DETRAN Case Study

Background

DETRAN/PR (Department of Traffic of the State of Paraná) in Brazil, manages approximately 4 million cars and 3 million drivers in 399 cities throughout the state of Paraná. Headquartered in Curitiba, DETRAN/PR operates using 6 regional offices, and 99 local offices (Ciretrans). DETRAN/PR is free to define the technologies that they will use in order to achieve a better operational level and cost reduction.
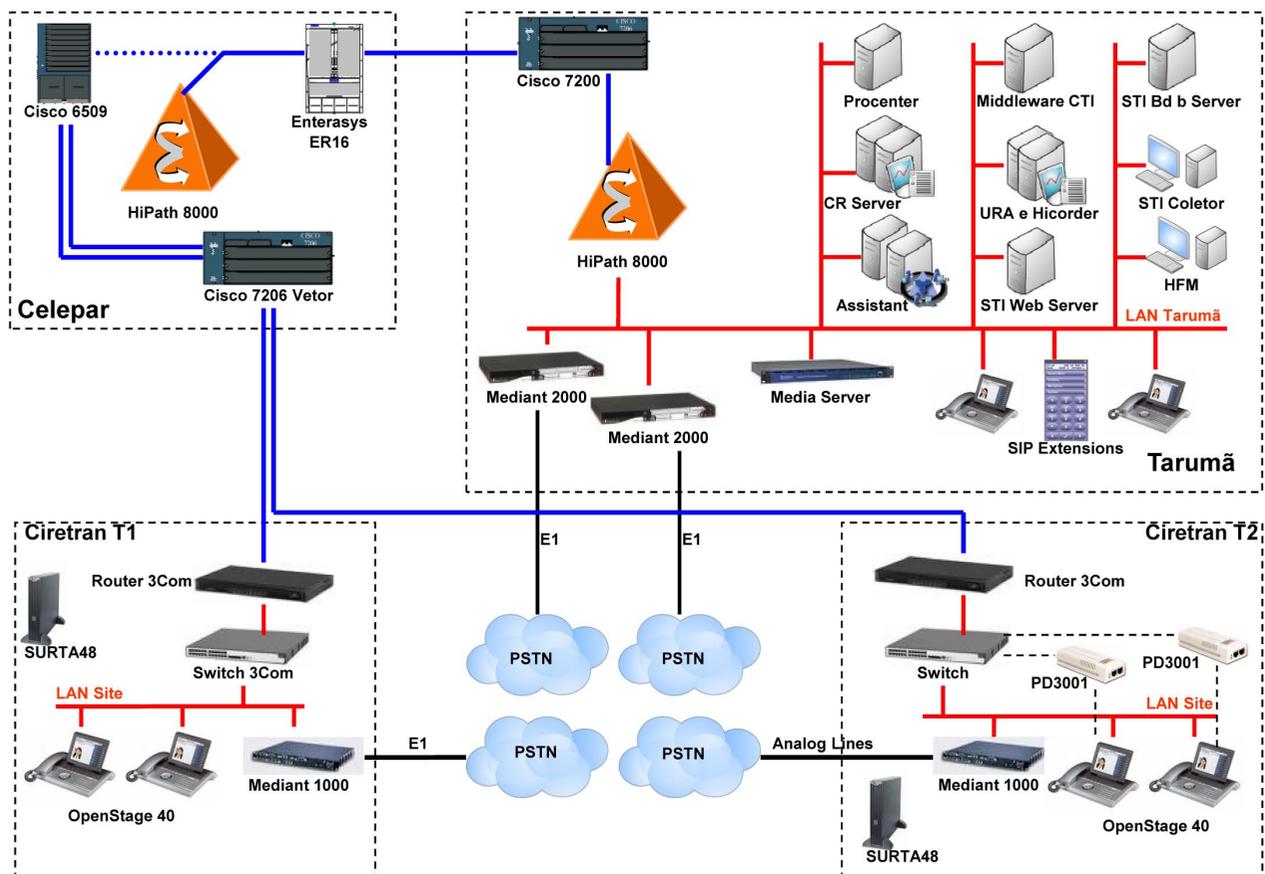
Challenge

DETRAN/PR was running old telecommunications and IT systems which were separated from each other and had to be upgraded in order to allow the initiation of new services and technologies. In addition, DETRAN was spending hundreds of thousands of dollars a year on telecommunication costs, using their old TDM telephony network. DETRAN/PR engineers had to investigate a new integrated data and telephony system that would save costs, simplify daily operations and provide full survivability and redundancy for internal and customer services. Survivability of the telephony network in case of a failure in the data WAN services was a key factor when selecting the new system.

Solution

DETRAN/PR selected Siemens Enterprise Communications as the Systems Integrator for their new network. Based on state-of-the-art IP Telephony technology, DETRAN deployed dual redundant Siemens HiPath 8000 (OpenScape Voice) Softswitches and AudioCodes Mediant™ 2000 Media Gateways, which provided the central switching services for 105 remote locations. These locations were equipped with AudioCodes Mediant™ 1000 Media Gateways, providing local PSTN breakout using E1/FXO interfaces, and most importantly, Stand Alone Survivability (SAS) services, in the case of a failure of their MPLS-based WAN, provided by Brasil Telecom. The embedded SAS feature on AudioCodes Media Gateways has proven to be the most cost effective solution for the customer. DETRAN/PR employees are using a combination of Siemens Enterprise Communications OpenStage IP terminals and softphones. There are currently no traditional TDM PBXs being utilized in the DETRAN/PR network. Fax support is achieved by using FXS interfaces on AudioCodes Mediant 1000 Modular Media Gateways, and MediaPack™ 124 analog Media Gateways. DETRAN/PR selected a combination of multiple vendors, including Cisco Routers & Core LAN Switches, and 3Com branch office router and switches for their data network. "DETRAN, in the State of Paraná, deployed a pure IP Telephony solution for the integration of voice, data and video in its 106 locations distributed in the whole State of Paraná," stated Sérgio Tenório, New Technologies Advisor, IT and Telecom Department, DETRAN/PR. "This solution, composed of a number of devices, software items and professional services, brought us to an excellent level in convergence and real cost reduction. The local survivability solution (SAS), critical to the project's success, has been deployed by utilizing AudioCodes Gateways, which guarantee that in the case of loss of IP Connectivity, the local branch will still successfully reach the PSTN."

Network Topology – DETRAN

Results

DETRAN/PR started the migration to its new integrated network during the second half of 2007. Currently, the system is fully deployed, and DETRAN/PR is saving 76% of its telecommunications costs using the VoIP networking features of the new system.

On September 14th, 2007, an outage at the Brasil Telecom MPLS service brought down the WAN services in five of the DETRAN/PR offices, affecting 450 employees. The Stand Alone Survivability (SAS) feature of the AudioCodes Mediant 1000 Media Gateways that were deployed in these sites kept all voice communications up and running, without disturbing any of the users. SAS additionally allowed internal VoIP calls between IP Phones and Soft Phones, direct PSTN breakout using the E1 & FXO interfaces on the local branches Media Gateways and inter-branch telephony communications using the PSTN. One such call was made by DETRAN engineers to Siemens, thanking them for selecting AudioCodes Media Gateways and implementing the SAS feature.

"The AudioCodes SAS feature was developed as a result of an increasing demand for a cost-effective, survivability solution for IP Centrex and distributed IP Telephony networks," stated Lior Aldema, Vice President Marketing and Product Management at AudioCodes. "We are pleased that this feature has proven to be a valuable solution for existing customers in real-time scenarios such as DETRAN/PR in Brazil. We are committed to continue the innovation with new features and products."

About AudioCodes Mediant™ 2000 Media Gateway

With up to 16 E1/T1 digital trunks, the Mediant 2000 Digital Media Gateway supports SIP as well as a wide range of digital TDM protocols used in this application to interface to a broad range of legacy PBXs and other TDM equipment. Designed for limited-space installations, the Mediant 2000 is intelligently packaged in a stackable 1U chassis designed for enterprises or for smaller locations in the carrier network market.

Mediant 2000

About AudioCodes Mediant™ 1000 Media Gateway

The Mediant 1000 is AudioCodes compact and cost-effective media gateway solution and is designed to interface between TDM & IP networks in enterprises or small-scale carrier locations. Incorporating AudioCodes' innovative Voice over Packet technology, the Mediant 1000 enables rapid time-to-market and reliable, cost-effective deployment of next-generation networks. The Mediant 1000 is based on VoIPerfect™, the comprehensive and field-proven architecture used in all AudioCodes' product lines ranging from voice over packet processors to high-density media gateway platforms. It can host up to six hot swappable, modular modules that support a mixture of FXS, FXO, and E1/T1 media gateway ports. In addition, it also supports the integration of an OSN (Open Solution Network) server, for running third party applications.

Mediant 1000

About AudioCodes MediaPack™ Media Gateways Family

The MediaPack family of analog gateways are designed and optimized to address the needs of service providers and enterprises for feature-rich, high quality analog & BRI media gateways. The MediaPacks enable a wide range of applications including converged access, IP Centrex, fixed-mobile convergence, and next generation PBXs. Ranging from 2 to 24 ports of FXS/FXO connectivity or 1 to 4 BRI interfaces, the MediaPack family enables the connection of analog devices such as phones, faxes and modems into the IP world, and the connection of PBXs into the VoIP network.

MediaPack

About AudioCodes

AudioCodes Ltd. (NasdaqGS: AUDC) provides innovative, reliable and cost-effective Voice over IP (VoIP) technology, Voice Network Products, and Value Added Applications to Service Providers, Enterprises, OEMs, Network Equipment Providers and System Integrators worldwide. AudioCodes provides a diverse range of flexible, comprehensive media gateway, and media processing enabling technologies based on VoIPerfect™ -- AudioCodes' underlying, best-of-breed, core media architecture. The company is a market leader in VoIP equipment, focused on VoIP Media Gateway, Media Server, Session Border Controllers (SBC), Security Gateways and Value Added Application network products. AudioCodes has deployed tens of millions of media gateway and media server channels globally over the past ten years and is a key player in the emerging best-of-breed, IMS based, VoIP market. The Company is a VoIP technology leader focused on quality and interoperability, with a proven track record in product and network interoperability with industry leaders in the Service Provider and Enterprise space. AudioCodes Voice Network Products feature media gateway and media server platforms for packet-based applications in the converged, wireline, wireless, broadband access, cable, enhanced voice services, video, and Enterprise IP Telephony markets. AudioCodes' headquarters and R&D are located in Israel with an additional R&D facility in the U.S. Other AudioCodes' offices are located in Europe, India, the Far East, and Latin America.

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