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 Optimization 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 voice servers, MA4000 provides the necessary tools for a truly comprehensive IP telephony solution.

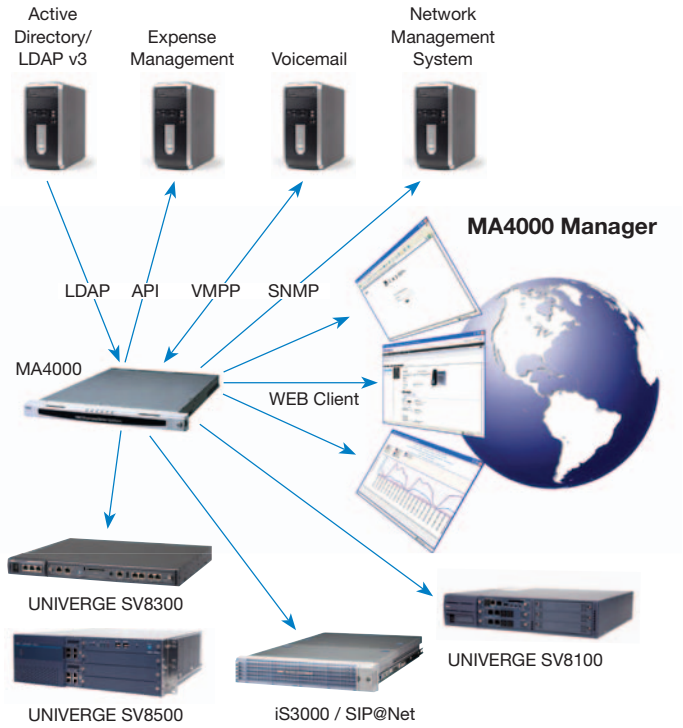
MA4000 has removed the mystery behind voice server administration. Powerful functions in MA4000 allow any task within the system to be done with ease. Features like Range Programming can perform large tasks, such as adding new extensions, changing extension programming or numbering, and moving, swapping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

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

Empowered by Innovation NEC

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.

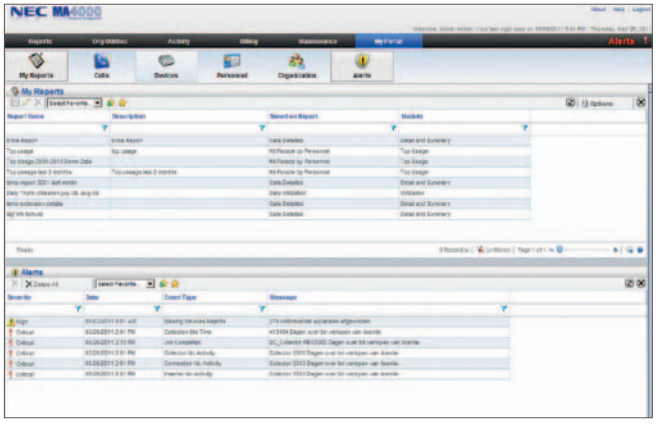


Automatic moves, adds and changes

By interfacing to the standard Lightweight Directory Access Protocol (LDAP), MA4000 Synchronizes NEC' 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 Management integration

Keeping control of telecommunication costs is essential.

MA4000 Expense Management is a module specifically designed for this task and supports both the fixed phone cost as well as mobile phone costs. Easily accessible through one central MA4000.

DECT Management Integration

Both traditional and IP DECT can be managed through MA4000. The MA4000 offers access to the DAP manager (IP DECT) through smart links, whereas the traditional DECT manager is part of the MA4000 SIP@Net Utility.

SIP Management integration

MA4000 provides a fully integrated and central interface for the management of SIP phones. This can be the NEC range of SIP phones, but also the Polycom range. SIP configuration files are automatically created and maintained independent of the SIP phone version.

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 offers 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 Wizard, the import utility or the LDAP autoprovisioning feature.

Task scheduling

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

All Range Programming tasks create an audit log.
A programming error results in an alert.

MA4000 UNIVERGE SV8500

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.

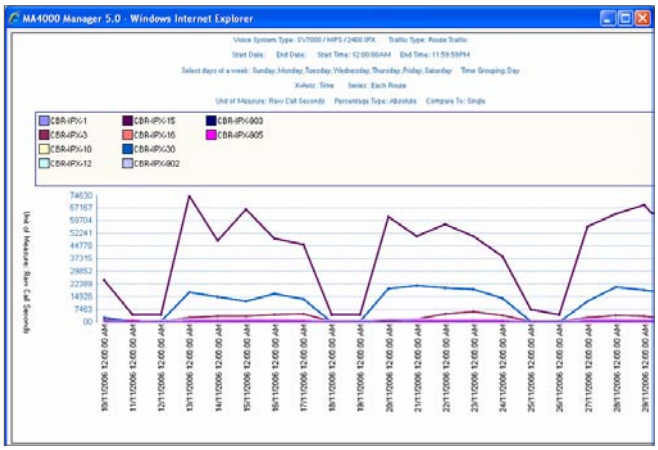
Pro-active traffic management

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 Optimization 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	SV8500 / IPX / SV7000	SV8300 / 2000 IPS	SV8100	iS300 / SIP@Net server
Alarm collection by polling	✔	✔	–	✔
Alarm collection via SNMP	✔	✔	–	–
Automatic escalation	✔	✔	–	✔
System health monitoring	✔	✔	✔	✔
Alarm and Audit logs and notification	✔	✔	–	✔
Extension and group management	✔	✔	✔	✔
Range and template based programming	✔	✔	✔	✔
Number pick list	✔	–	–	–
3rd-party SIP terminal programming	–	–	–	✔
Button programming	✔	✔	✔	✔
Reporting	✔	✔	basic	✔
Feature command programming	✔	✔	–	✔*
Extensive on-line help	✔	✔	✔	✔
Terminal status indication	✔	–	–	–
Abbreviated dialling	✔	–	–	✔
Free numbering	✔	✔	–	✔
Location diversity	✔	n.a.	n.a.	n.a.
Task scheduling	✔	✔	✔	✔
Real time monitoring and traffic status	✔	–	–	–
Traffic planning and VOIP trouble shooting	✔	–	–	–
Single point of authentication	✔	✔	✔	✔
Encryption	✔	✔	✔	✔
Role based permission	✔	✔	✔	✔
Intrusion Detection	✔	✔	✔	✔
Toll Fraud Protection	✔	✔	–	✔
Disaster recovery-backup	✔	✔	✔	✔
VoiceMail integration	✔	✔	✔	✔
LDAP (s)	✔	✔	–	✔
Import/export names and station numbers	✔	✔	–	–
MA4000 Expense Management integration	✔	✔	✔	✔
DECT Management integration	–	–	–	✔
MA4000 assistant	✔	✔	–	–
Clipboard functionality	✔	n.a.	n.a.	n.a.
Hospitality	✔	n.a.	n.a.	n.a.

* Feature command programming is available through MA4000 SIP@Net Utility for iS3000/SIP@Net

Hardware requirements

Minimum requirements for an enterprise system managing up to 5000 extensions with multiple users:

Server requirements

Item	Minimum requirement
Processor	32-bit or 64 bit processor running at ≥1.8 GHz
RAM	2 GB RAM
Storage space	3 GB (free space)
Database	- SQL Server 2005 Express, Standard, Enterprise - SQL Server 2008 R2 Express, Standard, Enterprise - SQL Server 2008 Express, Standard, Enterprise
OS	- Windows XP (32-bit) Professional - Windows 7 (32-bit /64-bit) Professional, Enterprise, Ultimate - Windows 7 (32-bit /64-bit) Professional N, Enterprise N, Ultimate N - Windows Server 2003 (32-bit) Standard, Enterprise, Datacenter - Windows Server 2008 (32-bit) Standard, Enterprise, Datacenter - Windows Server 2008 R2 (64-bit) Standard, Enterprise, Datacenter

Client requirements

Application	Min Version	Max Version
Microsoft Internet Explorer	7	9
Microsoft Silverlight	2	2
Adobe Flash Player	8	n.a.

Protocol integration

LDAP	V3
SNMP	V3
Email	SMTP

Compatibility

Voice Mail System Type	Min. version	Min. version
AVST CallXpress	6.01	8.1
NEAXMail AD-64 (MyMail 560)	2.3.8.8	2.5.1.5
NEAXMail AD-120	2.8.0	2.9.0
NEAXMail IM-16LX	9.0.1.1	9.0.1.1.6.6
UNIVERGE UM4730 (MyMail 510)	8.1.1	10.2.0.25
UNIVERGE UM4730i (MyMail 510i)	8.1.1	8.1.1
UNIVERGE UM8000	11.2	11.2
UNIVERGE UM8500	3.0.0	3.5.0
UNIVERGE UM8700	6.0.1	8.1.1

IP PBX type	Min. version	Max. version
UNIVERGE SV8500	S1 – FID 70	S4 – FID 100
UNIVERGE SV7000	R18 – FID 23	R27 – FID 90
UBIVERGE SV7000 MPS	R19 – FIF 26	R20E – FID 32
UNIVERGE NEAX2400 IPX	R13 – FID 14	R27 – FID 90
UNIVERGE 2000IPS	R8 – H1	R14 - P1
UNIVERGE SV8300	R1 –A1	R4 – F2
UNIVERGE SV8100 [1]	R3	R5
SOPHO iS3000	Call@Net 3.1 SIP@Net 4.1	Call@Net 3.5 SIP@Net 5.0
SIP@Net server	SIP@Net 4.2	SIP@Net 5.0

[1] SV8100 supported in combination with other platforms only

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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