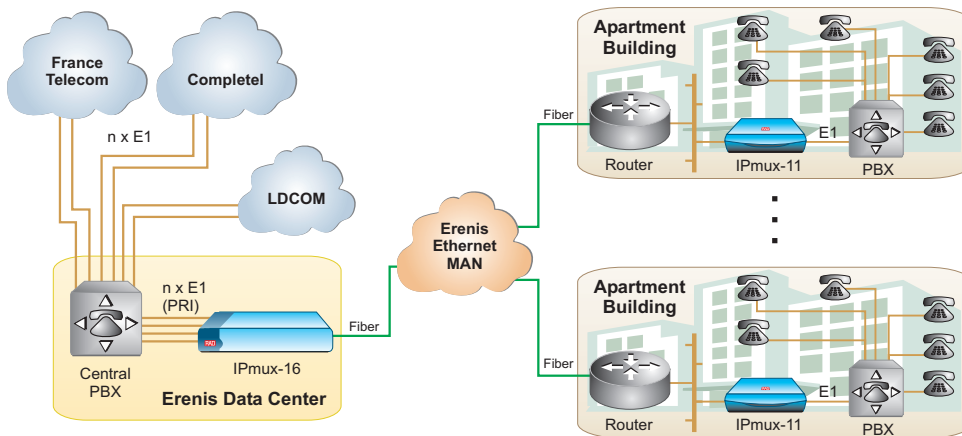
Fausto Geromel, Head of Technical Department, Erenis, Paris, France



Jerome Brisset, General Manager of FONEX in France, tells that Erenis’ project was well worth the effort because the development perspective is very promising. “In the near term we plan installations at 17 other sites in Paris,” Brisset states. Two buildings located near Paris’s suburbs have already been connected. “The IPmux was integrated in a single day, and only a few more days were required afterwards to adjust the audio quality and fine-tune echo attenuation issues,” adds Erenis’ Geromel.

TDMoIP Better Solution than VoIP

While there is a lot of talk about an all-IP network, the combination of a TDM-based PBX and an IPmux to transmit telephone conversations is a solution worthy of serious consideration. “VoIP technology does not yet fit the requirements of the residential subscriber’s legacy telephone,” Geromel explains. “It does not support certain existing applications like fax and medical tele-alarm systems for senior citizens, and, in addition, VoIP access is still two or three times more expensive than a classic telephony solution because it has to include integrated access equipment to deliver voice and data,” he continues. “On the other hand, our solution allows all telecom equipment and internal wiring at the residential unit to remain intact because our cabling system is connected right up to each home’s external telephone box,” he notes. Erenis targets both Paris and its near-suburbs, giving it a potential audience of six million subscribers. This translates into a significant number of IPmux gateways that will be installed.



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