

Huawei U2000 Network Management System - Official Technical Overview & Hardware Datasheet

EXECUTIVE SUMMARY

The Huawei U2000 Network Management System (NMS) represents a paradigm shift in unified network operations, offering a carrier-grade, highly scalable management platform designed to streamline the administration of multi-vendor, multi-technology transport networks. As the cornerstone of Huawei's fixed-network management portfolio, the U2000 provides comprehensive fault, configuration, accounting, performance, and security (FCAPS) management across optical, access, and IP networks. This document serves as the official datasheet and technical overview, detailing the system architecture, hardware specifications, and deployment capabilities of the U2000 platform. Engineered for high availability and massive scalability, the U2000 empowers service providers to reduce operational expenditures (OPEX), accelerate service provisioning, and ensure end-to-end network visibility through a unified, intuitive management interface.



ARCHITECTURE & CHASSIS DESIGN

The Huawei U2000 system is architected on a flexible, modular platform that decouples management functions from the underlying hardware, enabling deployment on standard x86 servers or within virtualized environments. The system comprises three core tiers: the Data Collection Layer, the Business Processing Layer, and the Presentation Layer. The Data Collection Layer utilizes a high-performance event-processing engine capable of polling thousands of network elements (NEs) simultaneously, supporting protocols such as SNMP, CLI, and NETCONF. The Business Processing Layer centralizes FCAPS logic, employing a distributed database architecture to ensure data consistency and high availability across geo-redundant sites. The Presentation Layer delivers a responsive, web-based graphical user interface (GUI) that provides role-based access control (RBAC) and customizable dashboards for network operators. The

platform's hardware-agnostic design allows for seamless integration with Huawei's entire product portfolio, including the OSN, ATN, and NE series, while also providing robust southbound interface support for third-party network elements. Redundancy is achieved through an active/standby server configuration with automatic failover, ensuring 99.999% system reliability.

HARDWARE FEATURES

The U2000 platform is optimized for high performance and reliability, with core hardware features designed to support networks of up to 10,000 managed network elements. Key performance indicators include a maximum concurrent user count of 100, and a performance management data retention period of up to 730 days. The system supports a wide array of interface options for northbound integration, including RESTful APIs and CORBA, facilitating seamless integration with OSS/BSS systems. The physical deployment can leverage standard rack-mount servers with dual power supply units (1+1 redundant) to ensure uninterrupted operation. Storage is configured with RAID 10 for data redundancy and optimized input/output operations per second (IOPS). The U2000 also incorporates an embedded security framework, featuring encrypted communication channels (SSH, SSL/TLS) and comprehensive audit logging, which are crucial for meeting regulatory compliance requirements in carrier-grade environments.

COMPLIANCE & STANDARDS

The Huawei U2000 complies with a broad spectrum of international and industry-specific standards, ensuring interoperability and security. It adheres to the ITU-T FCAPS management framework, providing a standardized approach to network management. The system is fully compliant with the 3GPP standards for network management, ensuring seamless management of mobile backhaul networks. In terms of security, the U2000 supports the ISO/IEC 27001 standards for information security management, with integrated features for user authentication, authorization, and accounting. The platform is also compliant with the European Telecommunications Standards Institute (ETSI) standards for network virtualization (NFV) and Software-Defined Networking (SDN), supporting future-proof network evolution. Furthermore, the U2000 supports multi-vendor network element management through standardized interfaces, significantly enhancing its utility in heterogeneous network environments.

TECHNICAL SPECIFICATIONS

The following section provides a comprehensive overview of the technical specifications for the Huawei U2000 NMS platform. These specifications define the system's hardware requirements, capacity, and performance limits.

Parameter			Specification
Maximum Elements	Managed	Network	10,000
Maximum Concurrent Users			100
Recommended Server Configuration			Dual Intel Xeon Processors, 128 GB RAM, 2 TB RAID 10 Storage
Operating System			SUSE Linux Enterprise Server 12 SP3 or later
Database			Huawei GaussDB 100 or Oracle 12c
Northbound Interfaces			RESTful API, CORBA, SNMP
Southbound Protocols			SNMP v1/v2c/v3, CLI (SSH/Telnet), NETCONF
High Availability			Active/Standby Server with Automatic Failover
Mean Time Between Failures (MTBF)			> 200,000 hours
Operating Temperature			10°C to 35°C
Operating Humidity			10% to 85% (non-condensing)

ORDERING OPTIONS

The Huawei U2000 is available through a flexible licensing model that allows service providers to scale capacity based on network growth. Standard ordering options include base software licenses for the U2000 Server, which includes the core FCAPS management functions and a limited number of managed network element nodes. Additionally, capacity expansion licenses are available in increments of 100, 500, and 1000 network elements to accommodate network expansion. For large-scale deployments, the U2000 can be procured as a turnkey solution on pre-validated and optimized Huawei hardware appliances. Optional software modules, such as the Network Traffic Analyzer or Service Provisioning System, can be added to the base license for enhanced functionality. Consulting and professional services are also available to ensure seamless integration and deployment of the U2000 platform, optimizing it for the customer's specific network environment and operational workflows. For detailed ordering and part numbers, please consult your Huawei representative.

