



PacketAssure™ iQ Enterprise Series

Intelligent Quality of Service for Enterprise IP Networks

- Standards-based, intelligent QoS enables Service Level Agreements
- High performance Layer 2 switching eases setup and administration, ensures long service life
- Additional “Layer 3-Aware” switching enables DSCP marking for consistent handling of traffic, end-to-end
- Scalable, modular design consolidates assets and trims spares inventory
- Custom user interfaces match management tasks to operator skill level

The migration to Internet Protocol (IP) technologies poses a unique set of challenges for network designers, administrators and operators alike. These challenges include unifying disparate systems, securely extending converged traffic flows, and maintaining Service Level Agreements to subscribers, among others. The PacketAssure™ iQ Enterprise Series Service Delivery Managers (SDMs) are a family of high-performance, intelligent switching systems designed to manage and police traffic to create and enforce Service Level Agreements.

Using PacketAssure iQ Enterprise SDMs, network planners and designers can create granular QoS classifications and custom policies to ensure consistent prioritization of all classes of user traffic. This simplifies the creation, operation and administration of a converged communications infrastructure for service providers and enterprise networks.

With an assortment of hot-swappable multi-service I/O modules and two distinct chassis sizes for scalability, the PacketAssure iQ Enterprise Series enables migration from legacy networks to Everything over IP (EoIP), transitioning existing assets as required. Enhanced COTS features, implemented in hardware and software, extend service life in environmentally challenged installations.

PacketAssure iQ Enterprise Series Service Delivery Managers are uniquely designed to operate over congested internet facilities employed by service providers and other commercial network infrastructures. Comprehensive IP-based QoS functionality provides coarse- and fine-grained control of traffic prioritization on a per-service basis. Extensive Layer 2 and Layer 3 switching classifiers, coupled with a host of switching policies and eight customizable queues per port, provide users with extreme

flexibility in traffic classification, from latency-sensitive voice and video to best-effort data.

Embedded security attributes allow operators to safely manage information-related risks. Contemporary Graphical and Command Line User Interfaces support the complete spectrum of device management, via local or remote, in-band and out-of-band connections, all secured and logically separate from user traffic. The graphical interface features a Web 2.0-style presentation that ensures simple setup and administration of management parameters with minimal training investment.

Additionally, service template-building utilities allow network designers and planners to construct custom service workflows tailored to operator skill sets and enterprise business objectives.



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PacketAssure		
	iQ1000e	iQ4000e
Chassis		
Maximum Data Transfer	18 Gbps	66 Gbps
Status Indicators <i>Front:</i> <i>Rear:</i>	Power Status, Active System Alarms, Port Status/Activity Power Status, Active System Alarms	Power Status/Redundancy, Active System Alarms, Port Status/Activity Power Status, Active System Alarms, Switching Logic Redundancy
I/O Interfaces Supported	Up to 18 individual Gigabit Ethernet interfaces	Up to 66 individual Gigabit Ethernet interfaces
Control Ports Supported	Serial: RJ-45; Ethernet: RJ-45	Serial: RJ-45; Ethernet: RJ-45
Protocols Supported <i>IP Stack:</i> <i>IA:</i> <i>QoS:</i> <i>CES IWF:</i>	Both models support all of the following protocols: Ethernet, VLAN, STP/RSTP, L2 Multicast, IGMP/MLD, 802.1x, MAC Bridging, 802.1ad, IPv4, IPv6, TCP/UDP, RTP, NTSP, RTCP, SFTP SSH, SSL/TLS, RADIUS, PacketAssure Managed Data 802.1p, DSCP, Fine-Grained QoS, color-aware RED/ECN CESoP, SAToP	
Management: <i>Management Framework:</i>	Command Line Interface, Graphical User Interface, SNMPv3. Fault, Configuration, Administration, Performance, Security. SSH, SSL/TLS for In-band & Out-of-band, local & remote connectivity. Access method and privileges under admin control.	
System Clocking	Recoverable via any T1/E1 port, Serial port, or station timing port. Station timing port accepts RS-422 (Balanced), Bipolar/Zero-Cross, and Single-Ended TTL. Up to three user-configurable timing sources including internal oscillator with automatic switchover/switchback	
Mounting	19" EIA rack mountable; four corner mounting via included brackets to flange depth of 18" – 24"; mounted with cables facing fore/aft for all models	
Dimensions	17.5" (445mm) W x 15.0" (381mm) D x 1.75" (45mm) H 13.5 lbs. (6.1Kg) fully loaded	17.5" (445mm) W x 15.0" (381mm) D x 7.0" (178mm) H 35.0 lbs. (15.9Kg) fully loaded
Power: <i>AC:</i> <i>DC:</i>	90-130/180-264 VAC, 47-63 Hz, auto-ranging 10-36 VDC, auto-ranging, field replaceable	90-130/180-264 VAC, 47-63 Hz, auto-ranging, load sharing, redundant, field replaceable Not offered
Environmental <i>Operating Temperature:</i> <i>Storage Temperature:</i> <i>Humidity:</i> <i>Altitude:</i>	FCC Part 15 Class A, FCC Part 68, UL-1950, EN55022 Class A, EN50081-1 Emissions, and EN50082-1 Immunity -20°C to +60°C fan-cooled -30°C to +75°C Up to 95% RH over a 20°C to +60°C range, non-condensing 0 - 15,000 feet (4,600 m)	
Option cards:	All option cards can be installed in both the PacketAssure iQ1000e and iQ4000e models.	
T1/E1 I/O Module <i>Operating Modes</i>	Four ports per module <i>Unstructured T1 or E1:</i> User-selectable per module; based on SAToP RFC specifications <i>Structured T1 or E1:</i> Fractional T1/E1, user-selectable per module; based on CESoPSN RFC specifications	
Operating Rates	Unstructured to 1.544 Mbps (T1) or 2.048 Mbps (E1), Structured to 1.544 Mbps (T1) or 2.048 Mbps (E1), Fractional rates down to single DS0	
Electrical Interfaces	Per T1.403, G.703 specifications	
Physical Ports	Four shielded RJ-45 female connectors	
Signaling	CAS (Robbed Bit Signaling), CCS Pass-through	
Dynamic Bandwidth	Activated by CAS signaling and idle traffic codes	
Serial I/O Module <i>Operating Modes</i>	Four ports per module Unstructured CES (DCE) mode, Encapsulated Ethernet (DTE) mode, user-selectable per individual port	
Operating Rates <i>DCE:</i> <i>DTE:</i>	(all rates listed in bits per second) 600, 2400, 4800, 9600, 16K, 19.2K, 32K, 38.4K, 64K, 128K, 256K, 384K, 512K, 768K, 1.024M, 1.536M, 2.048M, 3.072M, 4.096M, 4.608M, 5.120M, 6.144M, 8.192M, 16.384M, 18.432M; symmetric/asymmetric 64K, 128K, 256K, 384K, 512K, 768K, 1.024M, 1.536M, 2.048M, 3.072M, 4.096M, 4.608M, 5.120M, 6.144M, 8.192M, 16.384M, 18.432M	
Electrical Interface	T1A/EIA-530-A	
Ethernet I/O Module <i>Operating Modes</i>	Six ports per module 10BASE-T, 100BASE-TX, 1000BASE-X per IEEE 802.3; Auto-Negotiate and Auto MDI/MDIX (copper)	
Operating Rates	10/100/1000 Mbps	
Physical Ports	Four shielded RJ-45 female connectors, plus two Small Form factor Pluggable (SFP) receptacles for optional copper/fiber connections	



Ultra Electronics
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50 Barnes Park North
Wallingford CT 06492 USA
Tel: (203) 697-5417 Toll Free: (800) 370-4485 ext. 5417
Fax: (203) 265-9101 PacketAssure@ultra-dne.com
www.packetassure.com

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