

SIP-Based Solutions in the Contact Center: Using Dialogic® Media Gateways with the Genesys Voice Platform

Technology Brief

To stay competitive and keep their customers happy and loyal, companies are working hard to enhance customer service as cost-effectively as possible. Contact centers have traditionally been a primary focus for customer interaction, along with self-service solutions, such as interactive voice response (IVR) systems. IVRs can provide a very efficient way to deliver responsive customer care with fewer agents and lower toll charges, while pleasing customers, who can often access the information they need quickly and avoid a long wait in a service queue.

At the same time, the adoption of IP telephony solutions and the convergence of voice and data networks have proven to be very cost-effective. Bringing these additional efficiencies to the contact center promises compelling cost savings. One challenge to overcome is integrating the IP solution with existing equipment since businesses often have legacy TDM infrastructures and must accept calls originating on the PSTN.

This technology brief discusses two integration scenarios using the Genesys Voice Platform (specifically Genesys Voice Platform Software Release 8.1), a SIP-based IP contact center solution, and either a gateway from the Dialogic® 2000 Media Gateway Series (DMG2000 Gateways) or a Dialogic® Integrated Media Gateway (IMG Gateway). These integration scenarios enable:

- Interoperability with open standards such as VoiceXML, CCXML, and SIP
- Deployment flexibility in TDM, IP, and hybrid environments
- On-premise or in-network deployment architectures
- A wide variety of choices when adding speech technologies

The DMG2000 Gateways are available in several models, while two IMG Gateways are available (the Dialogic® IMG 1010 Integrated Media Gateway and the Dialogic® IMG 1004 Integrated Media Gateway).

Components in the Integration Scenarios

This section introduces the components in the integrated contact center solution scenarios: the Genesys Voice Platform, the Dialogic® 2000 Media Gateway Series, and the IMG Gateways.

Genesys Voice Platform

Below is a concise summary of the Genesys Voice Platform and its benefits, as provided by Genesys Telecommunications Laboratories, an Alcatel-Lucent company, on its website at http://www.genesyslab.com/products/genesys_voice_platform.

Genesys Voice Platform is a software only, standards-based (or open standards) voice portal that enables businesses to provide cost-effective customer interactions 24x7. Genesys Voice Platform moves self-service beyond traditional Interactive Voice Response (IVR), providing touchtone access to applications and incorporating speech recognition technology for conversational exchange to identify and resolve customer requests. Genesys Voice Platform is tightly integrated with the Genesys Customer Interaction Management Platform to provide a caller experience in which routine caller requests are handled through the self-service option and complex calls are routed to the best available skilled agent.

Advantages:

- Provides a voice platform solution focused on the total customer experience, rather than just the caller experience in the IVR
- Seamlessly integrates self-service applications and agent-assisted transactions to align service with customer values and needs, reduce costs, and enable end-to-end reporting

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- Provides a secure, flexible voice platform that can be deployed in TDM, IP, or hybrid environments, architected for enterprises and service providers
- Offers a future-proof investment with no need to rewrite applications as your infrastructure evolves
- Integrates with off-the-shelf hardware and software to leverage and protect previous technology investments
- Maximizes ROI by reducing costs for telephony, transport, and equipment that can be centrally deployed and administered

Dialogic® 2000 Media Gateway Series

The Dialogic® 2000 Media Gateway Series (DMG2000 Gateways) is a set of turnkey appliances that seamlessly merge traditional PSTN and PBX technology with IP networks and VoIP applications based on SIP. These economical gateways help consolidate typically separate voice and data networks in order to enable new and differentiated communications services, such as IP contact centers. Without making radical, disruptive, and expensive upgrades to existing PBX equipment, DMG2000 Gateways can bring the advantages of a converged voice and data network to an organization with a legacy or hybrid infrastructure.

DMG2000 Gateways can be installed and configured “plug and play,” reducing total cost of ownership. Operations, administration, and maintenance (OA&M) features are enabled through a user-friendly web interface, making installation and maintenance quick and easy.

Dialogic® Integrated Media Gateways

The Dialogic® Integrated Media Gateways are carrier-ready VoIP gateways that support both media and signaling in a single chassis. They allow service providers and medium-to-large enterprises to add new telephony services quickly, and offer a clear migration path to an all-IP network.

The IMG Gateways can integrate with a variety of IP PBXs to enable connectivity between IP-based applications, such as IP contact centers, and a wide variety of TDM or SIP/H.323 trunks in the PSTN. The “any-to-any” network connectivity of the IMG Gateways enables connection between SIP applications and other protocols, which include SS7, ISDN PRI, CAS/R2, H.323, and SIGTRAN M3UA. The IMG Gateway’s compact 1U chassis allows expansion via license upgrades from 3 E1 or 4 T1 up to 16 T1 or E1 lines, and additional expansion via a VoIP module up to 24 E1 or 32 T1 lines. DS3 IO connectivity is also available.

Gateway Integration Feature Summary

Since many legacy PBX and contact center systems do not support SIP and VoIP natively, either a DMG2000 Gateway or an IMG Gateway can be used to integrate SIP-based applications into a variety of complex legacy environments because they offer the following features:

- TDM to RTP conversion, which translates traditional TDM circuit-switched voice channels into packet RTP media streams
- TDM-to-SIP protocol conversion, which translates the following into SIP signaling: Primary Rate ISDN (T1 or E1); SS7, T1-CAS, and E1-CAS/R2 (IMG Gateways only); and QSIG (DMG2000 Gateways only)
- SIP-to-SIP mediation
- Any-to-any signaling, including SS7/SIGTRAN M3UA conversion to SIP (IMG 1010 only)
- 24 to 120 TDM channels to SIP sessions in per 1U shelf (DMG2000 Gateways only) and 96 to 768 TDM channels to SIP sessions per 1U shelf (IMG 1010 only)
- Conversion of voice, tones, or fax from circuit-based representation into SIP/RTP for integration with the Genesys Voice Platform
- Routing options providing the flexibility to prioritize connection to the PSTN through IP or TDM networks, based on criteria such as Time of Day

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By consolidating signaling and media transcoding in a single 1U gateway platform, DMG2000 Gateways and IMG Gateways can reduce capital and operating expenses and offer easy expandability via licensing.

Gateway Selection Criteria

When planning a deployment of the Genesys Voice Platform, some criteria to consider when selecting a gateway are:

- **System Density** — For system densities up to 120 channels, a DMG2000 Gateway is a good candidate; for higher densities, the IMG 1010 is more suitable.
- **Direct PSTN Connectivity** — Either an IMG Gateway or a DMG2000 Gateway is appropriate for direct connection to PSTN services.
- **PBX Integration** — When PBX integration is required, a DMG2000 Gateway is normally preferable because Dialogic performs extensive interoperability testing between this product line and PBXs from leading manufacturers. Configuration guides are also available for this type of deployment.
- **TDM Protocol Requirements** — DMG2000 Gateways support QSIG; IMG Gateways support E1 CAS, R2MF, and SS7 ISUP.
- **Service Provider and Hosted Environments** — The IMG 1010 is a suitable choice because it supports higher densities than DMG2000 Gateways, has special features of interest to service providers, and provides integrated SS7 signaling.

Integration Scenarios

The scenario in Figure 1 shows an example of a contact center deployment with an Avaya 8500 Communications Manager. Calls coming into the contact center from the PSTN are routed through an Avaya PBX to a DMG2000 Gateway, and are then routed to the Genesys Voice Platform using SIP. An IVR system can initially handle the calls, after which they can be placed in a queue for live agents, if needed. Agents can receive calls through an Avaya Station Set or a SIP phone, and they can be working in the main office or at a branch office, or remotely in a home office. The Genesys Voice Platform controls the routing rules and call queuing and works with the DMG2000 Gateway to route calls seamlessly from TDM-to-SIP, or SIP-to-SIP. If a failure occurs, the DMG2000 Gateway can route calls TDM-to-TDM.

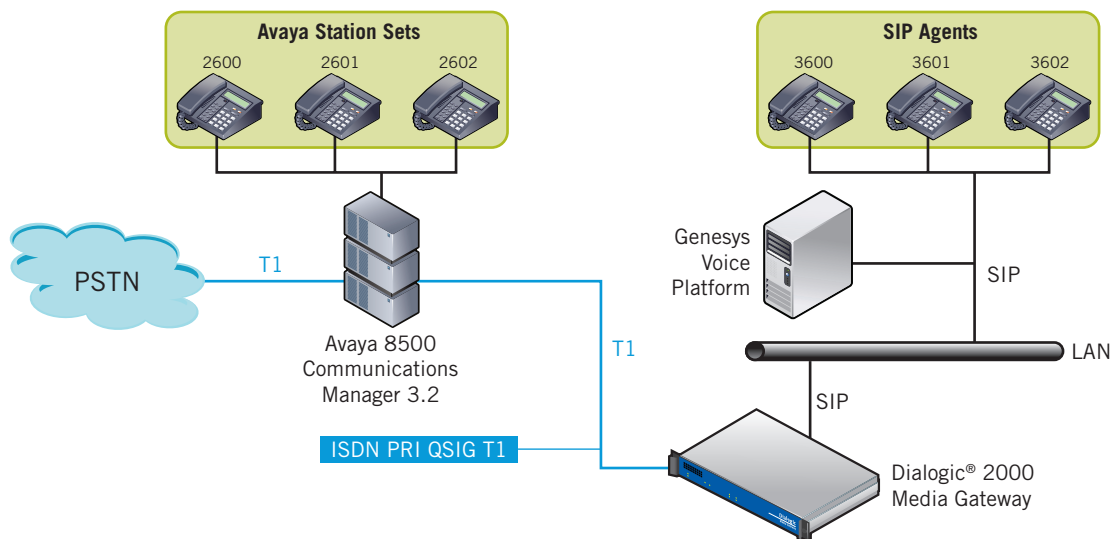


Figure 1. Scenario with Dialogic® 2000 Media Gateway

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Figure 2 shows a similar example in which an IMG 1010 is used for SIP routing to and from the Genesys Voice Platform, which it connects to the PSTN via a TDM protocol (SS7, ISDN PRI, or CAS can be used).

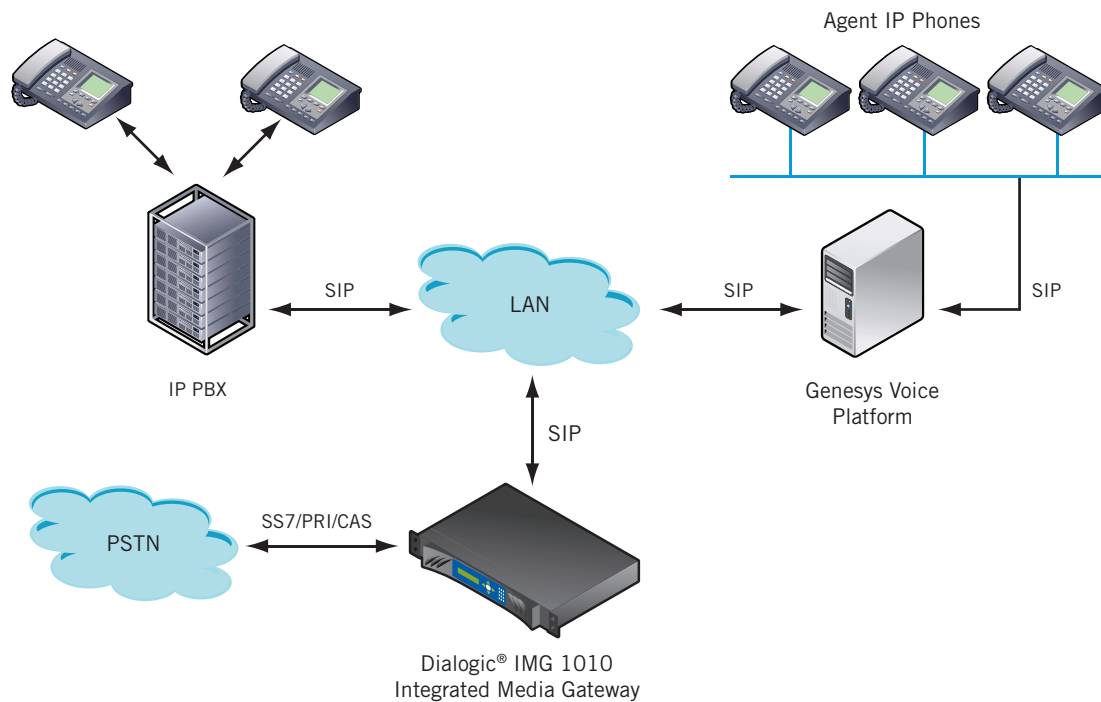


Figure 2. Scenario with Dialogic® IMG 1010 Integrated Media Gateway

For More Information

[Dialogic® 2000 Media Gateway Series](#)

[Dialogic® IMG 1010 Integrated Media Gateway](#)

[Dialogic® IMG 1004 Integrated Media Gateway](#)

[Genesys Voice Platform](#)



www.dialogic.com

Dialogic Inc.
1504 McCarthy Boulevard
Milpitas, California 95035-7405
USA

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