Nokia Terminal Management Server – Adding the final touch to mobile services

Nokia Terminal Management Server enables operators to offer easy phone configuration to mobile phone users. Users can conveniently get the key mobile service settings and start using the services, which can increase operator revenue.

New powerful mobile phones are able to support advanced services such as multimedia messaging (MMS), WAP, mobile e-mail, and calendar synchronisation. However, these services can only be used once the phone is configured with the correct parameters. For example, the configuration parameters for enabling WAP access include the dial-in number, the WAP gateway's IP address, and the URL of the homepage. Many subscribers are not willing to spend the time configuring their phones or are not familiar with such parameters at all. Often subscribers are not comfortable doing the configuration themselves because even a small mistake in one of the parameters can render the service inaccessible and frustrate the user. This reluctance or inability by users to configure their phones tends to result in lower usage rates for new and advanced mobile services.
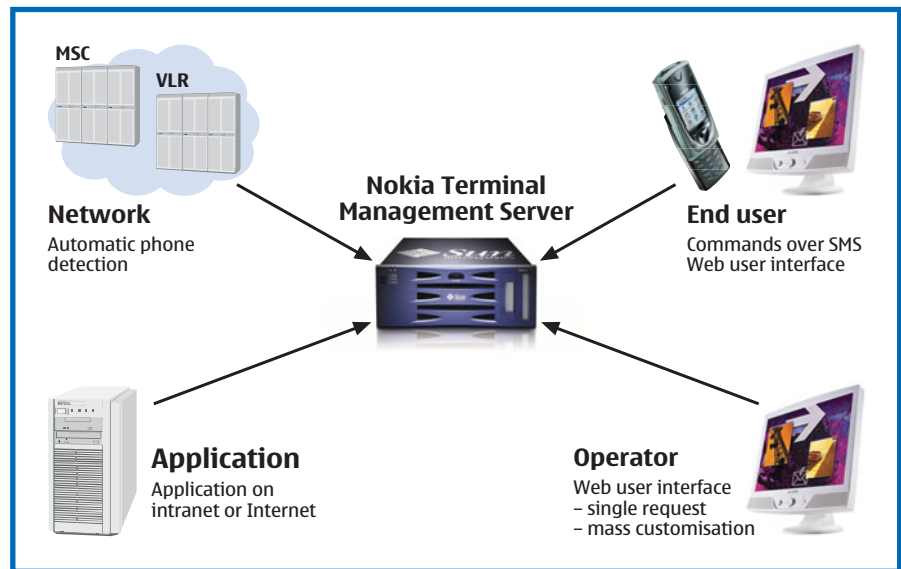
Nokia Terminal Management Server enables easy configuration of mobile phones. It helps mobile operators and service providers to increase the usage of advanced mobile Internet services, thus increasing the revenue from these services. Nokia Terminal Management Server can speed up the take-off of new services and significantly reduce the cost of providing customer care to subscribers trying to set up their terminals. Moreover, the Nokia Terminal Management Server enables operators to keep track of terminal fleet capabilities. This ensures that services, such as MMS, can be presented and delivered to subscribers in an optimal way.

Automatic configuration and terminal detection[1]

One of the key features of the Nokia Terminal Management Server is support for automatic configuration of services to mobile phones. For example, when a subscriber purchases a new mobile phone supporting multimedia messaging, the Nokia Terminal Management Server is able to detect that a subscriber is on the network using a new unconfigured phone. Based on the type of phone, it can determine if the phone supports multimedia messaging. This allows the Nokia Terminal Management Server to send to the phone a configuration message with the parameters for the multimedia messaging service. The phone informs the subscriber about the received configuration message and asks whether the user wants to accept the settings. If the user agrees, the multimedia messaging settings are configured, and the subscriber is able to immediately start using the service.

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Automatic detection enables real-time tracking of the type of terminal being used by a subscriber. For instance, if a subscriber moves his SIM card from one phone to another, the network will notify the Nokia Terminal Management Server. This allows the necessary settings to be provided to the new terminal almost immediately when needed. Moreover, applications in the network can receive this information and adjust their behaviour accordingly. For instance, when Nokia Terminal Management Server updates terminal information into a subscriber database, a MMS Center can know that multimedia messages may be delivered directly to a terminal that is only able to receive multimedia messages.

Sources of configuration requests

Multiple means of configuration

Nokia Terminal Management Server supports the needs of different users by providing several ways to modify the settings in mobile phones. For example, a subscriber may want to modify the bookmarks in her terminal. A network operator may need to set network access point parameters or change the IP address of the MMS center. Or, personnel at the point of sale may want to configure different types of phones quickly and easily.

Nokia Terminal Management Server support a SMS command interface which allows downloading of settings without requiring any other equipment than the phone itself. The server also provides Web user interfaces that customer care can use directly. Moreover, the Web interface may be integrated with the operator's Internet portal to support use by retail personnel or to allow subscribers to provision their own phones. The operator of the system may also modify the settings of a large number of terminals with a single request and the Mobile Services Interface provides easy access to terminal configuration services for application programs.

Key benefits

Nokia Terminal Management Server eliminates the need for subscribers to manage complex settings, thereby enabling rapid mobile services take-off. Higher usage rates mean increased revenues for service providers. In addition, the introduction of new services is faster and easier since settings can be sent to several mobile phones with a single request. Customer care costs can be reduced because users do not have to call for instructions on how to configure their phones. In short, the end user experience is improved as new services can be taken into use conveniently.

Summary of features

Configuration parameters can be set up for GSM and GPRS terminals:
• WAP Gateway and network access point settings
• Multimedia Messaging settings
• Calendar and phonebook synchronisation server settings
• WAP and Web bookmarks
• E-mail and Internet access point settings

Configuration can be initiated:
• Automatically from the network
• By operator customer care
• By a subscriber or from point of sale using Web interface or sending SMS
• Through the External Application Programming Interface or Mobile Web Services Interface

Other main features:
• Enables provisioning of phones supporting OTA Settings Specification, Smart Messaging Specification and WAP 2.0 Client Provisioning
• Subscriber database connection
• Real-time detection of terminal capabilities
• Named configurations to provide settings and bookmarks for specific services
• Support for personalised configuration settings
• Reconfiguration of terminals using mass customisation
• Network management system connection using SNMP

Technical specifications

Server Platform
• SUN Netra 20 with DAT drive and DVD
  – 1xUltraSPARC 900 MHz CPU
  – 1 GB RAM, 2x36 GB disk
• Solaris 8
• Oracle 9.0.1 Standard Edition
• Java 2 Standard Edition
• Java Dynamic Management Kit 4.2

SMSC interfaces
• CIMD 2
• UCP 3.0–3.5 and UCP 4.0
• SMPP 3.3 and 3.4

[1] Applicability depends on the network

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