

ACME PACKET 3820



HIGH-END CAPABILITIES FOR LOWER-SCALE APPLICATIONS

APPLICATIONS

- Small service provider session border controller (SBC)—access and interconnect
- Member of Oracle's SBC cluster
- Session routing proxy

KEY FEATURES

- Carrier-class functionality in an entry-level system
- Advanced system design for delivering robust controls at network borders
- Hardware acceleration for advanced media control
- Multiprocessor architecture
- Basic and advanced function NIUs
- Supports up to 8,000 signaled sessions
- HA, redundant components
- NEBS compliant
- FIPS 140-2 compliant

KEY BENEFITS

- Cost savings with uncompromised functionality
- Flexibility—multiple configuration and deployment options
- Scale—small to midrange services and applications
- Adaptability—wide variety of applications and services

Acme Packet 3820 is a one rack unit (1U) platform that features Oracle's purpose-built hardware design tightly integrated with Acme Packet OS, to provide the critical controls for delivering trusted, first-class real-time communications—voice, video, and multimedia sessions—across Internet Protocol (IP) network borders.

Overview

Designed for smaller service providers or smaller-scale services and applications, Acme Packet 3820 delivers most of the same functions and features as Oracle's high-end platforms. With redundant power supply options and a system architecture that leverages distributed multiprocessing with hardware-accelerated media functions, the Network Equipment Building Systems (NEBS)—compliant Acme Packet 3820 is a natural choice when uncompromised reliability and performance are needed in an entry-level platform.

System Capacity, Performance, and Availability

The Acme Packet 3820 platform supports up to 8,000 sessions; offers high availability (HA) operation for nonstop service; and includes hardware acceleration options for encryption, transcoding, and quality of service (QoS) measurement.

Acme Packet 3820 System Capacity, Performance, and Availability

Capability	Description
Session capacity ¹	<ul style="list-style-type: none"> • Up to 8,000 simultaneous signaled sessions
HA configuration	<ul style="list-style-type: none"> • Active/standby systems (1-to-1 redundancy) with check pointing of signaling, media, and configuration state for no loss of service
Inline, wire-speed QoS measurement processor	<ul style="list-style-type: none"> • Optional
Two-level encryption acceleration hardware options	<ul style="list-style-type: none"> • Session setup: IPsec tunnels and TLS sessions • Traffic encryption/decryption: IPsec and SRTP
IPsec tunnel capacity	<ul style="list-style-type: none"> • Up to 1,000 tunnels with manual keys
SIP-TLS capacity	<ul style="list-style-type: none"> • Up to 40,000 connections
SRTP capacity	<ul style="list-style-type: none"> • Up to 10,000 call legs

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. Service provider solutions are deployed at network borders and in the IP service core to help fixed-line, mobile, wholesale, and over-the-top service providers optimize revenues and realize long-term cost savings. In the enterprise, session delivery infrastructure solutions seamlessly connect fixed and mobile users, enabling rich multimedia interactions and automating business processes for significant increases in productivity and efficiency.

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 Unified Session Manager
- Oracle Communications Mobile Security Gateway
- Oracle Communications Interactive Session Recorder
- Oracle Communications Application Session Controller
- Oracle Communications Core Session Manager
- Oracle Enterprise Session Border Controller
- Oracle Communications Session Delivery Management Suite
- Acme Packet 3820
- Acme Packet 4500
- Acme Packet 4600
- Acme Packet 6100
- Acme Packet 6300
- Netra X3-2 for Communications
- Netra X5-2 for Communications

Acme Packet 3820 System Capacity, Performance, and Availability (continued)	
Capability	Description
Transcoding capacity	<ul style="list-style-type: none"> • Up to 7,200 transcoded sessions
Local route table entries	<ul style="list-style-type: none"> • Up to 1 million routes
Network interfaces	<ul style="list-style-type: none"> • Four active 10/100/1000 Mb/sec Ethernet interfaces (fiber or copper)
System throughput	<ul style="list-style-type: none"> • 5 Gb/sec
Power supplies	<ul style="list-style-type: none"> • Single or dual field-replaceable AC or DC power supplies

¹Performance and capacity vary by signaling protocol, call flow, codec, configuration, and feature usage. Performance and capacity based on Oracle Communications Session Border Controller v7.3 software

Oracle Communications Session Border Controller

Acme Packet 3820 operates Acme Packet OS for services and applications requiring low to midrange session border control functionality.

Oracle Communications Session Border Controller offers broad and comprehensive controls for session-based communications. Acme Packet 3820's hardware architecture and components leverage Acme Packet OS to support tightly integrated SBC functionality for signaling, media and media control message flows. With Acme Packet 3820, Oracle Communications Session Border Controller can be utilized in services and applications that support up to 8,000 simultaneous sessions.

Acme Packet 3820 operating Oracle Communications Session Border Controller software can also operate as part of an Oracle SBC cluster powered by Oracle Communications Subscriber-Aware Load Balancer. Oracle SBC clusters support up to 2 million subscribers without requiring architectural forklifts or network disruptions.

Hardware

Acme Packet 3820 is a 1U rack-mountable system that offers midrange session processing and capacity, in addition to system throughput and redundancy features typically found in higher-end systems. This is possible due to its integrated multiprocessor design, which makes Acme Packet 3820 an excellent fit for smaller service providers that rely heavily on their communications infrastructure to drive their businesses.

The front of Acme Packet 3820 features three air intake fans, status light-emitting diodes (LEDs), a single RJ-45 serial console interface, and a pinhole used for hard system resets. The rear of Acme Packet 3820 includes a single network interface unit (NIU) slot, in addition to slots for redundant, load-sharing AC or DC power supply units.

Network Interface Units

Acme Packet 3820 NIUs are offered in a variety of configurations to address a range of network, service, and application scenarios. All Acme Packet 3820 NIUs include four Ethernet interfaces for signaling, media, and data traffic. The NIUs also integrate the system alarm and management interfaces, including those used for the physical configuration of HA system pairs.

Acme Packet 3820 NIUs are offered with the following interface speeds and connection types:

- 10/100/1000 Mb/sec with copper RJ-45 connectors
- 10/100/1000 Mb/sec via small form factor-pluggable (SFP) copper transceiver
- 1 Gb/sec via SFP connectors for copper or fiber-optic transceiver connectivity

Encryption and Quality of Service Monitoring and Reporting Options

To meet the demands of scalable, high-quality interactive communications, Acme Packet 3820 NIUs offer a variety of onboard hardware and processor options designed to offload the Acme Packet 3820 CPU from processor-intensive functions such as security and QoS monitoring and reporting.

Acme Packet 3820 1 Gb/sec NIUs with SFP interfaces can accommodate onboard processor options for Internet Protocol Security (IPsec) and Secure Real-Time Transport Protocol (SRTP) encryption, QoS monitoring and reporting, or both.

Onboard encryption acceleration hardware enables secure communications without compromising end user or subscriber quality of experience (QoE).

QoS monitoring and reporting hardware monitors and measures each media flow through the system, calculating quality scores (such as Mean Opinion Score) and aggregating the information into data for transmission to external reporting or accounting systems. Onboard QoS monitoring and measurement is also utilized for real-time functions such as QoS-based routing and load balancing. This also does not compromise end user or subscriber QoE.

Advanced Function Network Interface Units

Acme Packet 3820 advanced function NIUs help Acme Packet 3820 deliver a combination of performance, capacity, and functionality unmatched by other platforms in its class.

With a distributed, multiprocessor approach that leverages the latest digital signal processor and multicore processors, Acme Packet 3820 is capable of performing many of the functions offered by Oracle's high-end systems, at the reduced capacity levels required by smaller service providers.

Transcoding Network Interface Unit

The Acme Packet 3820 transcoding NIU delivers a low-range to midrange hardware-based transcoding solution that complements the high-capacity transcoding offered on Oracle's high-end platforms. With this NIU, Acme Packet 3820 supports up to 7,200 transcoded sessions.

The transcoding NIU also features QoS monitoring and reporting hardware for both transcoded and nontranscoded sessions. The Acme Packet 3820 transcoding NIU may be populated with up to 12 transcoding modules, each supporting up to 600 transcoded sessions, for pay-as-you-grow scalability.

Enhanced Traffic Control Network Interface Unit

The Acme Packet 3820 Enhanced Traffic Control (ETC-2) NIU offers a unique and highly advanced design, with enhanced capabilities that address a wide range of next-generation services and applications.

ETC-2 NIU is a high-performance multiprocessor engine for Acme Packet 3820 that combines multiple hardware-accelerated functions, including the following:

- High-capacity Secure Real-Time Transport Protocol (SRTP) encryption
- High-capacity termination for SIP–Transport Layer Security (TLS)
- Separate, dedicated processors for high-capacity IPsec encryption and Transmission Control Protocol (TCP) termination
- Integrated hardware for QoS monitoring and reporting

The extensible multicore, multiprocessor architecture of ETC-2 NIU is also capable of supporting additional applications and functions as new requirements emerge.

Acme Packet 3820 Details

Details of Acme Packet 3820's physical properties, power, specifications, and regulatory compliance are listed in the table.

Details of Acme Packet 3820	
Physical	Details
Dimensions (not including mounting hardware)	<ul style="list-style-type: none"> • Height: 4.37 cm (1.72 in.) • Width: 43.43 cm (17.10 in.) • Depth: 48.26 cm (19.00 in.)
Weight	<ul style="list-style-type: none"> • 8.62 kg (19 lb.) fully configured
Colors	<ul style="list-style-type: none"> • Front panel: Midnight black with glacier blue trim
Temperature	<ul style="list-style-type: none"> • Operating: 32°F to 104°F, 0°C to +40°C • Storage: -4°F to 149°F, -20°C to +65°C
Relative humidity	<ul style="list-style-type: none"> • 10% to 85%, noncondensing
Airflow	<ul style="list-style-type: none"> • 50 CFM front to back
Heat dissipation	<ul style="list-style-type: none"> • 100 w (341 BTU/hr.) typical, 200 w (682 BTU/hr.) maximum
Power dissipation	<ul style="list-style-type: none"> • 100 w typical, 200 w maximum
Power	Details
AC power option	<ul style="list-style-type: none"> • Single or dual field-replaceable power supplies • Dual power supplies: Redundant, load sharing, 300 VA maximum • Voltage: Autoranging 100 AC to 240 AC wide input with power factor correction • Frequency: 50/60 Hz • Current: 3A x 2 rating • Cable: 2.0 m 18 American wire gauge (AWG) three-wire cable, with three-lead International Electromechanical Commission (IEC) 320 receptacle on the power supply end and a country-dependent plug on the power source end
-48 DC power option	<ul style="list-style-type: none"> • Single or dual field-replaceable power supplies • Dual power supplies: Redundant, load sharing, 300 VA maximum • Voltage: -48 DC (+/-10%) nominal in North America (maximum range: -40 DC to -60 DC) • Current: 7A x 2 rating • Cable: 18 AWG recommended minimum, with at least three conductors rated for at least 140°F (60°C)
-72 DC power option	<ul style="list-style-type: none"> • Voltage: -72 DC nominal in Russia • Cable: 18 AWG recommended minimum, with at least three conductors rated for at least 140°F (60°C)

Specifications	Details
Chassis	<ul style="list-style-type: none"> Chassis 1U, rack mount Front: Power and HA status LEDs, physical system reset pinhole, console Rear: One NIU slot (signaling, media, and management interfaces) Power supplies: single or dual AC or DC, field replaceable Optional mounting brackets for front, rear, or center mount in a 19 in. or 23 in. rack
Memory	<ul style="list-style-type: none"> 2 GB for active configuration and logs 256 MB internal flash memory for runtime image and backup configurations Optional storage expansion module for local call detail record (CDR) backup
Content addressable memory (CAM)	<ul style="list-style-type: none"> 128 K entries for static and dynamic access control lists (ACLs), media control rules, and Address Resolution Protocol (ARP) entries
Encryption options	<ul style="list-style-type: none"> TLS: <ul style="list-style-type: none"> Software-based encryption for low-capacity TLS sessions Secure services module (SSM) hardware accelerator option for high-capacity TLS sessions SRTP: <ul style="list-style-type: none"> NIU-based encryption processors IPsec: <ul style="list-style-type: none"> Tunnel setup: Software-based for use of manual keys; SSM hardware accelerator option for use of dynamic keys Traffic encryption: NIU-based encryption processors
NIUs (support network interfaces for signaling, media, and data)	Details
Basic NIUs and options	<ul style="list-style-type: none"> Four 10/100/1000 Mb/sec Ethernet copper ports (RJ-45 connector) Four 1000 Mb/sec Ethernet fiber or four 10/100/1000 Mb/sec copper ports (requires SFP transceivers) Four 1000 Mb/sec Ethernet fiber or four 10/100/1000 Mb/sec copper ports with inline QoS measurement processors (requires SFP transceivers)
Transcoding NIU	<ul style="list-style-type: none"> Four 1000 Mb/sec Ethernet fiber or four 10/100/1000 Mb/sec copper ports (requires SFP transceivers) Up to 12 onboard transcoding DSP modules Inline QoS measurement processors Supported codecs: <ul style="list-style-type: none"> Wireline – G.711 10, G.711 20, G.722, G.723.1, G.726, G.729A/B, iLBC Wireless – AMR-NB, AMR-WB, GSM-FR T.38 fax interworking
ETC-2 NIU	<ul style="list-style-type: none"> Four 1000 Mb/sec Ethernet fiber or four 10/100/1000 Mb/sec copper ports (requires SFP transceivers) Integrated high-capacity encryption (IPsec, SRTP, TLS) processors Inline QoS measurement Integrated hardware-based SIP-TLS and TCP processing
NIU management interfaces (included on all NIU options)	<ul style="list-style-type: none"> Two 10/100/1000 Mb/sec interfaces with RJ-45 for HA node configurations One 10/100/1000 Mb/sec interface with IPsec encryption processor and RJ-45 for management networks (optional IPsec encryption of management interface via encryption-capable NIU) One RS-232 serial console interface with RJ-45 connector (only rear or front interface may be used at any time) One alarm interface with RJ-45 connector

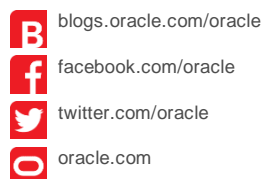
Regulatory	Details
Regulatory Markings	<ul style="list-style-type: none"> • CE, FCC, ICES-003, VCCI, NRTL TUV (US/Canada), KCC, BSMI, EAC, RCM, BIS, ANATEL
Safety	<ul style="list-style-type: none"> • EN 60950-1 • IEC 60950-1 • UL 60950-1 • CSA 22.2 No. 60950-1-07
EMI	<ul style="list-style-type: none"> • 47CFR15 Subpart B (FCC) Class A • ICES-003 Class A • AS/NZS CISPR22 Class A • CISPR22 Class A • EN300386 for Telecommunications Centers and for Other Than Telecommunications Centers • EN 55022 Class A • VCCI Class A limits
EMC	<ul style="list-style-type: none"> • EN55024 • EN61000-3-2 • EN61000-3-3 • EN300386:2010 for Telecommunications Centers and for Other Than Telecommunications Centers
Other	<ul style="list-style-type: none"> • NEBS Level 3 • ETSI: EN 300019 Class 1.2, 2.2, 3.2 • Seismic: GR-63-CORE requirements for earthquake zone 4 • 1 TR 9 • Restriction of Hazardous Substances (RoHS) Directive and Waste Electrical and Electronics Equipment (WEEE) Directive
US Department of Defense Security	<ul style="list-style-type: none"> • Federal Information Processing Standards (FIPS) 140-2 compliant • Defense Information Systems Agency (DISA) Unified Communications Requirements (UCR) compliant • Listed: DISA Unified Capabilities Approved Product List (UCAPL)



CONTACT US

For more information about the Acme Packet 3820, visit oracle.com or call +1.800.ORACLE1 to speak to an Oracle representative.

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Hardware and Software, Engineered to Work Together

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