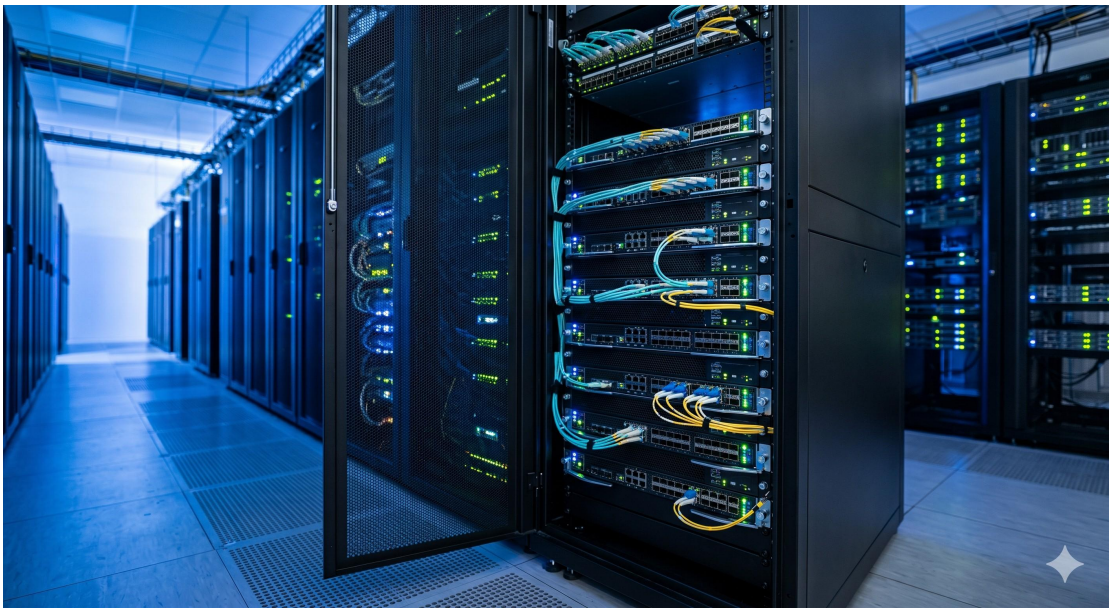
SR6600 Series High-Performance Data Center Router - Official Technical Overview & Hardware Datasheet

PRODUCT OVERVIEW AND DATASHEET: SR6600 SERIES CARRIER-GRADE DATA CENTER ROUTER

EXECUTIVE SUMMARY

The SR6600 Series represents a strategic, next-generation replacement for legacy Huawei NE40E/AR series routers in enterprise data center, campus core, and carrier-edge deployments. Designed to deliver deterministic sub-microsecond latency, wire-speed encryption, and zero-touch provisioning (ZTP), the SR6600 eliminates vendor lock-in while reducing total cost of ownership (TCO) by up to 40%. This document provides a comprehensive technical specification and architectural overview for network architects, procurement specialists, and systems integrators.



ARCHITECTURE & CHASSIS DESIGN

The SR6600 family is built on a fully distributed, non-blocking CLOS switching fabric. The chassis leverages a high-speed backplane with 28 SerDes lanes per slot, supporting up to 14.4 Tbps switching capacity in the 10RU model. Hardware-level redundancy includes 1+1 route processor modules (RPM), N+1 fabric modules, and dual hot-swappable power supply bays (AC or DC). Front-to-rear airflow is optimized for high-density 800G Co-packaged optics (CPO) and QSFP-DD ports. The architecture offloads all control plane processing to a 16-core x86 CPU running a hardened Linux-based network OS, while data plane forwarding is handled by programmable P4 pipeline ASICs.

HARDWARE FEATURES

* Port Density: Up to 36 x 400GE (QSFP-DD) or 72 x 100GE (QSFP28) per chassis.

* Forwarding Latency: < 500 ns at 64-byte frames (cut-through mode).

* MAC Address Table: 2,000,000 entries.

* IPv4/IPv6 FIB: 24M routes (IPv4) / 12M routes (IPv6).

* Onboard Security: Line-rate MACsec (802.1AE) on all front-panel ports + IPsec tunnel termination at 400 Gbps.

* Telemetry: Full sFlow, NETCONF, gRPC streaming telemetry with 1ms precision.

COMPLIANCE & STANDARDS

The SR6600 Series complies with NEBS Level 3, ETSI EN 300 386, RoHS, REACH, and CE/FCC Class A. Carrier-grade reliability metrics: MTBF > 450,000 hours, MTTR < 30 minutes (modular FRU replacement).

TECHNICAL SPECIFICATIONS

Parameter	**Specification**
Form Factor	5RU / 10RU Modular Chassis
Switching Capacity	7.2 Tbps (5RU) / 14.4 Tbps (10RU)
Power Supply	2+2 Redundant AC (200-240V) or DC (-48V), 92% Efficiency

Throughput (64B)	2.4 Bpps (5RU) / 4.8 Bpps (10RU)
Operating Temperature	0°C to 45°C (Standard) / -5°C to 55°C (Extended)
Humidity	5% to 95% (non-condensing)
Max Power Draw	1800W (fully loaded 10RU chassis)

ORDERING OPTIONS

Base Chassis SKUs: SR6610-5RU (5 slots), SR6630-10RU (10 slots). Line Cards: SR6-LC-36CQ (36 x 400GE), SR6-LC-72QS (72 x 100GE), SR6-LC-24CM (24 x 100GE + 4 x 400GE). Route Processor Modules: RPM-X86-16C (16-core, 64GB DRAM). Software Feature Licenses: Advanced IP Routing Suite, SRv6 Acceleration Pack, Hardware Encryption Extension.