

UNMS Universal Network Management System



Morph and harmonize your network

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Description



The growing diversity and size of telecommunication networks and a proliferation of network equipments represent an increasing challenge to the telecom service providers. Today's service providers need to cope with the complex O&M overheads with a centralized management tool offering simultaneous access to heterogeneous networks without compromising control and security.

UNMS is the leading edge Network Management System platform with client-server architecture providing integrated management functions for the various communication equipment series Tainet offers. While acting as an information warehouse capable of managing the entire network rather than pieces of it, the UNMS also has an extensive set of useful features built into its distributed object-oriented architecture. Such features include:

Java-Based

UNMS is implemented in Java language so that it can support multiple computer platforms, such as Windows® series, Unix platforms, or Linux, etc.

Client-Server System

UNMS is a client-server system that supports coordinated management of logic execution and information storage. Multiple client workstations can log into UNMS simultaneously to perform network management tasks.

RMI-IIOP and JNDI

UNMS is constructed using a distributed object computing strategy, which is based on RMI-IIOP and JNDI technologies introduced in J2EE class suite. In this way UNMS Client-Server system can run upon RMI communication mechanism or CORBA-IIOP infrastructure. Further enhancements to UNMS include full compliance with the J2EE standard.

Relational Database Server

UNMS is equipped with relational database server to store related data like configurations, performance monitoring counters, historical alarm records, and so on.

Graphic User Interface (GUI)

Client application of UNMS presents users with user-friendly Java-style GUI. The system look-and-feel will be checked and modified for consistent GUI display across all computing platforms. For example, UNMS client will be rendered in Windows-style when running on Microsoft Windows OS, and in X-Windows style when on Unix platform.

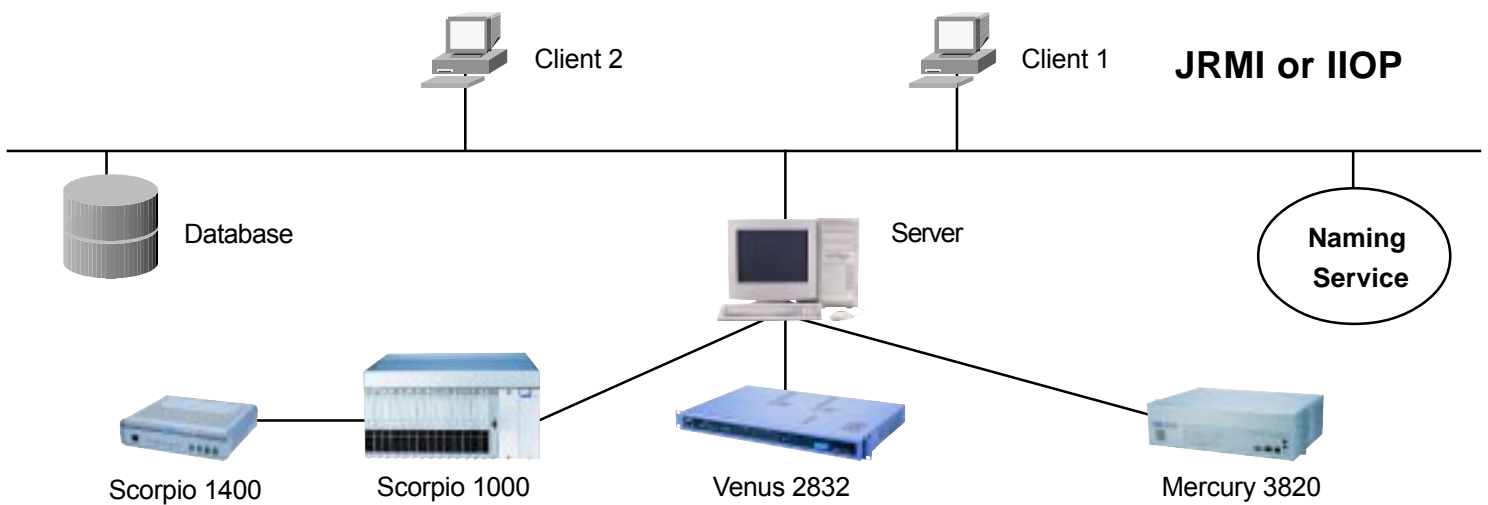
Simple Network Management Protocol (SNMP)

TCP/IP is a suite of protocols for datacomm network. Recent trend in telecom technology sees a merging of voice and data communications to bring the TCP/IP protocol suite into the management infrastructure of next-generation network equipments. SNMP is dominating the management architecture of today's multi-service networks. UNMS supports SNMP management protocol and exchanges messages defined in standard or enterprise MIB sets with Tainet equipments.

Trivial File Transfer Protocol (TFTP)

TFTP is a simple protocol used by memoryless devices to transfer files during embedded software upgrades or configuration file backup/download. It is very popular in modern communication product design. UNMS platform integrates the TFTP server protocol to seamlessly perform all related network management tasks.

Application Diagram



System Architecture Graph

Technical Specifications

UNMS is a distributed object system. Server computation is bound to customizable naming service, RMIRegistry, or CORBA ORB, while exchanging SNMP messages with managed network agents. UNMS Server summarizes and classifies collected data in the relational database tables. UNMS Client applications running on workstations reference Server remote objects from naming service, which in turn obtain requested information and commit transactions to the network. Multiple client Workstations can be set up to perform centralized management services in a distributed manner.

Network Manager

Topology

UNMS allows editing and displaying of topology in hierarchical tree structure and of network model in GUI.

Modular Architecture

UNMS is a flexible platform accommodating various EMS modules to be plugged in for management of different Tainet equipments. Setup programs are provided to support the plug-in installation in an integrated manner.

Security Control Mechanism

Versatile access control includes user level classification, user privilege management, user's geographical responsibility assignment, and operational log.

Network Provisioning

Provisioning functions include template commissioning, end-to-end management, manual or scheduled network backup, and device configuration restoration in case of catastrophic failures.

Network Monitoring

Network status is represented in different colors of node icons on topology model and summarized upward along topology tree.

Mercury EMS

Front Panel View

A front panel view look-alike screen allows user to perform administrative functions of Mercury devices. Port and slot LED statuses are graphically displayed in real time.

Configuration Management

Configuration settings can be performed over the graphical user interface. Manual and automatic backup function ensures stable network operation.

Loopback Operation

Mercury EMS supports interface for channel and timeslot loopback operation. The LED display in the front panel view reflects the channel loopback state.

Path Management

Via GUI, users can set cross connections individually for Mercury. Alternatively, users can search for all available logical paths on topology model and set an entire batch of cross connections to multiple devices.

Alarm Management

Alarm records can be stored and managed by UNMS. Users can search and view alarm records with flexible query conditions.

Performance Monitoring

Mercury device supports the function of accumulating PM variables like Error-Second. UNMS-Mercury allows users to query current PM data or historical PM records.

Scorpio 1000 EMS

Rack Management View

A window view that resembles the ETSI or ANSI Scorpio 1000 rack is rendered as the starting point to invoke OAM functions. Remote management of Scorpio 1400 is also supported.

Equipment Management

UNMS-Scorpio1000 allows users to set the required card type for each slot. If the actual card inserted does not match with the required card type, this condition will be detected and displayed in real time.

Configuration Management

In addition to integrated support for the configuration of point-to-point paths between CO- and CPE-end modems, advanced backup and restoration features are provided as well.

Fault Management

The fault management functions include current status query, historical alarm management, loopback from network side/ loop side/ customer side, and test pattern generation.

Performance Monitoring

PM functions are supported for all interface types and include generation of threshold crossing alarms.

Template Commissioning

Users can edit templates for port or rack configurations which can be stored in database server and applied quickly to the actual network.

Integrated Firmware Upgrade Scheme

UNMS integrates TFTP services as built-in functions to support on-line firmware upgrades.

System Requirements

UNMS-PC

Server Minimum Requirements

- Windows 2003 based PC server
- Pentium IV 1800 MHz or equivalent CPU, 1Gb RAM, 200GB HDD, 1024 x 768 pixel resolution monitor, and 10/100 Mbps Ethernet card
- Java Runtime Environment v1.3.x or above

Database

- MySQL v3.23.39 or above

Client

- Windows XP based PC workstation or above
- Pentium IV 1300 MHz or equivalent CPU, 640 Mb RAM, 300Gb HDD, 1024 x 768 resolution monitor, and 10/100 Mbps Ethernet card
- Java Runtime Environment v1.3.x or above

Ordering Info

Items	License Type	Description
UNMS-NM		UNMS Network Manager platform
UNMS-Mercury	Basic license	UNMS Mercury management module for 20 element nodes
	Extension license	Add more management capacity by 20 more Mercury series element nodes
UNMS-Scorpio 1400	Basic license	UNMS Scorpio 1400 management module for 10 element nodes
	Extension license	Add more management capacity by 20 more Scorpio 1400 element nodes
UNMS-Venus	Basic license	UNMS Venus series management module for 20 Venus 2832 or 100 Venus 2804 element nodes
	Extension license	Add more management capacity by 20 more Venus 2832 or Venus 2804 element nodes
UNMS-iEAC-16*	Basic license	UNMS iEAC-16 management module for 20 iEAC-16 MCU agents
	Extension license	Add more management capacity by 20 more iEAC-16 agents
UNMS-MUXpro 820	Basic license	UNMS MUXpro 820/8210 management module for 20 element nodes
	Extension license	Add more 20 nodes licence capacity for additional MUXpro element nodes

*Future available



The Professional Partner

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* Specifications subject to change without notice.