

Interactive IP video applications

application note

Net-Net SBCs mitigate complex IP video communications issues

Delivering interactive video services and applications across private and public IP networks can be a challenge for enterprises and services providers. Acme Packet Net-Net session border controllers (SBCs) are specifically designed to address the unique security, quality, reliability and interoperability issues often encountered when delivering interactive video communications across IP networks. Net-Net SBCs protect video-enabled services and applications, as well as the networks and infrastructure that support them. They resolve multi-vendor interoperability issues, interworking disparate video equipment and technologies, and extending video services across network borders. They also optimize service availability and assure high end-user quality of experience (QoE). Key features and functions include:

- **Strong security:** Acme Packet SBCs protect IP communications infrastructure, services and applications, ensuring the confidentiality, integrity and availability of interactive video communications sessions and services. The solutions provide privacy and guard against DoS/DDoS attacks as well as system overloads and other service-impacting events.
- **Assured quality and reliability:** Acme Packet SBCs enable high availability and optimal service quality for IP video sessions. The solutions provide QoS marking and granular traffic control features to enforce service levels, optimize end-user QoE, distribute loads across SIP trunks to balance performance, and reroute sessions around interface failures to circumvent equipment and facility problems.
- **Easy interoperability:** Acme Packet SBCs provide extensive signaling and media control features to mitigate multi-vendor interoperability and multi-protocol interworking issues. They help service providers and enterprises avoid vendor lock-in and preserve and extend existing IT assets as they implement new video technologies and services.

Acme Packet SBCs are compatible with a wide range of interactive IP video solutions. The company has performed extensive interoperability testing with a number of IP video solutions from leading vendors such as Alcatel-Lucent, Avaya, Cisco TANDBERG, LifeSize®, Polycom®, RADVISION® and Vidyó™.

Acme Packet SBC advantages

For Enterprises

- Extend IP video across the enterprise
- Interwork diverse conferencing solutions and UC platforms
- Reach business partners, mobile users and SOHO workers
- Optimize end-user QoE
- Safeguard network infrastructure
- Preserve and extend previous investments
- Avoid vendor lock-in

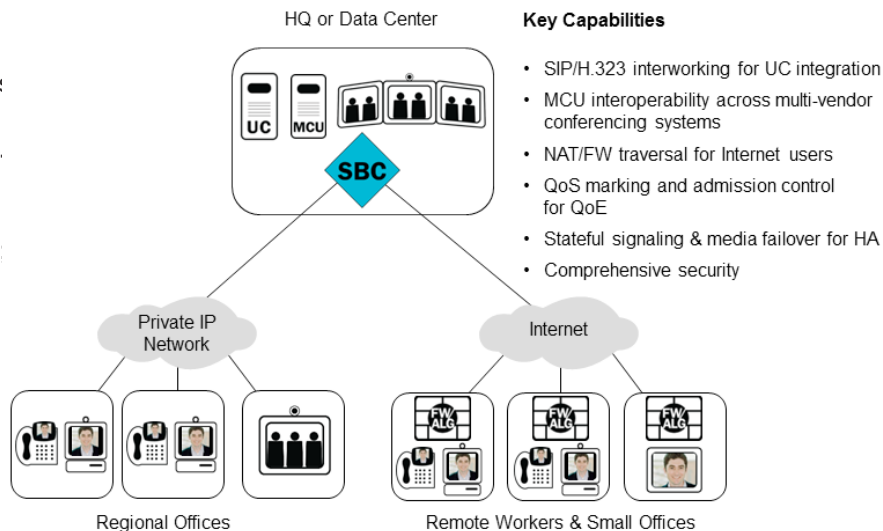
For Service Providers

- Deliver a wide range of hosted video services
- Boost revenues and margins
- Accelerate service deployment
- Execute service level agreements
- Protect network infrastructure
- Interconnect to other providers

Acme Packet Net-Net SBCs for enterprise interactive IP video applications

Acme Packet SBCs enable a wide variety of enterprise IP video applications, including:

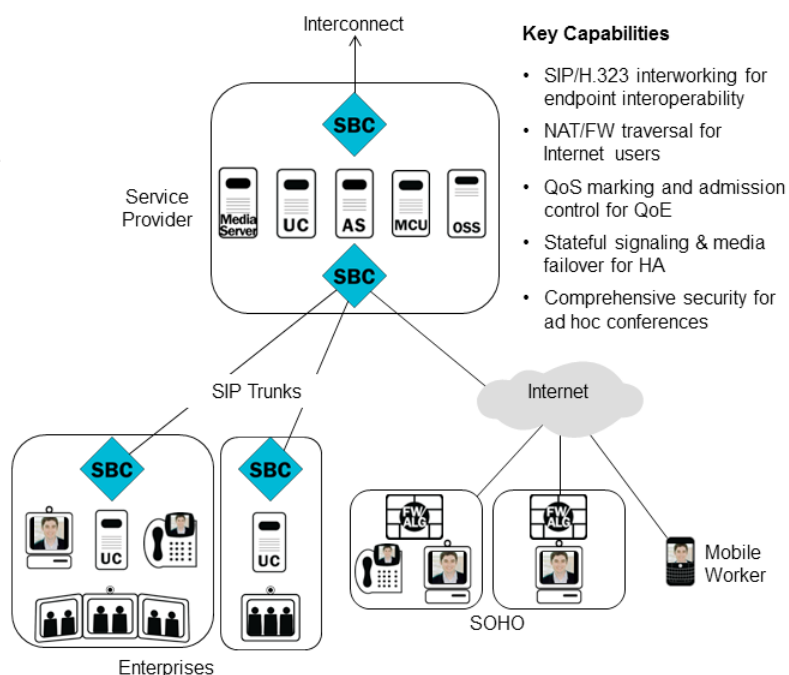
- **Desktop video conferencing:** enable instant collaboration and multi-modal communications between colleagues; connect individual with room-based video conferencing systems
- **Video conferencing and unified communications (UC) integration:** integrate video conferencing and telepresence with messaging, presence, scheduling and other UC functions protect and extend previous investments while adopting the latest video innovations and technologies
- **Enterprise-wide video conferencing:** tie together diverse conferencing solutions; transform siloed video conferencing implementations into unified conferencing environments
- **Telepresence:** enable cutting-edge solutions such as telemedicine, telesurgery, distance learning, or telerobotics that require high definition audio and video endpoints to provide end users with “immersive” aural and visual experiences
- **Video-enabled contact centers:** ease the integration of voice and video communications to enhance customer interactions; boost sales, customer service and customer satisfaction
- **B2B, mobile workers and SOHO:** securely connect mobile workers, business partners, teleworkers and small offices via the Internet or private WAN connections to improve collaboration and productivity
- **Hosted interactive video services:** facilitate connectivity with cloud-based or hosted services offerings to reduce CAPEX and OPEX



Acme Packet Net-Net SBCs for service provider interactive IP video applications

Acme Packet SBCs enable a variety of high margin, differentiated video services, including:

- **Hosted/cloud-based video conferencing and telepresence:** enable SD and HD video conference bridging services for intra-company use; support a wide range of endpoints
- **B2B federation:** interconnect enterprises and reduce complexity of direct B2B communications; enhance SIP trunks to carry not only voice but video and unified communications
- **On-demand Web conferencing:** integrate ad hoc embedded interactive video with scheduled webcasts, webinars and on-line events; offer differentiated services to boost revenues and extend margins
- **VoIP and UC integration:** add video conferencing capabilities to hosted VoIP and UC service offerings; extend video collaboration services to mobile users and SOHO workers
- **Video calling services:** enable next generation, standards-based, high-margin interactive video services for mobile service providers that attract new subscribers, reduce churn and enhance customer relationships; protect, extend and monetize network infrastructure investments



Net-Net SBC interactive IP video features and benefits

Function/Feature	Benefits
Security	
<ul style="list-style-type: none"> Granular, dynamic access control 	<ul style="list-style-type: none"> Ensure video end-points do not exceed allocated bandwidth or other usage parameters Prevent unauthorized or non-compliant endpoints from using conferencing facilities and/or services
<ul style="list-style-type: none"> Layer 3-5 topology hiding 	<ul style="list-style-type: none"> Preempt DoS/DDoS or other multi-phased attacks against video or associated infrastructure Enable interactive video sessions between trusted parties while safeguarding private network information
<ul style="list-style-type: none"> Signaling overload prevention 	<ul style="list-style-type: none"> Prevent outages to mission-critical video infrastructure, services and applications Ensure availability of related infrastructure, services and applications such as UC servers and IP PBXs
<ul style="list-style-type: none"> Protocol enforcement 	<ul style="list-style-type: none"> Block messages and flows that don't comply with video-related security and usage policies Deny endpoints that threaten service and application availability with use of non-standard protocols
<ul style="list-style-type: none"> Signaling and media encryption 	<ul style="list-style-type: none"> Prevent eavesdropping or hijacking of video sessions Prevent video caller spoofing Deny multi-phased attacks by encrypting information that could be leveraged by hackers
Quality and reliability	
<ul style="list-style-type: none"> Stateful signaling and media failover 	<ul style="list-style-type: none"> No loss of active video sessions due to equipment or IP connectivity failure
<ul style="list-style-type: none"> QoS marking for signaling and media 	<ul style="list-style-type: none"> Ensure high quality communications through prioritization of real-time multimedia traffic Guarantee transport path quality to optimize quality of experience
<ul style="list-style-type: none"> QoS-based routing 	<ul style="list-style-type: none"> Maintain consistently high quality by rerouting over alternate path based on sub-optimal R-factor results
<ul style="list-style-type: none"> Bandwidth-based admission control 	<ul style="list-style-type: none"> Comply with bandwidth policies by controlling bit rates and policing individual video sessions
<ul style="list-style-type: none"> Session capacity and rate-based admission control 	<ul style="list-style-type: none"> Prevent network and system overloads by restricting the signaling message volume to MCUs or UC servers
<ul style="list-style-type: none"> Session-aware load balancing 	<ul style="list-style-type: none"> Assure quality and reliability by distributing session traffic to UC servers or MCUs over multiple paths
<ul style="list-style-type: none"> Alternate route selection 	<ul style="list-style-type: none"> Assure high reliability by dynamically re-routing sessions around equipment and trunk failures
Interoperability	
<ul style="list-style-type: none"> SIP message header and SDP manipulation 	<ul style="list-style-type: none"> Quickly resolve interoperability issues and normalize multi-vendor SIP signaling
<ul style="list-style-type: none"> Video codec re-ordering 	<ul style="list-style-type: none"> Reduce session setup time and optimize bandwidth usage for multimedia sessions
<ul style="list-style-type: none"> Signaling protocol interworking 	<ul style="list-style-type: none"> Interconnect legacy H.323 with SIP-based videoconferencing infrastructure
<ul style="list-style-type: none"> Transport layer protocol interworking 	<ul style="list-style-type: none"> Interwork between endpoints and devices using different transport layer protocols such as TCP vs. UDP
<ul style="list-style-type: none"> Security interworking 	<ul style="list-style-type: none"> Flexibly interwork endpoints using encryption for signaling and/or media with non-encrypted endpoints Interwork endpoints using different encryption protocols (IPsec, SIP/TLS, SRTP, etc.)
<ul style="list-style-type: none"> IPv4-IPv6 interworking 	<ul style="list-style-type: none"> Seamlessly extend conferencing between endpoints and infrastructure that use different IP address versions without requiring changes to endpoints or infrastructure
Additional	
<ul style="list-style-type: none"> Firewall/NAT traversal, STUN server 	<ul style="list-style-type: none"> Traverse enterprise or SOHO firewalls securely Extend video services to users behind firewall
<ul style="list-style-type: none"> Intelligent media management 	<ul style="list-style-type: none"> Choose whether to control/monitor video-related media flows at the SBC or release media to improve quality and increase WAN bandwidth efficiency

Related Acme Packet solutions

Acme Packet offers a complete line of session delivery network solutions for video applications, including SBCs, session recorders and application session controllers.

- **Net-Net Interactive Session Recorder (ISR)** is the industry's most scalable and easy-to-deploy IP communications session recording solution. Specifically designed to overcome the unique challenges associated with capturing, securing and managing interactive session recordings in UC environments, the highly-extensible, feature-rich solution is ideal for regulatory compliance and quality assurance applications.
- **Net-Net Application Session Controller (ASC)** is advanced middleware that lets IT teams add interactive IP communications services to Web 2.0 applications. By integrating interactive video into Web sites and business applications, enterprises and service providers can increase productivity and improve collaboration.

Refer to www.acmepacket.com for Net-Net ISR and Net-Net ASC solutions notes describing how these products are used to deliver trusted, first-class video application.



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