

HUAWEI

T e c h n o l o g i e s



iManager N2000 Datacomm Management System



Why the **MOST PROFITABLE CHOICE** is not always the most obvious one.



Huawei datacom. New Choice. Right Choice.

Every day more and more companies around the world are making Huawei their first choice for datacom solutions.

Because at Huawei we believe the best technical solutions should also be the most profitable ones for our clients.

As one of the few companies in the world with end-to-end IP solutions, we are uniquely equipped to offer not just elegant products, but also a spirit of teamwork with our clients in designing and implementing reliable, efficient and profitable carrier-class networks.

So if you are looking for a supplier that not only listens carefully to your needs, but also cares passionately about your profits, then it's time to make a new choice.

The right choice. The Huawei choice.



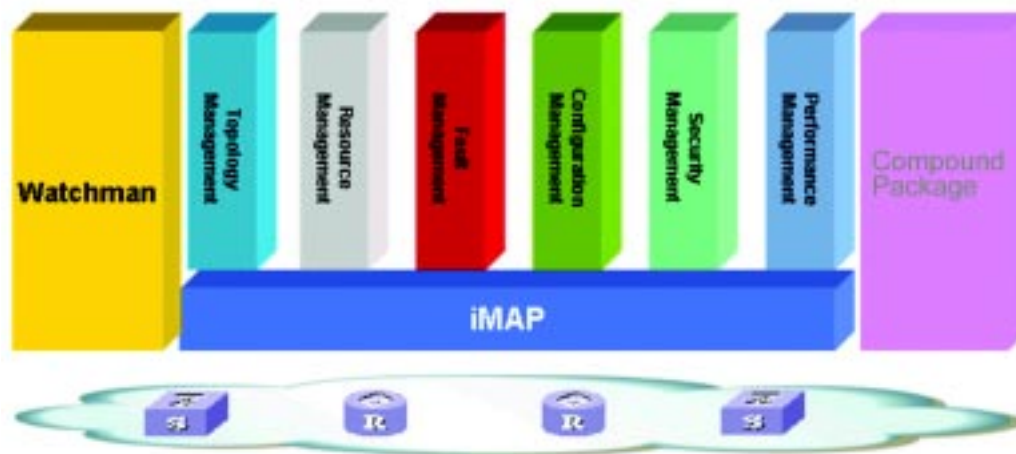
Huawei Technologies

Highlights

- Full series of Huawei's datacomm equipment management
- 3rd party equipment management
- Hierarchical architecture for scalable management
- Perfect performance management solution
- Inventory management for IP network
- Physical topology view and IP topology view with automatic discovery
- Remote dual-system hot backup solution for high availability
- HGMP solution for easy management of LAN access network
- Northbound interface
- Multiple Operation System Platform support

Overview

iManager N2000 DMS is a data communication network management system which implements a unified management and maintenance on datacomm network devices. Residing at the management layer of network solutions, it implements management on Network Elements (NEs) and networks. It is developed referring to the related international Network Management (NM) standards and recommendations (including the related standards and recommendations released by ITU-T, IETF, and TMF, etc.) as well as the NM product architectures prevalent in the industry. Combined with Huawei's data communications equipment, the iManager N2000 DMS provides customers with overall network solutions for data communications, such as equipment maintenance and network management. In addition, it offers the northbound interface for Operating Support System (OSS).



iManager N2000 DMS architecture

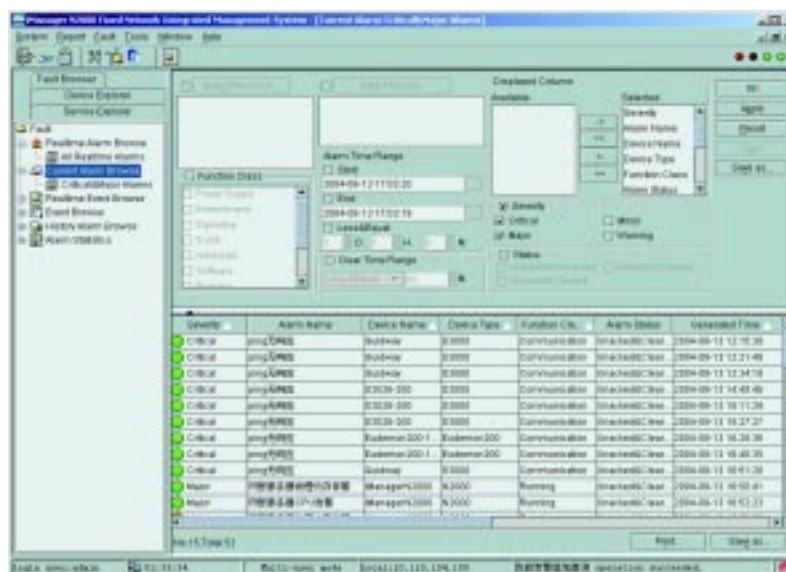
Main Features

Fault Management

Fault Management function is used to monitor the device fault and running status on a real-time basis, perform history information statistics and offer helpful fault location methods.

Main functions of fault management are as follows:

- Real-time alarm with visual and audible prompt;
- Supporting re-definition for alarm levels, that is, you can define alarm levels as required;
- Supporting shielding repeated alarms and intermittent alarms so as to reduce alarms report by mistake;
- Supporting sending alarms through E-mail ;
- Supporting saving the processing experience for maintenance reference in the future ;
- Supporting establishing an "Alarm Query Template" as required, in this way you can set required conditions to browse concerned alarms and save the result as a report;
- Supporting dumping history alarms to save the space and ensuring high efficiency and stability of the system;
- Supporting alarm topology locating so as to get the location of the NE with the alarm generation;
- Providing daily, weekly and monthly link utilization reports.



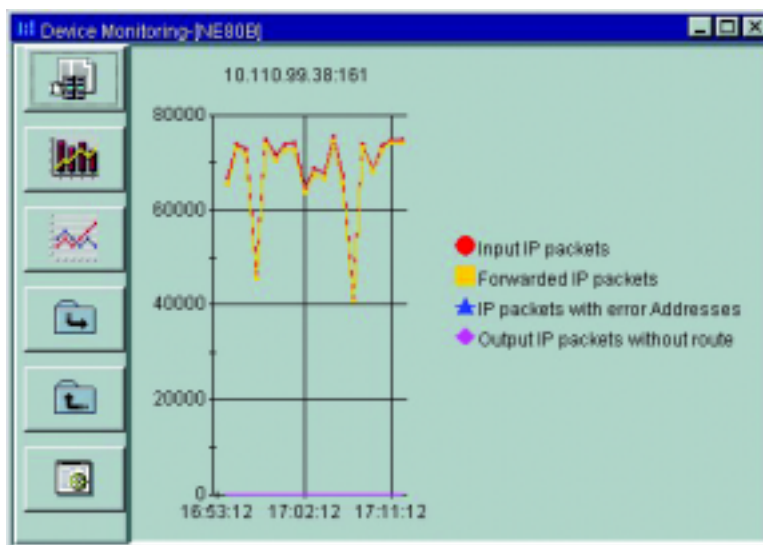
Fault management

Performance Management

Performance Management function is used to monitor the performance change of network and device on a real-time base so as to achieve effective network management and data supports for network optimization.

Main functions of performance management are as follows:

- Interface input/output traffic, interface input/output utilization, interface input/output error packet, input/output error rate, interface input/output drop packet, interface input/output drop rate, interface input/output unicast packet, interface input/output non-unicast packet and interface input unknown protocol packet;
- IP receive/send rate, receive/send drop IP packet, correct receive/send request IP packet, route failure/fragment failure IP packet, IP packet header error/address error packet and IP unknown protocol packet;
- CPU load, memory usage, system temperature and fan status;
- Monitoring threshold setting function and notifying the administrator if the threshold is exceeded;
- Monitoring the network performance indexes (such as drop packet number, received packet number, number of packet with more than 64 bytes, and number of packet with more than 1518 bytes) through RMON (RFC1757 RMON-MIB and Huawei-defined alarm extended MIB) and support user-defined performance monitor indexes.



Performance management

Configuration Management

Provide abundant configuration management methods of network devices:

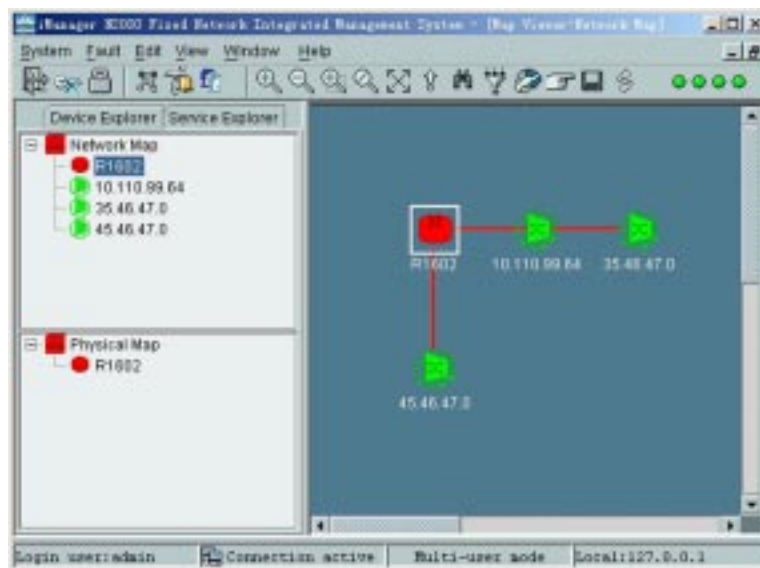
- Routers: Configures port Up/Down, port mirroring, port aggregation, active/standby switchover, board reset, ARP aging time and L2 forwarding table;
- Switches: Writes to FLASH, device reset, configuration of DHCP binding (MAC + port, IP + MAC and IP + MAC + port), DHCP server/relay/client, address binding, port, port aggregation, VLAN, VLAN Trunk/Hybrid, L2 protocol (STP, GARP, GVRP, GMRP, IGMP Snooping and MSTP) and management of QoS, HGMP and stack;
- MA5200: Manages address pool, AAA, VLAN, PPP and users, and provides real-time monitor graphs for domain, RADIUS authentication, accounting server, Portal Server, address pool and online users;
- Backup recovery management which helps the administrator manage configuration file versions of network devices.

Topology Management

Provide the unified topology management to monitor devices on the whole network. The user can view topology to get the real-time running state of whole network.

Main functions of topology management are as follows:

- Perform topology auto-discovery and refresh the topology dynamically;
- Detect the change of network device status (for example, the port status is changed or the communication with the NMS is broken) to change the color of topology node;
- Enable you to create a topology view (physical view) composed by your concerned devices;
- Provide aerial view to display and locate the required topology in a large scale network;
- Search for a node in the topology and locate a network device in the explorer and topology view as fast as possible; Drag, zoom in, zoom out and select several nodes on the topology.



Topology management

Security Management

Security management function can provide user management, authority management , operation log management, convenient backup tool, and system high-availability.

The main functions include:

- Providing flexible policies to allocate rights for users (authenticate users according to object + operation), which is convenient for operator to allocate user right based on the actual management responsibility;
- Providing simple and convenient tools for database backup which simplify the administrator's task;
- Providing Watchman components which ensure high-availability of the system;
- Providing detailed user and task operation logs.

HGMP Management

Provide powerful HGMP management for a large number of low-end devices such as L2 switches and provides effective and easy maintenance method:

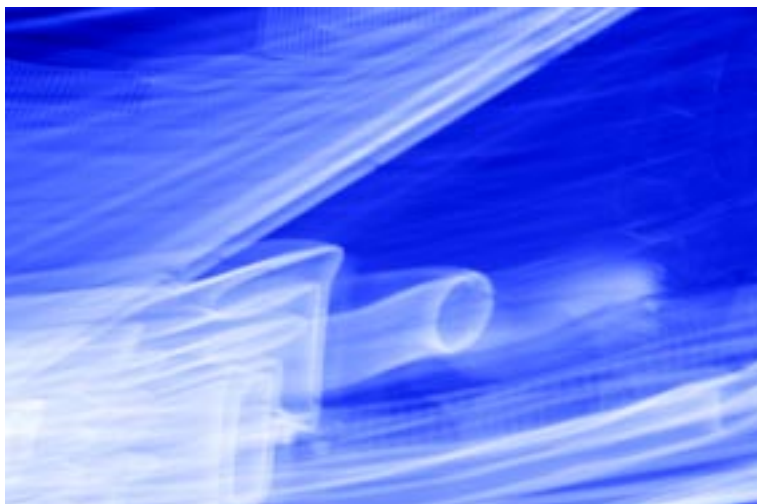
- Discovering HGMP topology automatically and supporting dynamic refreshment;
- Implementing unified, centralized and batched configuration management for one group of devices;
- Centralized maintenance management for devices in the HGMP;
- Implementing convenient configuration data backup and recovery.

Northbound Interface

Provide northbound interface for Operating Support System (OSS) or other fault/performance ISV special system(such as Micromuse NetCoo) to meet the carrier requirement.

These protocols are widely applied in the industry. Including:

- SNMP
- CORBA



Managed equipment

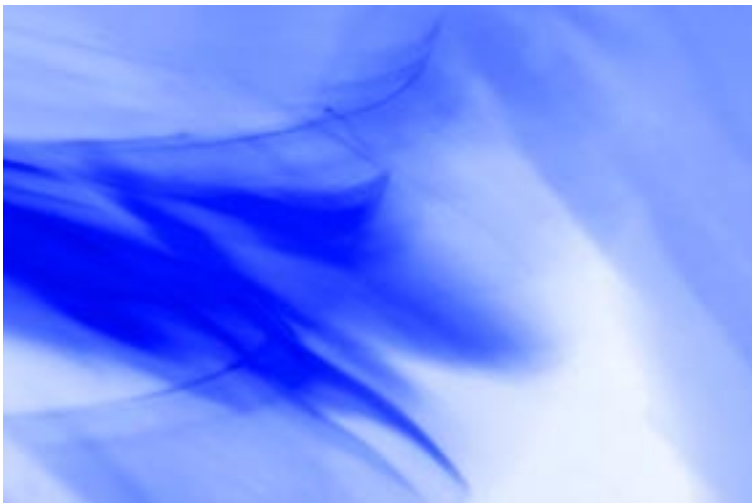
The iManager N2000 DMS can manage the following devices:

- Quidway NetEngine series routers;
- Quidway AR series routers;
- Quidway R series routers;
- Quidway Eudemon series security gateways;
- Quidway S8500 series Ethernet switches;
- Quidway S8000 series Ethernet switches;
- Quidway S6500 series Ethernet switches;
- Quidway S5000 series Ethernet switches;
- Quidway S3500 series Ethernet switches;
- Quidway S3000 series Ethernet switches;
- Quidway S2000 series Ethernet switches;
- Quidway WA1000 series WLAN products.

Typical Configuration

iManager N2000 DMS typical configuration

Server	UNIX	Solaris 8 + Sybase12.0
	Windows	Windows 2000 Server + SQL Server 2000
Client	Windows 2000 Professional + Internet Explorer5.5 / Netscape6.0	



Huawei End-to-End Solutions

Router Series

- Quidway NetEngine 5000 Terabit Switching Router
- Quidway NetEngine 80 Core Switching Router
- Quidway NetEngine 40 Series Universal Switching Routers
- Quidway NetEngine 20 Series High-Performance Edge Routers
- Quidway NetEngine 16E/08E/05 Series Multi-Service Edge Routers
- Quidway AR 46 Series Enterprise Core Routers
- Quidway AR 28 Series Modular Branch Routers
- Quidway AR 18 Series Access Routers

LAN Switch Series

- Quidway S8500 Series 10G Core Routing Switches
- Quidway S8016 Multi-Service Backbone Routing Switch
- Quidway S6500 Series Gigabit Routing Switches
- Quidway S5516 Gigabit Routing Switch
- Quidway S5000 Series Gigabit Intelligent Layer 2 Ethernet Switches
- Quidway S3500 Series Intelligent Routing Switches
- Quidway S3000 Series Intelligent Layer 2 Ethernet Switches
- Quidway S2000 Series Enterprise Desktop Switches

Security & VPN Products

- Quidway Eudemon 1000/500/200/100 Series Firewalls
- Quidway Eudemon 2000 Series Session Border Controllers
- Quidway SecPath Series Security Gateways

VoIP Products and Solution

- Quidway A8010 Expert VoIP Gateway
- Quidway A8010 Mini-Expert VoIP Gateway
- Quidway A8010 VoIP GateKeeper

BRAS

- Quidway MA5200G Broadband Intelligent Access Server
- Quidway MA5200F Compact Broadband Intelligent Access Server

Access Servers

- Quidway A8010 Expert Remote Access Server
- Quidway A8010 Mini-Expert Remote Access Server

WLAN Products and Solution

- Huawei C9012 WLAN Authentication Server
- Quidway W1006E WLAN Access Point
- Quidway W1003 WLAN Access Point
- Quidway W1003A WLAN Access Point
- Quidway WL100M WLAN Cardbus Adapter
- Huawei WG202 GPRS+WLAN Combo Card

Network Management Solution

- iManager N2000 Datacomm Management System
- iManager NSM VPN Manager
- iManager NSM QoS Manager
- iTellin AAA System

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