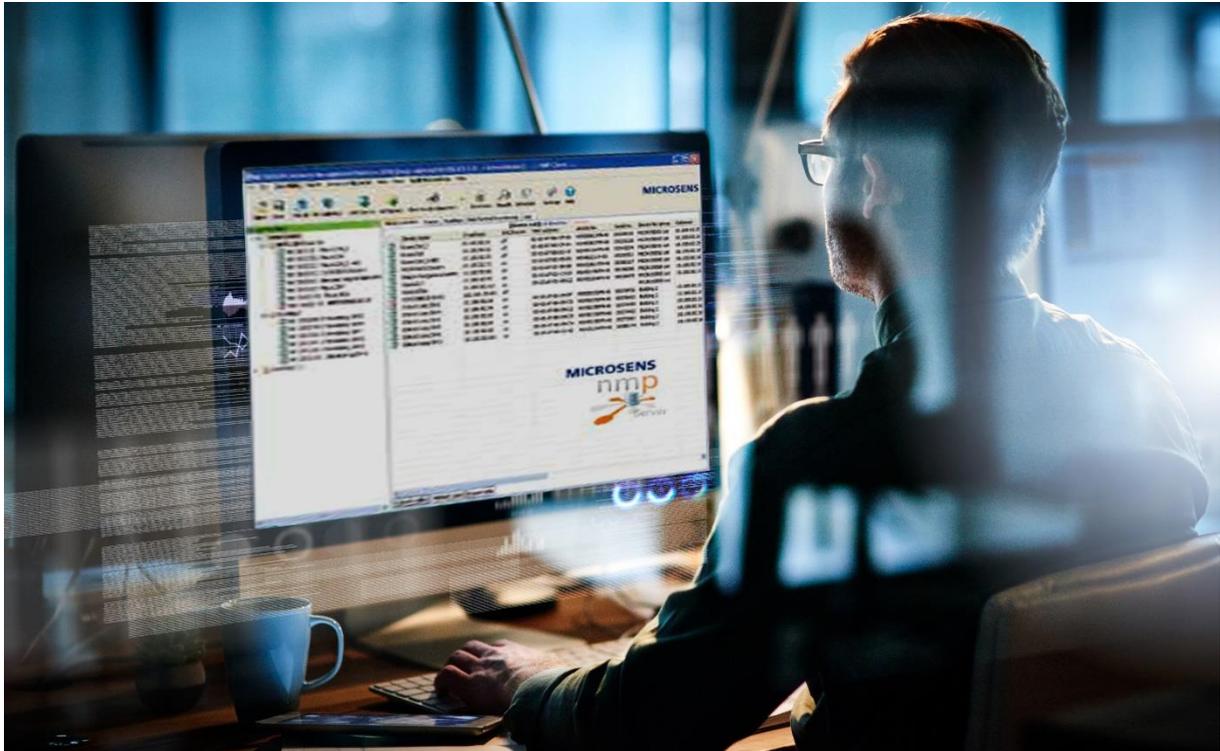


Data Sheet

NMP for IT Network Management



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Overview

Decentralized structures do not automatically mean additional expenditure for the maintenance and administration of a network. The central network management solution NMP developed by MICROSENS actively supports administrators and IT specialists in their daily maintenance and management tasks in the network and thus creates optimal conditions for the efficient implementation of IT work processes.

Highlights

- Monitoring and management of MICROSENS network devices (Micro Switches, industrial Ethernet switches, xWDM-Systeme MSP1000 / MSP3000)
- Auto-discovery, group-based firmware updates and roll-out function with automated distribution of master configurations and firmware versions
- Network visualization with import function for e.g. data center plans and maps
- Monitoring of availability and port activity
- Configurable event management
- Automated alarm messages
- NMP Enterprise with redundant design
- Authorization, group-based user administration
- Security, dedicated control of user access rights
- Open for integration with umbrella management systems

Effective IT management

Economically efficiency

In addition to key figures such as system availability, recovery time and energy efficiency, service orientation within IT management is also becoming increasingly important. However, a balanced relationship between service quality and personnel costs requires efficient workflows and powerful tools that provide administrators with optimal support in their daily work.

Therefore MICROSENS provides its customers not only reliable hardware solutions but also the network management system NMP. Network hardware and software thus form a perfectly coordinated overall solution that enables high system availability, fast reaction times and optimal workflows. The graded license model takes into account different installation sizes and requirements: from a single-user system to powerful server based enterprise and high-availability solutions for the management of several thousand devices.

Reduction of roll-out and recovery times

With NMP, roll-outs are flexible and simple. Different master configurations can be distributed group-based at the push of a button. Scheduled firmware updates with version control make recurring tasks easier for administrators and reduce maintenance-related downtime at the same time. Replacing devices is also very easy. The NMP software automatically detects identical devices and can then automatically restore configurations and firmware. All that is required is to enter the old and new MAC address of each device into an easy-to-grasp user interface - tasks that are also easy for anyone to perform.

Universally applicable in small, medium and large businesses

NMP helps network administrators to manage small to medium sized networks in mid-sized companies as well as large enterprise networks. For these application areas, MICROSENS offers NMP in two versions:

- **NMP Professional** as a single-user software application for the management of up to several hundred network devices in small-sized businesses
- **NMP Enterprise** as a multi-user software application for medium-sized companies up to large enterprises with several thousand network devices

Redundant design, parallel access and automated documentation

NMP Enterprise allows simultaneous access for several administrators with automatic detection of simultaneous configuration accesses to individual devices. The Enterprise variant stores device groups, device configurations and topology information, including the change history, in an SQL database that can be configured redundantly. This provides administrators with a complete record of all changes made and configuration steps with exact assignment to the respective user for the documentation of compliance policies.

Network Administration

NMP provides a discovery functionality that automatically detects all manageable MICROSENS devices in the network (SNMP Discovery, MAC Discovery, IP Based Discovery). The specific configuration can be stored and used for monitoring the network status.

Network Monitoring

Based on the device list file used for network administration serving as a reference the current status of all active, manageable devices in the network can be retrieved automatically. The status is displayed using a graphical interface.

Network Configuration

The hardware configuration of a manageable device, such as port configuration of traffic prioritization, can be viewed and changed for individual devices or for all similar devices in the network simultaneously.

Network Visualisation with Topology Manager

NMP also provides network map visualisation via the topology manager. Simply placement of network devices on the map, linking and monitoring their actual status.

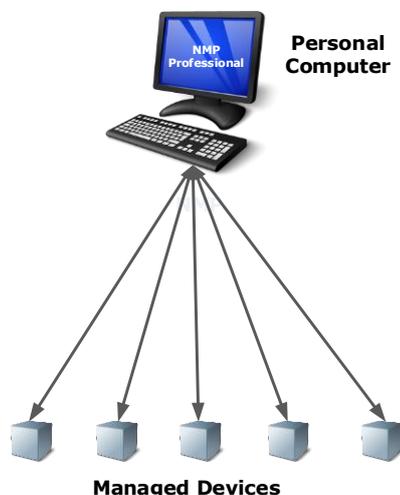
NMP Professional

Application Area

- Small networks
- Up to 500 managed devices
- Commissioning of devices
- Firmware roll-out to devices or device groups
- Device configuration
- Device monitoring

Management Architecture

- Single user / single computer
- Non-shared database
- Local data storage
- Supported operating systems
 - Windows
 - LINUX



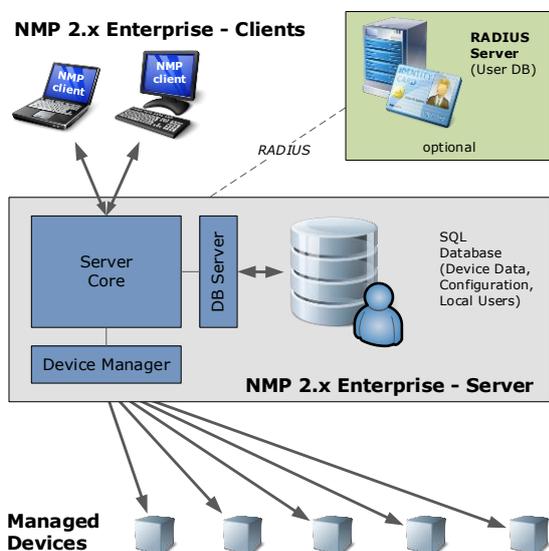
NMP Enterprise

Application Area

- Medium and large networks at several locations
- Thousands of managed devices
- Firmware roll-out to devices or device groups
- Device configuration
- Device monitoring
- Multiple users
- Consistent data

Management Architecture

- Multi user client-server SW application
 - Client to access a NMP Enterprise server instance on a dedicated server
 - Preconfigurable Enterprise client for simplified setup and roll-out
 - Server provides device manager and shared database services
- Database server
 - Central SQL database
- Supported operating systems
 - Windows
 - LINUX



Operational Security

- User Management and Access Security
 - User and Role Management for Access Control
 - Access Control via external Authentication Server (RADIUS)
 - Integration with RADIUS server (optional)
- Database backup
- Fail-safe configuration (optional)

Feature Stack

Common Features

- **Auto-Discovery**
All active MICROSENS devices and other switches which are accessible via the device network will be discovered by the discovery component
- **Inventory**
 - Collect inventory data from managed devices: Hardware model information, firmware version, IP address, mac address
 - Creation of inventory lists
- **Logging**
 - Configurable logging of events in a central place
 - Syslog Server to receive syslog messages
 - Syslog Client to send syslog messages to an superordinate system e.g. umbrella manager
- **Automation of Firmware Updates**
 - Collect already deployed firmware version information
 - Upload a new firmware version to NMP
 - Deploy firmware to one or more MICROSENS devices
- **Topology manager**
 - Network Visualisation
 - Manual or automatic creation of topologies
 - Topology update
 - Load/remove map background
 - Zoom in/out
- **Flexible device tree**
 - For easy navigation
 - Definition of device groups per drag & drop
- **Device configuration**
 - Device configuration load/save
 - Master configuration
 - Update of firmware
 - Communication parameters
 - Device name
 - Install/uninstall applications
- **Task scheduler**
- **Password Changer**
 - Change administrator and user passwords for multiple managed devices
- **E-mail Notifications**
- **Event & Alarm Handling**
 - Filtering of events
 - Forwarding of SNMP events
 - Sending an email as reaction on a detected event
 - Automatic alarm lists
- **Device search tool**
- **VLAN change tool**

NMP-Professional

- **Installed on one computer system**
 - Single user software application
 - Non-shared database

NMP-Enterprise

- **Multi user software application**
- **Shared database**
 - Embedded SQL database
 - Database backup/restore
- **Server Redundancy**
 - Optional
 - Replication & failover
 - Setup and configure a master/slave server environment
- **Integration Service**
 - Provide integration with 3rd party servers
 - SNMP server integration for data query
- **User management**
 - Manage NMP user access levels and roles
 - Manage administrator accounts and roles with access to the GUI
- **Context functions**
 - Device history
 - Show device logs
 - Unused devices
- **Management Perspectives**
 - Network administration
 - User administration

Minimum System Requirements

- **Operating System 64 bit**
 - Windows 10, Debian Linux 9 LTS (NMP Enterprise client component, NMP Professional)
 - Windows Server 2016, Debian Linux 9 LTS (NMP Enterprise server component)
- **RAM**
 - 8 GB (NMP Enterprise, server component)
 - 4 GB (NMP Enterprise, client component)
 - 8 GB (NMP Professional)
- **Free disk space**
 - 2 GB + 1 GB/1.000 additional managed devices (NMP Enterprise, server component)
 - 1 GB (NMP Enterprise, client component)
 - 2 GB (NMP Professional)
- **CPU**
 - 3 GHz, typically 4-6 Core CPU (current Xeon Server CPU, current i7 or i5 Desktop CPU; NMP Enterprise, server component)
 - 3 GHz, typically 4-6 Core CPU (current i7 or i5 Desktop CPU; NMP Enterprise, client component)
 - 3 GHz, typically 4-6 Core CPU (current i7 or i5 Desktop CPU; NMP Professional)
- **Display**
 - Resolution of at least 1280*1024; recommended: 1920*1080.

▪ **Note:**

Please refer to the latest NMP user manual or the latest NMP Release Notes. The valid installation requirements can always be found in the current NMP Release Notes.

Product Deliverables

Basic packages are offered for the respective product variants of NMP, which include the right to install and use the management software (NMP Professional or NMP Enterprise Server) on exactly one computer system for an unlimited period of time. Furthermore, with the purchase of a basic package, the purchaser receives the right of use to manage a maximum number of network devices (managed objects) defined by the basic package. The number of concurrent users of NMP Enterprise is not limited. Consequently, the number of concurrent client components of NMP Enterprise is limited only by the technical capacity of the server component's computer system.

The number of usage rights available with the basic packages for managing the number of managed devices contained therein can be expanded by purchasing paid expansion packages.

- For NMP Professional, the maximum number of Managed Objects that can be obtained through the purchase of Expansion Packs is limited to 500 Managed Objects.
- For NMP Enterprise, the maximum number of Managed Objects that can be extended with the Managed Objects extension packages is limited only by the capacity of the computer systems used for this purpose.

With the purchase of a basic or extension package, the buyer is also granted the right to install updates of the software free of charge for 1 year from the date of purchase (henceforth SW maintenance). This period can be extended by the purchase of chargeable maintenance packages in steps of one year; the scope of these maintenance packages must correspond to the respective purchased and used basic and extension packages.

The scope of delivery of a basic package, an extension package or a maintenance package includes a file with license keys which can only be assigned to one computer system. Internet access is required to request or activate the license keys. A comprehensive user manual in .pdf format is included with the installation file. The installation file is available for download by purchasers via a link on <https://www.microsens.de>.

See the section "Ordering Information" for more details.

Order Information for NMP Enterprise

	Designation	Article No.:
	NMP 2.x Enterprise Base Packages	
	NMP 2.x Enterprise Basic package incl. 1 x usage right for NMP Enterprise, 200 x usage rights f. NMP Enterprise Managed Objects, and SW Maintenance for 1 year (download and install of updates), installation of server SW on max. 1 computer, electronic user manual included (.pdf)	MS200100
	NMP 2.x Enterprise Basic package incl. 1 x usage right for NMP Enterprise, 1000 x usage rights f. NMP Enterprise Managed Objects, and SW Maintenance for 1 year (download and install of updates), installation of server SW on max. 1 computer, electronic user manual included (.pdf)	MS200102
	Additional software maintenance for NMP Enterprise Base Packages (n = 1,2, ...5)	
	n add'l year(s) of SW-Maintenance (right to download and install updates) for 1 x NMP 2.x Enterprise (MS200100)	MS200101-n
	n add'l year(s) of SW-Maintenance (right to download and install updates) 1 x NMP 2.x Enterprise (MS200102)	MS200103-n
	NMP 2.x Enterprise Expansion Packages	
	NMP 2.x Enterprise Expansion Pack, SW usage right for add'l 200 NMP Enterprise Managed Objects	MS200110
	NMP 2.x Enterprise Expansion Pack, SW usage right for add'l 500 NMP Enterprise Managed Objects	MS200112
	NMP 2.x Enterprise Expansion Pack, SW usage right for add'l 2000 NMP Enterprise Managed Objects	MS200114
	Additional software maintenance f. NMP Entrp. Expansion Packages (n = 1,2, ...5)	
	n add'l year(s) of SW-Maintenance (right to download and install updates) for 1 x NMP 2.x Enterprise Expansion Pack (MS200110)	MS200111-n
	n add'l year(s) of SW-Maintenance (right to download and install updates) for 1 x NMP 2.x Enterprise Expansion Pack (MS200112)	MS200113-n
	n add'l year(s) of SW-Maintenance (right to download and install updates) for 1 x NMP 2.x Enterprise Expansion Pack (MS200114)	MS200115-n

Order Information for NMP Professional

	Designation	Article No.:
	NMP 2.x Professional Basic Packages	
	NMP 2.x Professional Basic package incl. 1 x usage right for NMP Professional, 50 x usage rights f. NMP Professional Managed Objects, and SW Maintenance for 1 year (download and install of updates), installation of server SW on max. 1 computer, electronic user manual included (.pdf)	MS200070
	NMP 2.x Professional Basic package incl. 1 x usage right for NMP Professional, 100 x usage rights f. NMP Professional Managed Objects, and SW Maintenance for 1 year (download and install of updates), installation of server SW on max. 1 computer, electronic user manual included (.pdf)	MS200072
	Additional software maintenance f. NMP Professional Base Packages (n = 1,2, ...5)	
	n add'l year(s) of SW-Maintenance (right to download and install updates) for 1 x NMP 2.x Professional (MS200070)	MS200071-n
	n add'l year(s) of SW-Maintenance (right to download and install updates) for 1 x NMP 2.x Professional (MS200072)	MS200073-n
	NMP 2.x Professional Expansion Packages	
	NMP 2.x Professional Expansion Pack, SW usage right for add'l 25 NMP Professional Mgd. Objects, 1 year right to download and install of updates	MS200080
	NMP 2.x Professional Expansion Pack, SW usage right for add'l 50 NMP Professional Mgd. Objects, 1 year right to download and install of updates	MS200082
	NMP 2.x Professional Expansion Pack, SW usage right for add'l 100 NMP Professional Mgd. Objects, 1 year right to download and install of updates	MS200084
	Additional software maintenance f. NMP Prof. Expansion Packages (n = 1,2, ...5)	
	n add'l year(s) of SW-Maintenance (right to download and install updates) for 1 x NMP 2.x Prof. Expansion Pack (MS200080)	MS200081-n
	n add'l year(s) of SW-Maintenance (right to download and install updates) for 1 x NMP 2.x Prof. Expansion Pack (MS200082)	MS200083-n
	n add'l year(s) of SW-Maintenance (right to download and install updates) for 1 x NMP 2.x Prof. Expansion Pack (MS200084)	MS200085-n

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