



An NGN CLEC Case Study: Central Telegraph Russia

Powered by AudioCodes Mediant™ and MediaPack™ Media Gateways

JSC Central Telegraph, one of the leading telecommunication operators in Russia, established more than 150 years ago, has deployed AudioCodes' Media Gateways into their IP network as trunking gateways and customer access equipment (CPE).

By utilizing AudioCodes' Mediant™ 2000 media gateways, Central Telegraph interconnects its growing NGN network to its existing TDM PSTN networks and to peering national and international service providers. Currently, this interconnection includes dozens of E1's and is constantly growing, providing service to enterprise and residential users.

By deploying hundreds of AudioCodes' MediaPack media gateways, Central Telegraph connects its growing residential customer base to its IP service network. MediaPack media gateways are deployed at the MTUs of residential buildings, and connect residential us into the service.

"AudioCodes has been selected as the vendor of choice for trunking and access media gateways for our NeoCentel NGN network," stated Andrey Grankovsky, Director of technical development and operation of Central Telegraph. "AudioCodes has proven full interoperability with our selected Softswitches and application servers: the Broadsoft Broadworks class 5 application server, the Veraz Control Switch class 4 switch, and the Open Telecommunications openCA signaling gateway controller. In addition to its compatibility and flexibility, AudioCodes and local channel partners presence in Russia have proven to be very important resources in supporting the success of our network."

About Central Telegraph

JSC Central Telegraph is one of the leading telecommunication operators in Russia; established more than 150 years ago. Its activity is closely related to the development of communications in Russia.

Currently the company is one of the ten largest alternative operators of fixed communications and Internet in Russia, operating in the city of Moscow and the Moscow region.

Central Telegraph provides triple play services, based on a next generation fiber-optic network, for business and residential customers.

Central Telegraph NGN Network

Central Telegraph operates its own fiber-optic network on the basis of SDH, PON, DWDM and Metro Ethernet technologies using network equipment by leading international manufacturers.

Central Telegraph's NeoCentel NGN network is a triple-play Ethernet to the Home (ETTH) network that will cover up to 500,000 connected flats within 5 years. An important section of this project is the PSTN replacement for all connected flats.

The Central Telegraph NeoCentel network is designed to fully replace the existing legacy PSTN switches in the Central Telegraph network.

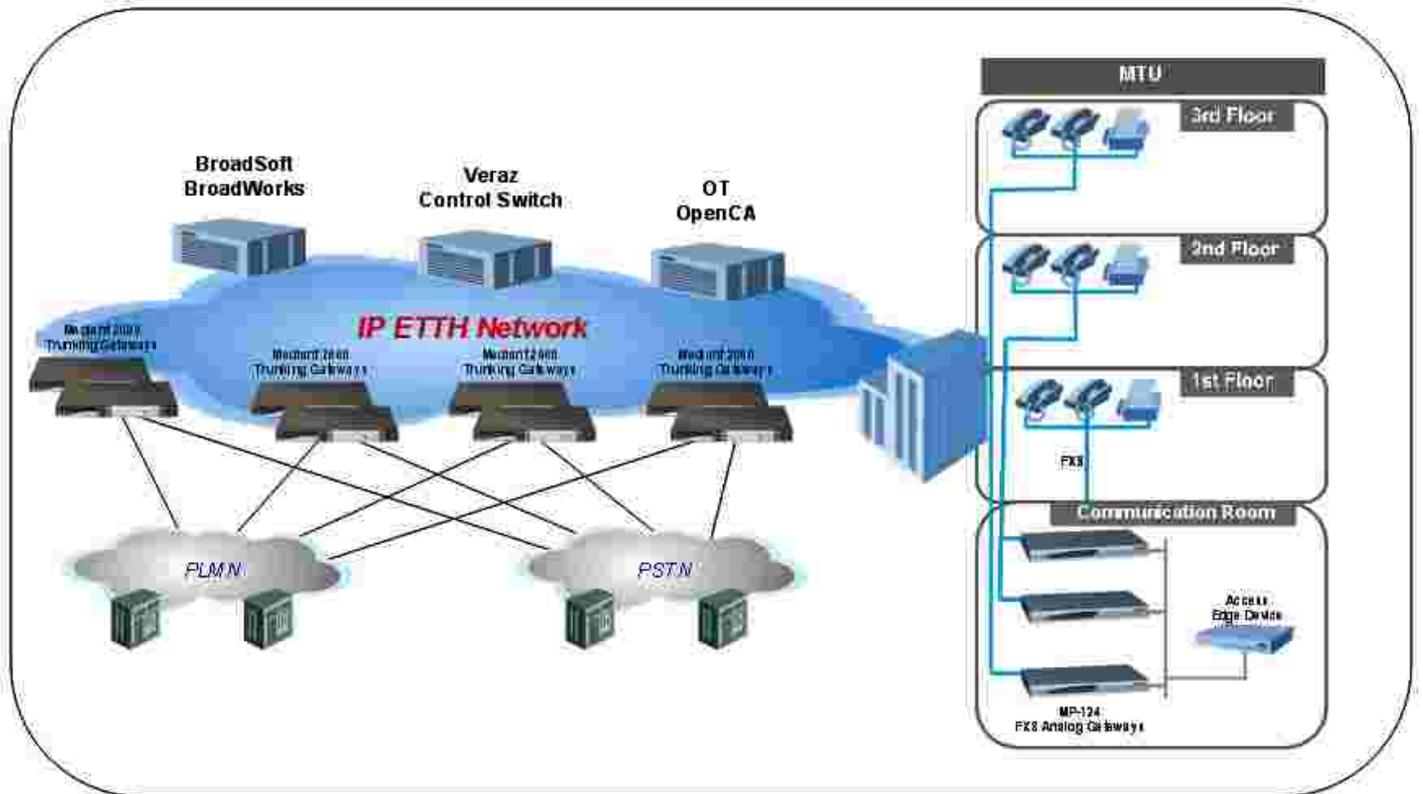
"The flexibility of AudioCodes media gateways has enabled Central Telegraph the ability to conserve time, effort and investment by easily integrating it with our selected Softswitches and application servers", said Andrey Grankovsky, Director of technical development and operations of Central Telegraph. "We currently have a number of AudioCodes Mediant 2000 trunking gateways, working in conjunction with our Veraz Control Switch class 4 switch, connecting our NGN network to PSTN, PLMN and international providers. We also use AudioCodes' media gateways together with our Open Telecommunications openCA signaling gateway for SS7 interconnects. In addition, we use hundreds of AudioCodes MediaPack 124 analog gateways to connect our residential customers, controlled by our Broadsoft Broadworks class 5 application server. AudioCodes' VoIP quality, long haul support, extensive features and price competitiveness, along with

the interoperability previously described, were the main reasons for selecting AudioCodes as our prime provider of media gateway technology"

Selecting the Right Vendor for the Trunking Gateway

One of the key elements in each CLEC NGN network is the trunking media gateway, interconnecting its network with peering service providers. As an alternative telephony service provider, many calls generated by Central Telegraph's telecom network are terminated in other providers' networks, traversing AudioCodes Mediant 2000 media gateways. As a key component in the Central Telegraph NGN network, AudioCodes' Mediant 2000 media gateways are providing the following benefits:

- **Media Control Protocols** - AudioCodes Mediant family of media gateways is one of the most flexible in terms of media gateway control protocols. It supports H.323, SIP, MGCP and MEGACO.
- **SS7 & Sigtran** - AudioCodes Mediant family of media gateways support the tunneling of SS7 links using Sigtran M2UA and M3UA.
- **Interoperability** - AudioCodes' commitment to interoperability allows customers the freedom of choice when selecting their preferred Softswitch vendor, and class 4 and 5 switches. In relation to Central Telegraph, AudioCodes allows the customer the freedom of choice by selecting the media gateways vendor independently from selecting the Softswitches, with full interoperability with the selected vendors.
- **VoIP Quality** - AudioCodes uses its own DSP technology to supply the best VoIP quality in the marketplace today, as proven by the ETSI 3rd Speech Quality Event.
- **Scalability** - One of the key 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 usage. This flexibility allows the service provider to reduce their initial investment, and only pay for revenue generating equipment, followed by a remote upgrade to the system in order to support more connections in the future.
- **Reliability** - Further to extensive testing of the Mediant 2000 gateway compared to other vendor solutions, it was proven to be one of the most reliable products on the market today.



Selecting the Correct Vendor for Access Gateways

Access Media Gateways serve as CPE (Customer Premises Equipment), connecting residential phones and faxes to the Central Telegraph VoIP network, over the Ethernet to the Home network.

Selecting the MediaPack for analog connections was the most logical choice for Central Telegraph for the following reasons:

- **Reliability** – After implementing the Mediant 2000 for a trunking application, it was proven to be one of the most reliable products in the marketplace today. MediaPack gateways share the same software infrastructure and provide the same level of reliability.
- **Interoperability** – AudioCodes' proven track record of interoperability has enabled transparent operation of the MediaPack gateways within the Broadsoft Broadworks service environment used by Central Telegraph.
- **Manageability** – A CPE media gateway, installed in hundreds of units, must include extensive management capabilities. The MediaPack family of media gateways support many unique management features relevant for service provider networks.
- **VoIP Quality** – Any degradation in voice quality compared to the TDM telephony network is unacceptable by Central Telegraph's customers. AudioCodes uses its own DSP technology which supplies excellent VoIP quality, as proven by the ETSI 3rd Speech Quality Event.
- **Local Support** – The local support provided by AudioCodes for the trunking gateways solution, and for the interoperability process with Softswitches, has verified to Central Telegraph that AudioCodes is the correct choice for CPE gateways.
- **Long Haul** – AudioCodes' support of long haul connections of up to 6 km for the MediaPack 124 allows Central Telegraph to effortlessly cover large residential buildings with a single wiring cabinet.

Summary

“Russia is a very interesting market for VoIP vendors like AudioCodes. Our local presence in Russia, as well as the strong presence of our channel partners, position us as a leading vendor of choice for NGN implementations within Russian CLECs”, said Lior Aldema, Vice President of Marketing for AudioCodes. “We are proud of winning the NeoCentel project with one of the oldest telecom carriers in Europe, and we are sure it will help us to attain additional projects in the future”.



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 VolPerfect™, 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 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.

About AudioCodes

AudioCodes Ltd. (NASDAQ: AUDC), provides innovative, reliable and cost-effective Voice over Packet (VOP) technology, Voice Network products, and applications to OEMs, Network Equipment Providers, Service Providers and System Integrators worldwide. AudioCodes provides a diverse range of flexible, comprehensive media gateway and media processing technologies (based on VolPerfect™ – AudioCodes' underlying, best-of-breed, core media gateway architecture) and Session Border Controllers (SBCs). The company is a market leader in product development, focused on VoIP Media Gateway, Media Server and SBC technologies and network products. AudioCodes has deployed tens of millions of media gateway and media server channels globally over the past few years and is a key originator of the ITU G.723.1 standard for the emerging Voice over IP market. The Company is a VoIP technology leader focused on quality, having recently received a number one ranking from ETSI for outstanding voice quality in its media gateways and media servers. AudioCodes voice network products feature media gateway and media server platforms for packet-based applications in the converged, wireline, wireless, broadband access, enhanced voice services and video markets. AudioCodes enabling technology products include VoIP and CTI communication blades, VoIP media gateway processors and modules, and CPE devices. 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.

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