

Enterprise Gateway Router Cost - Official Technical Overview & Hardware Datasheet

EXECUTIVE SUMMARY

This document provides a comprehensive technical overview of the Enterprise Gateway Router Cost (EGR-C) Series, a carrier-grade, cost-optimized routing platform specifically engineered for high-density enterprise edge, campus core, and metro aggregation deployments. The EGR-C series redefines the price-performance equilibrium by delivering wire-speed forwarding, modular expansion, and enterprise-class high availability at a capital expenditure model traditionally reserved for lower-tier equipment.

By decoupling control plane processing from physical interface density, the platform achieves a total cost of ownership (TCO) reduction of up to 40% compared to legacy chassis-based alternatives while maintaining full IPv4/IPv6, MPLS, and segment routing interoperability. This datasheet details hardware architecture, forwarding plane behavior, environmental tolerances, and verified procurement SKUs.



ARCHITECTURE & CHASSIS DESIGN

The EGR-C is built upon a passive, fanless-ready midplane architecture supporting both 1RU fixed-configuration and 2RU modular chassis variants. The system leverages a distributed forwarding architecture where each Ethernet port ASIC operates independently under a unified OS (EROS 8.3).

Key architectural decisions:

- Centralized control plane: Dual-core ARM Cortex-A72 at 1.8 GHz with 8 GB DDR4 (expandable to 16 GB).
- Data plane: Integrated TCAM-based forwarding engine with 10 ns minimum packet forwarding latency.
- Chassis cooling: N+1 hot-swappable fan tray with variable-speed PWM control.

- Management ports: Dedicated out-of-band 1GbE RJ45 console and USB-C serial console.

HARDWARE FEATURES

- Physical security: Tamper-evident seals and TPM 2.0 module for secure boot.
- Redundancy: 1+1 AC/DC power supplies with live insertion and removal.
- Interface ecosystem: Combo SFP/SFP+ ports supporting 1000BASE-T, 1000BASE-X, and 10GBASE-R.
- Sync capabilities: SyncE and IEEE 1588v2 PTP transparent clock support.
- LED indicators: Per-port link/activity/speed, system health, power, and alarm.

COMPLIANCE & STANDARDS

- Regulatory: CE Mark (Class A), FCC Part 15 Class A, UKCA, RoHS3.
- Environmental: 2007/2/EC (WEEE), ENERGY STAR 3.0 Network Equipment specification.
- Safety: IEC 62368-1:2018, UL 60950-1 (Secondary), CAN/CSA C22.2.
- Telecom: NEBS Level 3 (GR-63-CORE, GR-1089-CORE) for selected SKUs.

TECHNICAL SPECIFICATIONS

All specifications are measured at nominal 25°C ambient, 48V DC input, 10% to 90% non-condensing humidity.

Form factor: 1RU (fixed) – 440W x 350D x 44H mm | 2RU (modular) – 440W x 400D x 88H mm

Switching fabric capacity: Fixed: 80 Gbps non-blocking | Modular: up to 320 Gbps

Forwarding rate: 59.5 Mpps (64-byte packets) for 80 Gbps model; 238 Mpps for 320 Gbps

MAC table size: 32,000 entries

IPv4 route table (FIB): 128,000 prefixes (default) / 256,000 (upgrade license)

IPv6 route table: 64,000 prefixes

Flow table (NetFlow/sFlow): 1 million flows

Jumbo frame support: 9,216 bytes

Buffer memory: 12 MB dynamically shared per ASIC

Queues per port: 8 hardware queues (strict priority + WRR)

Power consumption (typical): Fixed: 45 W – 65 W | Modular: 85 W – 150 W

Power supply options: AC 100–240V, 50/60Hz; DC -36V to -72V

Operating temperature: 0°C to +50°C (fixed) / -5°C to +55°C (modular)

Storage temperature: -40°C to +85°C

MTBF (Telcordia SR-332): Fixed: 350,000 hours | Modular: 280,000 hours

Parameter	Specification
Form Factor	1RU / 2RU Chassis (Fixed or Modular)
Switching Capacity	80 Gbps (Fixed) / 320 Gbps (Modular)
Power Supply	1+1 Redundant AC (100-240V) or DC (-36 to -72V)
Forwarding Rate (Mpps)	59.5 (80G) / 238 (320G) - 64-byte packets
Operating Temperature	0°C to +50°C (Fixed) / -5°C to +55°C (Modular)
MTBF (hours)	350,000 (Fixed) / 280,000 (Modular)

ORDERING OPTIONS

Each base chassis includes rack-mount kit, console cable, and 1-year hardware warranty (next-business-day advanced replacement). Separate line cards and power supplies must be ordered as line items for modular variants.

- EGR-C-FIX-4xSFP+: Fixed 1RU, 4 x SFP+ (10G) + 4 x GbE RJ45, dual AC PSU.
- EGR-C-FIX-8xSFP: Fixed 1RU, 8 x GbE SFP + 2 x combo, single DC PSU.
- EGR-C-MOD-2RU: Empty 2RU chassis with dual 400W AC PSUs, 2 x expansion slots.

- EGR-C-LC-8x25G: Line card, 8 x 25G SFP28, full line-rate forwarding.
- EGR-C-LC-16x10G: Line card, 16 x 10G SFP+, MACsec capable.
- EGR-C-LC-4x100G: Line card, 4 x 100G QSFP28, for modular chassis only.
- EGR-C-PSU-AC-600: Spare AC power supply, 600W, 1+1 redundancy.
- EGR-C-PSU-DC-500: Spare DC power supply, 500W, -48V input.
- EGR-C-FAN-MOD: Spare fan tray for 2RU chassis (N+1 configuration).
- EGR-C-SW-ADV: Advanced software license (MPLS, segment routing, BGP add-paths).
- EGR-C-SW-SEC: Security bundle (IPsec HW acceleration, MACsec, SSHv2, RADIUS/TACACS+).



For volume pricing, spare line card kits, and extended support (5-year 24x7x4 on-site), refer to the Global Partner Price List GPL-EGRC-2026. All specifications are subject to change without notice. Certified resellers may request

engineering sample unit access via the partner portal.