AudioCodes

Adeptra

GENESYS
AN ALCATEL·LUCENT COMPANY

Adeptra and Genesys GVP Case Study

"Customer Communications solutions with Genesys GVP and AudioCodes Media Gateways"

Background

Adeptra is the market leader in providing automated contact and resolution services to companies engaged in Consumer Credit and Risk Management. Their business has revolutionized how businesses manage time-sensitive and vital interactions with their customers. Increases in service quality are delivered alongside extensive process and operational cost savings, thousands of times a day. Adeptra's rapid growth has placed them in the 2007 Deloitte Technology Fast 50, a ranking of the 50 fastest growing technology companies in the UK, and the 2009 Sunday Times Microsoft Tech Track 100 for a fourth successive year, a league that follows the progress of the UK's most successful private companies. Established in 1996, Adeptra operates from offices in Norwalk, Connecticut, USA, Reading, UK and Sydney, Australia.

A key offering by Adeptra to the financial services industry is their Auto-resolution™ system, an automated customer communications solution that proactively detects potential fraud, over-limit or other issues that would affect use of their bank-issued credit or debit cards. Once an exception is detected, the system out-dials to the consumer and notifies them of the situation and offers an option to either connect to a live customer service agent or use and automated system to correct the issue.

Challenge

While building their first generation notification system, Adeptra engineers used a PC-based IVR software package that depended on legacy TDM CTI boards. The TDM boards allowed the application software to connect to the PSTN, but limited the density at four T1/E1 circuits per server.

Figure 1: First Generation Architecture with TDM Boards
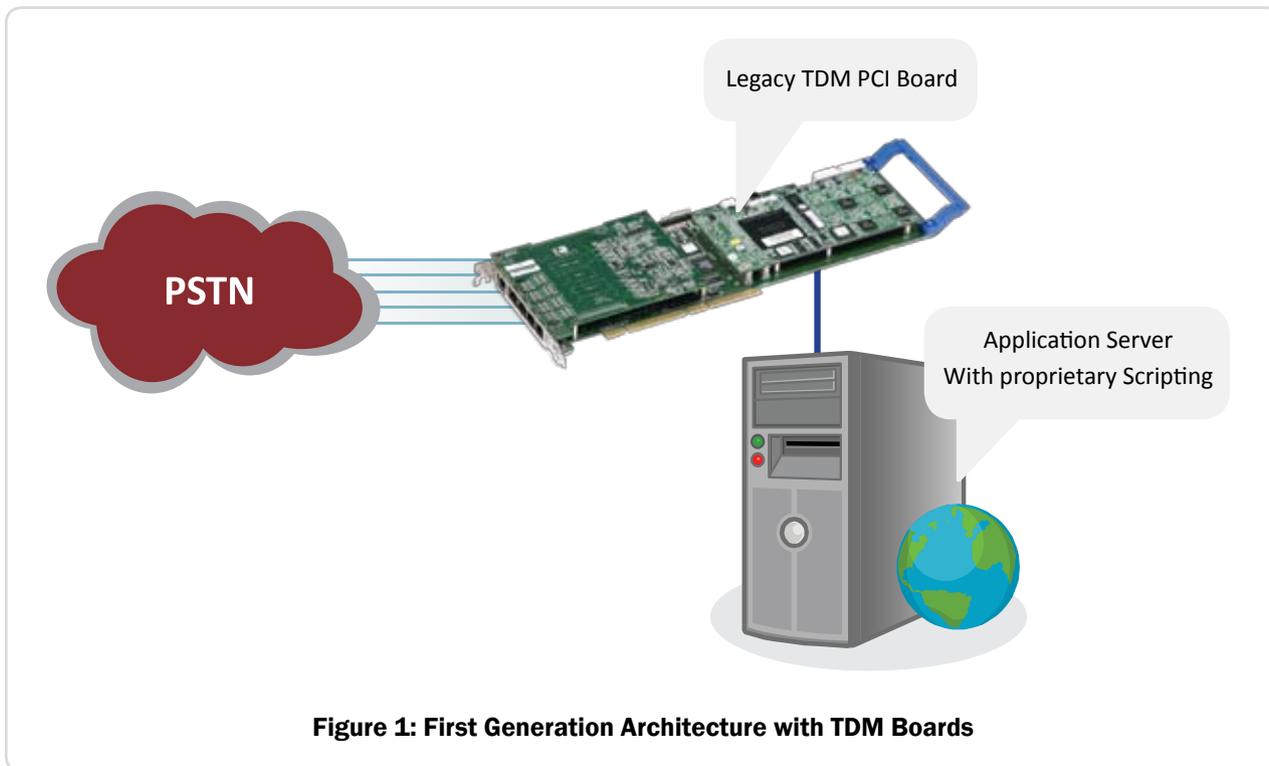
This early solution helped prove the concept, but suffered significantly from a number of serious limitations:

1. The IVR software package used a proprietary scripting language, requiring significant training for the development staff. The resulting scripts were non-portable and incompatible with their web development environment

2. The TDM boards required servers with full size PCI slots, limiting the selection of servers and requiring expensive industrial-grade chassis

3. The architecture was difficult to scale, requiring a new server and TDM board for each expansion. Because each server used a separate TDM board, expansion required large blocks of four T1/E1 circuits at a time, frequently wasting significant server and/or PSTN resources

4. Any failure in the software, PC server or TDM board would take the entire block of circuits out of service for the duration of repair.

*"Our first generation solution based on legacy TDM boards was not going to help us achieve our business goals – we needed to change direction", said **Tony McGivern, CTO for Adeptra.***
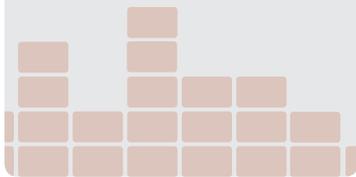
As a result, Adeptra found themselves without a competitive edge that would differentiate their services from other financial services companies.

Solution

To resolve these issues, Adeptra migrated their consumer notification system to a distributed architecture as shown in *Figure 2*, utilizing Genesys GVP as an application execution platform with AudioCodes Mediant Media Gateways providing an interface to the PSTN. In this architecture, the AudioCodes media gateways convert the legacy TDM T1/E1 signaling protocols (PRI or CAS) and media to SIP as needed by Genesys GVP. The media gateways also perform highly efficient and accurate outbound call progress and answering machine detection, allowing the application to detect whether a called number was answered, busy or was redirected to voice mail or an answering machine.
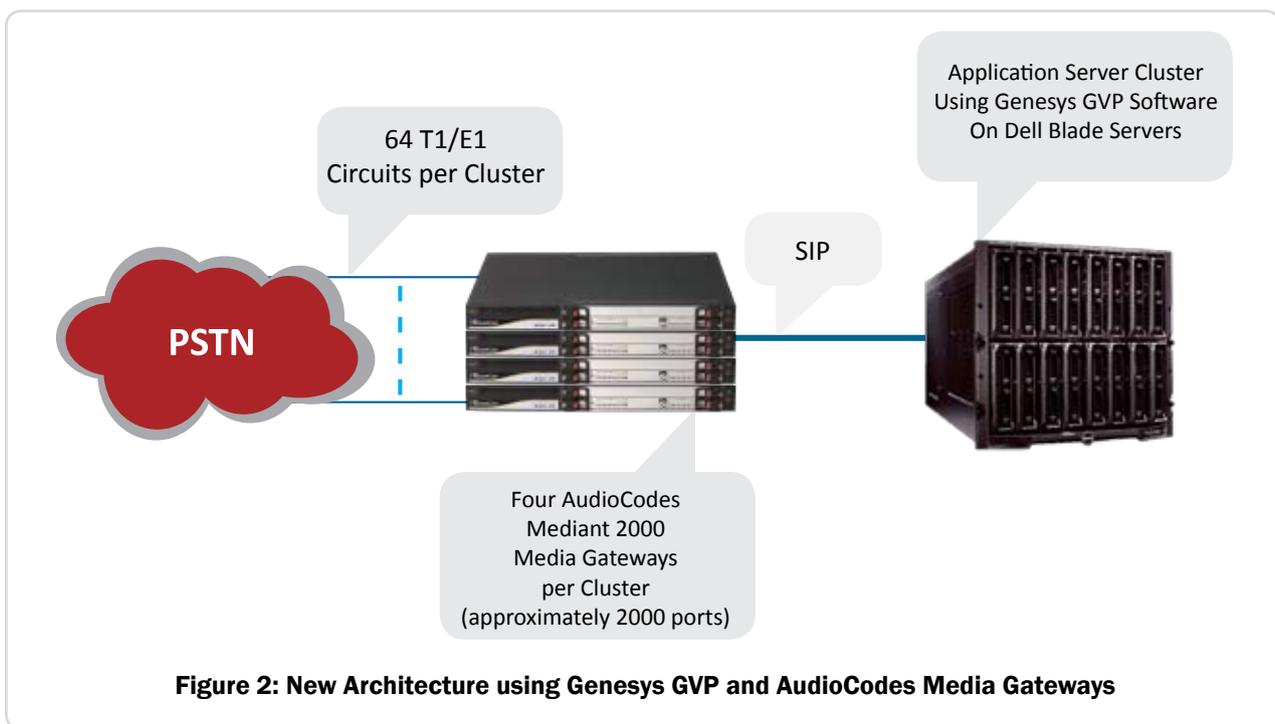

Application Server Cluster
Using Genesys GVP Software
On Dell Blade Servers

64 T1/E1
Circuits per Cluster

SIP

PSTN

Four AudioCodes
Mediant 2000
Media Gateways
per Cluster
(approximately 2000 ports)

Figure 2: New Architecture using Genesys GVP and AudioCodes Media Gateways

By separating the servers from the physical PSTN interfaces, this architecture allows far more of the server resources can be utilized without limitations caused by the TDM boards, effectively reducing the cost of server resources. Additional savings came from migrating to blade-architecture servers, made possible by the elimination of the full-size PCI TDM boards.

Further savings were made possible by using AudioCodes' Mediant 2000 Media gateways for PSTN connectivity, which cost significantly less than the legacy TDM boards.

Beyond cost savings, the distributed SIP architecture also improved reliability and reduced the risk from failures or maintenance.

An additional benefit of utilizing Genesys GVP for the application environment is the use of open-standards VoiceXML for application scripting and CCXML for greater call control features. With VoiceXML, Adeptra-developed applications were more web-compatible and easier to develop with a developer-friendly application creation environment.

"By migrating to a SIP architecture and AudioCodes Media Gateways, we achieved a 30% improvement in server utilization and over 50% reduction in the cost of system components while significantly improving system scalability and reliability",

Tony McGivern, Chief Technology Officer, Adeptra

AudioCodes Differentiators

Since the consumer notification application is primarily performing outbound dialing, a key requirement for Adeptra included the need for outbound call progress detection (CPD) and answering machine detection (AMD) on each and every call. CPD and AMD allow the application to identify which calls were answered, went to voicemail or were invalid; thus avoiding wasting valuable agent time.

The AudioCodes Mediant 2000 Media Gateway is unique in its **ability to perform both CPD and AMD in a SIP environment,** off-loading these processor-intensive detection algorithms from the application servers. Using special tags in the SIP messaging, the application is notified by the media gateway of either CPD or AMD events in the first few seconds of each outbound call.

Results

As a result of migrating to Genesys GVP and AudioCodes Mediant Media Gateways, Adeptra was able to:

- Improve their server utilization and reduce server costs by over 30%
- Reduce the cost per port of their network connectivity by almost 50%
- Improve scalability
- Improve reliability
- Reduce space requirements in the data centers
- Utilize industry-standard VoiceXML and CCXML

Adeptra currently operates six data centers in the United States (2), the United Kingdom (2), Sydney Australia (1) and Hong Kong (1), allowing Adeptra to service their unique global customer base.

Future

The future for Adeptra holds some new and interesting opportunities, including greater density and leveraging SIP Trunking. To handle the increased business and steady growth, Adeptra has initiated trials of the Mediant 3000 Media Gateway with integrated DS3 interfaces and increased capacity of 2016 ports. By migrating from T1/E1 circuits to DS3 interfaces, Adeptra will realize a significant reduction is cabling and allows for the elimination of an external multiplexer. Also, DS3 circuits and PRI signaling is more efficient when transferring calls to agents using Two B-Channel Call Transfers (TBCT).

Early trials by Adeptra have also tested select SIP Trunking service providers using an AudioCodes Mediant 3000 platform in an IP-to-IP configuration to perform protocol normalization and most importantly, call progress detection and answering machine detection.

The ability to leverage both TDM and SIP trunking will allow Adeptra to further reduce their telephony costs and provide a wider choice of carriers, allowing them to expand to additional markets and maintain their significant competitive edge.

The Mediant 2000

The Mediant 2000 VoIP Gateway is a member of AudioCodes' family of market-ready, standards-compliant, media gateway systems. The compact Mediant 2000 VoIP Gateway scales from 1 to 16 E1/T1/J1 spans in a 1U chassis and provides a best-of-breed mediation solution for enterprise as well as carrier locations. More information on the Mediant 2000 can be found at: http://www.audiocodes.com/products/mediant-2000

The Mediant 3000

The Mediant 3000 is a feature-rich, highly available VoIP gateway supporting low to medium channel densities. The Mediant 3000 compact footprint (2U) meets the needs of service providers with geographically dispersed networks, as well as those of large enterprises, where reliable and dense VoIP gateways are necessary for business-critical communications. The Mediant 3000 offers exceptional channel scalability of up to 2016 DSOs in a compact 19"-2U chassis, allowing it to be placed in small POPs and data centers. The Mediant 3000 supports high-density PSTN interfaces, such as T3, STM-1 and OC3 to provide the enterprise with lower PSTN lease costs. More information on the Mediant 3000 can be found at: http://www.audiocodes.com/products/mediant-3000

About AudioCodes

AudioCodes Ltd. (NasdaqGS: AUDC) designs, develops and sells advanced Voice over IP (VoIP) and converged VoIP and Data networking products and applications to Service Providers and Enterprises. AudioCodes is a VoIP technology leader focused on VoIP communications, applications and networking elements, and its products are deployed globally in Broadband, Mobile, Cable, and Enterprise networks. The company provides a range of innovative, cost-effective products including Media Gateways, Multi-Service Business Gateways, Residential Gateways, IP Phones, Media Servers, Session Border Controllers (SBC), Security Gateways and Value Added Applications. AudioCodes underlying technology, VoIPerfectHD™, relies primarily on AudioCodes leadership in DSP, voice coding and voice processing technologies. AudioCodes High Definition (HD) VoIP technologies and products provide enhanced intelligibility, and a better end user communication experience in emerging Voice networks.

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