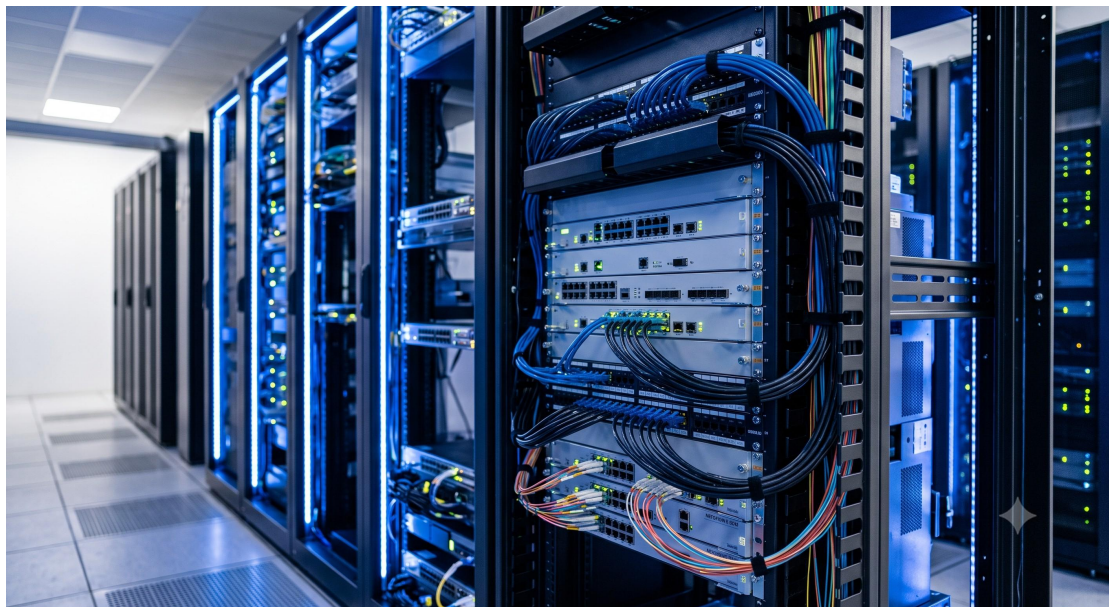


NetEngine 8000 Series - Official Technical Overview & Hardware Datasheet

PRODUCT OVERVIEW

The Huawei NetEngine 8000 series is a comprehensive portfolio of all-service intelligent routers engineered for the AI-driven cloud era. This platform transcends traditional routing boundaries by integrating ultra-broadband pipes, native SRv6 intelligent connections, and AI-infused operations to construct a simplified, high-availability IP backbone. Designed to serve as the foundation for enterprise WAN cores, large-scale Data Center Interconnect (DCI), campus aggregation, and Internet Data Center (IDC) egress points, the NetEngine 8000 family delivers carrier-grade performance and full lifecycle automation .



ARCHITECTURE & CHASSIS DESIGN

The NetEngine 8000 series is architected around a philosophy of modularity and scalability, encompassing three distinct product lines tailored for specific deployment scenarios: the high-end X Series modular chassis, the versatile M Series compact modular systems, and the high-density F Series fixed-configuration platforms .

The flagship X Series employs an industry-leading orthogonal hardware architecture. This design allows for a direct connection between Line Processing Units (LPUs) and Switch Fabric Units (SFUs), significantly reducing signal loss and improving overall system bandwidth. The architecture supports a per-slot capacity of up to 19.2 Tbps, enabling a future-proof investment that accommodates exponential traffic growth . The M Series (M14, M8, M6, M4) redefines compactness, delivering substantial switching capacity in a space-efficient footprint, making it ideal for space-constrained central offices and aggregation sites .

HARDWARE FEATURES & REDUNDANCY

All chassis-based models in the NetEngine 8000 series (X Series and M Series) incorporate full redundancy for mission-critical components, ensuring non-stop service operation:

- Control Plane: 1:1 Active/Standby hot-swappable Main Control Boards (MPUs) ensure seamless failover .
- Switching Fabric: N+1 redundant fabric modules (or integrated fabric in M Series) protect against backplane failures .
- Power Supply: N+1 or 1+1 redundant power modules (AC/DC options) provide resilience against power source interruptions .
- Cooling: N+1 redundant fan trays with intelligent speed control optimize thermal efficiency and reduce acoustic noise .

COMPLIANCE & STANDARDS

The NetEngine 8000 series adheres to rigorous industry and environmental standards to guarantee interoperability and operational safety across global networks. It supports a comprehensive suite of MPLS, Segment Routing, and Ethernet standards. The platform is designed to meet critical compliance requirements including NEBS (Network Equipment Building System), CE, and RoHS directives. Ruggedized models like the M1D-B are engineered to withstand extreme temperatures, operating reliably between -40°C and +65°C, making them suitable for outdoor and un-sheltered deployments .

TECHNICAL SPECIFICATIONS

The NetEngine 8000 series offers a diverse range of performance tiers to match specific network requirements. Below are the key capacity and physical specifications for the core models.

Parameter	NetEngine 8000 X8	NetEngine 8000 M14	NetEngine 8000 F8	NetEngine 8000 M1D-B
Form Factor	15.8U Chassis	5U Chassis	13U Chassis	1U Fixed
Switching Capacity	346.3 Tbps	441.9 Tbps	12.8 Tbps	27 Tbps
Forwarding Performance	48,848 Mpps	108,326 Mpps	2,035 Mpps	4,876 Mpps
Max Slots (LPU)	8	14	8	Fixed
Redundancy (MPU/SFU)	1:1 / 7+1	1:1 / 1:1	1:1 / 1:1	Fixed
Typical Power	11,017 W	905.6 W	2,370 W	108.7 W
Dimensions (HxWxD)	703 x 442 x 874 mm	222 x 442 x 220 mm	575 x 442 x 482.8 mm	44.5 x 442 x 220 mm

ORDERING OPTIONS

The NetEngine 8000 series provides flexible ordering options to support network evolution. Customers can select from pre-configured chassis bundles or customize their systems with a variety of service cards and licenses. The platform offers a comprehensive line card portfolio including high-density 100GE, 400GE, and flexible-rate 25GE/50GE interfaces .

Key ordering considerations include:

- Chassis Selection: Choose from the X Series (X4, X8, X16), M Series (M4, M6, M8, M14), or F Series (F1A, F8) based on slot capacity and form factor .
- Line Cards: Select from Ethernet (FE, GE, 10GE, 25GE, 50GE, 100GE, 400GE) and SDH/PDH interface cards .
- Right-to-Use (RTU) Licensing: Port bandwidth can be flexibly upgraded via software licenses (e.g., 10GE to 50GE) to adapt to evolving traffic demands without hardware replacements .
- Power Accessories: Specify AC or DC power modules and appropriate cable management kits.

