IntranetWare™
NetWare 4.11
设计与实现

（课程５３２）

Novell Education

IntranetWare™:
NetWare 4.11 设计与实现

（课程 532）

Novell 公司　著

韩　臻　杨武杰　等译

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NOVELL RESEARCH

Configuring NetWare 4 for the Mobile User

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This Application Note discusses the issues involved in configuring NetWare 4 for use by mobile users, including those users based on a fixed PC, users of portable computers, and remote users attaching via NetWare Connect. It lists pertinent NET.CFG parameters and login script identifiers and gives examples of how they can be used to facilitate network usage by mobile users.

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Acknowledgements

Introduction

Many organizations have installed networks as information utilities. These networks link desktop computers in all' departments and locations with shared resources and databases. Users need to be able to access these resources regardless of their location.

Building such an environment presents the organization's network administrators with several challenges. Novell now provides very powerful functionality in NetWare Directory Services with which to construct a consistent set of facilities for this class of users.

This Application Note will cover the issues involved in the configuration of NetWare 4 for use by mobile users. It will detail the types of mobile users, considerations involved, and features available for this purpose in NetWare 4.01 and above.

Definition of a Mobile User

For the purpose of this AppNote, a *mobile user* is any LAN user who does not always work in the same location or at the same PC. They may move from one desk to another, from one building to another, or from one office to another in the course of their work. The connection between the mobile user's PC and his or her principal office LAN may be via a local cabling topology such as Ethernet or Token Ring, an asynchronous connection, or, in the case of larger organizations, across a wide area network (WAN).

This AppNote will not cover the other type of user often described as "mobile." This user is one who accesses the office LAN via the use of remote control dial-in solutions. Remote Node access, via NetWare Connect, will be discussed since the method of connection is so similar to that used when connecting to a LAN.

The term *static user* will be used as the antonym of "mobile user" to describe a user who always works at the same PC in the same location.

Mobile User Types

The following types of mobile user will be considered:

* Fixed PC
* Notebook or Laptop PC with docking station
* Notebook or Laptop PC with LAN adapter
* NetWare Connect Remote Node
* Hybrid mobile user

Fixed PC. A mobile user of a "fixed PC" is a user who does not carry his or her own portable computer but instead makes use of machines permanently located at the offices of their company or organization.

In this instance, the user logs in from a machine which has been made available for his or her use. Examples of this type of user might include university students, airline check-in staff, or computer auditors.

Notebook or Laptop PC with Docking Station. A user who carries a portable computer which may be used separately from, or in conjunction with, the LAN.

When a connection to the LAN is required, this will be provided by the use of an optional docking station into which the portable computer is inserted. Once docked, the portable computer behaves exactly as if it were a standard static PC. The docking station is usually equipped with a full-sized keyboard and color monitor and is configured with a network interface card.

Notebook/Laptop with LAN Adapter. A user who makes use of a portable computer which also has an adapter to enable connection to the LAN.

Parallel port adapters are well known for providing an easy-to-use facility to allow mobile users to connect to an Ethernet or Token Ring LAN via BNC or RJ45 connections. Recent PCMCIA developments now provide an Ethernet or Token Ring card on a credit-card-sized adapter which enables direct connection to the LAN. The PCMCIA solution has the advantage of not requiring the use of the PC's parallel port and is therefore capable of operating at native LAN speeds.

NetWare Connect Remote Node. A user who accesses the LAN via an internal or external modem which enables dialling into a NetWare server running Novell's NetWare Connect software.

NetWare Connect consists of a set of NLMs which provide asynchronous connectivity for users of the LAN who may wish to access a modem pool for dial-out or dial-in use. When connected via NetWare Connect the user is considered to be a Remote Node to the LAN and performs all network access via the modem and asynchronous connection. The Remote Node software consists of an ODI driver for the asynchronous port and a dial configuration utility which replace the usual network interface card (NIC) driver on the user's PC.

This type of Remote Node access can be contrasted with remote control solutions which do not perform network access via the modem. These instead take control of a PC or PC-card on the LAN and pass only keystrokes and screen images across the asynchronous connection. Remote Node access provides more transparent connection to the LAN using drivers as described above.

Hybrid Mobile User. A user who uses more than one of the above types of system to provide added flexibility.

For example, a mobile user may make use of a notebook computer which is: (a) connected to a docking station when the user is in his/her usual office; (b) connected to the LAN via a parallel port adapter when visiting another office; and (c) connected via NetWare Connect in offices where direct links to the LAN are not available. Configurations for these types of users will vary greatly but may be based upon the information provided for each of the preceding user types.

Configuration Considerations

The following list outlines the main considerations which need to be taken into account when configuring access to the LAN for mobile users:

* Access to Applications
* Access to Application Data
* Access to the Home Directory
* Access to Printers
* User-Friendly Login

Access to Applications

This involves providing access to a set of business applications which the mobile user requires when performing his/her work. Applications may include word processing, database and spreadsheet as well as custom in-house or third-party software. NetWare 4.x provides mechanisms to establish access to the business applications required by the mobile user.

Access to Application Data

This involves being able to provide access to the data used by the business applications mentioned above. The data may be located on the same server or on a different server to the applications themselves. NetWare 4.x provides mechanisms by which the mobile user is able to locate the data which is used by their business applications.

Access to the Home Directory

As well as shared application data, a mobile user will normally also have access to a home directory. This may contain configuration files for applications as well as data which is specific to a particular user. An identifier, which may be used in a NetWare 4.x login script, is able to locate the home directory for a mobile user to allow it to be mapped to a known drive letter.

Access to Printers

Mobile users differ from static users in their use of printers. They require a means of identifying the capabilities of a given printer and its location in relation to where the user is working. NetWare 4.x allows the characteristics of a printer, such as its manufacturer, model and features be coded into the Printer object name or entered as attributes for the Printer object.

User-Friendly Login

The login process by which a user identifies himself/herself to NetWare Directory Services (NDS) requires that a user provides a login name. If the user is in the correct context then he/she will only need to specify the Common Name of the user in order to log in to NDS. NetWare 4.x provides facilities for setting the default name context for each PC. Utilities are also available to locate the user without having to know the full context for that user.

Configuration Features

A LAN administrator configuring NetWare 4.x for access by mobile users will need to examine these areas in order to ensure access to the LAN for the mobile user:

- STARTNET.BAT
- NET.CFG
- Login Script Identifiers
- NDS

STARTNET.BAT

This file, or a file which is similarly named, will be used to load the network components for the mobile user. It is via this file that the mobile user might be presented with a choice asking whether they are directly connected to the LAN. Alternatively, differently-named network startup files might be run from the AUTOEXEC.BAT or STARTNET.BAT, depending on the mobile user's location.

Notebook manufacturers such as IBM, Compaq and Toshiba now provide utilities in their CompuServe support forums which can detect whether or not the notebook computer is located inside its docking station. These utilities return a DOS ERRORLEVEL or set an environment variable to indicate the status.

A simple example for checking whether a Compaq LTE Lite Notebook computer is in its docking station and loading the appropriate drivers might be:

```
@ECHO OFF
REM EX_BOX is the Compaq utility
SET DOCKED=YES
EX_BOX
IF ERRORLEVEL 1 SET DOCKED=NO
CD\NWCLIENT
REM Load Link Support Layer
LSL
REM Load NE2000 driver
IF %DOCKED%==YES NE2000
REM Load NetWare Connect Remote Node drivers
IF %DOCKED%==NO NRN
IF %DOCKED%==NO DIALCON
REM Load IPX
IPXODI
REM Load VLM
VLM
```

NET.CFG

The NET.CFG file is normally located in the C:\NWCLIENT directory for a machine with a local hard disk drive and is used to configure the ODI workstation components and DOS requester. NET.CFG might contain one or more of the options mentioned below to assist in configuring the environment prior to login for the mobile user. A sample NET.CFG can be seen towards the end of this AppNote.

The most important factors here are ensuring that the ODI driver for the card being used is configured correctly and that the NAME CONTEXT setting is appropriate to the PC and its location. The name context setting on a given PC will not always be the same context as that of the mobile user who is logging in. In this case, it may be necessary to run a utility to locate the user's correct context. See below for information on locating the user's context.

ODI Components. Correct choice of options for the LAN adapter being used is necessary to allow the mobile user to connect to the network. In the case of the Fixed PC, the NIC type and jumper settings will always be known. However, for users with external LAN adapters it is particularly important to know which NET.CFG options should be used in which circumstance.

For mobile users who have access to docking stations in several locations, it is suggested that each docking station be configured identically to reduce the management overhead associated with managing several differently configured NET.CFG files. Additionally, hybrid mobile users may have entries for multiple adapters if their PCs are configured to allow LAN access in a number of different ways. For ease of management, it is recommended that a single NET.CFG file be used for this purpose, as can be seen in the examples.

NAME CONTEXT. The NAME CONTEXT option is placed in the NET.CFG of the mobile user's PC to specify a default context setting to be created when the VLM components load. The context is necessary in determining whether a user will have to enter their full name or just their own user name when they login. For example,

```
NETWARE DOS REQUESTER
  NAME CONTEXT="OU=NCSE.O=NOVELL"
```

will allow a user named CN=MJWILLIA.OU=NCSE.O=NOVELL to login using the command:

```
LOGIN MJWILLIA
```

If the name context was not specified, the user would have to enter their full name, which is considerably less user-friendly.