DCE 1.2.2 File-Access User's Guide

OSF® DCE Product Documentation

The Open Group

OSF® DCE Product Documentation:

DCE 1.2.2 File-Access User's Guide

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OTHER NOTICES

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Preface

The Open Group

The Open Group is the leading vendor-neutral, international consortium for buyers and suppliers of technology. Its mission is to cause the development of a viable global information infrastructure that is ubiquitous, trusted, reliable, and as easy-to-use as the telephone. The essential functionality embedded in this infrastructure is what we term the IT DialTone. The Open Group creates an environment where all elements involved in technology development can cooperate to deliver less costly and more flexible IT solutions.

Formed in 1996 by the merger of the X/Open Company Ltd. (founded in 1984) and the Open Software Foundation (founded in 1988), The Open Group is supported by most of the world's largest user organizations, information systems vendors, and software suppliers. By combining the strengths of open systems specifications and a proven branding scheme with collaborative technology development and advanced research, The Open Group is well positioned to meet its new mission, as well as to assist user organizations, vendors, and suppliers in the development and implementation of products supporting the adoption and proliferation of systems which conform to standard specifications.

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- licensing and promoting the Open Brand, represented by the "X" mark, that designates vendor products which conform to Open Group Product Standards
- promoting the benefits of IT DialTone to customers, vendors, and the public.

The Open Group operates in all phases of the open systems technology lifecycle including innovation, market adoption, product development, and proliferation. Presently, it focuses on seven strategic areas: open systems application platform development, architecture, distributed systems management, interoperability, distributed computing environment, security, and the information superhighway. The Open Group is also responsible for the management of the UNIX trademark on behalf of the industry.

The Development of Product Standards

This process includes the identification of requirements for open systems and, now, the IT DialTone, development of CAE and Preliminary Specifications through an industry consensus review and adoption procedure (in parallel with formal standards work), and the development of tests and conformance criteria.

This leads to the preparation of a Product Standard which is the name used for the documentation that records the conformance requirements (and other information) to which a vendor may register a product. There are currently two forms of Product

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The “X” mark is used by vendors to demonstrate that their products conform to the relevant Product Standard. By use of the Open Brand they guarantee, through the X/Open Trade Mark License Agreement (TMLA), to maintain their products in conformance with the Product Standard so that the product works, will continue to work, and that any problems will be fixed by the vendor.

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There are several types of specification:

CAE Specifications

CAE (Common Applications Environment) Specifications are the stable specifications that form the basis for our Product Standards, which are used to develop X/Open branded systems. These specifications are intended to be used widely within the industry for product development and procurement purposes.

Anyone developing products that implement a CAE Specification can enjoy the benefits of a single, widely supported industry standard. Where appropriate, they can demonstrate product compliance through the Open Brand. CAE Specifications are published as soon as they are developed, so enabling vendors to proceed with development of conformant products without delay.

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Preliminary Specifications usually address an emerging area of technology and consequently are not yet supported by multiple sources of stable conformant implementations. They are published for the purpose of validation through implementation of products. A Preliminary Specification is not a draft specification; rather, it is as

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Preliminary Specifications are analogous to the trial-use standards issued by formal standards organizations, and developers are encouraged to develop products on the basis of them. However, experience through implementation work may result in significant (possibly upwardly incompatible) changes before its progression to becoming a CAE Specification. While the intent is to progress Preliminary Specifications to corresponding CAE Specifications, the ability to do so depends on consensus among Open Group members.

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The Open Group publishes specifications on behalf of industry consortia. For example, it publishes the NMF SPIRIT procurement specifications on behalf of the Network Management Forum. It also publishes Technology Specifications relating to OSF/1, DCE, OSF/Motif, and CDE.

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- A new Version indicates there is no change to the definitive information contained in the previous publication of that title, but additions/extensions are included. As such, it replaces the previous publication.
- A new Issue indicates there is substantive change to the definitive information contained in the previous publication of that title, and there may also be additions/extensions. As such, both previous and new documents are maintained as current publications.

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This Book

The *DCE 1.2.2 File-Access User's Guide* provides information about using DCE/File-Access on a personal computer running Novell NetWare to access files and directories in a Distributed Computing Environment (DCE) Distributed File System (DFS).

Audience

This document is written for users of personal computers running **Novell NetWare.**

Applicability

This revision applies to the OSF DCE Version 1.2.2 offering and related updates. (See your software license for details.)

Purpose

The purpose of this guide is to help users of personal computers access files and directories under DCE DFS control.

Related Documents

For additional information about the Distributed Computing Environment, refer to the following documents:

- *DCE 1.2.2 Introduction to OSF DCE*
  Document Number F201, ISBN 1–85912–182–9
- *DCE 1.2.2 Command Reference*
  Document Number F212, ISBN 1–85912–138–1

- *DCE 1.2.2 Application Development Reference*
  Document Number F205A, ISBN 1–85912–103–9 (Volume 1)
  Document Number F205B, ISBN 1–85912–108–X (Volume 2)
  Document Number F205C, ISBN 1–85912–159–4 (Volume 3)
- *DCE 1.2.2 Application Development—Introduction and Style Guide*
  Document Number F202, ISBN 1–85912–187–X
- *DCE 1.2.2 Application Development Guide—Core Components*
  Document Number F203A, ISBN 1–85912–192–6 (Volume 1)
  Document Number F203B, ISBN 1–85912–154–3 (Volume 2)
- *DCE 1.2.2 Application Development Guide—Directory Services*
  Document Number F204, ISBN 1–85912–197–7
- *DCE 1.2.2 DFS Administration Guide and Reference*
  Document Number F209A, ISBN 1–85912–123–3 (Volume 1)
  Document Number F209B, ISBN 1–85912–128–4 (Volume 2)
- The *DCE 1.2.2 Administration Guide—Introduction*
  Document Number F207, ISBN 1–85912–113–6
- The *DCE 1.2.2 Administration Guide—Core Components*
  Document Number F208, ISBN 1–85912–118–7
- *DCE 1.2.2 File-Access Administration Guide and Reference*
  Document Number F216, ISBN 1–85912–158–6
- *DCE 1.2.2 Problem Determination Guide*
  Document Number F213A, ISBN 1–85912–143–8 (Volume 1)
  Document Number F213B, ISBN 1–85912–148–9 (Volume 2)
- *DCE 1.2.2 Testing Guide*
  Document Number F215, ISBN 1–85912–153–5
- *DCE 1.2.2 File-Access FVT User's Guide*
  Document Number F210, ISBN 1–85912–189–6
- *DCE 1.2.2 Release Notes*
  Document Number F218, ISBN 1–85912–168–3

For a detailed description of OSF DCE documentation, see the *DCE 1.2.2 Introduction to OSF DCE* .

Typographic and Keying Conventions

This guide uses the following typographic conventions.

Bold — **Bold** words or characters represent system elements that you must use literally, such as commands, options, and pathnames.

Italic — *Italic* words or characters represent variable values that you must supply. *Italic* type is also used to introduce a new DCE term.

`Constant width` — Examples and information that the system displays appear in `constant width` typeface.

[ ] — Brackets enclose optional items in format and syntax descriptions.

{ } — Braces enclose a list from which you must choose an item in format and syntax descriptions.

| — A vertical bar separates items in a list of choices.

< > — Angle brackets enclose the name of a key on the keyboard.

... — Horizontal ellipsis points indicate that you can repeat the preceding item one or more times.

This guide uses the following keying conventions.

< Ctrl-*x* **>** or ^ *x* — The notation **< Ctrl-** *x* **>** or ^ *x* followed by the name of a key indicates a control character sequence. For example, **< Ctrl-C >** means that you hold down the control key while pressing **< C>**.

< Return > — The notation **< Return >** refers to the key on your terminal or workstation that is labeled with the word Return or Enter, or with a left arrow.

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Group document, however, should be sent to the addresses provided on the copyright page.

Pathnames of Directories and Files in DCE Documentation

For a list of the directories and files referred to in this guide, see the *DCE 1.2.2 Administration Guide—Introduction* and the *DCE 1.2.2 Testing Guide* .

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Chapter 1

File-Access Overview

File-Access is a program that allows you to access Distributed File Service (DFS) files resident on a workstation that is part of a Distributed Computing Environment (DCE) cell, from a PC running NetWare ® and allows you to manipulate DFS files using MS-DOS file manipulation commands and programming interfaces. The following sections describe features of the File-Access functions and the programs in File-Access:

- What is File-Access?
- Features of File-Access
- File Access Program Structure
- Basics of File-Access
- Directory/Filename Conversion Between DFS and Gateway Volumes
- Examples of File-Access Use

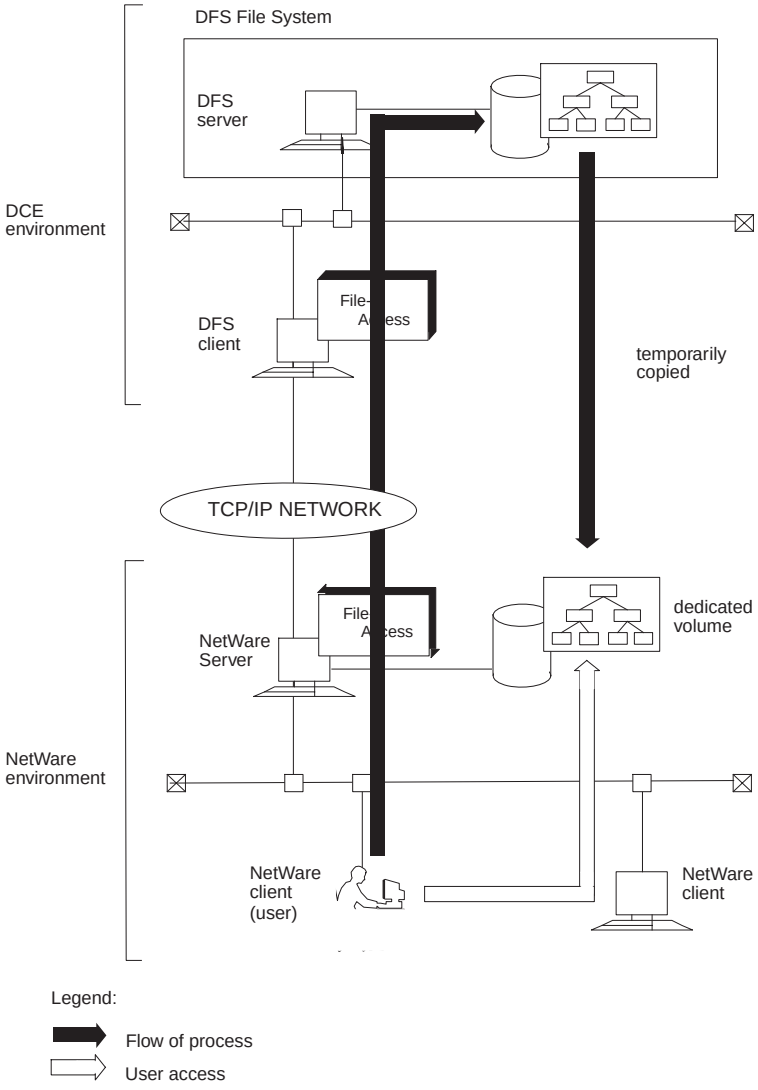
1.1 What is File-Access?

File-Access software allows you to access directories or files on a DCE/DFS workstation from PC-based NetWare via a TCP/IP network. With File-Access, you can access DFS directories and files in a workstation by using MS-DOS commands and operations on a PC.

With File-Access, NetWare users in multiple NetWare environments can access the same DCE/DFS directories and files. As a result, you can create a file sharing system by using your PC's NetWare environment and the workstation's DCE environment.

Because File-Access temporarily copies the DFS/DCE directory structure onto a volume in the NetWare server, you can actually access DFS files by accessing files on the NetWare server through a NetWare client. Figure 1-1 illustrates how to use File-Access to access DCE through NetWare.

Figure 1–1. How to Access DCE from Netware Via File-Access



1.2 Features of File-Access

File-Access has a number of features that enable it to access DFS/DCE directories and files through NetWare. The following subsections describe them.

1.2.1 Accessing DFS Directories and Files Via NetWare

Using File-Access, you can log into DCE and access DFS directories and files from the NetWare client. A user on the NetWare client does not need to use DCE commands or a DCE username.

Like NetWare, File-Access manages file systems found in volumes. You can use NetWare commands to manage the directories and files in these file systems.

The access control list (ACL), which contains the DFS access restrictions, is converted to rights for the NetWare trustee. Because the rights for DCE are the same as those for NetWare, the user does not need to reset them.

Note: The functions that File-Access trustee rights privide are slightly different from those that NetWare trustee rights provide.

1.2.2 Accessing Any Part of the DFS File System

You can access any DFS directory from NetWare with File-Access. For example, the DCE environment may be used to create a DFS file system for each department in a company. File-Access allows you to access through NetWare only the departments you need and only the directories you need in those departments.

1.2.3 Using Existing Applications to Edit DFS Files

You can work on DFS directories and files in the same way you handle files and directories on the NetWare file system. Accordingly, using your word processing and spreadsheet software, you can edit DFS files and use programs like Windows File Manager to change directory and file settings.

1.3 File-Access Program Structure

File-Access consists of three programs, Client utility, Gateway and Agent. These programs run on the NetWare client, NetWare server, and DFS client. The software required for File-Access is as follows:

- Netware server: Netware 3.12, MS-DOS 5.0 (or newer version)
- Netware client (*1): MS-DOS 5.0 (or newer version), NetWare 3.12 DOS Requester
- DFS client (*2): RIOS 3.2.5 (or newer version) (compatible version/revision for DCE), OSF/DCE V1.1 (or newer version)

Note: If you use Local File System (LFS), you need to install DCE/DFS on the DFS server.

1.3.1 Client Utility

The Client utility resides in the NetWare server with Gateway. You can open the Client utility program after logging into the NetWare server from the NetWare client.

The Client utility has the following functions:

- Displaying information on directories and files in the Gateway volume
- Displaying and setting up trustee rights
- Logging into DCE from NetWare/logging out of DCE from NetWare
- Setting or changing a DCE password
- Adding and deleting rights to and from files and directories

A user who is accessing DCE from NetWare has a NetWare user account, DCE username, and DCE password. This type of user is called a *Gateway user.* In this guide, the term *user* indicates a Gateway user unless otherwise noted.

1.3.1.1 Command-line Utility

The Command-line utility is a group of commands used to run File-Access in MS-DOS on a NetWare client. The Command-line utility includes commands for DCE login, logout, display of information on directories and files in the Gateway volume, and display and setup of trustee rights.

Before you use the Command-line utility, you need to log into NetWare. If you create a login script or batch file, you can log into NetWare and DCE simultaneously. See Chapter 3 for information on simultaneous login.

1.3.2 Gateway

The Gateway program resides in each NetWare server. This program converts DCE access requests from NetWare to DFS information. After conversion, the information is sent to the Agent program in the DFS client. Each Gateway program sends access requests to only one Agent program; it is not possible to access multiple Agent programs through a single Gateway program.

Gateway includes an Administration utility, which creates the File-Access environment on the NetWare server. With File-Access, the administrator uses the Administration utility to allocate DFS directories to a Gateway volume on the NetWare server. Once all the DFS directories are allocated to the Gateway volume, it is possible to edit data just as you would in directories and files in other NetWare volumes.

1.3.3 Agent

The Agent program resides in and runs on the DFS client. This program receives DCE access requests from Gateway, accesses directories and files on the DFS server, and returns the transaction results to Gateway. A single Agent program can process access requests from multiple Gateway programs.

1.4 Basics of File-Access

This section explains the basics of File-Access.

These are the main parts of File-Access:

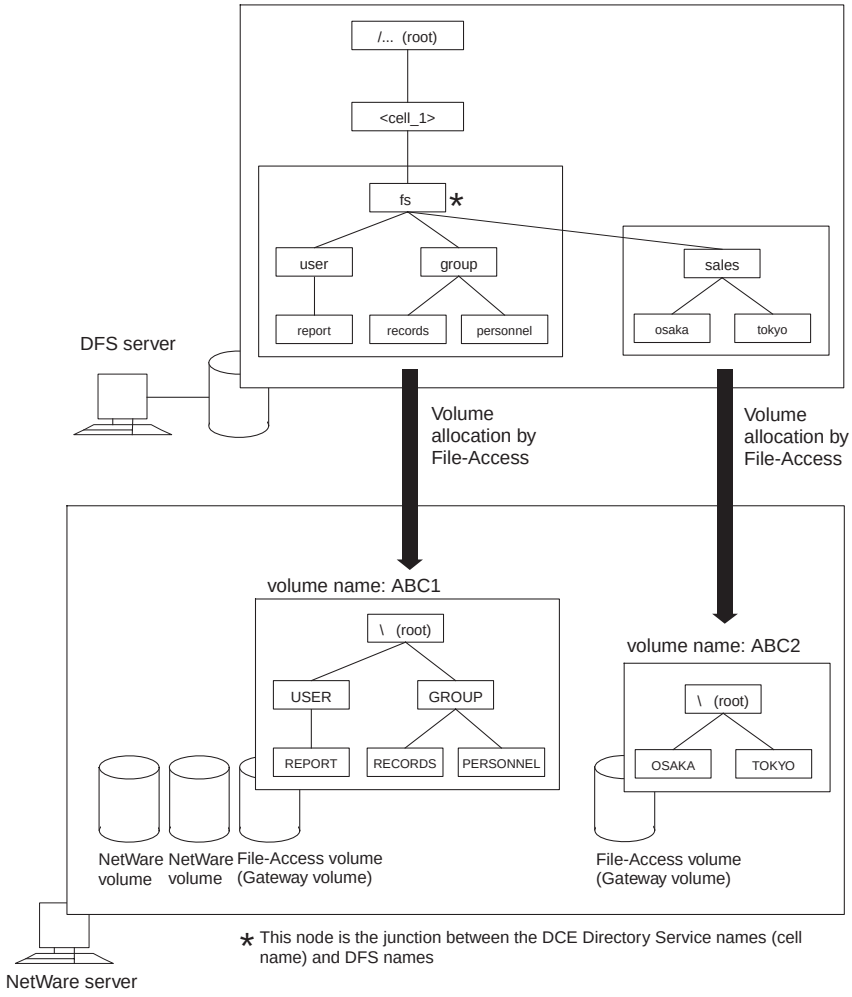
- Volume allocation
- Network drive mapping
- Accessing DCE files and directories from NetWare
- File-Access user requirements

1.4.1 Volume Allocation

In order to access DFS directories and files from NetWare in File-Access, you need to create a File-Access-specific Gateway volume. This function is used to create the Gateway volume on NetWare. Specified DFS directories (mount points) are allocated to the Gateway volume. The administrator (or a user with rights to use the Administration utility) sets up the volume allocations by using the Gateway Administration utility. Ask the system administrator to perform this setup if necessary.

Figure 1-2 illustrates the basics of volume allocation.

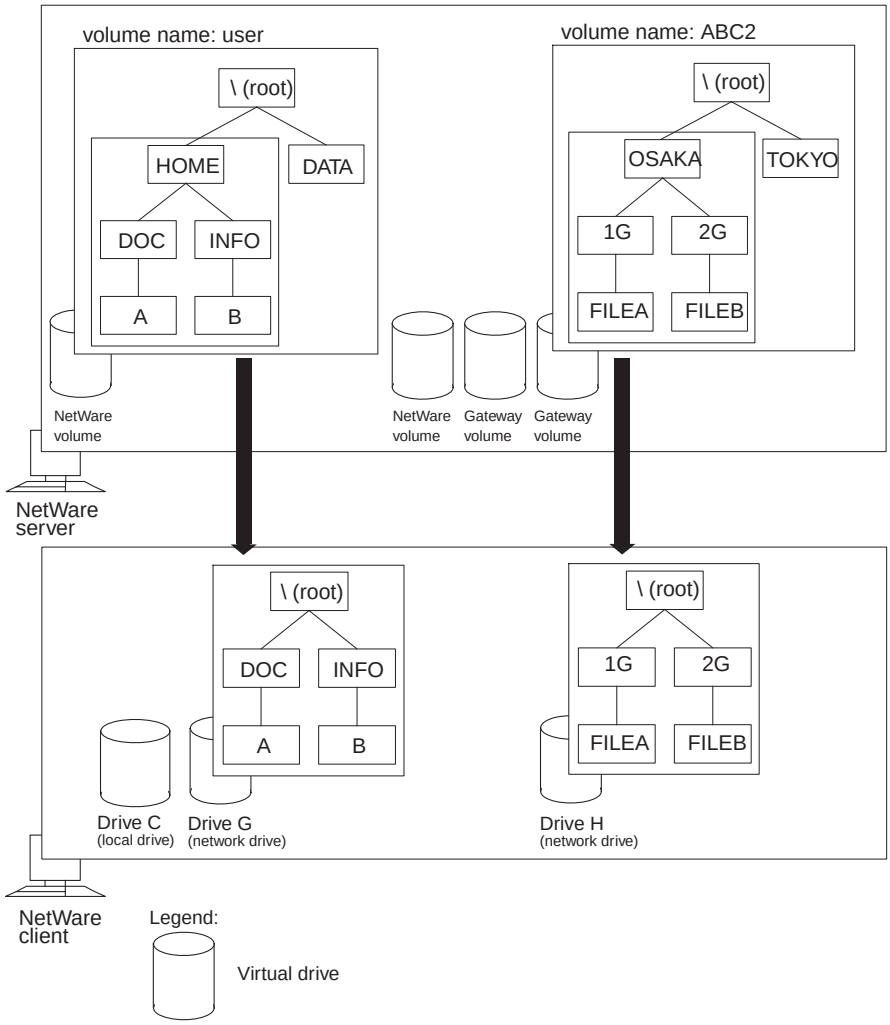
Figure 1–2. Volume Allocation



1.4.2 Network Drive Mapping

The DFS directories allocated to the Gateway volume can also be mapped to the NetWare network drive by using the NetWare mapping function. Figure 1-3 provides an example of network drive mapping.

Figure 1–3. Network Drive Mapping

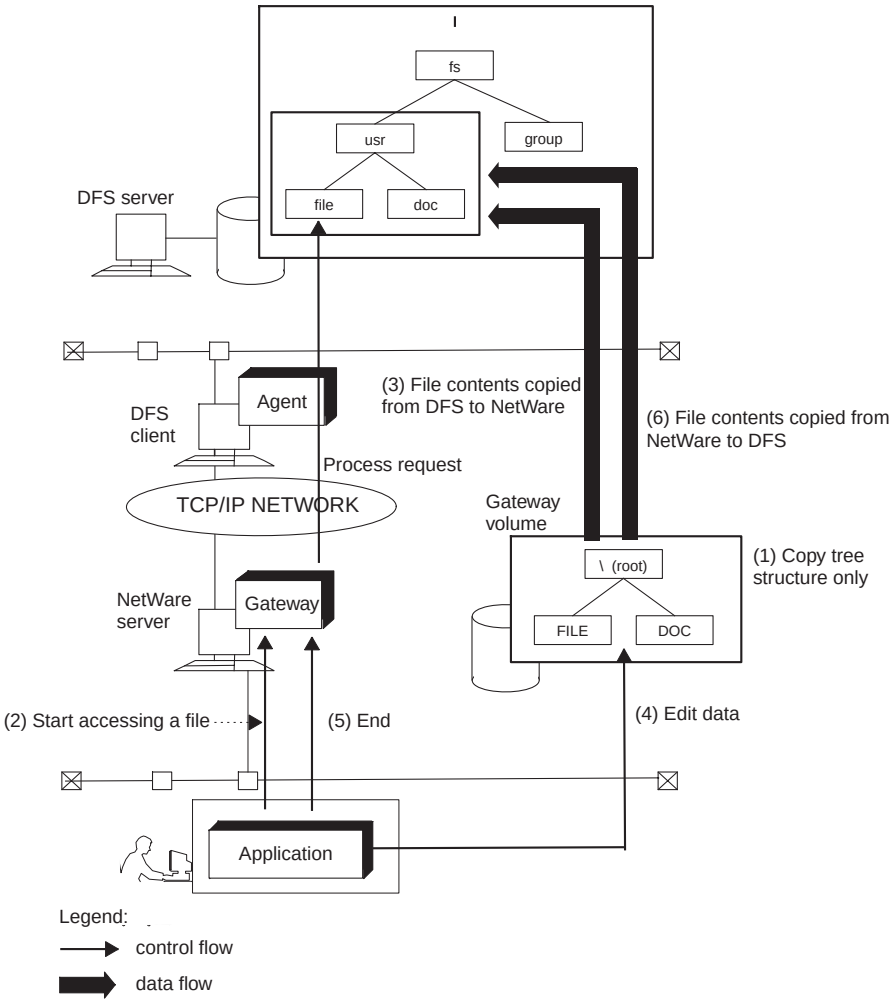


1.4.3 Accessing DCE from NetWare

Users must log into DCE through the NetWare server before they can access directories and files in the Gateway volume.

Figure 1-4 shows the process of accessing DFS files after the user logs into DCE from the NetWare client.

Figure 1–4. Process of Accessing DFS Files



Note the following user options:

- When you access a file while running an application, Gateway sends a request through Agent in the DFS client to the DFS server to perform the required file process.
- After a file is opened, it is copied to the Gateway volume on the corresponding NetWare server.
- You can edit data and perform other operations on files copied to the Gateway volume.
- You can exit File-Access from an application.
- You can overwrite DCE/DFS files with files in the Gateway volume.

1.4.4 File-Access User Requirements

You must have a username and password in both NetWare and DCE in order to to use access File-Access to access DCE from NetWare. File-Access registers the association between NetWare usernames and the DCE usernames and passwords within its own database through the Gateway Administration utility. The Gateway Administration utility cannot set usernames and passwords to NetWare. Thus, it is not necessary to enter your DCE username or password when you log into DCE from NetWare. This type of user is called a Gateway user. In this guide, the term user indicates a Gateway user unless otherwise noted.

For details on the mapping of NetWare usernames and DCE usernames, see the DCE/ File-Access Administration Guide and Reference.

1.5 Directory/Filename Conversion Between DFS and Gateway Volumes

The names for NetWare directories and files conform to MS-DOS naming rules. The names for DFS directories and files follow UNIX naming rules. The names of directories and files for NetWare and DFS differ from each other in terms of the number and type of characters allowed. Sometimes the name of a DFS directory or file is invalid in NetWare.

File-Access converts names of DFS directories and files to the NetWare format. The following subsections explain the relationship between DFS and Gateway volume names.

1.5.1 Changing Lowercase Letters in a Name to Uppercase Letters

File-Access can be used to capitalize all the lowercase letters of a DFS directory or filename, but to do so, all of the following conditions must be met:

- The name consists of lowercase characters
- The name does not contain a dot (.)and has eight or fewer characters (1 character = 1 byte)
- The name has a single dot in it, preceded by at least one but no more than eight characters, and followed by no more than three characters (1 character = 1 byte)
- The name does not include the following characters:

  . , + [ ]* ? : \ / ; = < > | (space)

Note: A dot can be used in a name as an extension. However, if a dot is the first or last character in the name, it is not recognized as an extension.

For example:

Name in DFS	Name in Gateway Volume
filelist	FILELIST
file2.txt	FILE2.TXT

1.5.2 Tildes and Key Numbers as Names

The Gateway volume format is applied to directory names and filenames not described in the previous subsection, ''Changing Lowercase Letters in a Name to Uppercase Letters''. Some letters are changed to uppercase letters, and tildes or key numbers are assigned to the rest. Keys numbers are uniquely assigned numbers that are used to avoid the duplication of the same name in the same directory.

For directory and filenames, the sixth character is converted to a tilde, and the seventh and eighth characters to key numbers. (Some names have a 3-character extension.) If the name has fewer than five characters, tildes are added to increase the length to five characters.

For example:

Name in DFS	**Name in Gateway Volume**
ABC	ABC ˜ ˜ ˜ nn
Ab.c	AB ˜ ˜ ˜ ˜ nn.C
yosandata	YOSAN ˜ nn
.login	˜ LOGI ˜ nn

Note: ‘‘nn’’ signifies key numbers.

1.5.3 MS-DOS Device Names

File-Access recognizes the following character strings as device names in MS-DOS:

con prn aux nul clocks com1 com2 com3 com4 lpt1 lpt2 lpt3

If these character strings are used as names for DFS directories and files (including cases where the name is on the left side of the extension), File-Access converts them to tildes and keys so that they will not be the same as MS-DOS device names. (If the characters are uppercase letters, they are also converted in the same manner.)

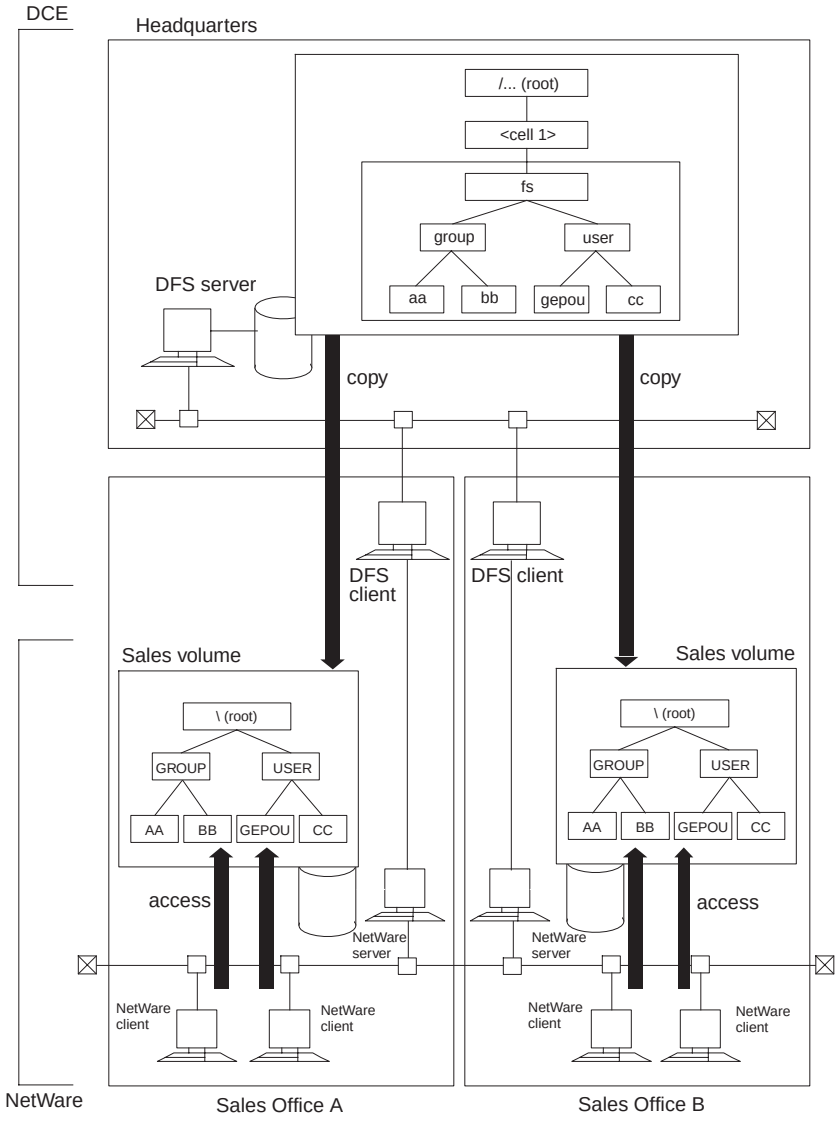
Device names not included in this list are not converted by File-Access. For this reason, directories and files with the same names as MS-DOS devices can be created in the Gateway volume. You should not access these directories and files from the NetWare client.

1.6 Examples of File-Access Use

With File-Access, NetWare users in multiple NetWare environments can access the same DCE/DFS directories and files. You can create a file sharing system that uses both the PC NetWare environment and the workstation DCE environment.

For example, assume that the headquarters and sales offices A and B are in the DCE environment. Each sales office has its own NetWare environment. The DCE environment is made up of the headquarters' DFS server, as well as DFS clients at sales offices A and B. The group and user directories in the DFS file system at headquarters are allocated to two SALES volumes, which run on the NetWare servers of sales offices A and B through File-Access. Thus the two sales offices can share the monthly sales report DFS text files that are managed by headquarters. Figure 1-5 illustrates this file sharing system.

Figure 1–5. File Sharing System



Chapter 2

The Basics of DFS File-Access

This chapter describes the basic functions of File-Access, important information related to using the program, preparation tasks, and important points related to accessing files. It also presents information on NetWare and DCE that you need to know about to use File-Access.

2.1 Basic Functions of File-Access

To use File-Access, you must open the Client utility, which is resident in the NetWare server, from the NetWare client. The Client utility provides the following functions:

- Logging In
- Logging Out
- Displaying NetWare

Chapter 3 provides more detail on using each of these functions.

2.1.1 Logging into

Use the login function to access DFS files. You can log into DCE by using the command-line utility command **DLOGIN**. To log into NetWare, use the NetWare command.

Note: You must log into NetWare before logging into DCE.

2.1.2 Logging out

Use the logout function after accessing DFS files. You can log out from DCE by using the command-line utility command **DLOGOUT**. To log out from NetWare, use the NetWare command.

2.1.3 Displaying NetWare Server Information

File-Access allows you to display summaries of the NetWare server and Gateway information.

You can use the command-line utility command **DLIST** to display a list of the NetWare servers on which Gateway is running, NetWare's status, NetWare login details, and DCE login details.

2.1.4 Setting the DCE Password

You can set or change the DCE password registered in File-Access by using the command-line utility command **DSETPASS**.

2.1.5 Displaying, Setting, and Changing Information on Directories and Files

File-Access enables you to display and change directory and file information in the NetWare volume, Gateway volume, and local volume.

You can display information on directories and files in the Gateway volume by using command-line utility commands such as **DNDIR**.

See ‘‘Converting Directory and Filenames’’ later in this chapter.

2.1.6 Displaying and Changing Trustee Rights for Directories and Files

File-Access enables you to set and change the NetWare trustee rights.

You can display and change the trustee rights for directories and files on the Gateway volume by using Command-line utility commands such as **DGRANT**.

If you would like more information about the basic functions of File-Access, please see the following chapters:

- For information on using the command-line utility, login, logout, and other functions, see Chapter 3.
- For information on using the command-line utility, displaying information on directories and files, and setting trustee rights, see Chapter 4.

2.2 Before Accessing DFS Files

In order to access DCE/DFS files, you need to make preparations on both DCE and the NetWare server. This section describes the preparations to be done by administrators and users. This section also describes the procedure for setting a DCE password in order to log into DCE for the first time after File-Access is installed.

2.2.1 Administrator Preparations

In order to start File-Access, you need to perform the following steps on the DCE and NetWare servers. If you are not an administrator, ask an administrator to do this.

1. Start DCE.
2. Register the DCE username.
3. Register the DCE temporary password to File-Access.
4. Set up TCP/IP.
5. Match the Gateway volume and DCE directory.

2.2.2 User Actions

You need to perform the following actions before accessing any DFS file:

1. Start NetWare.
2. Set the NetWare server Gateway to load automatically when NetWare is started.
3. Log into NetWare.

2.2.3 Setting the DCE Password in File-Access

A DCE password must be registered for every user before logging into DCE with File-Access for the first time.

With File-access, the administrator registers the NetWare username, DCE username, and DCE password in the NetWare server bindery table during the NetWare server environment setup process.

Before the first login operation, the DCE password that the administrator registers will be a temporary password. It is not the real user password. Thus, when you are logging into DCE for the first time, you need to change the temporary password to your real DCE password. Then you can log into DCE from NetWare through Gateway.

To register your DCE password, you need a temporary password. Your system administrator will inform you of your temporary password before you start. Afterward, you do not need to reset your DCE password every time you log in.

See Chapter 3 for further details regarding the DCE password.

Before setting a DCE password, users need to log into the NetWare server (which is running Gateway) where the DCE password can be set.

2.3 Important Points on Accessing Files

The following subsections discuss important points related to accessing DFS files, such as converting directory names and filenames, the limitations on the number of users on the system, and the limitations on directories and files.

2.3.1 Converting Directory and Filenames

There are several important points you should be aware of when converting the names of directories and files in the Gateway volume. These points involve the following:

- Gateway startup timing
- Updating a file with a converted filename
- Copying directory trees
- Deleting or renaming directories and files

2.3.1.1 Gateway Startup Timing

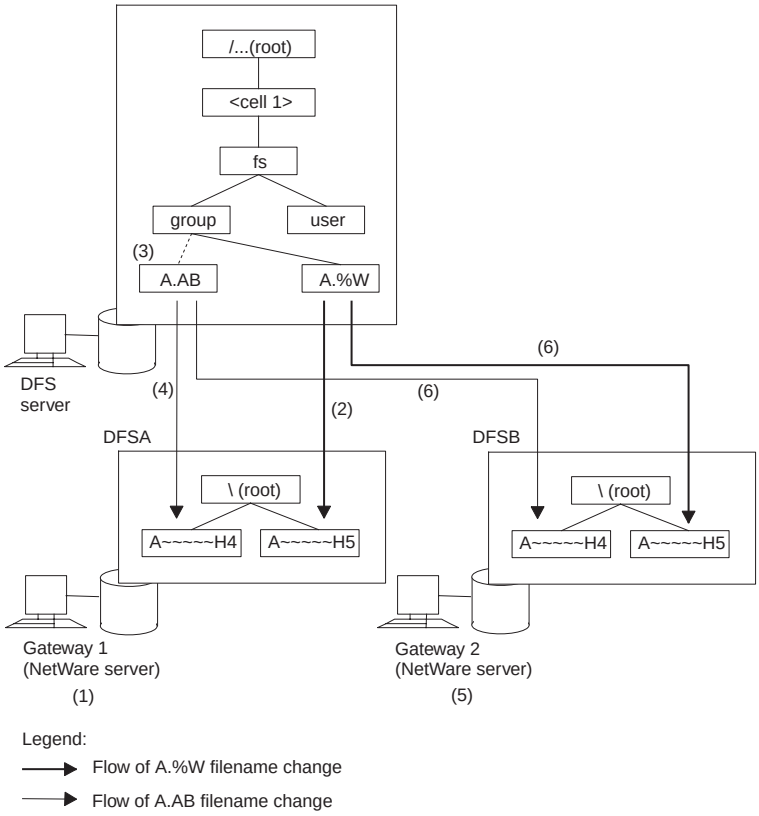
The DFS directory filename is different from the directory or filename in the Gateway volume because of the Gateway startup timing.

When the same DFS directory or file is being accessed from multiple Gateway programs, the DFS directory name or filename is sometimes different from the name in

the Gateway volume after conversion. These names are converted by the File-Access filename conversion function, and the name depends on the Gateway startup timing.

For example, the tree structure under the DFS group directory is allocated to Gateway 1 and Gateway 2 by File-Access. The group directory has only one file named **A.%W**. Figure 2-1 illustrates that the difference in names is based on the Gateway startup time.

Figure 2–1. Difference in Names Based on the Gateway Startup Time



In the figure, the following sequence occurs:

1. Gateway 1 on the NetWare server starts.

2. On Gateway volume DFSA, the DFS filename **A.%W** is converted to **A ˜ ˜ ˜ ˜ ˜ H4**.
3. A file named **A.AB** is created in the group directory on the DFS server.
4. The filename **A.AB** is automatically converted to **A ˜ ˜ ˜ ˜ ˜ H5** in Gateway volume DFSA of Gateway 1.
5. After creating **A.AB** in the DFS group directory, Gateway 2 in a different NetWare server starts.
6. In Gateway volume DFSB, **A.AB** is converted to **A ˜ ˜ ˜ ˜ ˜ H4** and **A.%W** is converted to **A ˜ ˜ ˜ ˜ ˜ H5**. These names are the opposite of Gateway 1 DFSA names. If Gateway 2 is started earlier than Gateway 1, the filenames in the Gateway volumes will be the opposite.

2.3.1.2 Updating a File with a Converted Name

Depending on the application software used, if you update the contents of a file whose name was converted by File-Access, the original DFS file may be lost and the DFS filename may be changed to the converted name.

The following example illustrates this:

Before Update

DFS filename	**Filename in Gateway Volume**
longnameA	LONGN ˜ 01

[LONGN ˜ 01 file contents updated...]

After Update

DFS filename	**Filename in Gateway Volume**
longn ˜ 01	LONGN ˜ 01

2.3.1.3 Copying a Directory that Contains Files with Converted Filenames

If you copy an entire directory tree structure using MS-DOS commands, the original DFS filenames may be converted.

2.3.1.4 Deleting or Renaming DFS Directories and Files with Converted Names

An error will occur if DCE directories and files, whose names have been converted by File-Access, are deleted from DFS or renamed while being used in NetWare. Be very careful about deleting or renaming DFS directories and files when you are logged into DCE through NetWare.

2.3.2 The Number of Users

The number of users who can log into DCE on NetWare is limited. This restriction depends on the structure of the NetWare environment and can affect the operation of the DCE system. If you cannot log into DCE, wait until the number of users logged into DCE decreases and try again. To avoid being denied access to DCE, log out of DCE when you finish working on a DFS file in File-Access.

If NetWare and File-Access cannot accommodate the same number of users, then only the smaller group of users has access to the program. If NetWare can handle fewer users than File-Access, then the NetWare program needs to be upgraded.

2.3.3 Limitations Related to File Systems

The Local File System (LFS) and UNIX File System (UFS) are used as DFS file systems.

When you decide to access a directory or file by using File-Access, the available operations depend on the file system in which the directory or file is located. For directories and files on UFS, the available operations are limited as follows:

- Trustee rights for UFS directories and files can be granted only to eligible parties that are created automatically each time such directories and files are created. Eligible parties include owners, subordinate groups, and groups that are created by administrators for users and groups other than owners and owner groups.
- Only a superuser or owner of directories and files can set trustee rights.
- Access control rights (**A**) cannot be allocated to a group.

2.3.4 Directory Synchronization

File-Access synchronizes Gateway volume and DFS subdirectories periodically. This function is called directory synchronization. If directories or files are created, deleted, copied, or moved from another Gateway or DCE client between directory synchronizations, you cannot check the results of such actions. Check with the administrator for information on the directory synchronization interval setting.

2.4 File-Access Rights

NetWare restricts access to directories and files by means of access rights. NetWare volume and Gateway volume directory and file access rights on File-Access are controlled as on NetWare. However, directory and file access rights on File-Access may differ from those on NetWare. The following subsections describe the File-Access rights.

2.4.1 Types of Rights

DCE/DFS directories and files can be accessed from NetWare using File-Access, but NetWare directory and file access rights are different from those on DCE. File-Access compensates for this difference between NetWare and DCE in the following ways:

- In File-Access, the **Q** (Qualified) right is defined only for directories and files in the Gateway volume. This **Q** right does not allow you to delete a directory or file, but it permits you to create or write to files.

- The **S** (Supervisory) right applies only to directories and files in the NetWare volume. It does not apply to directories and files in the Gateway volume.
- In File-Access, if the **E** (Erase) right is specified for a directory in the Gateway volume, you can erase directories or files in that directory, but not the directory itself. To erase the directory, you need to create a separate higher-level directory in which the directory to be deleted is located. In NetWare, you can use the **E** (Erase) right to delete directories directly.

With the exception of the **Q** (Qualified), **S** (Supervisory), and **E** (Erase) rights, File-Access trustee rights are the same as those on NetWare. Table 2-1 shows the types of File-Access rights.

Table 2–1. Types of File-Access Rights

Rights	**Granted to Directories**	**Granted to Files**
R (Read)	Open files in a directory and read their contents or run the programs.	Open and read the file.
W (Write)	Open and write to files in the directory and run programs.	Open and write to the file.
C (Create)	Create files and subdirectories in the directory.	Invalid.
E (Erase)	Delete subdirectories and files in a directory.	Delete files.
M (Modify)	Change attributes of files and subdirectories. Rename the files and subdirectories.	Change file attributes of the file and filename.
F (File Scan)	See the files in a directory listing.	See the filename when viewing the contents of a directory.

Rights	Granted to Directories	Granted to Files
A (Access Control)	Change the trustee rights for directories and files.	Change the trustee rights for files.
Q (Qualified)	Create a directory and change its name. Directory cannot be deleted.	Can open and write on a file; file cannot be deleted.

2.4.2 Trustee Rights and Effective Rights

As a NetWare user, a File-Access user has trustee rights and effective rights with respect to directories and files in the NetWare volume and the Gateway volume.

2.4.2.1 Trustee Rights

Trustee rights are set to control a user or group's access rights to directories and files by specifying the trustee (user or group) and directories or files through commands or menu selections.

NetWare trustee rights are allocated to specified users and groups. File-Access trustee rights are allocated to unspecified users in addition to specified users and groups. An unspecified user is a user who is not designated as a specified user and does not belong to any specified group. These user rights are determined by the trustee rights in a specified group formed by the administrator.

2.4.2.2 Effective Rights

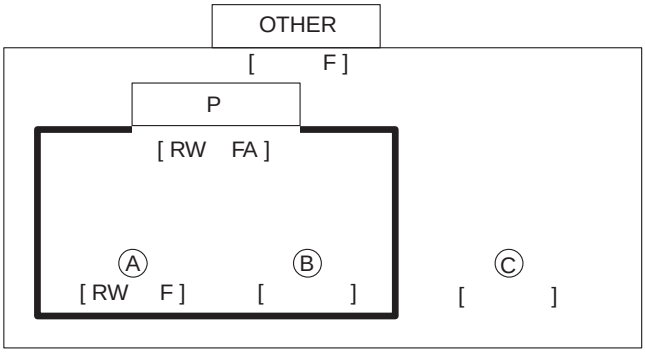
Effective rights are based on trustee rights and rights in a parent directory. These are rights that you or a group can actually use with respect to a given directory or file. Effective rights for File-Access are different from those for NetWare. File-Access effective rights are set as follows:

- When trustee rights are allocated to you, your trustee rights are your effective rights.
- When trustee rights are not allocated to you, but to the groups you belong to, the trustee rights of all the groups to which you belong are your effective rights.
- When no trustee rights are allocated to you or the group you belong to, the effective rights are the same as those of the group specified by the system administrator. For details on group names, see the administrator. For information on the group names specified by the administrator, see the records on Gateway groups in the *DCE 1.2.2 File-Access Administration Guide and Reference* .

2.4.2.3 Important Points About Effective Rights

Trustee rights have priority over effective rights in all cases. Figure 2-2 shows an example of the priority of effective rights. This example consists of three groups: an ordinary group to which trustee rights are allocated, a group **OTHER** to which no trustee rights have been allocated, and user A.

Figure 2–2. Setting Trustee Rights for Groups and Users



Legend:
User
Group
[ ] Trustee rights

Note 1: In the case of the Gateway volume, user C, who has no trustee rights and no allocated group, is treated as a member of the group OTHER.

Note 2: In the case of the NetWare volume, [R F] are effective rights with respect to the parent directory, and [RW F] are the inherited rights mask.

In the case of NetWare, users A and B inherit, as effective rights, all of group P's trustee rights. Therefore, their effective rights become **[RW FA]**. With File-Access, because user A cannot inherit group P's rights, user A's effective rights are **[RW F]**. To assign access control rights (**A**) to user A's effective rights, you must add the A rights to user A's own trustee rights.

Table 2-2 shows the difference between NetWare trustee rights and Gateway volume trustee rights.

Table 2–2. Effective Rights in the NetWare Volume and Gateway Volume

User	**A**	**B**	**C**
Group	P	P	none
Trustee rights	[RW F]	[ ]	[ ]
Effective rights in the NetWare volume	[RW FA]	[RW FA]	[R F]
Effective rights in the Gateway volume	[RW F]	[RW FA]	[F]

Note: User C is treated as a member of the group **OTHER**

Note: In several cases, effective rights are different from those listed in Table 2-2, depending on the DFS settings. See the *DCE 1.2.2 File-Access Administration Guide and Reference* for details.

2.4.3 Differences Between Specified Rights and Rights That Are Set

After setting trustee rights in a directory or file in the Gateway volume, you may find that the rights indicated in the trustee list are different from the ones that you set. This discrepancy occurs because of differences in NetWare and DCE specifications for rights definitions. As a result, the rights that are set may differ somewhat from the rights that are specified. Table 2-3 presents cases in which different rights are set.

Table 2–3. Differences Between Specified Rights and the Rights Set

Location	**Specified Rights**	**Rights Set by File-Access**
Directory	[C]	[WCFQ]
	[E]	[EF]
	[CE]	[WCEMF]
File	[R]	[RF]
	[W]	[WCQ]

Note: Includes case ([CE])where one right is already specified and one more right is added.

Chapter 3

How to Access DCE from DOS

This chapter explains how to access and terminate the access of DFS files on DCE using File-Access DOS command-line utilities. To user these utilities, NetWare must be running. In this chapter, you will learn about the available processes in the following sections:

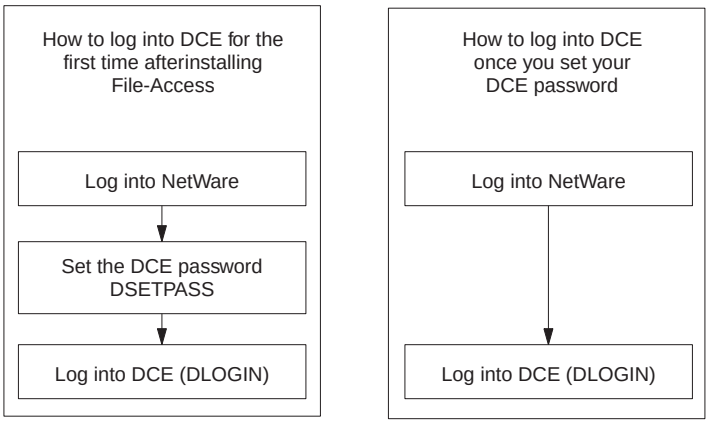
- Accessing DCE
- Logging Out from DCE
- Changing the DCE Password
- Displaying NetWare Server Information
- Creating User Login Scripts and Batch Files Starting the DCE Access Process

3.1 Accessing DCE

This section describes how to log into DCE via File-Access from DOS.

If you are going to log into DCE for the first time after installing File-Access, you must first set your DCE password. You must first log into NetWare to do this, as Figure 3-1 shows.

Figure 3–1. Accessing DCE



For information on logging into NetWare, see your NetWare documentation.

3.1.1 Setting the DCE Password

When you log into DCE with File-Access for the first time, you must register your DCE user password in File-Access. You set DCE passwords by using the **DSETPASS** command. To set a DCE password, you must first log into NetWare.

DCE temporary passwords are registered in Gateway by the system administrator during setup of the NetWare server environment. When you log into DCE for the first time, you must change the temporary password to your DCE password. Only by setting this DCE password can you log into DCE from NetWare via Gateway.

When you use the **DSETPASS** command to reset your password, you will need a temporary password, which you can get from your system administrator. You do not need to set a DCE password when you log into DCE for the second time.

To set your DCE password, follow these steps:

1. Enter the **DSETPASS** command at the DOS prompt, as follows:

   DSETPASS *NetWare_server_name*

   Use the *NetWare_server_name* argument to specify the NetWare server name on which the Gateway program that will change the DCE password is running. If this argument is not specified, the DCE password registered in the default server will be changed.

   A message to enter the old password is displayed:

   ```
   KDDS22204-I The password will be changed.
   KDDS22205-I  Enter the old password for NetWare_server_name:
   ```

2. Enter your temporary DCE password, given to you by the administrator, as your old password. The password is not displayed on the screen. Every character is indicated by an asterisk (*).
3. Enter your DCE password as a new password. After you enter the new password, you are prompted to enter the new password again.
4. Enter your new DCE password again. A message confirming the password change is displayed.

3.1.2 Logging Into DCE

To log into DCE from the MS-DOS environment, use the **DLOGIN** command. However, it is necessary to first log into NetWare from the NetWare server on which Gateway is installed before you log into DCE.

To log into DCE, enter the **DLOGIN** command, as follows, from the DOS prompt:

DLOGIN *NetWare_server_name*

This command specifies the NetWare server name with which you are going to log in. If this argument is not specified, a default server logged into NetWare is selected to log into DCE. You cannot log into DCE if you have not logged into a specified NetWare server or default server.

Use the **DLIST** command to confirm the login status of the NetWare server running on Gateway. Refer to ''Displaying NetWare Server Information'' later in this chapter for details regarding the **DLIST** commands.

If you want to log into both NetWare and DCE simultaneously, create a login script, or create a batch file. Refer to ''Creating User Login Scripts and Batch Files'' later in this chapter for details.

3.2 Logging Out from DCE

This section describes the DCE logout operation using the **DLOGOUT** command. It also discusses several important points you should be aware of.

3.2.1 Using DLOGOUT

To log out from DCE, enter the **DLOGOUT** command, as follows, from the DOS prompt.

DLOGOUT *NetWare_server_name*

Use the *NetWare_server_name* argument to specify the NetWare server name. If this argument is not specified, logout is conducted from all NetWare servers.

3.2.2 Important Points

When you log out from DCE via the **DLOGOUT** command, the Gateway volume mapping is not canceled. If you continue to perform NetWare operations without canceling the mapping, you can see the directory structure in the Gateway volume, but you cannot access the directories and files.

You must cancel the mapping to the Gateway volume every time you log out from DCE. We recommend that you create a batch file to cancel the mapping so you do not have to manually cancel the mapping every time you log out from DCE.

If you log out from NetWare after DCE logout, all volume mapping is canceled. Refer to ‘‘Automatically Canceling Mapping During Logout’’ later in this chapter for more information.

3.3 Changing the DCE Password

For security reasons, it may be necessary to change the DCE password on DCE to protect the DCE client. When you change the DCE password, you need to change the DCE password registered in File-Access by using the **DSETPASS** command. To change the DCE password, you must first log into NetWare from the NetWare server on which Gateway is running or into the default server.

3.3.1 Using DSETPASS

To change your DCE password, follow these steps:

1. Enter the **DSETPASS** command at the DOS prompt, as follows:

DSETPASS *NetWare_server_name*

Use the *NetWare_server_name* argument to specify the NetWare server name on which the Gateway program that has the DCE password to be changed is running. If this argument is not specified, the DCE password registered in Gateway on the default server will be changed.

You are then prompted to enter the old password:

```
KDDS22204-I The password will be changed.
KDDS22205-I  Enter the old password for NetWare_server_name:
```

2. Enter the DCE password registered in File-Access as the old password.
3. The password is not displayed on the screen. An asterisk (*) is displayed for each character you enter.
4. Enter your DCE password as the new password.

   After you enter the new password, you are prompted to enter it again.
5. Enter the new DCE password again.

   A message confirming the password change is displayed.

3.3.2 Important Point

The new password can replace the old passwords of other NetWare servers logged into NetWare through other Gateway programs, provided they have the same old password. When you are using the same password for multiple servers, a message confirming the password change is displayed. The passwords of NetWare servers that you are not logged into do not change. Change the passwords by using the **DSETPASS** command.

3.4 Displaying NetWare Server Information

You can display NetWare server information by using the **DLIST** command when you log into DCE. The following server information is displayed when you use the **DLIST** command:

- List of servers on which Gateway is running
- NetWare status of the server
- NetWare login information
- DCE login information

3.4.1 User Actions

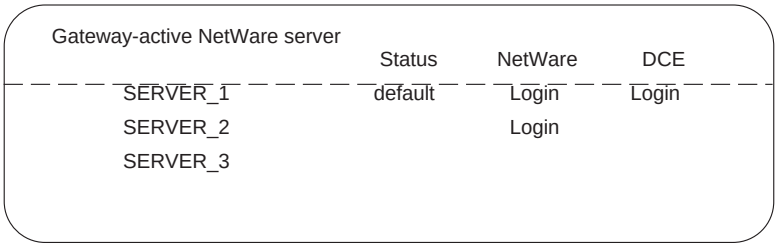
To display NetWare server information, enter the **DLIST** command at the DOS prompt, as follows:

DLIST

All of the server information on the network is displayed.

3.4.2 Description of Server Information

When server information appears on the screen, it is displayed in the following format:



- **Server name**

  The names of the NetWare servers on which Gateway is running are displayed.

- **Status**

  This column displays the NetWare status of the servers. The word **default** indicates a NetWare default server.

- **NetWare**

  This column displays the server's login status to NetWare. The word **Login** indicates that the server is logged into NetWare.

- **DCE**

  This column displays the server's login status to DCE. The word **Login** indicates that the server is logged into DCE.

3.5 Creating User Login Scripts and Batch Files

This section describes how to create a batch file or login script for simultaneously logging into DCE and NetWare. This section also describes how to create a batch file to cancel a mapping process when logging out from DCE.

3.5.1 Simultaneously Logging into NetWare and DCE

You have to log into DCE to access DFS files from MS-DOS, and you must do this only after you have logged into NetWare. In addition, you have to map the Gateway volume to the drive after logging into DCE. You can simplify these procedures by creating a NetWare login script or batch file that will perform them automatically.

Whether it is better to create a login script or a batch file depends on the File-Access environment. Consult with your system administrator to determine whether to use a login script or batch file.

3.5.1.1 Creating a Login Script File

Use the NetWare menu utility **SYSCON** to create the login script for simultaneous login to NetWare and DCE. **SYSCON** is described in the NetWare manual.

Use the following commands with the login script:

- **DLOGIN** to log into DCE
- **MAP** to map a Gateway volume to a drive

These settings are necessary before executing the **DLOGIN** command:

- The mapping of a NetWare server's **SYS** volume to a network drive
- The setting of a search path to **SYS:\PUBLIC**

This example login script automatically executes DCE login and Gateway volume mapping when you log into NetWare.

```
#DLOGIN NetWare_server_name
if ERROR_LEVEL = "0" THEN
MAP *network_drive_number:= NetWare_server_name\Gateway volume name
MAP *network_drive_number:= NetWare_server_name\Gateway volume_name
\directory_name
.
.
.
END
```

3.5.1.2 Creating a Batch File

To log into NetWare and DCE simultaneously, use the following commands in the batch file:

- **LOGIN** to log into NetWare
- **DLOGIN** to log into DCE
- **MAP** to map a Gateway volume to a drive
- The mapping of NetWare server's **SYS** volume to a network drive
- The setting of a search path to **SYS:\PUBLIC**

The following is an example of a batch file that executes logins and mapping for you.

```
LOGIN NetWare_server_name\NetWare_username
if errorlevel 1 goto DL_END
DLOGIN NetWare_server_name
if errorlevel 1 goto DL_END
MAP *network_drive_number:= NetWare_server_name\Gateway_volume_name:
MAP *network_drive_number:=
NetWare_server_name\Gateway_volume_name:\directory_name
DL_END:
```

3.5.2 Canceling Mapping During Logout

When you log out from DCE after accessing a DFS directory or file, the Gateway volume mapping process is not canceled. If you continue NetWare operations without canceling the mapping process, you can see the directory structure in the Gateway volume, but you cannot access the directories or files.

Cancel the Gateway volume mapping process every time you log out from DCE. If you want to log out of DCE and cancel the mapping process at the same time, create a batch file that will cancel the mapping during DCE logout.

If you log out from DCE and then from NetWare, the mapping to the NetWare server volume is canceled automatically; you do not need to create a batch file.

Use the following commands in the batch file to log out from DCE and cancel the mapping process at the same time:

- **MAP** to cancel the Gateway volume mapping
- **DLOGOUT** to log out of DCE

The following is a sample of a batch file using these commands:

```
MAP del *network_drive_number
.
.
.
DLOGOUT NetWare_server_name
```

Chapter 4

Commands Related to Information and Trustee Rights in the Gateway Volume

This chapter describes the File-Access Command-line utility commands that display Gateway volume directory and file information. It also describes the File-Access Command-line utility commands that display and set trustee right information.

4.1 File-Access Commands Used in MS-DOS

The File-Access commands in Table 4-1 (in alphabetical order) are used to display directory and file information in the Gateway volume and to display and set trustee rights. These commands are similar to the NetWare commands used to display NetWare directory and file information and to set trustee rights.

When you want to get directory or file information or set trustee rights in a Gateway volume, you have to use File-Access commands instead of NetWare commands.

Table 4–1. File-Access Commands and Their Functions

Command	Function
DGRANT	Grant or cancel trustee rights
DLISTDIR	Display subdirectory information
DNDIR	Display directory/file information
DREMOVE	Delete trustee from trustee list
DREVOKE	Delete trustee rights
DRIGHT	Display effective rights for directory/file
DTLIST	Display trustee and trustee rights list

4.1.1 Important Points About the Commands

This subsection reviews important points and limitations regarding the use of File-Access commands.

4.1.1.1 Commands Specific to Gateway Volumes

Use File-Access commands only for directories and files in Gateway volumes. Use NetWare commands to retrieve and set NetWare directory and file information. You cannot use File-Access commands to access directories and files in local volumes.

4.1.1.2 Wildcard Characters

You can use asterisks (*)and question marks (?)as wildcard characters in File-Access commands. Use wildcard characters as they are used in NetWare. See the NetWare manual for details.

4.1.1.3 Pathnames That Can Be Used

The specified pathname can contain either the mapped MS-DOS drive name or the NetWare volume name. If a NetWare volume name is specified, MS-DOS drive mapping is not necessary. However, the NetWare volume must be mounted in the NetWare server that you are logging into or attaching to.

4.2 Commands Related to Information in the Gateway Volume

This section provides the syntax, arguments, functions, examples, and other relevant information for the following commands:

- **DLISTDIR**
- **DNDIR**
- **DRIGHT**

4.2.1 The DLISTDIR Command

The **DLISTDIR** command displays subdirectory information in the Gateway volume.

4.2.1.1 Syntax

DLISTDIR [*pathname***] [** *options...***]**

4.2.1.2 Arguments

- *pathname*

  This argument specifies a pathname to a directory in the Gateway volume. The pathname is specified differently, depending on the type of list.

— To display subdirectory hierarchies, use the pathname for the directory at the top of the hierarchy.

— To display a list of subdirectories, use the pathname for the parent directory.

You can use both the absolute pathname and the relative pathname. You can also use wildcard characters (? and *). If you omit the pathname argument, the system defaults to the current drive.

You can include an MS-DOS drive name and NetWare volume name in the pathname. When you specify a NetWare volume name in the path, MS-DOS drive mapping is not necessary. However, the NetWare volume must be installed in the NetWare Server you are logging into or attaching to. ·

- *options...*

  The following options can be used. Multiple options can be specified together.

  /E Displays effective rights for a subdirectory.

  /D, /T Displays the date and time each subdirectory was created. Both **/D** and **/T** display the same information.

  /S Displays the directory hierarchy in the root directory or a specified directory.

  /A Displays all information pertaining to the **/E**, **/D** (or **/T**), and **/S** options.

4.2.1.3 Functions

The following information regarding subdirectories in the Gateway volume root directory or a specified directory is displayed:

- Subdirectory list or subdirectory hierarchy
- Effective rights of each subdirectory
- The date and time each subdirectory was created

Date and time is displayed in the following format:

Date: mm-dd-yy (*mm*:month, *dd*:date, *yy*:year {last two digits})

Time: hh:mm:ssxx (*hh*:hour, *mm*:minute, *ss*:second, *xx*:AM or PM)

The last two digits of the years from 1980 through 2007 are displayed as 80 through 07. 1980 through 1999 is displayed as 80 through 99, and 2000 through 2007 is displayed as 00 through 07. Time is displayed in a 12-hour format.

4.2.1.4 Examples

Display a subdirectory hierarchy in the TEST directory along with the time, date, and effective rights of each subdirectory.

DLISTDIR TEST /A

The following list and information is displayed:

```
KDDS23700-I subdirectory of SERVER-1\DFS1:TEST
Date         Time       Crights         Directory
06-05-95     4:42PM     [  WCEMFA ] ->  RESULT
06-28-95     8:17PM     [  WCEMFA ] ->  DEBUG
06-28-95     8:17PM     [  WCEMFA ] ->  DESK
06-28-95     8:18PM     [  WCEMFA ] ->  MODULE
06-19-95     6:42PM     [  WCEMFA ] ->  PROGRAM
06-19-95     6:42PM     [  WCEMFA ] ->  DATA
06-28-95     8:18PM     [  WCEMFA ] ->  CHECK
06-28-95     8:18PM     [  WCEMFA ] ->  ERROR
06-19-95     6:42PM     [  WCEMFA ] ->  WORK
KDDS23701-I Number of subdirectories:   9
```

Note: **DLISTDIR** is a command for Gateway volumes only. Use the NetWare **LISTDIR** command when you need subdirectory information in the NetWare volume. There is no command for displaying local volume directory information.

4.2.2 The DNDIR Command

The **DNDIR** command displays directory/file information in the Gateway volume

4.2.2.1 Syntax

DNDIR [*pathname***] [** *options...***]**

4.2.2.2 Arguments

- *pathname*

  This argument specifies a pathname for a directory or file in the Gateway volume. You can use both the absolute pathname and the relative pathname. You can also use wildcard characters (? and *). If you omit the pathname argument, the system defaults to the current drive.

  You can include an MS-DOS drive name and NetWare volume name in the pathname. When you specify a NetWare volume name in the path, MS-DOS drive mapping is not necessary. However, the NetWare volume must be installed in the NetWare Server you are logging into or attaching to.

- *options...*

  The following option can be used in this command:

  /N Displays the DFS directory name or filename.

4.2.2.3 Functions

The **DNDIR** command displays information on a directory or file in the Gateway volume. The following information is displayed:

File information

- Filename

- DFS filename
- Size (bytes)
- Date and time when last modified
- Owner

Directory information

- Directory name
- DFS directory name
- Date and time when created
- Effective rights
- Owner

Date and time are displayed in the following formats:

Date: mm-dd-yy (*mm*:month, *dd*:date, *yy*:year {last two digits})

Time: hh:mm:ssxx (*hh*:hour, *mm*:minute, *ss*:second, *xx*:AM or PM)

The last two digits of the years from 1980 through 2007 are displayed as 80 through 07. 1980 through 1999 is displayed as 80 through 99, and 2000 through 2007 is displayed as 00 through 07. Time is displayed in a 12-hour format.

If the UNIX directory or file owner is a DCE user, and if there is a corresponding NetWare user, the NetWare username for each directory or file is displayed as its owner's name. In all other cases, the following information is displayed instead of the owner's name:

`not a DCE user:`

The owner is not a DCE user.

`not a Gateway user:`

The owner is a DCE user but not a NetWare user.

4.2.2.4 Examples

Display directory/file information in the TEST directory.

DNDIR TEST /N

The following information regarding each file or directory is displayed:

```
SERVER-1\DFS1:\TEST
File:
MS-DOS Name     DFS Name      Size     Last         Update      Owner
CHECK.BAK       check.bak     1024     06-28-94     5:12PM      YAMAMOTO
CHECK.DAT       check.dat     1024     06-28-94     5:15PM      YAMAMOTO
ZZZZ~~FS        ZZZZZZZZ       983     06-30-94     9:20AM      YAMAMOTO
DEBUG~BS        DEBUG_MENU    4618     06-21-94    11:30PM      YAMAMOTO
directory:
MS-DOS Name   DFS Name           Right       Owner       Last Update
RESULT~01     RESULT_SAVE_AREA   [WCEMFA ]   YAMAMOTO    06-15-94 6:42PM
WORK_~02      WORK_DIRECTORY     [WCEMFA ]   YAMAMOTO    06-09-94 7:35PM
KDDS23800-I     7,649 bytes                     (4 files)
```

Note: The **DNDIR** command applies only to Gateway volumes. Use the **NDIR** command to display directory or file information for a NetWare volume. There is no command for displaying local volume directory or file information.

4.2.3 The DRIGHT Command

The **DRIGHT** command displays the effective rights for directories and files in a Gateway volume.

4.2.3.1 Syntax

DRIGHT [*pathname***]**

4.2.3.2 Arguments

- *pathname*

  This argument specifies a pathname for a directory or file in the Gateway volume. You can use both the absolute pathname and the relative pathname. you can also use wildcard characters (? and *). If you omit the *pathname* argument, the system defaults to the current directory.

  You can include an MS-DOS drive name and NetWare volume name in the pathname. When you specify a NetWare volume name in the path, MS-DOS drive mapping is not necessary. However, the NetWare volume must be installed in the NetWare Server you are logging into or attaching to.

4.2.3.3 Functions

The **DRIGHT** command displays the effective rights for directories and files in a Gateway volume. Effective rights are determined by the trustee rights of the user. File-Access and NetWare rights differ in terms of effective rights for files and directories.

The relationship between effective rights and trustee rights is as follows:

- If trustee rights are assigned to a user, trustee rights are the effective rights of the user.
- If trustee rights are not assigned to the individual user, but are assigned to a group to which the user belongs, the trustee rights of all the groups the user belongs to are the effective rights of the user.
- If trustee rights are not assigned to a user and the user does not belong to a group, or if trustee rights are not assigned to a user or to a group to which the user belongs, the rights of the group set by the administrator are the effective rights.

See the *DCE 1.2.2 File-Access Administration Guide and Reference* for details.

4.2.3.4 Examples

Example 1:

Display the effective rights for the directory TEST.

DRIGHT TEST

The effective rights for the directory and the rights that are also passed to subdirectories are displayed as follows:

```
SERVER-1\DFS1:\TEST
KDDS23600-I The effective rights for this directory are [   WCEMFA ]
KDDS23608-I Has right to write to files.          (W)*
KDDS23612-I Has right to create files and directories.          (C)
KDDS23616-I Has right to delete directories.          (E)
KDDS23620-I Has right to modify directories.          (M)*
KDDS23624-I Has right to p.4-8search file.          (F)
KDDS23626-I Has right to modify access control list.          (A)
KDDS23632-I Not effective in directories (denoted by *).
KDDS23634-I Has all the rights to Directory.
```

Example 2:

Display the effective rights in the file DATA in the current directory.

DRIGHT DATA

The effective rights for a directory and the rights that are also passed to subdirectories are displayed as follows:

```
SERVER-1\DFS2:TEST\DATA
KDDS23600-I The effective rights for this file are [  RWC  FAQ]
KDDS23606-I Has right to read files.          (R)
KDDS23610-I Has right to write to files.          (W)
KDDS23614-I * Has right to create files and subdirectories.          (C)
KDDS23625-I * Has right to search files.          (F)
KDDS23626-I Has right to modify access control list.          (A)
KDDS23630-I * Has right to modify files.          (Q)
KDDS23632-I * Not effective in files (denoted by *).
KDDS23634-I Has all the rights to files.
```

Note: The **DRIGHT** command applies only to Gateway volumes. Use the NetWare **RIGHTS** command for displaying the effective rights for directories and files in a NetWare volume.

4.3 Commands Related to Trustee Rights in the Gateway Volume

This section provides the syntax, arguments, functions, examples, and other relevant information for the following commands:

- **DGRANT**
- **DREMOVE**
- **DREVOKE**
- **DTLIST**

4.3.1 The DGRANT Command

The **DGRANT** command assigns trustee rights within the Gateway volume.

4.3.1.1 Syntax

DGRANT [ONLY | ALL BUT] *rights_list* **[FOR** *pathname***] TO [USER | GROUP]** *name*

4.3.1.2 Arguments

- **ONLY | ALL BUT**

  If **ONLY** is selected, only the rights specified in the *rights_list* argument are permitted. Rights that are not specified are not allowed, even if they were set prior to executing the **DGRANT** command. If **ALL BUT** is selected, all rights not specified in the *rights_list* argument are permitted. These arguments are always specified before the rights list.

  If you omit this argument, the rights status settings preceding the command are set along with either or both of the rights specified on the list of rights set in the rights list.

  If **ALL** or **NO RIGHT** is set in the *rights_list* argument, the arguments **ONLY** or **ALL BUT** cannot be specified.

- *rights_list*

  This argument specifies the rights that are to be permitted. See ''Functions'' for details regarding the rights that can be specified. It is possible to specify multiple rights from the rights list.

- *pathname*

  This argument specifies a pathname for a directory or file in the Gateway volume. You can use both the absolute pathname and the relative pathname. You can also use wildcard characters (? and *). If you omit the pathname argument, the system defaults to the current drive.

  You can include an MS-DOS drive name and NetWare volume name in the pathname. When you set a NetWare volume name in the path, MS-DOS drive mapping is not necessary. However, the NetWare volume must be installed in the NetWare Server you are logging into or attaching to.

- **USER | GROUP**

  This argument specifies whether to assign rights to the user or to the group. Specify a username after **USER**, and a group name after **GROUP**. If you omit this argument, the *name* you specified is recognized as a username. If there is no such username, it is recognized as a group name.

  However, when the username or group name is **USER** or **GROUP**, do not omit this argument. For example, if you specify the name **USER USER**, the second **USER** is recognized as the username. If you specify the name **USER GROUP**

, **GROUP** is taken as the username. The same rules apply to the argument for **GROUP**.

- *name*

  This argument allows you to specify a username or a group name to which to assign rights. User and group names are NetWare user or group names that have been registered in File-Access.

4.3.1.3 Functions

The **DGRANT** command assigns trustee rights to trustees on directories and files in the Gateway volume. Trustee rights set restrictions on user and group access to a directory or file. User and group access rights are assigned by setting these trustee rights in the rights list. Keywords that you can specify in the rights list are **ALL**, **NO RIGHT** (or **N**) and trustee rights. ALL means all trustee rights are specified, **NO RIGHT** (or **N**) means all trustee rights are deleted. Table 4-2 indicates the trustee rights that can be assigned. Note that the Qualified right assigns to the trustee the right to modify, but not the right to erase.

Table 4–2. Trustee Rights and Keywords

Trustee Right	**Keyword**
Right to Read	[R]
Right to Write	[W]
Right to Create	[C]
Right to Erase	[E]
Right to Modify	[M]
Right to Find	[F]
Right to Control Access	[A]
Qualified	[Q] (Right to modify without right to erase)

You can specify a combination of trustee rights if you insert a space between the rights. See Example 2 in the next section.

4.3.1.4 Important Points About Combining Rights

Depending on which rights are combined when specified for a Gateway volume directory or file, some rights are valid and some are invalid. Important points related to specifying rights for directories and files are as follows.

4.3.1.4.1 Setting Directory Rights

Valid and invalid trustee right combinations in a directory are discussed in this section with respect to two different groups (Groups A and B):

Group A:	Right to Read [R]	Group B:	Right to Create [C]
	Right to Write [W]		Right to Find [F]
	Right to Modify [M]		Right to Control Access [A]
	Qualified [Q] (Right to modify without right to erase)		Right to Erase [E]

- If only the four rights in Group A are specified, rights are set. This is true whether they are specified separately or collectively. In other words, if only Group A's rights are specified, the trustee rights cannot be changed.
- If Group A's rights are combined with Group B's, then Group A's rights are ignored. Only Group B's rights are recognized as having been set, and the trustee rights are changed accordingly.

4.3.1.4.2 Setting File Rights

Valid and invalid trustee right combinations for files are described in this section with respect to two groups (Groups C and D):

Group C:	Right to Create [C]	Group D:	Right to Read [R]
	Right to Erase [E]		Right to Write [W]
	Right to Modify [M]		Right to Control Access [A]
	Right to Find [F]		
	Qualified [Q] (Right to modify without right to erase)		

- The rights are set if only the five rights in Group C are specified. This is true whether they are specified separately or collectively. In other words, if only Group C's rights are specified, the trustee rights cannot be changed.
- If Group C's rights are combined with Group D's, then Group C's rights are ignored. Only Group D's rights are recognized as having been set, and the trustee rights are changed accordingly.

4.3.1.5 Relationships Between DGRANT, DREVOKE, and DREMOVE

Users and groups are registered to the trustee list if they are assigned trustee rights by using the **DGRANT** command. Use the **DREVOKE** command to delete trustee rights you assigned by using the **DGRANT** command. Note, however, if you use the **DREVOKE** command to delete all the user's or group's trustee rights, the user or group still remains on the trustee list. Use the **DREMOVE** command to delete a user or group specified as a trustee from the trustee list.

4.3.1.6 Examples

Example 1:

Assign all the trustee rights in the TEST directory to the user YAMAMOTO.

DGRANT ALL FOR F:\TEST*.* TO YAMAMOTO

The trustee rights that have been set for a directory and file are displayed:

```
SERVER-1\DFS1:\TEST\*.*
KDDS23200-I CHECK.BAK                    Trustee is set to [ RWC  FAQ]
KDDS23200-I CHECK.DAT                    Trustee is set to [ RWC  FAQ]
KDDS23200-I DEBUG.MNU                    Trustee is set to [ RWC  FAQ]
KDDS23200-I RESULT                       Trustee is set to [  WCEMFA ]
KDDS23200-I WORK                         Trustee is set to [  WCEMFA ]
```

Example 2:

Assign read **[R]** and find **[F]** rights to user KATAOKA for the file DOCUMENT in the current directory.

DGRANT ONLY R F FOR DOCUMENT TO KATAOKA

The trustee rights that have been set for a file are displayed: In this case, only **[R]** and **[F]** rights are assigned regardless of any rights that were assigned before entering this command.

```
SERVER-1\DFS2:\DFAM
```

Note: **[S]** (Supervisory rights), which can be specified by using the NetWare **GRANT** command, cannot be specified with the **DGRANT** command. **[Q]** (Qualified rights) can be specified only with the File-Access **DGRANT** command.

Available operations are limited according to the type of DFS file system. See ''Limitations Related to File Systems'' in Chapter 2 for details.

To assign trustee rights to all directories and files in the directory tree, trustee rights must be assigned to each individ ual directory and file in that directory tree.

4.3.2 The DREMOVE Command

The **DREMOVE** command deletes trustees in the Gateway volume.

4.3.2.1 Syntax

DREMOVE [USER | GROUP] *name* **[FROM** *pathname***]**

4.3.2.2 Arguments

- **USER | GROUP**

  This argument is used to specify whether to delete the trustee user or group from the trustee list. Specify a username after **USER**, and a group name after **GROUP**. If you omit this argument, the *name* you specified is recognized as a username. If there is no such username, it is recognized as a group name.

  However, when the username or group name is **USER** or **GROUP**, do not omit this argument. For example, if you specify the name **USER USER**, the second **USER** is recognized as the username. If you specify the name **USER GROUP** , **GROUP** is taken as the username. The same rules apply to the argument for **GROUP**.

- *name*

  This argument allows you to specify a username or a group name to be deleted from the trustee list. Usernames and group names are NetWare user or group names that have been registered in File-Access.

- *pathname*

  This argument specifies a pathname for a directory or file in the Gateway volume. You can use both the absolute pathname and the relative pathname. You can also use wildcard characters (? and *). If the *pathname* argument is omitted, the system defaults to the current directory.

  You can include an MS-DOS drive name and NetWare volume name in the pathname. When you specify a NetWare volume name in the path, MS-DOS drive mapping is not necessary. However, the NetWare volume must be installed in the NetWare Server you are logging into or attaching to.

4.3.2.3 Functions

The **DREMOVE** command deletes trustees (users or groups) from the trustee list for Gateway volume directories and files.

4.3.2.4 Relationships Between DGRANT, DREVOKE, and DREMOVE

Users and groups are registered to the trustee list if they are assigned trustee rights by using the **DGRANT** command. Use the **DREVOKE** command to delete trustee rights you assigned by using the **DGRANT** command. Note, however, if you use the **DREVOKE** command to delete all the user's or group's trustee rights, the user or group still remains on the trustee list. Use the **DREMOVE** command to delete a user or group specified as a trustee from the trustee list.

4.3.2.5 Examples

Example 1:

Delete user YAMAMOTO from the trustees of directory DOCUMENT.

DREMOVE YAMAMOTO FROM DOCUMENT

The following trustee rights are displayed:

```
SERVER-1\deletedDFS1:DOCUMENT
KDDS23400-I
User YAMAMOTO has been deleted from the trustees for Directory.
KDDS23400-I Trustee YAMAMOTO has been deleted from 1 directories.
```

Example 2:

Delete KATAOKA from the trustees in all subdirectories and files in the directory

TEST. DREMOVE KATAOKA FROM F:\TEST*.*

The deleted trustee is displayed as follows:

```
SERVER-1\DFS2:\TEST\CHECK.BAK
KDDS23400-I User KATAOKA has been deleted from the trustees fromfrom file.
SERVER-1\DFS2:TEST\CHECK.DAT
KDDS23400-I User KATAOKA has been deleted from the trustees from file.
SERVER-1\DFS2:TEST\DEBUG.MNU
KDDS23400-I User KATAOKA has been deleted from the trustees from file.
SERVER-1\DFS2:TEST\RESULT
KDDS23400-I
User KATAOKA has been deleted from the trustees from directory.
SERVER-1\DFS2:TEST\WORK
KDDS23400-I
User KATAOKA has been deleted from the trustees from directory.
KDDS23402-I Trustee Kataoka has been deleted from 3 files.
KDDS23404-I Trustee Kataoka has been deleted from 2 directories.
```

Note: The **DREMOVE** command applies only to Gateway volumes. Use the NetWare **REMOVE** command to delete trustee rights from a directory or file in a NetWare volume. There is no command for deleting trustee rights from directories or files in a local volume.

Note: If you want to delete a trustee from all directories and files in a directory tree, you have to delete the trustee from each individual directory and file in that directory tree.

4.3.3 The DREVOKE Command

The **DREVOKE** command deletes trustee rights in the Gateway volume.

4.3.3.1 Syntax

DREVOKE *rights_list* **[FOR** *pathname***] FROM [USER | GROUP]** *name*

4.3.3.2 Arguments

- *rights_list*

  This argument specifies the rights you want to revoke. See ''Functions'' for details regarding the rights that can be specified. It is possible to specify multiple rights from the rights list.

- *pathname*

  This argument specifies a pathname for a directory or file in the Gateway volume. You can use both the absolute pathname and the relative pathname. You can also use wildcard characters (? and *). If you omit the pathname argument, the system defaults to the current directory.

  You can include an MS-DOS drive name and NetWare volume name can be included in the pathname. When you specify a NetWare volume name in the path, MS-DOS drive mapping is not necessary. However, the NetWare volume must be installed in the NetWare Server you are logging into or attaching to.

- **USER | GROUP**

  This argument specifies whether to revoke rights from the user or the group. Specify a username after **USER**, and a group name after **GROUP**. If you omit this argument, the name you specified is recognized as a username. If there is no such username, it is recognized as a group name.

  However, when the username or group name is **USER** or **GROUP**, do not omit this argument. For example, if you specify the name **USER USER**, the second **USER** is recognized as the username. If you specify the name **USER GROUP**, **GROUP** is taken as the username. The same rules apply to the argument for **GROUP**.

- *name*

  This argument allows you to specify a username or a group name from which to revoke rights. User and group names are NetWare user or group names that have been registered in File-Access.

4.3.3.3 Functions

These functions revoke trustee rights from trustees in directories and files in the Gateway volume. The keywords used for making settings on the rights list are **ALL** and the letters listed below. **ALL** specifies all the trustee rights. For a list of the individual trustee rights, see Table 4-2 in ‘‘Commands Related to Trustee Rights in the Gateway Volume’’.

4.3.3.4 Relationships Between DGRANT, DREVOKE, and DREMOVE

Users and groups are registered to the trustee list if they are assigned trustee rights by using the **DGRANT** command. Use the **DREVOKE** command to delete trustee rights you assigned by using the **DGRANT** command. Note, however, if you use the **DREVOKE** command to delete all the user’s or group’s trustee rights, the user or group still remains on the trustee list. Use the **DREMOVE** command to delete a user or group specified as a trustee from the trustee list.

4.3.3.5 Examples

Example 1:

Revoke just the **[W]**, **[C]**, **[E]**, and **[M]** rights from user YAMAMOTO, who has **[R]**, **[W]**, **[C]**, **[E]**, **[M]**, and **[F]** rights for all directories and files in the TEST directory.

DREVOKE W C E M FOR F:\TEST*.* FROM YAMAMOTO

Trustee rights for the directories and files are displayed as follows:

```
SERVER-1\DFS1:\TEST\CHECK.BAK
KDDS23300-I Trustee of the access rights is: [ R   F ]
SERVER-1\DFS1:\TEST\CHECK.DAT
KDDS23300-I Trustee of the access rights is: [ R   F ]
SERVER-1\DFS1:\TEST\DEBUG.MNU
```

```
KDDS23300-I Trustee of the access rights is:[ R   F ]
SERVER-1\DFS1:\TEST\RESULT
KDDS23300-I Trustee of the access rights is: [ R   F ]
SERVER-1\DFS1\TEST\WORK
KDDS23300-I Trustee of the access rights is: [ R   F ]
KDDS23302-I Trustee for 2 files has been changed for YAMAMOTO.
KDDS23304-I Trustee for 3 directories has been changed for YAMAMOTO.
```

Example 2:

Revoke just the **[A]** right from user KATAOKA who has **[R]**, **[W]**, **[C]**, **[F]**, and **[A]** rights for the file DOCUMENT in the current directory.

DREVOKE A FOR DOCUMENT FROM KATAOKA

The following information is displayed:

```
SERVER-1\DFS2:\DOCUMENT
KDDS23300-I Trustee of the access right is: [ RWC   F ]
KDDS23304-I Trustee for 1 directories has been changed for KATAOKA.
```

Note: You cannot use the **DREVOKE** command to specify the **[S]** (Supervisory) right. You can specify this right only with the NetWare **REVOKE** command. You can specify the **[Q]** (Qualified) right only with the File-Access **DREVOKE** command.

To delete a trustee from all directories and files in a directory tree, you must delete the trustee from each individual directory and file in that directory tree.

4.3.4 The DTLIST Command

The **DTLIST** command displays the trustee list for a Gateway volume.

4.3.4.1 Syntax

DTLIST [*pathname* **[USER | GROUP]]**

4.3.4.2 Arguments

- *pathname*

  This argument specifies a pathname for a directory or file in the Gateway volume. You can use both the absolute pathname and the relative pathname. You can also use wildcard characters (? and *). If you omit the pathname argument, the system defaults to the current directory.

  You can include an MS-DOS drive name and NetWare volume name in the pathname. When you specify a NetWare volume name in the path, MS-DOS drive mapping is not necessary. However, the NetWare volume must be installed in the NetWare server you are logging into or attaching to.

- **USERS | GROUPS**

  Use this argument only if the trustee list display is to be restricted to either users only or groups only. If you do not specify this argument, both the user and the group trustee list are displayed.

  Do not specify this argument without a pathname. If you omit the pathname, **USERS** or **GROUPS** is used as the pathname.

4.3.4.3 Functions

The **DTLIST** command displays a trustee list for directories and files in a Gateway volume. The trustee list is a list of trustees (users or groups who have the right to read or write to directories or files) and their trustee rights (such as the right to read or write files).

4.3.4.4 Example

Display the trustee list in the TEST directory.

DTLIST TEST

The trustee list for users or groups is displayed as follows:

```
SERVER-1\DFS1:\TEST
Users with trustee rights:
YAMAMOTO          [  WCEMFA ]
SUZUKI            [  WCEMFA ]
KATAOKA           [  WCEMF  ]
ITO               [  WC  F Q]
ATO               [      F  ]
KDDS23502-I No group trustee
```

Note: The **DTLIST** command applies only to Gateway volumes. Use the NetWare **TLIST** command to display trustee lists for directories and files in NetWare volumes.