



An Oracle White Paper
July 2013

Enterprise Session Border Controllers in the Contact Center

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Introduction

Contact center managers are expanding the use of real-time Internet Protocol (IP) communications to meet evolving customer preferences and changing business requirements. Using real-time IP communications, contact centers can engage customers in multiple modes (voice, video, and chat) across a range of conventional and web-based channels (including social media, forums, blogs, and wikis).

Enterprise session border controllers (E-SBCs) enable contact centers to accelerate the adoption of real-time IP communications by removing common security, interoperability, and reliability barriers. E-SBCs are fundamental network infrastructure components that enable real-time voice, video, instant messaging, and Unified Communications (UC) to be extended across network boundaries. E-SBCs make it possible for enterprises to replace legacy time-division multiplexing (TDM) contact center networks with more-efficient Session Initiation Protocol (SIP)-based networks to reduce capital expenditures and operating expenses and to transform conventional brick-and-mortar call centers into virtual contact centers that incorporate remote agents and cloud-based services to increase productivity and improve business agility.

This white paper examines contact center business and technology trends and offers a blueprint for integrating Oracle Enterprise Session Border Controller into the new IP-enabled virtual contact center infrastructure.

Contact Center Technology Trends

Advances in technology and changes in consumer behavior are having a profound effect on the contact center. The Web and social media are transforming the way consumers communicate, prompting businesses to rethink customer interactions. At the same time, SIP and the internet are reshaping the way contact centers are constructed and staffed, enabling enterprises to eliminate costs, improve service agility, and extend customer reach. Traditional voice-centric public switched telephone network (PSTN)-oriented call centers are evolving into multimodal IP-oriented contact centers that deliver better user experiences while reducing expenses and improving productivity. Several developments are driving this transformation.

Contact Center Technology Trends

- Shifting customer preferences
- Proliferation of broadband internet
- Adoption of converged architectures
- Widespread adoption of SIP
- Business process outsourcing services

Shifting Customer Preferences

Smartphones, iPads, and the web have fundamentally altered the way individuals interact with businesses. Voice interactions are on the decline as businesses realize that a mix of media provides communications that are more efficient and tailored to the customer's information needs and communication preferences.

For example, a streaming video tutorial may help customers solve a common problem more efficiently than a traditional voice conversation with a live agent. By interleaving real-time agent communications with self-service resources and offering a range of communications media to customers, contact center planners and managers can boost customer satisfaction and operational efficiency.

Proliferation of Broadband Internet

The internet is transforming the way businesses staff contact centers and engage customers. Many enterprises are leveraging internet-based agents—part-time home workers or offshore agents—to supplement primary operations, provide around-the-clock coverage, and reduce expenses.

In addition, businesses are using the internet to market, sell, and support their goods and services. They are making contact center resources accessible via online customer communities and social networking sites such as Facebook. They are also adding click-to-chat or click-to-talk features to customer-facing websites and online ordering systems.

Adoption of Converged Architectures

Many businesses are migrating to end-to-end IP networks to reduce capital expenditures and operating expenses in the contact center. Although IP-based voice systems have been widely deployed in the contact center for quite some time, most contact center backbone networks are still TDM-based.

Many distributed contact centers still rely on the PSTN for site-to-site connectivity and pay costly “take-back-and-transfer” fees—millions per month in the largest operations—for site-to-site transfers. Businesses can eliminate these costs by moving to end-to-end IP architectures and carrying site-to-site traffic over private Multiprotocol Label Switching (MPLS) networks or SIP trunks. Many enterprises are realizing additional equipment and operations savings by consolidating IT and telecommunications assets into centralized data centers.

Widespread Adoption of SIP

SIP has emerged as the signaling protocol of choice for all forms of real-time IP communications—voice, video, and UC. The standards-based protocol is supported in a wide variety of IP private branch exchanges (PBXs) and UC servers, automatic call distributors (ACDs), interactive voice response (IVR) units, and endpoints. In addition, many service providers now offer cost-effective and flexible SIP-based services. These SIP-based solutions help enterprises reduce contact center equipment and operations expenses, eliminate vendor lock-in, and enjoy greater product choice.

Business Process Outsourcing Services

Cloud computing models have the potential to redefine business process outsourcing (BPO) for the contact center. Many enterprises are considering new cloud-based contact center services to supplement primary operations, limit new capital expenditures, and enable service elasticity. BPO services enable businesses to scale contact center capacity on demand to accommodate last-minute campaigns or seasonal traffic spikes.

Contact Center Objectives

- Deliver outstanding customer experiences
- Contain equipment and operations expenses
- Optimize contact center productivity
- Improve business agility

Contact Center Business Objectives

Keeping pace with advances in technology can be challenging in today’s difficult economic climate. Many contact center planners and managers are under considerable pressure to contain capital and operations expenses. Faced with flat or declining budgets and rapidly evolving business requirements, most contact center managers are trying to identify new ways to improve customer service and boost agent productivity while keeping expenses in check. Common contact center business objectives include the following:

- **Deliver outstanding customer experiences.** Maintaining customer satisfaction is the top business objective for many contact centers. To maximize customer satisfaction, contact center managers must deliver superior user experiences—ensuring high service quality for both PSTN and internet interactions, minimizing wait times and transfers, and maintaining high service availability.
- **Contain equipment and operations expenses.** CIOs and CFOs are asking contact center managers to do more with less in today’s challenging economic environment. Managers and planners

are exploring a variety of cost-cutting options, including using offshore or home-based agents to reduce staffing costs, implementing end-to-end IP networks to eliminate take-back-and-transfer fees, deploying SIP trunking services to reduce PSTN expenses, and leveraging cloud-based services to limit capital investments.

- **Optimize contact center productivity.** Budget-constrained contact center managers must identify new ways to eliminate inefficiencies and make better use of contact center resources. Many are looking to increase contact center productivity by intelligently distributing workloads across global resource pools, leveraging skills-based routing, or weaving interactive communications into CRM systems, help desk solutions, and sales force automation tools to streamline customer interactions.
- **Improve business agility.** To remain competitive in a global marketplace, enterprises must respond rapidly to abruptly changing business conditions. By creating virtual contact centers that combine conventional operations with outsourcing services and home-based and offshore agents, enterprises can adjust capacity and services on demand to meet rapidly evolving business requirements.

The New IP-Enabled Virtual Contact Center

New contact center models are emerging to address changing customer preferences and the new economic reality. Conventional brick-and-mortar call centers are giving way to IP-enabled virtual contact centers that incorporate remote agents and outsourced services to boost productivity, improve business agility, leverage SIP-based solutions to reduce capital and operating expenses, and use the internet and social networking to expand customer reach.

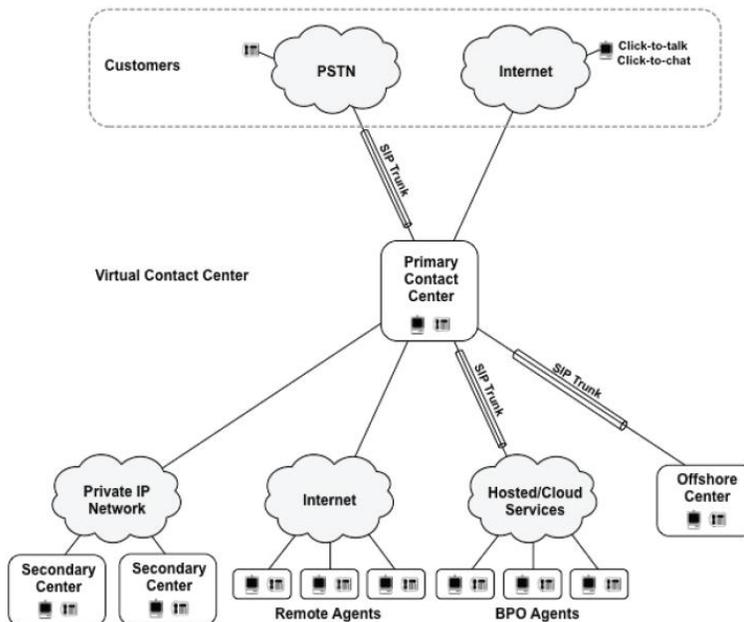


Figure 1. Virtual contact centers leverage offshore resources, home-based agents, and business process outsourcing services to improve business agility and reduce labor costs.

Eliminate IP Communications Barriers with Oracle Enterprise Session Border Controller

The network infrastructure on which the converged IP-based virtual contact center is built must deliver secure, interoperable, and reliable real-time communications services. Conventional IP networking products such as firewalls, routers, and gateways were not conceived with real-time IP communications in mind and leave contact center networks and IT assets vulnerable to a variety of session-layer security threats.

Likewise, IP traffic shapers, load balancers, bandwidth management solutions, and policy management systems were not designed to control SIP sessions or Real-time Transport Protocol (RTP) traffic and cannot guarantee high-quality user experiences.

In addition, implementers often encounter SIP interoperability issues in connecting multivendor communications solutions (UC servers, IP PBXs, endpoints), interfacing with service provider networks (SIP trunking services, hosted/cloud services), or incorporating internet-based agents. Product and service incompatibilities can hamper contact center modernization efforts and lead to deployment delays and budget overruns.

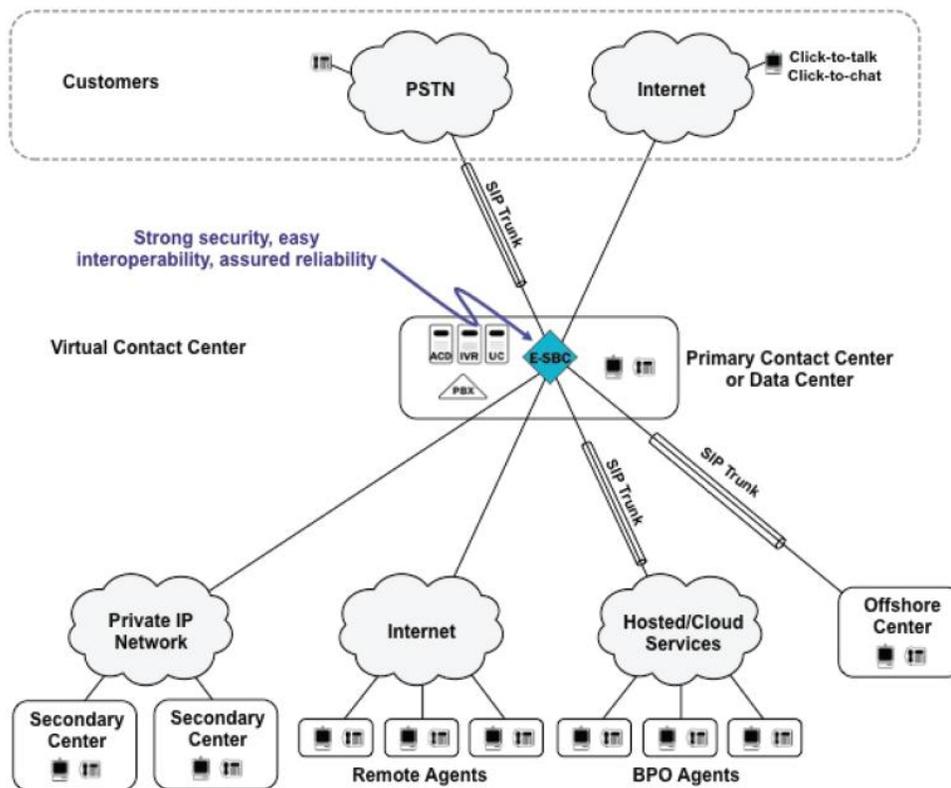


Figure 2. Oracle Enterprise Session Border Controller is deployed at contact center network borders to provide strong security, cure interoperability problems, and ensure reliable communications.

Leading contact center infrastructure manufacturers such as Avaya, Cisco, and Genesys strongly recommend that customers use E-SBCs when extending interactive communications across IP networks. Oracle Enterprise Session Border Controllers are designed to address the unique security, interoperability, and reliability challenges contact center planners encounter when delivering real-time, interactive communications over private IP networks, the internet, or SIP-based network services.

Oracle Enterprise Session Border Controller offers field-proven interoperability with a wide range of IP communications products and services in some of the world's largest contact center networks.

Businesses deploy Oracle Enterprise Session Border Controller at IP network borders to remove common interactive IP communications implementation barriers.

Key features include

- **Strong security.** Oracle Enterprise Session Border Controller protects IP contact center infrastructure, services, and applications, ensuring confidentiality, integrity, and availability. It prevents fraud and service theft and guards against attacks, system overloads, and other service-degrading events.
- **Easy interoperability.** Oracle Enterprise Session Border Controller provides comprehensive SIP normalization and repair features, protocol interworking functions, transcoding and transrating capabilities, and network address translation (NAT) and firewall traversal features to help remove interoperability and interworking barriers.
- **Assured reliability.** Oracle Enterprise Session Border Controller helps ensure PSTN-like availability and service quality for IP communications. It enforces service quality, balances loads across trunks, and reroutes sessions around interface failures to optimize performance and reliability.

Oracle Enterprise Session Border Controller also helps contact center planners make more-efficient use of network resources and ensure compliance with government regulations as they introduce new IP communications systems and modes.

- **Bandwidth optimization.** Oracle Enterprise Session Border Controller offers unique session replication capabilities that can be used to consolidate and centralize session recording solutions to reduce the impact of recording on the network. It also supports codec renegotiation and transcoding features (G.711 to G.729) so that businesses can make optimal use of wide area network (WAN) bandwidth while maintaining interoperability with IVR systems (which typically require G.711).
- **Regulatory compliance.** Advanced session replication features and rich security capabilities enable contact center managers to ensure continued compliance with session recording and privacy regulations as they implement interactive IP communications services.

Making the Virtual Contact Center a Reality

Oracle is making the vision of the IP-enabled virtual contact center a reality. By breaking down common security, interoperability, and reliability barriers, Oracle Enterprise Session Border Controller enables businesses to extend interactive communications across IP networks so they can expand customer reach, improve productivity, and reduce expenses. Oracle Enterprise Session Border Controller helps contact center planners and managers do the following:

- Eliminate expensive carrier take-back-and-transfer fees by redirecting calls over an extended IP network
- Reduce local, long-distance, and international calling costs by using SIP trunking services for PSTN connectivity
- Improve business agility and cut labor costs by incorporating offshore resources, home-based agents, and/or BPO services
- Reduce capital expenditures and operating expenses by consolidating telephony equipment and trunking facilities into a central location
- Enhance customer care and expand demographics by engaging customers in a variety of IP-based communications channels (including voice, live chat, and video)
- Increase customer satisfaction by ensuring high availability and service quality
- Accelerate contact center modernization initiatives by mitigating multivendor interoperability issues
- Improve agent productivity and customer satisfaction by integrating real-time communications into CRM, help desk, and sales force automation solutions and by intelligently routing calls according to presence and business rules

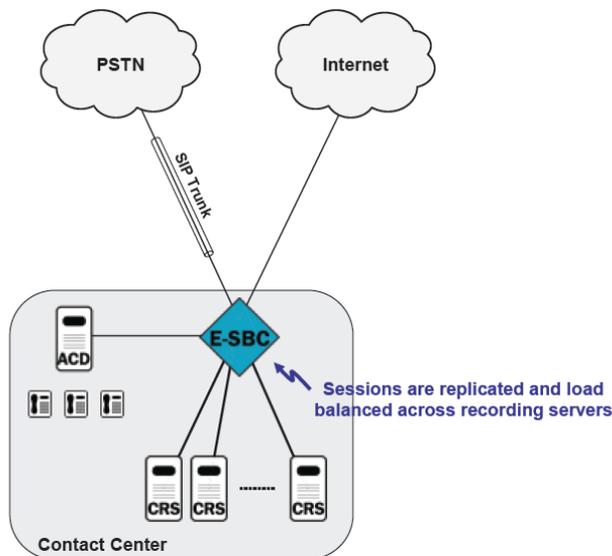


Figure 3. Load balancing automatically distributes sessions across multiple recording servers.

With Oracle session recording in Oracle Enterprise Session Border Controller, contact centers can capture customer interactions by forking signaling and media streams to IP session recorders in a manner transparent to the IP PBX/ACD infrastructure. By centralizing recording functions, enterprises can easily consolidate contact center session recording technology as well as simplify administration and management.

Oracle Enterprise Session Border Controller supports the Internet Engineering Task Force (IETF) Session Recording Protocol (SIPREC) draft specification, which defines an open SIP-based protocol for interaction with a range of session (media) recorders, including Oracle Communications Interactive Session Recorder.

Leveraging SIPREC, Oracle Enterprise Session Border Controller enables the following advanced contact center recording capabilities:

- Load balancing automatically distributes sessions across multiple recording servers for optimal utilization and scale.
- Interlock between session recorders and E-SBC call admission control ensures that sessions are admitted only when recording capacity is available.
- High-availability features protect signaling and media forking in the event of an E-SBC or recording server failure.
- Oracle Enterprise Session Border Controller connects directly to session recorders, bypassing gateways that can reduce media quality and analytics accuracy.

Conclusion

Contact center managers are under tremendous pressure to improve customer satisfaction, increase agent productivity, and cut costs in today's competitive business environment. Oracle Enterprise Session Border Controller can serve as the cornerstone of an IP-based communications infrastructure that enables huge advances in contact center efficiency and the delivery of innovative new customer services. By taking advantage of Oracle Enterprise Session Border Controller, enterprises can enjoy all the functional and financial benefits of an end-to-end IP communications environment while maintaining PSTN-like reliability and security.



Oracle Enterprise Session Border Controllers
In the Contact Center

July 2013

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