

IP contact center solutions

application note

Enabling new generation contact centers with IP communications

Enterprises are replacing legacy call center network services based on costly and inflexible TDM technology with end-to-end IP networks and enabling a new generation of contact center services that increase the quality of customer interaction while improving efficiency. Conventional brick and mortar call centers are becoming virtual contact centers that leverage home workers, remote office agents, and field professionals, and use interactive voice, video and data communications to enhance customer service, boost agent productivity and improve business agility. By converging communications onto a common IP infrastructure, businesses can reduce equipment and operations expenses.

To enable the new generation contact center, enterprises must take steps to ensure their communications are secure, networks interoperate with wide-area IP services, and customers experience reliable services. Acme Packet Enterprise Session Border Controllers (E-SBCs) are specifically designed to deliver:

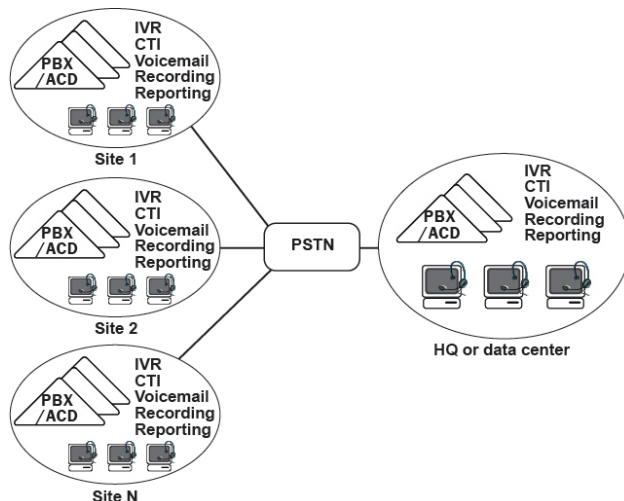
- **Strong security** by safeguarding user confidentiality and privacy
- **Easy interoperability** by mitigating multi-vendor, multi-protocol interoperability issues
- **Assured reliability** by enforcing service quality and enabling high availability services

Acme Packet offers a complete portfolio of solutions that enable end-to-end interactive communications across IP network borders. Acme Packet E-SBCs help enterprises realize the value of interactive communications – voice, video and multimedia – across IP contact center networks. They support a wide variety of contact center applications across any industry or market segment.

Conventional call center networks are costly and inefficient

While many businesses are already using IP telephony systems in the call center, most still rely on the costly and inefficient PSTN for site-to-site connectivity. Each call center site acts as an autonomous, independently managed island with its own telephony systems and PSTN trunks. Organizations are burdened by expensive “take back and transfer” fees – millions of dollars per month in the largest call centers - as calls are transferred from site-to-site across the telco infrastructure.

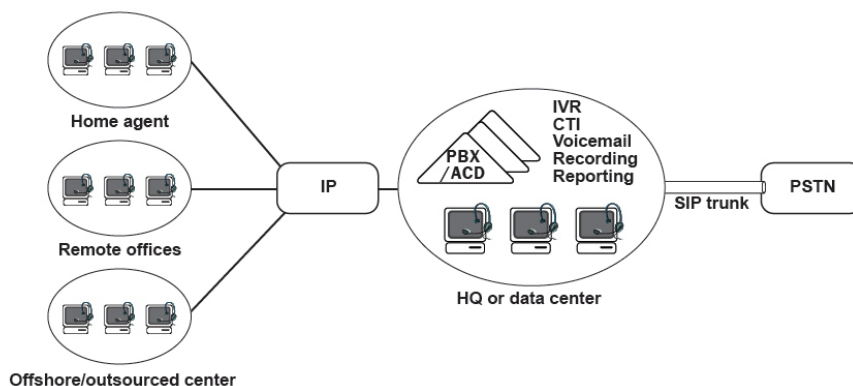
Furthermore, since legacy telephony networks weren't designed to support Internet users or Unified Communications, businesses must implement separate data networks to support Customer Relationship Management (CRM), Sales Force Automation (SFA), and help desk applications that carry live chat, screen-sharing or interactive video traffic.



Conventional call center networks are costly and inefficient

IP contact center networks reduce cost and streamline operations

Enterprises can overcome legacy TDM infrastructure limitations by implementing more efficient and cost-effective IP contact center networks that combine interactive communications and data onto a common WAN infrastructure. With an IP contact center architecture, telephony systems (PBXs, ACDs, IVRs, etc) are consolidated into a central data center or main office location (or two locations for disaster recovery), and remote sites and agents connect to the data center over a private IP network or through the public Internet.



IP contact center networks reduce cost and streamline operations by centralizing and consolidating network infrastructure

IP contact center networks provide a number of advantages over traditional TDM architectures. With an IP contact center businesses can:

- Reduce CAPEX and OPEX by consolidating telephony equipment and trunking facilities into a central location
- Eliminate expensive carrier “take back and transfer” fees by redirecting calls over the IP network
- Reduce local, long distance and international calling costs by using SIP trunking services for PSTN origination and termination
- Extend the contact center to home-based agents, mobile professionals and satellite offices
- Reduce labor costs and increase agility by utilizing offshore or outsourced resources for overflow
- Enhance customer care by engaging clients in a variety of mediums – voice, live chat, video and screen-sharing
- Improve agent productivity and customer satisfaction by integrating interactive communications into business processes and CRM and SFA solutions and by intelligently routing calls based on presence and business rules

SIP – the foundation of the IP contact center

The Session Initiation Protocol (SIP) is the cornerstone of the IP contact center network. A standards-based signaling protocol for controlling interactive communications sessions over IP networks, SIP is supported in a wide variety of telephony systems (IP-PBXs, ACDs, and IVRs) and endpoints (desk phones, soft-phone applications, UC clients). In addition, many service providers now offer cost-effective SIP trunking services for PSTN access. Unlike PSTN trunks which can take weeks to provision, SIP trunks can be provisioned on-the-fly so contact centers can adjust capacity quickly to support last-minute campaigns or meet seasonal business demands.

Conventional IP networking solutions weren't conceived with interactive IP communications sessions in mind. Security products leave the enterprise vulnerable to a variety of session layer security threats. IP traffic shapers, load balancers, bandwidth management solutions and policy management systems weren't designed to control interactive voice or video sessions, and can't guarantee high quality rich media experiences. Routers, firewalls and application layer gateways can't resolve the multi-vendor interoperability and multi-protocol interworking issues businesses must overcome when extending IP communications across the enterprise.

Protect and control contact center IP networks

Leading contact center infrastructure vendors including Avaya, Cisco, and Genesys recommend E-SBCs to protect and control connections across IP network borders. Acme Packet is a leading provider of E-SBCs with a complete portfolio of solutions that mitigate multi-vendor, multi-protocol interoperability issues, safeguard caller confidentiality and privacy, and ensure service quality and integrity in IP communications networks. Acme Packet E-SBCs are specifically designed for IP contact center networks.

Acme Packet E-SBCs protect and control IP network borders. Key features and functions include:

Feature	Function
Security	
<ul style="list-style-type: none"> Granular access control 	<ul style="list-style-type: none"> Prevent fraud and service theft
<ul style="list-style-type: none"> IP address and SIP signaling concealment 	<ul style="list-style-type: none"> Safeguard privacy and confidentiality
<ul style="list-style-type: none"> Layer 3-5 topology hiding and signaling overload controls 	<ul style="list-style-type: none"> Prevent reconnaissance scans and DoS/DDoS attacks
<ul style="list-style-type: none"> IP telephony spam protection 	<ul style="list-style-type: none"> Mitigate nuisance calls
<ul style="list-style-type: none"> Stateful deep packet inspection 	<ul style="list-style-type: none"> Remove malicious viruses and worms from SIP messages
<ul style="list-style-type: none"> Signaling and media encryption 	<ul style="list-style-type: none"> Prevent eavesdropping, hijacking and impersonation
Interoperability	
<ul style="list-style-type: none"> SIP message normalization Response code translation SDP and DTMF manipulation Number and URI manipulation Signaling message header manipulation 	<ul style="list-style-type: none"> Resolve multi-vendor interoperability issues
<ul style="list-style-type: none"> Signaling interworking (SIP, H.323) Transport interworking (TCP, UDP, SCTP) Encryption interworking (TLS, MTLS, SRTP, IPsec) NAT and firewall traversal IP address translation – private/public, IPv4/IPv6 Transcoding 	<ul style="list-style-type: none"> Interconnect autonomous IP telephony islands Implement enterprise-wide IP communications networks
Reliability	
<ul style="list-style-type: none"> Stateful signaling & media failover 	<ul style="list-style-type: none"> Enable high availability
<ul style="list-style-type: none"> QoS marking, VLAN mapping, access control 	<ul style="list-style-type: none"> Guarantee service quality
<ul style="list-style-type: none"> Registration storm avoidance Call rate limit enforcement 	<ul style="list-style-type: none"> Prevent network and system overload
<ul style="list-style-type: none"> Trunk load balancing 	<ul style="list-style-type: none"> Optimize performance
<ul style="list-style-type: none"> Stateful session routing 	<ul style="list-style-type: none"> Circumvent equipment and facility failures

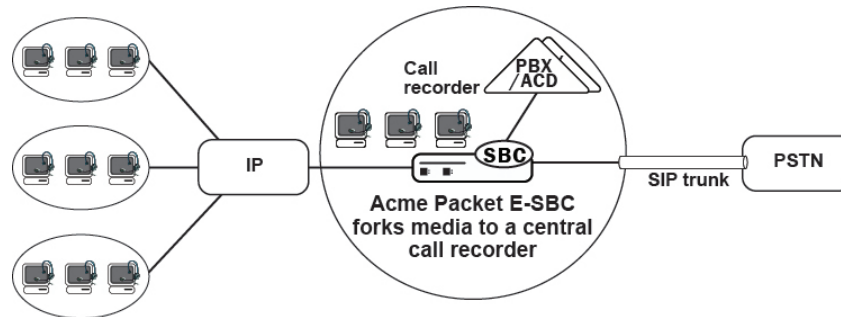
Acme Packet E-SBCs also help enterprises contain voice transport costs plus overcome the unique regulatory compliance challenges associated with IP telephony.

Feature	Function
Cost management	
<ul style="list-style-type: none"> Rich session control 	<ul style="list-style-type: none"> Route calls across trunks and service providers (least cost routing)
<ul style="list-style-type: none"> Codec renegotiation 	<ul style="list-style-type: none"> Minimize bandwidth consumption
Regulatory compliance	
<ul style="list-style-type: none"> Media forking 	<ul style="list-style-type: none"> Centralize and consolidate call recording solutions Minimize impact of call recording on the network
<ul style="list-style-type: none"> Signaling and media encryption 	<ul style="list-style-type: none"> Guarantee caller privacy and confidentiality

Simplify call recording and reduce costs

IVR and call recording solutions can pose unique challenges for IP contact centers. Many legacy IVR systems support only bandwidth-intensive G.711 codecs. When a caller is connected to the IVR system, the call is established using G.711. Acme Packet reduces the impact of legacy IVR systems on the network by renegotiating to a more bandwidth-efficient G.729 codec when calls are redirected from the IVR system to an agent. Codec renegotiation frees up WAN bandwidth and saves money.

Many contact centers record telephone calls for regulatory, quality management or training purposes. Conventional IP call recording solutions capture calls on the “station-side” by mirroring calls to a PBX/ACD port. Acme Packet supports “trunk side” media forking, so businesses can centralize and consolidate call recording solutions and free up expensive PBX/ACD ports.



Acme Packet E-SBCs reduce costs and simplify operations by centralizing call recording on the trunk side of the PBX/ACD



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