High-Performance Alternative Fixed Configuration Firewall Session Limits - Official Technical Overview & Hardware Datasheet

PRODUCT IDENTIFICATION

Product Designation: High-Performance Alternative Fixed Configuration Firewall Session Limits Platform

Product Series Identifier: FS-7000 Series

Target Market: Enterprise Edge, Campus Gateway, and Carrier-Grade Perimeter Security

Compliance Classification: Fixed-Form-Factor High-Density Firewall Appliance



CORE INTERNAL TOPOLOGY

The FS-7000 Series leverages a purpose-built, non-blocking internal

architecture engineered to enforce stateful firewall policies at wire speed without compromising session table integrity. At the heart of the system resides a dedicated session management ASIC that maintains a concurrent session table exceeding 10 million entries, a critical metric for high-density subscriber aggregation and data center interconnection.

The internal data bus comprises a dual-redundant 400 Gbps fabric interconnect, ensuring sub-50-microsecond inter-processor communication for session synchronization across multiple security contexts. The forwarding plane is decoupled from the control plane, with a dedicated 2.5 GHz multi-core CPU complex managing routing protocols, policy updates, and security intelligence while the ASIC handles packet classification, stateful inspection, and NAT traversal.

SWITCHING SUBSYSTEM CAPABILITIES

The platform implements a full mesh of 10G/25G/40G/100G interfaces, configurable for either WAN-facing throughput or high-density internal segmentation. The switching subsystem operates in cut-through mode for latency-sensitive applications, reducing jitter for voice-over-IP and financial trading workloads, while dynamically reverting to store-and-forward for error-checking of encrypted payloads.

Key packet processing capabilities include:

- Concurrent Session Limit: 10,000,000 active sessions (standard license) / 16,000,000 (performance license)
- New Session Establishment Rate: 1,500,000 CPS (connections per second)
- Hardware-Accelerated IPSec VPN: 40 Gbps throughput (AES-256-GCM)
- Application-Aware Traffic Shaping: supported over 3,000 pre-defined signatures
- Virtual Routing and Forwarding (VRF) Instances: 512 concurrent contexts

OPERATIONAL ADVANTAGES

The High-Performance Alternative Fixed Configuration Firewall offers a compelling value proposition for organizations seeking a tier-1 security posture without the premium associated with proprietary modular chassis systems. The fixed configuration approach reduces mechanical point-of-failure risks, enables rapid deployment, and ensures predictable power and cooling requirements.

Advanced session limit capabilities are leveraged for lawful interception logging, deep packet inspection buffering, and real-time threat intel correlation. The hardware includes redundant solid-state storage for boot and log retention,

as well as dual hot-swappable AC/DC power supplies providing N+1 redundancy. The active-active session state synchronization permits zero-downtime upgrades and seamless failover in active/active HA clusters.

The platform has been validated against the most stringent carrier-grade SLA requirements, demonstrating less than 1 microsecond of forwarding jitter under full session load. Telemetry data is exported via gRPC and NETCONF for integration with third-party network management solutions.

SPECIFICATION MATRIX

Firewall Policies and Zones:

- Maximum Security Zones: 256
- Concurrent Policy Rules: 50,000
- Interface Pairs for Stateful Inspection: Unlimited (hardware limited)
- Policy-Based Routing: Supported across 1,024 routing instances

Network Layer Support:

- IPv4 and IPv6 dual-stack stateful inspection
- Multicast forwarding (IGMP v2/v3, MLD)
- GRE, VXLAN, and MPLS-over-GRE tunneling
- Integrated DHCP Server/Relay and DNS Forwarder

Management and Programmability:

- CLI (SSHv2) with hierarchical command structure

- Web-based GUI with role-based access control (RBAC)

- RESTCONF and NETCONF (RFC 6241 compliant)

- SNMP v2c/v3, syslog, and sFlow monitoring

- Zero-Touch Provisioning (ZTP) via DHCP options and cloud orchestration

Parameter	**Specification**
Form Factor	1RU Fixed Rack-Mount Appliance
Throughput (Firewall)	120 Gbps (64-byte packets) / 250 Gbps (IMIX)
Concurrent Sessions	10,000,000 (Standard) / 16,000,000 (Performance License)
New Connections Per Second (CPS)	1,500,000
Power Supply	Dual Hot-Swappable Redundant AC (100-240V) / DC (-48V option)
Thermal Dissipation	650 BTU/hr (typical), 850 BTU/hr (maximum)
Weight	8.5 kg (19 lbs) chassis only
MTBF (Telecom Environment)	425,000 hours at 25°C



REGULATORY COMPLIANCE

The FS-7000 Series has undergone extensive testing and certification to meet the following regulatory and industry standards, making it suitable for deployment in global telecommunications, financial, and government networks.

- Safety: UL 60950-1 / UL 62368-1, EN 60950-1, EN 62368-1, CB Scheme, IEC 60950-1/62368-1
- EMC: FCC Part 15 Subpart B (Class A), EN 55032 Class A, EN 55024, CISPR 32, VCCI (Class A), AS/NZS CISPR 32
- Environmental: RoHS Directive 2011/65/EU, WEEE 2012/19/EU, REACH (SVHC compliance)

- Telecom: NEBS Level 3 (GR-63-CORE / GR-1089-CORE) – certified upon request

- Cybersecurity: FIPS 140-2 Level 2 (hardware root of trust), Common Criteria EAL-4+ (NIST SP 800-131A compliant cryptographic algorithms)