

# Oracle Communications Acme Packet 3900

Built on compact one unit (1U) form factor, Acme Packet 3900 session border controller (SBC) is designed to ensure voice network security while delivering high quality service and availability. Telephony Denial of Service (TDoS) and Fraud can severely impact an organization and its customers. The Acme Packet 3900 SBC is designed to deliver a consistent and secure experience across Internet Protocol (IP) network borders for service providers and for small to medium enterprise.

## Overview

The Acme Packet 3900 SBC is specifically designed to meet the price-performance and manageability requirements of small to medium enterprise and service providers. Ideal for entry-level session border controller access and interconnect deployments and Session Initiation Protocol (SIP) trunking services, the Acme Packet 3900 delivers Oracle's SBC capabilities in a 1U form-factor. With support for high availability (HA) configurations, quad port T1/E1 TDM fallback, dual AC or DC power supplies, hardware-assisted transcoding and Quality of Service (QoS) measurement, the Acme Packet 3900 SBC is a natural choice when uncompromising reliability and performance are needed.

With models designed for the smallest branch office to the largest data center, the Acme Packet SBC product family supports distributed, centralized, or hybrid SIP trunking topologies.



Figure 1. Acme Packet 3900

## Features

Acme Packet 3900 addresses the unique connectivity, security, and control challenges enterprises and service providers often encounter when managing real-time voice, video, and UC sessions. It also helps enterprises and service providers contain voice transport costs and overcome the unique regulatory compliance challenges associated with IP telephony.

## Applications

- Service provider entry-level SBC for access and interconnect
- Small to medium enterprise-session border controller
- E911 Call Center
- SIP trunk demarcation device
- Hosted communication services

## Key features

- Enterprise Operations  
Monitor connections: probe & data
- Transmitted bytes packet for media sessions
- Turn-key, 1U form factor
- Hardware-assisted transcoding for optimal performance
- Per session QoS measurement
- 4 Port T1/E1 TDM card for dial-out/dial-in survivability
- Redundant HA configurations
- Supports up to 8,000 concurrent sessions and 125,000 registered devices
- HA, redundant components

## Key benefits

- Cost savings with uncompromised functionality
- Straightforward deployment and operation
- High service quality and reliability
- Supports centralized, distributed or hybrid SIP trunking deployment models

TDM fallback capabilities ensure continuous dial-in/dial-out service at remote sites in the event of WAN or SIP trunk failures. Stateful high availability configurations protect against link and hardware failures.

## Capabilities

### Acme Packet 3900 SBC features and capabilities

FEATURE	CAPABILITIES
Security	<ul style="list-style-type: none"> <li>Granular access control</li> <li>IP address and SIP signaling concealment</li> <li>Layer three through five topology hiding and signaling overload controls</li> <li>IP telephony spam protection</li> <li>Stateful deep packet inspection</li> <li>Signaling and media encryption</li> </ul>
Interoperability	<ul style="list-style-type: none"> <li>SIP message normalization</li> <li>Response code translation</li> <li>Session Description Protocol (SDP) and Dual Tone Multi-Frequency (DTMF) manipulation</li> <li>Number and uniform resource identifier (URI) manipulation</li> <li>Signaling message header manipulation</li> <li>Protocol interworking: Transmission Control Protocol (TCP), User Datagram Protocol (UDP), Stream Control Transmission Protocol (SCTP)</li> <li>Encryption interworking: Transport Layer Security (TLS), Mutual TLS, Secure Real-time Transport Protocol (SRTP)</li> <li>Network address translation (NAT) and firewall traversal</li> <li>IP address translation: private/public</li> <li>Transcoding</li> <li>Session routing based on Microsoft Active Directory query</li> <li>Microsoft Teams Direct Routing</li> <li>Message Session Relay Protocol (MSRP)</li> </ul>
Reliability	<ul style="list-style-type: none"> <li>Standby SIP registrar with caching for remote site survivability</li> <li>Stateful signaling and media failover</li> <li>Quality of service (QoS) marking, virtual local area network (VLAN) mapping, access control</li> <li>Registration storm avoidance</li> <li>Call rate limit enforcement</li> <li>Trunk load balancing</li> <li>Stateful session routing</li> <li>QoS-based routing</li> </ul>
Regulatory Compliance	<ul style="list-style-type: none"> <li>Session prioritization for emergency services</li> <li>Internet Engineering Task Force (IETF) standard SIP Recording (SIPREC) interface</li> <li>Call detail records (CDRs) with local or remote storage via RADIUS</li> </ul>
Cost Management	<ul style="list-style-type: none"> <li>Least cost routing</li> <li>Codec Negotiation</li> </ul>
Management	<ul style="list-style-type: none"> <li>Browser-based GUI (Oracle Enterprise Session Border Controller only)</li> <li>SIP monitoring and tracing tool</li> <li>SNMP, Syslog, SFTP, REST, RADIUS interfaces</li> </ul>

## System capacity, performance, and availability

Acme Packet 3900 supports up to 8,000 sessions, offers high availability (HA) operation for nonstop service, and supports quality of service (QoS) measurement and hardware-assisted transcoding.

### Network session delivery and control infrastructure

Oracle's network session delivery and control infrastructure enables enterprises and service providers to manage the many challenges in the delivery of IP voice, video, and data services and applications.

Distributed enterprises leverage Acme Packet 3900 as a cost effective, reliable, feature-rich remote office SBC that is easy to install and administer.

Service providers leverage Acme Packet 3900 as customer premise equipment (CPE) to enable SIP trunking and hosted communications services. It serves as a flexible and resilient service demarcation point that can be easily managed from the service provider Network Operations Center (NOC).

The following Oracle products are part of the network session delivery and control infrastructure:

- Oracle Communications Session Border Controller
- Oracle Communications Session Router
- Oracle Communications Subscriber-Aware Load Balancer
- Oracle Communications Core Session Manager
- Oracle Enterprise Session Border Controller
- Oracle Communications Session Delivery Manager
- Oracle Session Delivery Management Cloud

## Acme Packet 3900 SBC system capacity, performance, and availability<sup>1</sup>

CAPABILITY	DESCRIPTION
Session capacity	<ul style="list-style-type: none"><li>Up to 8,000 concurrent sessions</li><li>Up to 6,000 SIPREC Sessions</li></ul>
SIP Subscriber Capacity	<ul style="list-style-type: none"><li>Up to 125,000 registered subscribers (UDP)</li><li>Up to 80,000 registered subscribers (TCP/TLS)</li></ul>
High Availability	<ul style="list-style-type: none"><li>Active/standby systems (1-to-1 redundancy) with check-pointing of signaling, media, and configuration state for no loss of service</li></ul>
SRTP Capacity	<ul style="list-style-type: none"><li>Up to 4,000 call legs</li></ul>
Transcoding Capacity	<ul style="list-style-type: none"><li>Up to 6,250 transcoded sessions</li></ul>
Storage	<ul style="list-style-type: none"><li>Standard 240GB SSD for call detail record storage, log files, other permanent file storage</li></ul>

<sup>1</sup> Performance and capacity numbers vary by signaling protocol, call flow, codec, configuration, and feature usage.

Performance and capacity based on Oracle Communications Session Border Controller S-Cz9.0 software release.

## Supported configurations

Acme Packet 3900 operates Oracle's Acme Packet Operating Software (Acme Packet OS) to deliver flexible product configuration and deployment options. The below table describes the Oracle product configurations supported by Acme Packet 3900.

### Acme Packet 3900 supported configurations

PRODUCT	DESCRIPTION
<a href="#">Oracle Communications Session Border Controller</a>	Session border controller (SBC) integrating controls for real-time communications signaling and media traffic
<a href="#">Oracle Enterprise Session Border Controller</a>	Securely Connects Enterprise VoIP and UC systems to SIP Trunking and Wide Area Network Services

## Hardware

Acme Packet 3900 provides the system throughput and redundancy features typically found in higher-end systems. It combines best in class hardware and software to provide organizations with the protection they need against a variety of attacks. It can be mounted in a 19" or 23" rack.

### Hardware options

#### Transcoding Module

Up to five factory installed transcoding modules are supported. These modules will support up to 6,250 transcoded sessions. OPUS and SILK transcoding is also supported.

#### Quad Port T1/E1 TDM Module

The Acme Packet 3900 supports an optional quad span T1 or quad span E1 interface module for TDM fallback. In centralized SIP trunking topologies the module preserves voice services in the event of a corporate WAN connectivity failure. In distributed SIP trunking topologies the module preserves voice

services in the event of a local SIP trunk interface failure. The four port TDM module supports dial out and dial in calls.

## Acme Packet 3900 details

Details of the Acme Packet 3900 system's physical properties, power specifications, and regulatory compliance are listed in the tables below.

### Details of Acme Packet 3900

PHYSICAL PROPERTIES	DETAILS
Dimensions (not including mounting hardware)	<ul style="list-style-type: none"> <li>Height: 43.7 mm (1.72 in)</li> <li>Width: 434.3 mm (17.10 in)</li> <li>Depth: 405.0 mm (15.94 in)</li> </ul>
Weight	<ul style="list-style-type: none"> <li>6.4 kg (14.2 lbs)</li> </ul>
Temperature	<ul style="list-style-type: none"> <li>Operating: 32°F to 104°F, 0°C to +40°C</li> <li>Storage: -4°F to 149°F, -20°C to +65°C</li> </ul>
Relative humidity	<ul style="list-style-type: none"> <li>10% to 85%, under non-condensing operating conditions</li> </ul>
Airflow	<ul style="list-style-type: none"> <li>40 CFM (max) front to back</li> </ul>
Power Dissipation	<ul style="list-style-type: none"> <li>160W typical, 220W maximum</li> </ul>
Chassis	<ul style="list-style-type: none"> <li>Chassis 1RU, rackmount</li> <li>Four 1 Gbps Ethernet interfaces (SFP) for signaling and media</li> <li>Two 10/100/1000 Mbps Ethernet interfaces (RJ-45) for HA</li> <li>One 10/100/1000 Mbps Ethernet interface (RJ-45) for management</li> <li>One RS-232 serial console interface (RJ-45)</li> <li>One alarm port (RJ-45)</li> </ul>
POWER SPECIFICATIONS	DETAILS
Power supply	<ul style="list-style-type: none"> <li>Dual power supplies: Redundant, load sharing, 495W maximum</li> </ul>
AC power option	<ul style="list-style-type: none"> <li>Voltage: Auto-ranging 100 VAC to 240 VAC wide input with power factor correction</li> <li>Frequency: 50/60 Hz</li> <li>Current: 5A x 2 rating</li> </ul>
DC power option	<ul style="list-style-type: none"> <li>Voltage: -48 VDC (+/-10%) nominal in North America (maximum range: -40 VDC to -72 VDC)</li> <li>Current: 10A x 2 rating</li> <li>Cable: 14 AWG recommended minimum, with at least three conductors rated for at least 140°F (60°C)</li> </ul>
HARDWARE OPTIONS	DETAILS
Onboard transcoding module	<ul style="list-style-type: none"> <li>Up to 5 onboard transcoding DSP modules</li> <li>Supported codecs: <ul style="list-style-type: none"> <li>» Wireline – G.711 10, G.711 20, G.722, G.723.1, G.726, G.729A/B, iLBC, Opus, SILK</li> <li>» Wireless – AMR-NB, AMR-WB, GSM-FR, EVRC, EVRC-B</li> </ul> </li> <li>T.38 fax interworking</li> </ul>
Quad span T1/E1 module	<ul style="list-style-type: none"> <li>Four T1/E1 interfaces (RJ48), provides TDM dial out and dial in</li> <li>Uses same SBC configuration as single SPAN card</li> <li>Configuration of SPAN 1 is duplicated to other SPANs</li> <li>SPANs cannot be configured individually</li> <li>Channel mapping is fixed</li> </ul>

REGULATORY	DETAILS
Certifications <sup>1,2</sup>	<ul style="list-style-type: none"> <li>• NRTL TUV (US/Canada)</li> <li>• CE (European Union)</li> <li>• ANATEL (Brazil)</li> <li>• BIS (India)</li> <li>• BSMI (Taiwan)</li> <li>• EAC (Russia, Belarus, Kazakhstan)</li> <li>• KCC (South Korea)</li> <li>• RCM (Australia / New Zealand)</li> <li>• VCCI (Japan)</li> </ul>
Safety <sup>2</sup>	<ul style="list-style-type: none"> <li>• EN 60950-1</li> <li>• IEC 60950-1 CB scheme with all country differences</li> <li>• UL 60950-1</li> <li>• CSA 22.2 No. 60950-1</li> </ul>
EMC Emissions Standards <sup>2</sup>	<ul style="list-style-type: none"> <li>• ICES-003 Class A</li> <li>• EN55022 Class A</li> <li>• EN55032 Class A</li> <li>• ETSI EN 300 386 for Telecommunications Centers and for Other Than Telecommunications Centers</li> <li>• VCCI Class A limits</li> <li>• KN32 Class A</li> <li>• CNS13438 Class A</li> <li>• 47CFR15 Subpart B (FCC) Class A</li> </ul>
EMC Immunity Standards <sup>2</sup>	<ul style="list-style-type: none"> <li>• EN55024</li> <li>• EN61000-3-2</li> <li>• EN61000-3-3</li> <li>• ETSI EN 300 386 for Telecommunications Centers and for Other Than Telecommunications Centers</li> </ul>
Other <sup>2</sup>	<ul style="list-style-type: none"> <li>• 1 TR 9</li> <li>• 2014/35/EU Low Voltage Directive</li> <li>• 2014/30/EU EMC Directive</li> <li>• 2011/65/EU RoHS Directive</li> <li>• 2012/19/EU WEEE Directive</li> </ul>

<sup>1</sup> Other country regulations/certifications may apply

<sup>2</sup> All standards and certifications referenced are to the latest official version. For additional detail, please contact your sales representative

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