



A Cable Telephony Case Study: Astral Telecom

Powered by AudioCodes Mediant™ 2000 and MediaPack™ Media Gateways

Astral Telecom, one of the leading integrated electronic communication service providers in Romania, and a subsidiary company of UGC Europe (formerly United Pan-Europe Communications or UPC), Europe's biggest cable TV provider, has deployed AudioCodes' Media Gateways into their VoIP network as trunking gateways and enterprise access (CPE) equipment.

By using AudioCodes' Mediant™ 2000 media gateways, Astral Telecom inter-connects its growing VoIP service network to peering national and international service providers. The interconnection currently includes tens of E1s and is constantly growing, providing service to thousands of business users.

By deploying thousands of AudioCodes' MediaPack™ and Mediant™ media gateways, Astral Telecom connects its growing enterprise customer base into its VoIP service network, connecting to the existing PBXs in the customer premises, and providing a seamless transition from existing service providers.

"Having successfully passed all the quality and compatibility assurance tests, AudioCodes' products have proven themselves to be the most reliable for use within Astral's network," said Dinu Malacopol, CEO Internet & Data division of Astral. "Because of its high quality, we are also using AudioCodes MediaPack CPEs for smaller business solutions over the CATV IP network. AudioCodes' MediaPack is a stand-alone gateway that provides at least the same quality as an integrated MTA cable modem. In addition to its high quality, compatibility and flexible support for its vendors, we are planning to use AudioCodes equipment if we migrate our IP Telephony system from H.323 to MGCP and SIP. Presently, the AudioCodes product family is our main choice when seeking suitable solutions for our business customers."

Astral Telecom – A UGC Company

Astral Telecom S.A. is a Romanian telecommunications company, a cable television network, internet service provider and telephone operator. Founded 1992, the Cluj-Napoca based company, is currently the owner of the second-largest cable network in Romania, and is also one of the most important Romanian ISPs, having about 900,000 customers (2005) and generating 25% of the web traffic in Romania. Astral was rebranded in 2003, when it launched a new marketing image as well as the motto *Creat sa evolueze* (Created to evolve in Romanian). In 2005, it was bought for \$420 million by UGC Europe. UGC Europe (formerly United Pan-Europe Communications or UPC) is Europe's biggest cable TV provider, also providing internet access, telephony and other related services. It is an operation (100% ownership since early 2004) of the US-based company Liberty Global (created in June 2005 through a merger of UnitedGlobalCom (UGC) with Liberty Media International), which is the world's leading Cable TV provider. It serves about 6.6 million analogue subscribers in 12 countries of Europe, and is the dominant provider in countries like the Netherlands, Austria, Slovakia and the Czech Republic.

Astral Telecom VoIP Network

The Astral Telecom VoIP network, was built in order to scale and support hundreds of thousands of subscribers. A local systems integrator, RAL Computers, was selected as the systems integrator for this project, and integrated the different components from different vendors to create the full solution. "We have selected AudioCodes CPE devices after conducting field tests on products from multiple vendors and were impressed with the performance of AudioCodes' media gateways. AudioCodes' responsiveness and flexibility, both in terms of services and products was particularly prompt", said Stefan Manza, IP Telephony Technical Manager of Astral Telecom. "Working with AudioCodes has strengthened our competitive position with the addition of quality voice services offered."

The main components of the Astral Telecom VoIP network include Media Gateways from AudioCodes, a signaling gateway from Cisco and a VoIP Class 5 Soft-Switch from Bearing-Point. Combining all of these vendors together was not an easy task, and was successfully done by the systems integrator and the vendors involved, with AudioCodes as a key contributor to these efforts.

Selecting the Right Vendor for the Trunking Gateway

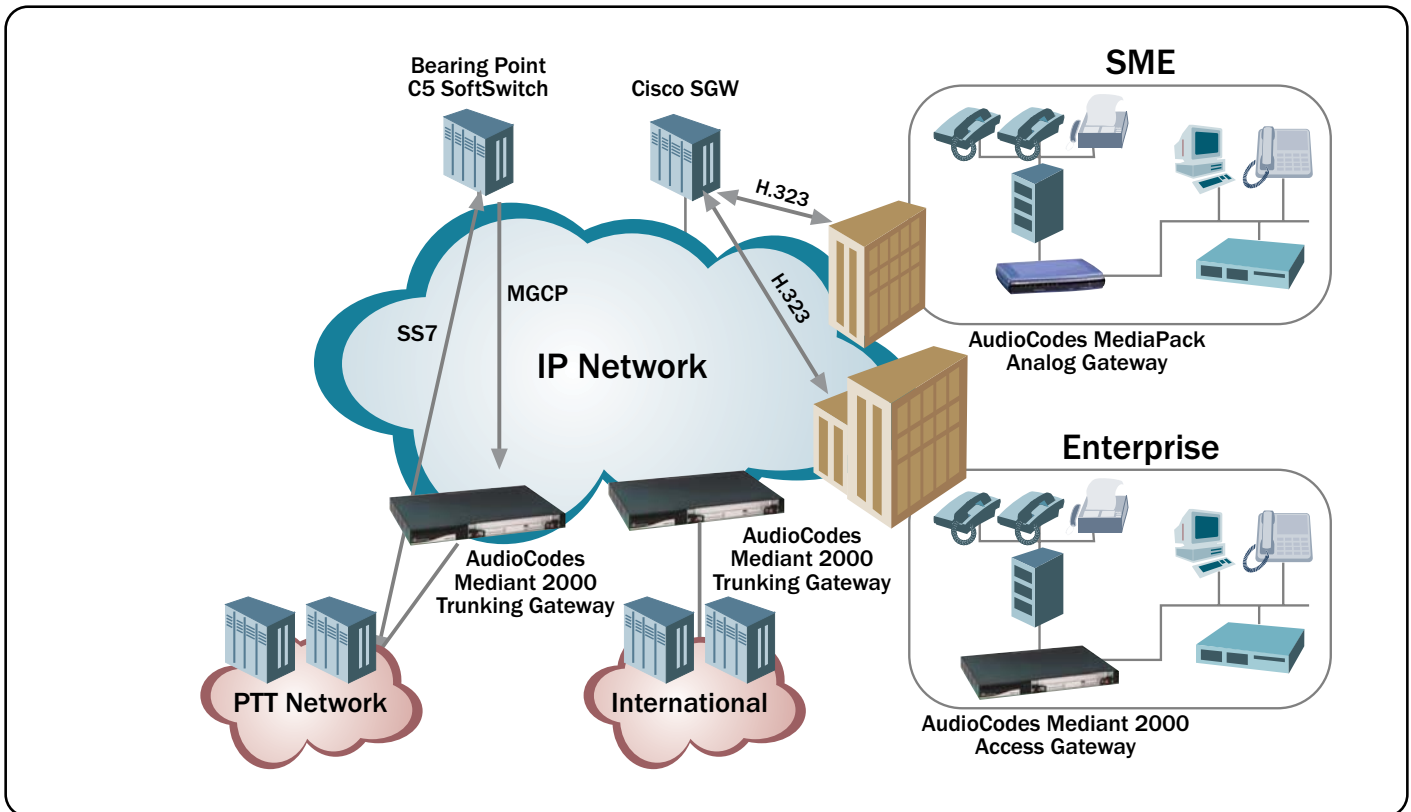
One of the key elements in every CLEC VoIP network is the trunking media gateway, interconnecting its network with the incumbent's networks.. As a new telephony service provider, most calls generated in Astral telecom's network are terminated in other provider's networks, traversing AudioCodes Mediant™ 2000 media gateways. As a key, central component in the Astral Telecom VoIP network, AudioCodes' Mediant™ 2000 media gateways were selected because of a number of reasons:

- **Media Control Protocols** - AudioCodes Mediant™ family of media gateways is one of the most flexible media gateway families in terms of media gateways control protocols. It supports H.323, SIP, MGCP, TGCP and MEGACO.
- **Interoperability** - AudioCodes' commitment to interoperability allows customers a freedom of choice when selecting the soft-switch vendors, and class 4 and class 5 switches to interconnect with.
- **VoIP Quality** - AudioCodes use of its own DSP technology supplies the best VoIP quality in the market today, as proven by the ETSI 3rd Speech Quality Event 2004.
- **Scalability** - One of the unique features of the AudioCodes Mediant™ 2000 media gateway is the pay-as-you-grow approach. A built-in feature key allows the customer to buy the media gateway hardware scalable from 1 up to 16 E1/T1 ports, and pay according to use. This flexibility allows the service provider to reduce the initial investment, and only pay for revenue generating equipment, and then remotely upgrade the system to support more connections in the future.
- **Reliability** - After extensive testing of the Mediant™ 2000 gateway against other vendors' solutions, it was proven to be one of the most reliable products in the market today.

Selecting the Right Vendor for Enterprise Access Gateway

The Enterprise Access Media Gateway serves as CPE (Customer Premises Equipment), connecting enterprise PBX systems into the Astral Telecom VoIP network, over fiber.

The Enterprise customers are the main "cash-cow" of any service provider telephony network, and are also the most sensitive customers to quality of service, service availability and voice quality. Selecting the MediaPack™ for analog connections and the Mediant™ 2000 for digital connections was only natural for



Astral Telecom because of the following reasons:

- **Reliability** – After extensive testing of the Mediant™ 2000 and MediaPack™ gateways against other vendors' solutions, it was proven to be one of the most reliable products in the market today
- **Interoperability** – An access media gateway's main role is to connect with numerous different PBXs and Key Systems using different types of signaling protocols and flavors. AudioCodes' proven track record of interoperability has made the MediaPack™ and the Mediant™ 2000 a natural choice for a standard access media gateway.
- **Scalability** – One of the unique features of the AudioCodes Mediant™ 2000 media gateway is the pay-as-you-grow approach. A built-in feature key allows the customer to buy the media gateway hardware scalable from 1 up to 16 E1/T1

ports, and pay according to use. This flexibility allows the service provider to reduce the initial investment, and only pay for revenue generating equipment, and then remotely upgrade the system to support more connections in the future. In parallel, the MediaPack™ family of media gateways is offered in different SKUs, supporting from 2,4, 8 or 24 analog ports in a small, compact unit.

- **Manageability** – A CPE media gateway, installed in hundreds of units all around the country, must include extensive management capabilities. The Mediant™ and MediaPack™ family of media gateways supports many unique management features relevant for service provider networks.
- **VoIP Quality** – The Enterprise is one of the most sensitive customers to voice quality. Any degradation in voice quality compared to the TDM telephony network is not accepted by the enterprise. AudioCodes use of its own DSP technology

supplies the best VoIP quality in the market today, as proven by the ETSI 3rd Speech Quality Event 2004.

Summary

“The delivery of voice services to one of the largest cable networks in Romania using our CPE equipment is important”, said Lior Aldema, Vice President of Marketing for AudioCodes. “We expect this project to encourage further deployments in major broadband networks as demonstrated by this successful venture.”



About AudioCodes Mediant™ 2000 - Media Gateway

The Mediant™ 2000 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 2000 enables rapid time-to-market and reliable, cost-effective deployment of next-generation networks. The Mediant 2000 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. In addition to supporting up to 16 E1/T1 media gateway ports, it also supports the integration of an SBC (Single Board Computer) for running third party applications.



About AudioCodes MediaPack™ Analog 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 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, the MediaPack family enables the connection of analog devices such as phones, faxes and modems into the IP world.

About AudioCodes

AudioCodes Ltd. (NASDAQ: AUDC) enables the new voice infrastructure by providing innovative, reliable and cost-effective Voice over Packet technology and Voice Network products to OEMs, network equipment providers and system integrators. AudioCodes provides its customers and partners with a diverse range of flexible, comprehensive media gateway and media processing technologies, based on VoIPerfect™ – AudioCodes' underlying, best-of-breed, core media gateway architecture. The company is a market leader in voice compression technology and is a key originator of the ITU G.723.1 standard for the emerging Voice over IP market. AudioCodes voice network products feature media gateway and media server platforms for packet-based applications in the converged, wireline, wireless, broadband access, and enhanced voice services markets. AudioCodes enabling technology products include VoIP and CTI communication boards, VoIP media gateway processors and modules, and CPE devices. Its customers include the leading telecom and data network equipment providers globally. AudioCodes' headquarters and R&D facilities are located in Israel with an R&D extension in the U.S. Other AudioCodes' offices are located in Europe, the Far East, and Latin America. For more information on AudioCodes, visit www.audiocodes.com.