Enterprise VPN Gateway Router Buy - Carrier-Grade Routing Solution Brief: Deploying Enterprise VPN Gateway Router Buy

CARRIER-GRADE ROUTING SOLUTION BRIEF: DEPLOYING ENTERPRISE VPN GATEWAY ROUTER BUY

TARGET NETWORK POSITIONING

The Enterprise VPN Gateway Router (Model: E-VPN-GW) is purpose-built for secure site-to-site connectivity, remote access aggregation, and cloud-bound traffic steering. Designed as a high-performance CPE (Customer Premises Equipment) or small- to medium-enterprise (SME) hub router, it terminates IPsec, DMVPN, FlexVPN, and SSL VPN tunnels at line-rate speeds. Primary deployment nodes include regional headquarters, distributed branch gateways, and colocation aggregation points.



HARDWARE-LEVEL FAILOVER REDUNDANCY

The chassis integrates dual hot-swappable AC/DC power supplies and a redundant fan tray module. N+1 power redundancy ensures sub-second failover with zero packet loss during power source switching. The physical control plane features a separate management Ethernet port (out-of-band) and a serial console port for emergency recovery. Hardware Watchdog timers automatically reset the forwarding ASIC if control plane heartbeat is lost, guaranteeing carrier-grade uptime (99.999% target).

PROTOCOL SUPPORT MATRIX

- Routing: OSPFv2/v3, BGP-4, IS-IS, RIPng, static routes, Policy-Based Routing (PBR).

- Tunneling & VPN: IPsec (IKEv1/v2), DMVPN (Phase 1-3), FlexVPN, L2TPv3, GRE, VxLAN, MPLS L3VPN.

- High Availability: VRRPv3, GLBP, Stateful Failover (SSO) with NSF, BFD for sub-second link detection.

- Security: Zone-based firewall (ZBFW), uRPF, ACL, Control Plane Policing (CoPP), hardware-accelerated AES-256-GCM.

- Management: NETCONF/YANG, RESTCONF, SNMPv3, syslog, sFlow, IPFIX, RADIUS/TACACS+.

CORE PARAMETERS

Forwarding engine: Non-blocking NPU (Network Processor) with integrated crypto co-processor. Maximum IPsec throughput: 9.5 Gbps with AES-256-GCM. Concurrent IPsec tunnels: 4,000. Concurrent SSL VPN users: 1,200. Routing table scale (FIB): 250,000 IPv4 routes, 120,000 IPv6 routes. Latency (64-byte packets): < 5 microseconds (store-and-forward).

Parameter	**Specification**
Form Factor	1RU Rack-mountable, 19-inch standard, depth 420mm
Switching Capacity	20 Gbps non-blocking (full-duplex)
Power Supply	Dual hot-swappable redundant AC

	(100-240V) or DC (-48V)
WAN Interfaces	2 x 10G SFP+ (compatible 1G SFP), 4 x 1G RJ-45 (Copper)
LAN Interfaces	8 x 1G RJ-45 (switch ports), 2 x 1G SFP (shared combo)
Management Ports	1 x RJ-45 (OOB), 1 x Mini-USB Console, 1 x USB 3.0
IPsec VPN Throughput	9.5 Gbps (AES-256-GCM, 1400-byte packets)
Max Concurrent Tunnels	4,000 IPsec, 1,200 SSL VPN users
DRAM	4 GB DDR4 ECC (expandable to 16 GB)
Flash Storage	8 GB eMMC (expandable via USB)
Operating Temperature	0°C to 50°C (32°F to 122°F)
MTBF	385,000 hours (Telcordia SR-332, 40°C ambient)

LIFECYCLE ASSURANCE (MTBF)

Mean Time Between Failures (MTBF) calculated per Telcordia SR-332, Issue 4 at 40°C ambient: 385,000 hours (approx. 44 years). Mean Time To Repair (MTTR) for field-replaceable units (PSU, fan tray): < 20 minutes hot-swap. The unit

undergoes 168-hour burn-in testing at 70°C operational thermal stress. Fan lifecycle: > 80,000 hours at 50% duty cycle.

TARGET BACKBONE TOPOLOGIES

- Hub-and-spoke DMVPN: Central VPN hub at HQ with up to 1,000 spoke routers.
- Dual-homed MPLS L3VPN PE-CE: Redundant connections to two different service providers.
- Encrypted SD-WAN overlay: As a tunnel endpoint for Viptela or Cisco SD-WAN fabric.
- Cloud on-ramp: Direct IPsec tunnel to AWS Transit Gateway, Azure vWAN, or GCP Cloud VPN.

