



MA4000 Management System

A Powerful, Easy-to-Use Management Solution

At a Glance

- Centralized administration that integrates seamlessly
- Powerful, intuitive tools for simplified management
- Reliable fault management
- Advanced security through extensive controls
- Pro-active traffic management
- Performance optimisation tools

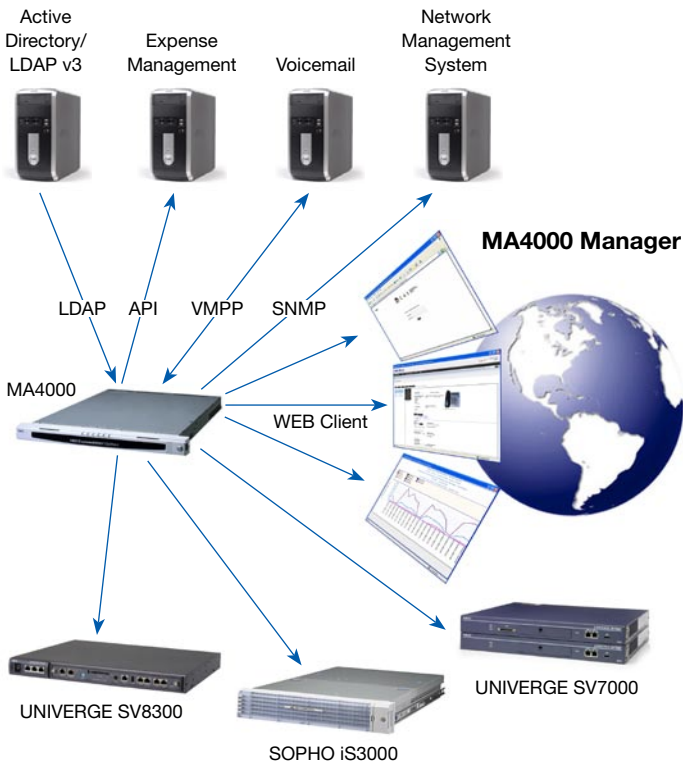
Secure, easy-to-use and robust, the MA4000 is designed to increase overall productivity while at the same time delivering flexibility and simplicity to IP telephony administration. In combination with the NEC Philips voice servers, MA4000 provides the necessary tools for a truly comprehensive IP telephony solution.

MA4000 has removed the mystery behind voice server administration. Powerful functions in MA4000 allow any task within the system to be done with ease. Features like Range Programming can perform large tasks, such as adding new extensions, changing extension programming or numbering, and moving, swapping or deleting extensions, faster than using traditional methods.

MA4000 reduces training and improves productivity, letting you focus on what is important: your customers.

Centralized administration and seamless integration

Centralized management is an essential part of a complete voice solution in today's enterprise environments. MA4000 has the ability to manage all of a company's voice servers simultaneously and with virtually no interaction by the administrator on a daily basis.

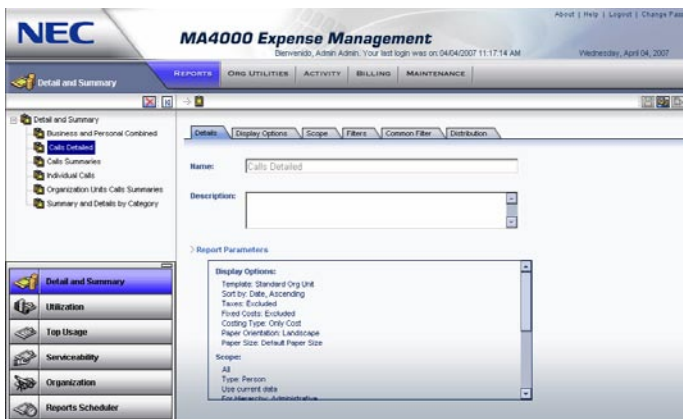


Automatic moves, adds and changes

By interfacing to the standard Lightweight Directory Access Protocol (LDAP), MA4000 synchronises NEC Philips' voice servers to a company's internal telephone directory, allowing users to take advantage of always up-to-date directory systems. The directory information is used to create voice server users, extensions and voicemail boxes automatically.

Voicemail integration

MA4000 provides tight integration with VMPP compliant voicemail systems. When new stations are created with MA4000, a mailbox can be generated and configured automatically with no additional effort. Voicemail configuration templates can be created in MA4000 for use with the Range Programming tool, the LDAP Auto Provisioning engine and the Import utility.



Expense control integration

Keeping control of telecommunication costs is essential. MA4000 provides a tight integration with the MA4000 Expense Manager (MAS 9).

Decentralized access

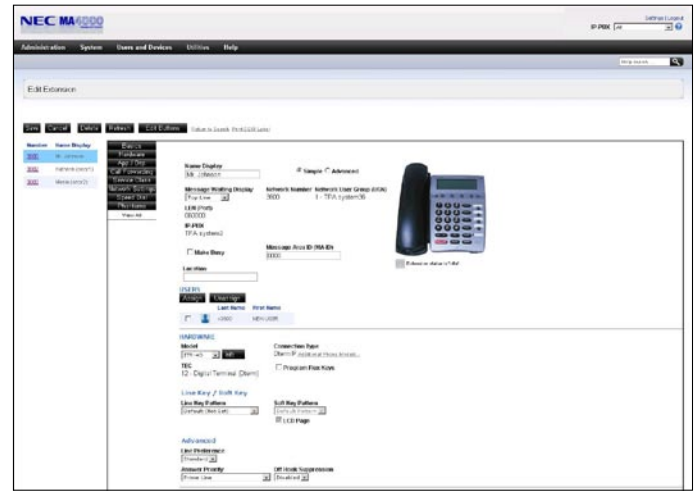
Decentralization of the management task is accomplished by distributing administrative functions to individual users in relation to their own phones and in accordance with their specific permissions. Users can control such things as: updating personal information, telephone name display, telephone buttons, personal speed dial and call forwarding via the MA4000 assistant, a web-based desktop application.

Free Numbering

Free Numbering enables you to move a user easily across the various voice systems, while keeping the same extension number. Existing properties are not moved, but replaced by a predefined set of properties, which keeps the system clean. The various templates allow you to create default settings for each type of user.

Simplified management

MA4000 offer a complete overview of all the characteristics of an extension and/or group and their dependencies. The administrator can search for and display extension and/or group information, locate, add, modify and delete extensions and/or groups, assign them to users, program the buttons and view its current status.



Range Programming

MA4000's Range Programming wizard makes it easy to perform adds, changes, copies, deletes, moves, renumbering of extensions and swaps of phones by using a sophisticated search engine that takes the guesswork out of management.

Templates

The MA4000 can be used to pre-define default configurations for extensions, users and mailboxes. These templates can then be used to add new devices or users with your choice of the Range Programming Tool, the import utility or the LDAP auto-provisioning tool.

Task scheduling

Administrators can execute tasks for a variety of MA4000 applications, such as range programming. You can schedule a task to execute on a specific date and time, or to execute immediately. Toll fraud (by staff after office hours) can easily be prevented by changing the class of service of a phone at a predefined schedule.

All Range Programming tasks create an audit log. An error during Range Programming results in an alarm.



Powerful Help search

MA4000 offers advanced keyword searches across all MA4000 online help and voice server documentation. This feature works just like a basic web search and displays results in the same way. Each returned result is ranked in order of relevance.

Fault Management

Alarm collection and notification

MA4000 can collect alarms from multiple sources: voice systems, its own server, based on certain thresholds, bad passwords, range programming errors and even the LDAP server. If an alarm is not promptly attended to, MA4000 can be configured to automatically escalate the notification to another user. MA4000 can also classify alarms into different groups and allows the administrator to route notifications of different alarms to different people. Notifications are sent using email, client pop-ups or SNMP.

Network Management System Integration

Systems like HP OpenView™, IBM® and Tivoli™ utilize Network Management Systems (NMS) to keep track of network faults, inventory management and reporting. MA4000 serves as Element Management System (EMS) and uses SNMP trap technology to forward any fault up to the NMS.

MA4000 Alarm Client

The Alarm Client is an application operating on any computer linked to a network with access to the MA4000 server and receives alarm notifications from the MA4000 server. A pop-up screen on the Alarm Client shows details of the alarm, including the alarm source and its severity. There is no limit to the number of Alarm Clients that can be connected to an MA4000 server.

System Health monitoring

System Health monitors the MA4000 server and MA4000 database periodically for any events that might create degradation in service and immediately notifies those concerned via MA4000 fault management. For example: an Alarm Notification is generated when available hard drive or database space is becoming low.

Advanced security

High attention is paid to secure access. Communication with the client can be encrypted using SSH (Secure SHell). Central Authentication Service is provided for Single Sign On. The information sources to perform the authentication include Windows Authentication, an LDAP source or even an internal database. The provision of credential information is always done in a secure fashion using SSL (Secure Socket Layer) (HTTPS). User access rights can be granularly and flexibly assigned by the allocation of roles defined by the manager. Users can be configured to only access certain Voice Systems or even limited Voice System resources as part of a particular user role.

Pro-active traffic management

The MA4000 traffic management option allows for pro-active traffic management of trunks, routes and processor occupancy. Immediately when there are potential traffic problems with routes, trunks or if the processor load is too high, the administrator is informed. Detailed reports, complete with useful and descriptive graphs describing the traffic patterns over time, can be generated manually or run automatically and either emailed to users or printed on specified printers.

Performance optimisation tools

Voice over IP statistics

MA4000 shows how conditions on a network affect VoIP quality. Detailed VoIP statistics from all of the IP phones throughout your network can be collected and viewed. Statistics include: bandwidth usage, packet loss, warning tone count and much more. Thresholds can also be defined for VoIP statistics and alarms can be generated when those thresholds are exceeded.



Real time monitoring

The real time monitoring tool displays connection status, registered/unregistered status, connected-to information, IP address, trunk number and route information, connection route details and much, much more. This tool allows for the simultaneous monitoring of stations, trunks and connection routes on multiple voice servers simultaneously and all from the same screen.

Technical data

Functionality	SV7000	2000 IPS/ SV8300	iS3000
Alarm and Audit logs	✓	✓	✓
Alarm groups support	✓	✓	✓
Alarm notification (email, client or SNMP)	✓	✓	✓
Audit History and logging	✓	✓	✓
Authorisation Code	✓	✓	✓
Auto Adjust time for daylight savings	✓	✓	✓
Automatic escalation process	✓	✓	✓
Budget management	-	-	✓
Button programming	✓	✓	-
Central Authentication/sign-in	✓	✓	✓
Clipboard functionality	✓	-	-
Decentralized access using MA4000 assistant	✓	✓	-
DECT support	✓	✓	✓
Disaster recovery-backup on Voice Server	✓	-	✓
DT300 & DT700 terminal support	✓	✓	-
Encrypted communication with client	✓	✓	✓
Expense Control (MAS 9) integration	✓	✓	✓
Extension and group Management	✓	✓	✓
Extensive On-Line help	✓	✓	✓
Fault collection (SNMP or polling, depending on voice server)	✓	✓	✓
Feature command programming	✓	✓	-
Import/export names and station numbers to .CSV, TXT or XML format	✓	-	-
Integrated and secure command based management	✓	-	-
Intrusion Detection (account lockout)	✓	✓	✓
LDAP (s)	✓	✓	✓
Range programming	✓	✓	✓
Real time monitoring and traffic status	✓	-	-
Reporting	✓	✓	✓
Role based permission	✓	✓	✓
Route (application) data programming	✓	-	-
Secure Socket Operation (https)	✓	✓	✓
Supports multiple voice systems simultaneously	✓	✓	✓
System Health Monitoring	✓	✓	✓
Task scheduling	✓	✓	✓
Template based programming	✓	✓	✓
Terminal status information	✓	-	-
Toll Fraud Protection	✓	✓	✓
Traffic management	✓	-	-
Voicemail integration	✓	✓	✓
VOIP Trouble shooting	✓	-	-

Hardware requirements

The minimum requirements for an enterprise system managing up to 5000 extensions with multiple users accessing the system are:

Server requirements

Processor	Pentium IV, 2.4 GHz
Memory	1 GB RAM, 5GB Free hard disk space
Drives	DVD-ROM
Operating system (32-bit)	Windows 2000 Professional Windows XP Professional Windows 2000 Server Windows 2003 Server
Internet Information Services	IIS 5.1 or 6.0
Database engine	Windows SQL 2000 or MSDE 2000 Windows SQL 2005 (incl. expres edition)

Client requirements

Processor	Pentium II, 233 MHz or higher
Memory	128 MB RAM
Operating system (32-bit)	Windows 2000 Professional Windows XP Professional
Web browser	Internet Explorer 6 SP2, 7 or 8
Other	Ethernet card

Protocol Integration

LDAP	V3
SNMP	V3
Email	SMTP

Compatibility

Voice Server platforms	Min. version	Max. version
UNIVERGE SV7000	R18	R25
UNIVERGE 2000 IPS	R8	R14
UNIVERGE SV8300	R1	R1
SOPHO iS3000	Call@Net 3.1	Call@Net 3.5
	SIP@Net 4.1	SIP@Net 4.2

Voicemail systems	Supported version
MyMail 510	R8.x
MyMail 510i	R9.x
MyMail 560	R2.3 - 2.5
UM4730	R10.x

Other applications	Supported version
MA4000 Expense Management	R9.5.5.6
Aranea	R1.4.1
Installation Manager	R24

About NEC Corporation: NEC Corporation (NASDAQ: NIPNY) is one of the world's leading providers of Internet, broadband network and enterprise business solutions dedicated to meeting the specialized needs of its diverse and global base of customers. NEC delivers tailored solutions in the key fields of computer, networking and electron devices, by integrating its technical strengths in IT and Networks, and by providing advanced semiconductor solutions through NEC Electronics Corporation. The NEC Group employs more than 150,000 people worldwide. For additional information, please visit the NEC home page at: <http://www.nec.com>

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