AudioCodes

CASE STUDY

TDI Inc. Case Study

When Building a Media Gateway Solution, Purchasing Less Can Get You More

Effectively Migrating a PSTN based outbound Dialing Application to VoIP

Overview

Founded in 1983 and headquartered in Scottsdale, Arizona, TDI Inc. (TDI) offers a comprehensive and flexible technology platform that helps companies increase revenues and improve agent productivity. TDI's Liberation® product is a powerful predictive dialing and campaign management system with extensive reporting and easy to use agent scripting tools. Delivered though an innovative desktop interface, Liberation helps automate an organization's entire sales workflow processes and measure a company's performance against its established sales and service objectives, or KPIs. The Encore™ product is a full featured recording and quality monitoring system with both voice and screen recording. Encore's recordings, agent scorecards, and analytics help maximize the productivity of a contact center's workforce. By combining the Liberation and Encore products into one integrated suite, organizations can optimize agent performance and productivity, delivering increased sales and customer satisfaction.

Business Need

TDI customers, like many call centers today, rely on agents located in foreign offices who are bridged to the local office via a VoIP telephony network. To accommodate their clients, TDI has modified their product offerings to include a VoIP telephony interface. TDI's current solution relied on legacy hardware components to interface with the PSTN network. These components were used by the predicitive dialer for outbound dialing and monitoring of line conditions. A media gateway was then used to bridge each successful call to a live call agent via the VoIP network. This solution, though effective, relied on two separate hardware products - a legacy PSTN component and a feature poor, but costly, digital media gateway device. This solution also doubles the channel requirements of the legacy outdialing device, ultimately increasing the cost per channel of the final system.

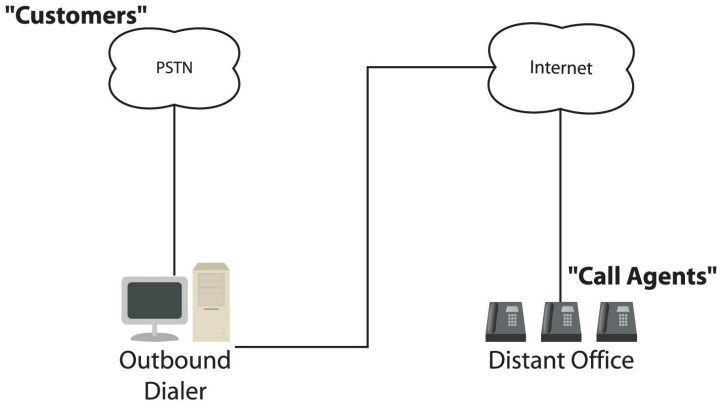
Solution

AudioCodes provided TDI, with an IPM260 - a PCI based digital media gateway with enhanced PSTN capabilities. Initially the IPM260 was added to the system and was used only as a media gateway. As application development continues, the IPM260 will eventually replace the legacy PSTN board to provide both outbound dialing and gateway functionality. The design of the IPM260 allows TDI, to maximize their product offerings while reducing upfront costs.

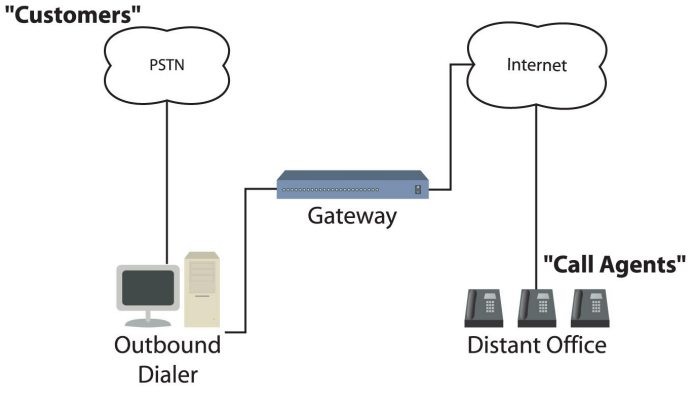
Problem Description

VoIP is here, and more companies are adopting this technology to take advantage of the associated cost savings. Companies who design or implement CTI applications are looking for ways to update their product offerings to support VoIP while maintaining functionality within legacy PSTN environments. The easiest and most common solution is to add a media gateway such as AudioCodes' Mediant 2000. This solution requires little application development as the current interface to the PSTN network, the customer facing network, does not change. The application must be redesigned to change the method of outbound dialing to call agents located in distant offices. Where this is the easiest solution to deploy in terms of application development, it greatly increases the final cost per channel of the system plus alters the original system design:

- The application requires two unique channel resources per each connected call. This doubles the number of channel resources required by the system
- Introducing a stand alone device increases the complexity of the design and maintenance of the system



Installing a PCI compatible media gateway preserves the original design of the outbound dialing system.



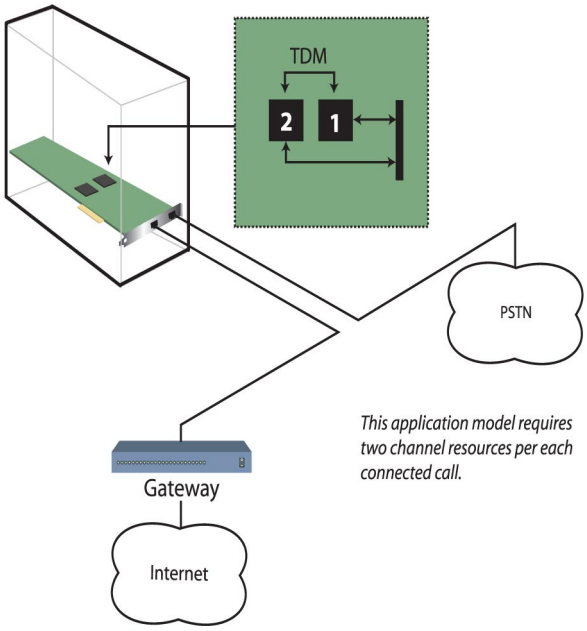
Many use a media gateway to bridge a PSTN environment to a VoIP network. This design, though easy to implement, greatly increases the overall cost per channel of the system.

Increased Channel Requirements

Most media gateways are designed as stand alone rack mountable devices with only trunk and network interfaces. Once configured, these gateways act remotely to provide routing and translation services between two telephony protocols. As a result, the inherent design of most media gateways does not include summation or TDM switching capabilities. To integrate with a media gateway, the application must use an extra channel resource on the PSTN board. This channel is the actual link that bridges the customer side to the call agent. As a result, per each connected call, two channel resources are required. The following illustration provides a visual example of this call flow:

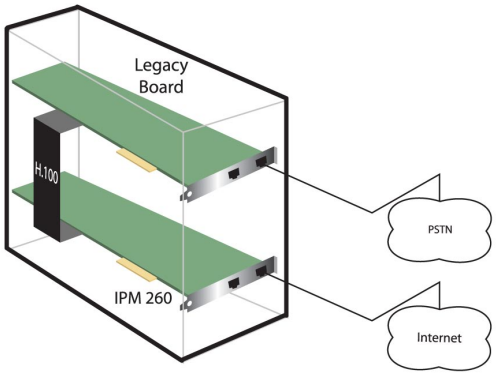
A single channel is used to place an outbound call to the customer via the PSTN network. Once connected, this call is passed over to another channel via the board's TDM bus. A second channel is used to make an outbound (PSTN) call to the media gateway. Here the call is translated to VoIP and finally connected to the call agent. When this application model is used, the number of channel resources required by the outbound dialer increases two-fold.

Though effective, it is now apparent that this solution dramatically increases the cost per channel of the outbound dialing solution. To support the same number of channels, more telephony boards are required per each installation. Installation procedures, troubleshooting, and maintenance of this system also require individuals who understand and can manage gateway devices. Despite these shortcomings, most call center applications are surprisingly still deployed in this manner. Procuring a gateway that is PCI compatible and offers full H.100 support eliminates these issues. Products, such as the IPM260, are designed with complete ISDN signaling stacks plus call progress tone analysis, DTMF detection as well as human/answering machine pattern detection. Play file capabilities round out the front end feature set of this product line assuring that this board can eventually be used to replace the existing legacy product.



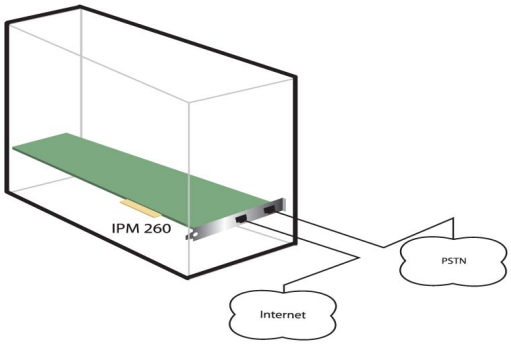
A Gateway or a Telephony Board?

The IPM260, designed with AudioCodes' gateway technologies, is a PCI board that can be installed in the same host system running the outbound dialing application. Supporting a standard H.100 bus, the IPM260 directly connects to the legacy outbound dialer. Calls originating on the PSTN board are passed over the H.100 bus to a channel resource on the IPM260,which gateways this call to the distant office on the VoIP network. This solution does not require extra channel resources from the outbound dialing board. Overall, this design greatly improves the value of the outbound dialing system by offering the following advantages:



- **Reduced cost** - channel density on the legacy board is preserved
- **Easier installation** - all telephony boards are housed in a single host computer
- **Little application development** - the application is only modified when the customer is bridged to a channel on the media gateway

Though the first design immediately reduces the overall cost and simplifies deployment, TDI, is moving forward with another phase of application development to enhance their products. The IPM260 is designed with full PSTN stacks, Call Progress Monitoring with advanced answering machine, voice, and fax detectors. Plus a conference bridge allows designers to build a system with whisper coach capabilities. Combine this with play file capabilities and a full featured PSTN/VoIP outbound dialing, an application can be created with a single PCI board. Moving forward, TDI has recognized a product that helps them meet their current market needs today, plus enables them to move towards a better and more cost effective product offering in the future.



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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