DFS Client for Windows NT™ System Guide

Audience   Users of the DFS Client for Windows NT who are either familiar with Microsoft® Windows NT or have a basic knowledge of using windows applications.

Purpose   The purpose of this manual is to provide DFS users with an overview of DFS and information and instructions for using, administering, and maintaining the DFS Client.

Production Notes   Text   Microsoft Word and Doc-to-Help
                        Illustrations   CorelDraw
                        Screens   Screen Prints and Paintbrush

Research   Discussion with development and training and experimentation with the system.

Sample Information This sample includes the title page, one complete chapter: "Using DFS," and the Glossary.

DFS Client for
Windows NT™

Transarc Corporation

Using DFS

Introduction

This chapter discusses authenticating to DCE and using your DFS Client to access data. Authenticating to DCE is similar to logging into Windows NT™; you provide a username and password to DCE to establish your identity. This chapter concentrates on the differences between working with your DFS Client and working with your local drives or the Microsoft LAN Manager. For the most part, managing DFS objects is similar to managing files and directories on your local file system. You can create, name, move, copy, select, delete, rename, print, and search for DFS objects as described in your Windows NT documentation.

Accessing DFS objects is similar to accessing files and directories through the Microsoft LAN manager. You can access DFS objects in the following ways:

- Establish a network drive connection to a directory in the DFS filespace. In this instance, you use the DFS pathname as the network path to establish a connection to the directory in the DFS filespace.

- Access a DFS object directly. In this instance, you use the complete DFS pathname of the object.

As in any shared file system, you can perform tasks only on those DFS objects for which you have the proper permissions.

Authenticating to DCE

Authentication is the process of establishing your identity to DCE using the DCE Login Utility (**dce_login** command). This utility is shipped with your version of DCE; refer to your DCE documentation for more information.

You should authenticate to DCE before using DFS. This is important because the Access Control Lists (ACLs) that protect DFS objects grant

permissions based on your identity and the groups to which you belong. To authenticate, you need the principal name and password for your DCE account (if you do not have your own account, see your system administrator).

It is possible to access DFS without having your own DCE account; however, this is not a good practice. The following section explains how this works.

Your Default Machine Principal

When DCE was configured on your PC, an account and principal were created for your machine. The principal name is the network name the Microsoft LAN Manager uses to identify your computer, and the password for the principal's account is a set of random characters generated by DCE. Any user on your PC who is part of the Administrators group in Windows NT is automatically authenticated as the default machine principal.

You can use the default machine principal of your PC to access DFS; however, this presents the following problems:

- You cannot log in as your machine principal from another machine. (The default machine principal uses a machine-generated password that you cannot access.) If you use the default machine principal of your PC to access DFS, your files and directories are protected based on your machine's principal identity. If you need to access your files and directories from any other computer or terminal, you can be denied privileges that you receive when you access your files from your PC.

- You cannot transfer your machine's principal identity to a new machine. If you use the default machine principal of your PC to access DFS, your files and directories are protected based on your machine's principal identity. If you begin using a new machine, a different account and principal are created for that machine when DCE is configured on it. When you access your files from your new PC, you can be denied privileges that you received when you accessed your files from your former PC.

- You cannot guarantee that DCE ACLs that include your machine principal protect your DFS objects. Any user who is part of the Administrators group on your Windows NT machine has access to DFS objects based on your machine's principal.

A much better approach is to have a personal DCE account. You can authenticate as the principal for that account from any machine in your DCE cell, access your files from any location, and protect your files so that only you can access them.

About Ticket Lifetimes

When you authenticate to DCE, you are granted a "ticket-granting-ticket." This ticket provides information about your identity to the various DCE services and is necessary for you to access files in DFS. The ticket has an associated lifetime and expires after a set period of time. If your ticket expires, you no longer have access to DFS objects based on your identity.

Your version of DCE for the PC has commands for checking your current ticket (**klist**) and renewing your ticket (**kinit**). See your DCE documentation for more information. The following figure shows a section of the typical output from the **klist** command, which reports information about your principal and ticket lifetimes.

```
klist
DCE Identity Information:
        Warning: Identity information is not certified
        Global Principal: /.../ddc.com/judy
        Cell:    006557e8-ad69-1e5b-bf05-9e620b07aa77 /.../ddc.com

        Principal: 00001570-a08d-200f-b200-9e620b07aa77 judy
        Group:    00001b6e-35e8-2e6f-8001-9e620b07aa77 dynamic depot
        Local Groups:
             00001b6e-35e8-2e6f-8001-9e620b07aa77 dynamic depot

Identity Info Expires: 95/07/28:08:28:36
Account Expires:     never
Passwd Expires:      never
```

*Part of the output from the **klist** command.*

Changing Principals

You can authenticate to DCE before or after you connect a network drive to DFS. If you know the passwords for multiple principals, you can change principals as you are using DFS. For example, you may have access to a principal reserved for cell administration. You can authenticate as that cell administrator, complete any administration tasks, destroy your credentials as an administrator, and then authenticate again as your own principal.

The PC version of DCE has commands for authenticating to DCE, checking your current principal, and removing your current credentials. Refer to the DCE documentation for more information.

User Interface Issues

The following sections discuss features in the File Manager and Command Prompt interfaces that are relevant to using the DFS Client.

The DFS Client and the File Manager

The DFS Client software includes a number of extensions to the Windows NT File Manager that help you work with DFS. This section explains the extensions and any differences in the behavior of the File Manager when using DFS.

The following figure shows the File Manager and highlights the components that are especially relevant to DFS.
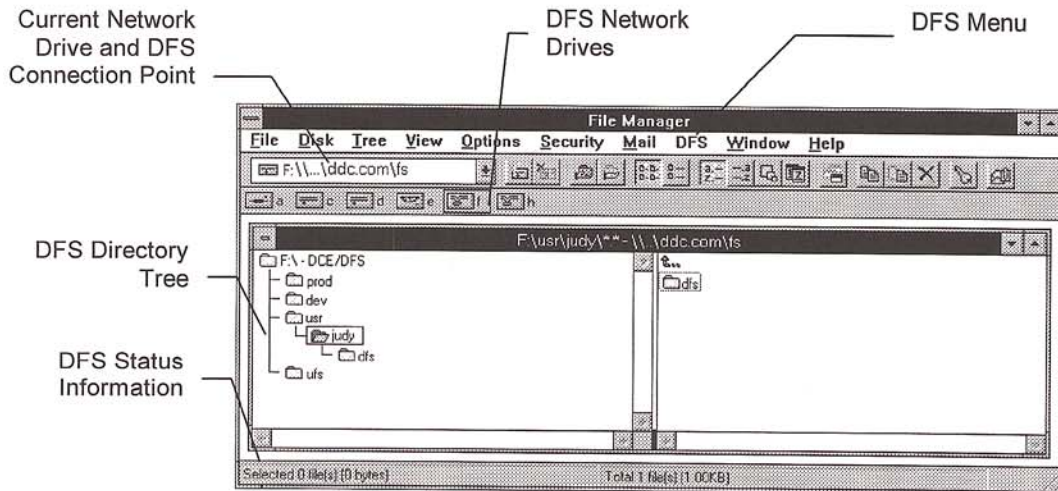
The File Manager, highlighting features that are relevant to DFS.

DFS Menu

The DFS Menu provides commands to edit DCE ACLs, display quota information for filesets, display fileset information for DFS objects, and force the DFS Cache Manager to discard cached data.

DFS Network Drives

As shown in the preceding figure, network drive **F:** connects to the DFS filespace. You can have as many connections to DFS as you have available network drives.

Current Network Drive and DFS Connection Point

The title bar displays the currently selected network drive and the DFS pathname to the connection point (directory) in the DFS filespace.

DFS Directory Tree

The File Manager displays the DFS directory tree the same way that it displays directory trees on your local disk. The left pane of the directory window displays the DFS directory tree starting at the

network drive connection (the root directory for the network drive). The right pane lists the contents of the currently selected directory.

DFS Status Information

The status information shown for DFS network drives differs from that shown for Microsoft LAN Manager network drives or internal hard drives. Because DFS shows a potentially very large filespace that can span a large number of physical drives, the concept of remaining space is meaningless. If you select a directory in DFS on the left side of a directory window, the status bar displays a constant value (8.58 GB) that has no relation to the remaining free space in the DFS filespace. However, if you select a file on the right side of the directory window, the status bar provides valid information about the size of that file.

The DFS Client and the Command Prompt

The DFS Client software includes the **dfsadmin** command suite, the **dfschmod** command, and the **dfstrace** command suite. It also provides support for the **attrib** and **net use** commands.

The **dfsadmin** command suite allows you to perform many DFS specific File Manager and Control Panel operations through the Command Prompt. For a complete reference to the **dfsadmin** command suite, see the topic titled "The dfsadmin Command Reference" in the online help.

The **dfschmod** command allows you to change the mode of a DFS object through the Command Prompt. For a complete reference to the **dfschmod** command, see the topic titled "The dfschmod Command Reference" in the online help.

The **dfstrace** program traces specific events within the DFS driver. Administrative users issue **dfstrace** commands to diagnose problems within the DFS driver. For a complete reference to the **dfstrace** command suite, see the topic titled "The dfstrace Command Reference" in the online help.

You can use the **attrib** command to set or clear the read-only file attribute for a DFS object. For more information on the **attrib** command and how it effects DCE ACLs and the UNIX mode for a DFS object, see "Editing DCE ACLs and UNIX Modes with the MS-DOS attrib Command" in the "Protecting DFS Objects" chapter.

You can use the **net use** command to establish or remove connections and display connection information. For example, you can use the **net use** command to establish a network drive connection to a directory in the DFS filespace. Certain **net** commands that deal with LAN Manager-specific

issues, such as logging on (**net logon**) or changing your password (**net password**) are not relevant to the DFS Client.

Stopping and Starting Your DFS Client

You can stop and start your DFS Client manually from the Control Panel or the Command Prompt. You can also start your DFS Client from the TransarcDFS Program Group.

Stopping and Starting Your DFS Client from the Control Panel

You can stop and start your DFS Client from the Services application in the Control Panel. If you stop your DFS Client, all DFS commands from the File Manager, Control Panel, and Command Prompt fail.

1. Double-click the Services icon from within the Control Panel.
2. Select Transarc DFS Helper from the Service list.
3. Choose the Stop or Start button to stop or start your DFS Client.
4. Close the Services dialog box.

Stopping and Starting Your DFS Client from the Command Prompt

You can use the **dfsadmin service** command to stop and start your DFS Client. If you stop your DFS Client, all DFS commands from the File Manager, Control Panel, and Command Prompt fail. For more information on the **dfsadmin service** command, see the "dfsadmin service" topic in the online help. The syntax for the **dfsadmin service** command follows:

dfsadmin service [{-start | -stop}] [-help]

where the **-start** option starts DFS, and the **-stop** option stops DFS.

For example, the following command starts DFS:

dfsadmin service -start

The following command stops DFS:

dfsadmin service -stop

Starting Your DFS Client from the TransarcDFS Program Group

If you have stopped your DFS Client from the Control Panel or Command Prompt, or if you have the DFS Client set to start manually, you can start your DFS Client from the TransarcDFS Program Group.

1. Double-click the TransarcDFS Program Group icon.
2. Double-click the Start DFS Client icon.

Accessing DFS Objects

You access DFS objects through one of the following methods:

*   Establish a network drive connection to a directory in the DFS filespace. To create the connection, use the DFS pathname for the directory as the network pathname.

*   Refer directly to a file in the DFS filespace. To do this, use the DFS pathname for the file when referring to the file in a command or application.

Using either method, you must know the DFS pathname to the DFS object you want to access. You cannot use the Shared Directories box in the Connect Network Drive dialog box to browse the DFS filespace. The following sections describe these two methods of accessing DFS in detail.

Network Drive Connections to the DFS Filespace

You can create a network drive that connects to a directory in the DFS filespace. This provides a convenient way to access a particular section of the DFS directory tree.

The following figure illustrates two example connections from a Windows NT machine to the DFS filespace. Note that network drive, **F:**, is connected to the DFS root directory (the **/fs** junction) and network drive, **G:**, is connected to the directory **/usr**. Also, note how the network drives define connections to the single DFS directory tree.
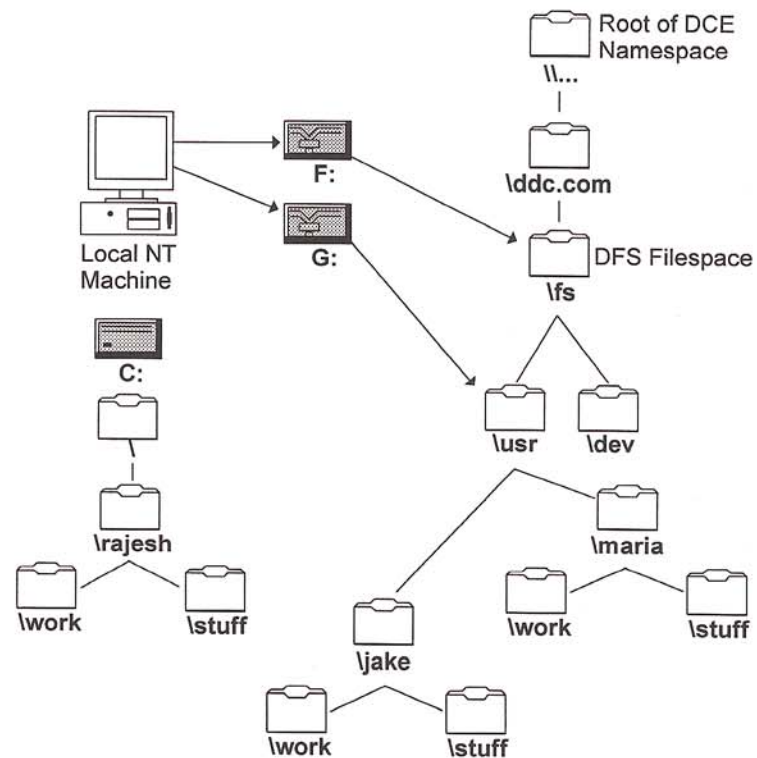
A Windows NT machine connected to DFS.

The following procedures explain how to establish a network drive connection to the DFS filespace through either the File Manager or the Command Prompt.

To create a network drive connection to DFS from the File Manager

1. Choose Connect Network Drive from the Disk menu in the File Manager.

   The Connect Network Drive dialog box appears, as shown in the following figure. The Drive box displays the first available drive letter.

```
┌─────────────────────────────────────────────────────────────────┐
│ ▓▓  │                  Connect Network Drive                     │
├─────────────────────────────────────────────────────────────────┤
│                                                                   │
│  D̲rive:        [▭ H:                            ] [±]  ┌───────┐  │
│                                                        │  OK   │  │
│  P̲ath:         [                                ] [±]  └───────┘  │
│                                                        ┌───────┐  │
│  C̲onnect As:   [                                ]      │Cancel │  │
│                                                        └───────┘  │
│                 ☒ R̲econnect at Logon                  ┌───────┐  │
│                                                        │ Help  │  │
│                                                        └───────┘  │
│  S̲hared Directories:                ☒ E̲xpand by Default          │
│  ┌──────────────────────────────────────────────────────────┐   │
│  │⋋  DFS Distributed File Service                            │   │
│  │⋋  Microsoft Windows Network                               │   │
│  │                                                           │   │
│  │                                                           │   │
│  │                                                           │   │
│  │                                                           │   │
│  │                                                           │   │
│  │                                                           │   │
│  └──────────────────────────────────────────────────────────┘   │
│                                                                   │
└─────────────────────────────────────────────────────────────────┘
```
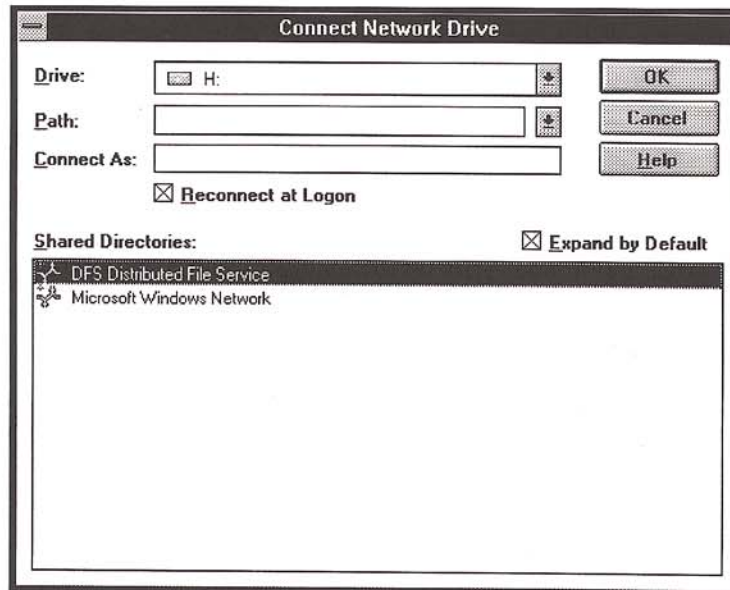
2. Accept the displayed drive letter for the connection or select another letter from the Drive list box.

3. Type or select a DFS pathname in the Path box.

    You can use a cell-relative or DFS-relative name if you are connecting to the DFS filespace of your local cell.

    If you have previously connected to a DFS directory, you can select the path from the list displayed in the Path box. The Path box displays the 10 most recently used paths.

    You cannot browse the DFS directory tree through the Shared Directories box.

4. Check the Reconnect at Logon box if you want to connect to the DFS filespace each time you log on.

5. Choose the OK button.

Note: You cannot use the Connect As box to log into DCE. See your DCE vendor's documentation for information about the **dce_login** command.

To create a network drive connection to the DFS filespace from the Command Prompt

Connecting to the DFS filespace is similar to connecting to a machine through the Microsoft LAN Manager.

Enter the following command at the Command Prompt:

net use *drive_letter***:** *pathname*

where *drive_letter* is the network drive designation and *pathname* is the full DFS pathname of the DFS directory to which you want to connect. You can type an * (asterisk) in place of *drive_letter* to instruct Windows NT to use the next available drive letter.

For example, to connect network drive **G:** to the **\fs\usr\judy** directory in the cell **ddc.com**, you would enter the following **net use** command at the Command Prompt:

net use g: \\...\ddc.com\fs\usr\judy

You also can use the DFS-relative prefix in the pathname if you are connecting to the DFS filespace of your local cell. The following example illustrates the use of the DFS-relative prefix and the * (asterisk).

net use * \\:\usr\judy

Direct Access to Files in DFS

You can access a file in DFS without first establishing a network drive connection by using the complete DFS pathname when referring to the file in a command or application. For example, in a File Open dialog box, you can type the complete DFS pathname for the file you wish to open.
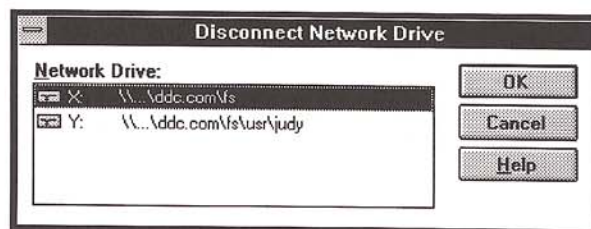
Disconnecting a Network Drive

You can disconnect a network drive from the DFS filespace through either the File Manager or the Command Prompt. When you disconnect a network drive, the DFS directory to which it points is no longer accessible via that drive.

To disconnect a network drive from the File Manager

1. Choose Disconnect Network Drive from the Disk menu in the File Manager.

   The Disconnect Network Drive dialog box appears, as shown in the following figure.

2. Select each DFS network drive you want to disconnect.

3. Choose the OK button.

To disconnect a network drive from the Command Prompt

Enter the following command at the Command Prompt:

net use *drive_letter***: /delete**

where *drive_letter* is the network drive designation you want to disconnect.

For example, the following command would disconnect the **H:** network drive:

net use h: /delete

Refreshing the File Manager Window

The File Manager automatically updates the contents in its directory window when you perform an operation within the control of the File Manager. Operations within the control of the File Manager include the following:

- Operations performed from your machine to your local hard drive
- Operations performed via the File Manager

You must manually refresh the File Manager window if you perform an operation outside the control of the File Manager. For example, if you use the Command Prompt to copy a file to the DFS filespace or use another application to save a file directly to the DFS filespace, the file does not appear in the File Manager directory window until you refresh the window (by selecting Refresh from the Window menu or by pressing F5).

This is common network drive behavior. The File Manager does not know about operations performed via network drives unless they are performed from within the File Manager.

Symbolic Links

DFS users in UNIX can create symbolic links. A symbolic link is a DFS object that points to another DFS object. You can think of a symbolic link as a direct path from the current DFS object to a DFS object that resides elsewhere in the DFS directory tree.

Symbolic links appear as normal DFS objects (files or directories) in both the File Manager and the Command Prompt. You may not know if you encounter a symbolic link because they behave just like ordinary DFS objects in most respects. You may notice that you have encountered a symbolic link if you open a directory that leads to an unexpected point in the DFS directory tree. For example, the following figure illustrates how one

part of the DFS directory tree can lead to an unrelated point in the DFS directory tree. You cannot create symbolic links from your DFS Client for Windows NT.
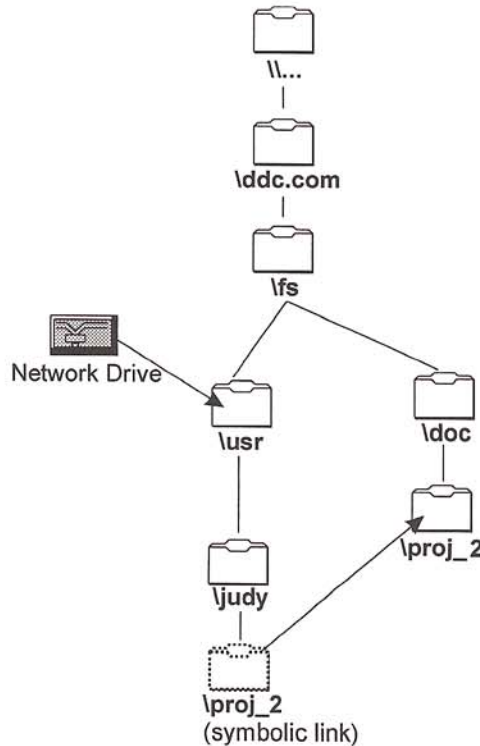

Symbolic link to \\...\ddc.com\fs\doc\proj_2

Symbolic links differ from normal files or directories in the following respect: you cannot delete them through your DFS Client. If you delete a DFS object that is a symbolic link, the object to which the link points is deleted but not the link itself. The link to the deleted object remains; however, it does not point to anything because its target no longer exists. This is referred to as an unresolved symbolic link. When the target of a symbolic link is deleted, the link no longer appears in either the File Manager or through a **dir** command issued from the Command Prompt.

If you attempt to delete a directory that contains an unresolved symbolic link, the deletion fails because the link still exists. The link does appear through an **ls** command (analogous to the MS-DOS **dir** command) on a UNIX machine. See your system administrator if you must delete a directory that contains an unresolved symbolic link.

Quota Information for Filesets

The DFS Client provides both File Manager and Command Prompt commands to display quota information for the fileset that contains any specified DFS object. Quota is the maximum amount of disk space a fileset can occupy. Each LFS fileset is allocated its own quota. The quota is independent of the amount of disk space actually used by the fileset. For example, a fileset with a quota of 5 MB may contain only 3 MB of data. The following figure illustrates the difference between fileset quota and usage.
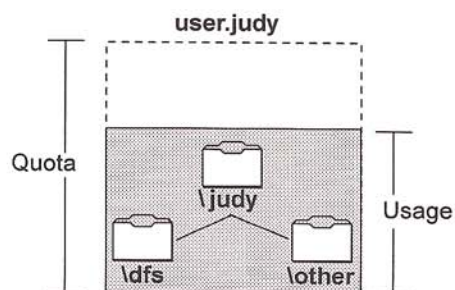
Fileset quota is different from fileset usage.

An administrator can allocate a certain amount of quota for a fileset; however, that does not indicate that an equal amount of disk space exists. The combined quotas of the filesets on an aggregate can exceed the amount of disk space actually available on the aggregate. This is a generally accepted practice because most filesets have more quota than actual data. However, if many filesets on an aggregate approach their quotas, the aggregate can become full. This can be true even if some of the filesets on the aggregate are well below their quotas. If this happens to the aggregate that houses your user fileset, you cannot store new data in the fileset, even if it has unused quota. See your system administrator if you cannot store new data in a fileset that has available quota.

Displaying Quota for Selected Filesets from the File Manager

You can display the quota for the fileset that contains any specified DFS object. When you display the quota for the fileset that contains an object, DFS also provides additional information about the fileset and the aggregate on which it resides. DFS displays the information in the following format in the List Quota dialog box.

Filename	Fileset Name	Fileset Quota	Fileset Used	Aggregate Total	Aggregate Used
judy	usr.judy	5000	4553 (91%)	159736	83134 (52%)

The dialog box fields provide the following information:

- Filename — the name of the DFS object you specified
- Fileset Name — the name of the fileset that contains the DFS object
- Fileset Quota — the amount of quota, in kilobytes, allocated to the fileset
- Fileset Used — the amount of quota, in kilobytes, currently in use on the fileset and the percentage of quota in use
- Aggregate Total — the size of the aggregate, in kilobytes, that contains the fileset
- Aggregate Used — the amount of disk space, in kilobytes, currently in use on the aggregate and the percentage of disk space in use

Non-LFS filesets do not support quota assignment. If you request quota information for a non-LFS fileset, DFS displays the size of the partition that houses the non-LFS fileset for both Fileset Quota and Aggregate Total, and DFS displays the amount of disk space used by the fileset for both Fileset Used and Aggregate Used. For more information on LFS and non-LFS filesets, see "DCE Local File System" in the "Overview of DCE and DFS" chapter.

To Display Quota Information

1. Select the desired DFS objects from the File Manager window.

   Remember that quota is assigned on a fileset basis. If you select multiple DFS objects from the same fileset, DFS returns the same quota information for each object.

2. Choose List Quota from the DFS menu.

   The List Quota dialog box appears with quota information for each DFS object selected in the File Manager directory window.

3. Choose the OK button to close the dialog box.

Displaying Quota Information from the Command Prompt

You can use the **dfsadmin lsquota** command to display quota information about the filesets that contain one or more specified DFS objects. For more information on the **dfsadmin lsquota** command, see the "dfsadmin lsquota"

topic in the online help. The syntax of the **dfsadmin lsquota** command follows:

dfsadmin lsquota [-path *filename* **...] [-help]**

where *filename* is either the complete DFS pathname or the network drive pathname of each DFS object about which you want to display information. If you omit the *filename*, the command returns information about the fileset that contains the current directory.

The **dfsadmin lsquota** command provides the following information:

- Fileset Name — the name of the fileset that contains the DFS object whose path you specified with the command

- Quota — the amount of quota, in kilobytes, allocated to the fileset

- Used — the amount of quota, in kilobytes, currently in use on the fileset

- %Used — the percentage of quota currently in use on the fileset

- Aggregate — the percentage of disk space currently in use on the aggregate; the amount of disk space, in kilobytes, currently in use on the aggregate; and the amount of disk space, in kilobytes, available on the aggregate that contains the fileset

For example, the following command uses the network drive pathname to list quota information for the fileset that contains the directory **h:\usr\judy**:

dfsadmin lsquota -path h:\usr\judy

```
Fileset Name  Quota   Used   %Used   Aggregate
judy          5000    4129   82%     76% = 44143/57840
```

The following command uses a complete DFS pathname to list quota information for the fileset that contains the directory **\\...\ddc.com\fs\usr\judy**:

dfsadmin lsquota -path \\...\ddc.com\fs\usr\judy

```
Fileset Name  Quota   Used   %Used   Aggregate
judy          5000    4129   82%     76% = 44143/57840
```

Non-LFS filesets do not support quota assignment. If you request quota information for a non-LFS fileset, the **dfsadmin lsquota** command displays the size of the partition that houses the non-LFS fileset for both the amount of quota allocated to the fileset and the amount of disk space available on the aggregate; the **dfsadmin lsquota** command also displays the amount of disk space used by the fileset for both the amount of quota currently in use on the fileset and the amount of disk space currently in use on the aggregate. For more information on LFS and non-LFS filesets, see "DCE Local File System" in the "Overview of DCE and DFS" chapter.

Displaying Fileset Information for DFS Objects

The DFS Client provides both File Manager and Command Prompt commands to list fileset information for specified DFS objects. Both commands report the fileset and DCE cell in which each specified DFS object resides.

Displaying Fileset Information from the File Manager

The Where Is command on the DFS menu lists information about the fileset that contains a selected DFS object. You can also list information about which File Server contains the specified DFS object. DFS displays the information in the following format in the Where Is dialog box:
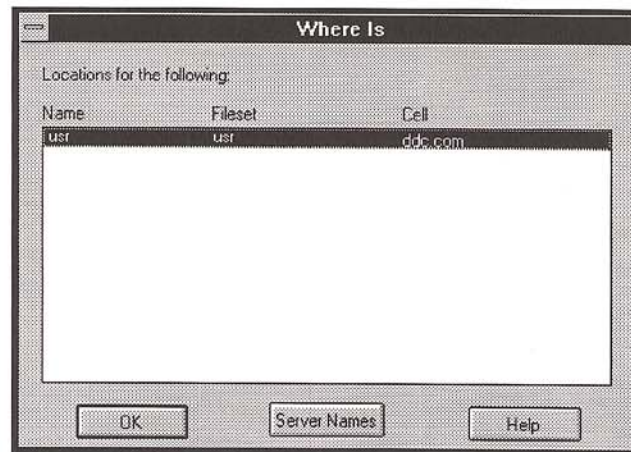
The dialog box fields provide the following information:

- Name — the name of the DFS object you specified
- Fileset — the name of the fileset that contains the DFS object
- Cell — the name of the cell in which the fileset resides

To Display Fileset Names and Locations for DFS Objects

1. Select the desired DFS objects from the File Manager window.

2. Choose Where Is from the DFS menu.

   The Where Is dialog box appears with fileset and cell information for each selected DFS object.

3. Select the fileset in the Where Is dialog box and choose the Server Names button to display the name of the File Server on which a fileset resides. The Server Names dialog box appears with the

name of the File Server that contains the fileset, as shown in the following figure.

```
Server names for fileset:   usr

jupiter.ddc.com
```

4. Choose the OK button to close the Server Names dialog box.

5. Choose the OK button to close the Where Is dialog box.

Displaying Fileset Information from the Command Prompt

You can use the **dfsadmin whereis** command to display the fileset, File Server, and DCE cell that contain each specified DFS object. For more information on the **dfsadmin whereis** command, see the "dfsadmin whereis" topic in the online help. The syntax of the **dfsadmin whereis** command follows:

dfsadmin whereis [-path *filename* ...] [-help]

where *filename* is either the complete DFS pathname or the network drive pathname of each DFS object about which you want to display information. If you omit the *filename*, the command returns information about the fileset, File Server, and cell that contain the current directory.

For example, the following command uses the network drive pathname to list the information for the directory **h:\usr\gunter**:

dfsadmin whereis -path h:\usr\gunter

```
The  file `h:\usr\gunter' resides in the cell `ddc.com',
in fileset usr (0,,5) on: neptune.ddc.com
```

The following command uses a complete DFS pathname to list the information for the directory **\\...\ddc.com\fs\usr\gunter**:

dfsadmin whereis -path \\...\ddc.com\fs\usr\gunter

```
The  file `\\...\ddc.com\fs\usr\gunter' resides in the cell
`ddc.com',
in fileset usr (0,,5) on: neptune.ddc.com
```

Forcing the DFS Cache Manager to Discard Cached Data

The DFS Client provides both File Manager and Command Prompt commands to discard data stored in the cache. When you force the DFS Cache Manager to discard data from the cache, the DFS Cache Manager

- Saves any unsaved data back to the File Server that houses the data
- Obtains the current version of the data the next time you request it

You do not normally need to force the DFS Cache Manager to discard data. The DFS Cache Manager discards data automatically if it needs to make room in the cache for new data. It discards data based on the following two factors:

- Whether the data is reproducible. Reproducible information has not changed since you retrieved it from a File Server. By definition, data from read-only filesets is always reproducible; data from read/write filesets is reproducible if any changes made locally are already stored to the File Server.

- When you last referenced the data. The DFS Cache Manager first discards data that you have not used for the longest time.

Thus, the DFS Cache Manager can discard reproducible data not used for the longest time. The DFS Cache Manager continues to discard least-recently used, reproducible data until there is enough room for new data.

Discarding Cached Data from the File Manager

The File Manager has two commands in the DFS menu that discard data from the cache: Flush Files and Flush Filesets. The Flush Files command discards data from all DFS objects selected in the File Manager directory window. The Flush Filesets command discards all data from the filesets that contain each DFS object selected in the File Manager directory window.

To Discard Cached Data from Specific DFS Objects

1. Select the desired DFS objects from the File Manager window.

2. Choose Flush Files from the DFS menu.

   The DFS Cache Manager discards data cached from the selected DFS objects. The following dialog box appears if the DFS Cache Manager successfully discards all requested data.

Transarc DFS Client
Files flushed successfully
OK

   If the DFS Cache Manager fails to discard any requested data from the cache, the Failed Flushes dialog box appears, as shown in the following figure. The Failed Flushes dialog box displays the names of all files that the DFS Cache Manager could not discard and an appropriate error message for each file. See your system administrator for help if the DFS Cache Manager fails to discard any files.

Flush(es) failed for the following:

rajesh: Access is denied.

The Failed Flushes dialog box appears for both the Flush Files and the Flush Filesets commands.

3. Choose the OK button to close the dialog box.

To Discard All Data from Specific Filesets

1. Select a DFS object from the File Manager window that resides in each fileset whose cached data you want to discard.

2. Choose Flush Filesets from the DFS menu.

   The DFS Cache Manager discards data cached from the filesets that contain the selected DFS objects. If the DFS Cache Manager successfully discards all requested data, a dialog box appears stating that filesets flushed successfully.

   If the DFS Cache Manager fails to discard any data from the cache, the Failed Flushes dialog box appears. The Failed Flushes dialog box displays the names of all files that the DFS Cache Manager could not discard and an appropriate error message. See your system administrator for help if the DFS Cache Manager fails to discard any files.

3. Choose the OK button to close the dialog box.

Discarding Cached Data from the Command Prompt

You can use the **dfsadmin flush** command to discard data cached from specified DFS objects. For more information on the **dfsadmin flush** command, see the "dfsadmin flush" topic in the online help.

The syntax of the **dfsadmin flush** command follows:

dfsadmin flush [-path *filename* ...] [-help]

where *filename* is either the complete DFS pathname or the network drive pathname of each DFS object to be flushed. If you omit the *filename*, the command discards information cached from the current directory.

The following command uses the network drive pathname to discard data from the file **h:\usr\judy\manual.doc**:

dfsadmin flush -path h:\usr\judy\manual.doc

You can use the **dfsadmin flushfileset** command to discard all data cached from filesets that contain specified DFS objects. For more information on the **dfsadmin flushfileset** command, see the "dfsadmin flushfileset" topic in the online help.

The syntax of the **dfsadmin flushfileset** command follows:

dfsadmin flushfileset [**-path** *filename* ...] [**-help**]

where *filename* is either the complete DFS pathname or the network drive pathname of one or more DFS objects. All data cached from the filesets that contain the specified objects is discarded. If you omit the *filename,* the command discards information from the fileset that contains the current directory.

The following command uses the complete DFS pathname to discard data from the fileset on which the file \\...\ddc.com\fs\usr\judy\manual.doc resides:

dfsadmin flushfileset -path \\...\ddc.com\fs\usr\judy\manual.doc

Glossary

@sys variable

The @sys variable, when used in a pathname, translates to the directory name that matches the type of system from which the pathname was issued (for example, winnt).

account

Data in the DCE Security Registry database that allows a principal to log in. An account is indistinguishable from a principal identifier and is the registry object that represents a principal.

aggregates

Disk partitions that are specially formatted to accommodate one or more DCE LFS filesets.

authenticated

A principal whose identity has been verified by the DCE Security Service.

backup fileset

A backup version of a fileset is a clone of a read/write fileset. The backup fileset resides at the same site as the source fileset.

cache file

A reserved area of local disk designated for temporary storage of data retrieved from File Servers.

CDS

The Cell Directory Service is a DCE service that manages information about the resources in a DCE cell. It contains junctions that connect services such as DFS into the cell.

cell-relative name

A name that is meaningful and usable only from within the DCE cell where an entry exists. A cell-relative name is a shortened form of a global cell name. Cell-relative names begin with the cell-relative prefix \\.: and do not contain the global namespace designation or a cell name.

cell-relative prefix

A prefix that indicates the global namespace designation and the cell name. For example, the pathname \\...\ddc.com\fs\usr is \\.:\fs\usr with the cell-relative prefix.

chunk

A unit of transfer the DFS Cache Manager uses to obtain data from File Servers. It is also the maximum size of each piece of data that is stored in the cache. The chunk size is 4 KB.

client

A machine that runs the DFS Cache Manager. A client machine is capable of requesting data from File Servers and caching the data locally.

DCE

The Distributed Computing Environment is a collection of services and tools that support the creation, use, and maintenance of distributed applications in a computing environment consisting of many different machines.

DCE ACL

An Access Control List that controls access to a DFS object. An ACL contains entries that specify the permissions that can be granted to users and groups.

DCE ACL entry

An entry on an access control list that specifies the permissions that can be granted to a particular user, group, or collection of users. Each ACL entry consists of an ACL entry type that indicates whether the entry is for a user, group, or predefined collection of users, and whether the user or group is from the default cell of the ACL. Each ACL entry also consists of a set of permissions that grant certain access privileges to the user associated with the ACL entry type.

DCE cell

The basic unit of operation in DCE. It consists of a group of users, systems, and resources that share common services and administration. A cell can consist of from one to thousands of systems.

DCE LFS

The DCE Local File System is a high-performance file system offering enhanced performance and reliability over traditional file systems by providing improved data storage and management.

DFS

The Distributed File Service that joins the local file systems of several File Server machines, making the file systems available to all DFS Client machines under the global namespace.

DFS Cache Manager

The DFS Cache Manager runs on your DFS Client and acts as an interface between your DFS Client and the DFS filespace. When you request data from a File Server machine, the DFS Cache Manager obtains the data, caches it on your local machine, and makes the cached data available to you on the client machine.

DFS objects

Files and directories that reside in the DFS filespace.

DFS-relative name

A name that is meaningful and usable only from within the DCE cell where an entry exists. A DFS-relative name is a shortened form of a global cell name and the filespace junction. DFS-relative names begin with the DFS-relative prefix \\: and do not contain the global namespace designation, a cell name, or the filespace junction.

DFS-relative prefix

A prefix that indicates the global namespace designation, the cell name, and the filespace junction. For example, the pathname \\...\ddc.com\fs\usr is \\:\usr with the DFS-relative prefix.

event set

A set of events that occur within the DFS driver. Each event set contains trace messages representative of the type of events that the **dfstrace** program traces. You can review event sets to diagnose problems with the DFS driver.

FAT

The File Allocation Table is the file system that the DOS operating system uses to store the names and locations of DOS files, also called DOS/FAT files.

File Server

Machines that house DFS filesets from which they distribute data to DFS Client machines.

file system

The structure that an operating system uses to name, store, track, and organize files and directories.

fileset

A logical grouping of files and directories administered as a single unit.

FLDB

The Fileset Location Database records location and other status information about filesets available in DFS.

foreign cell

A cell other than the one to which the local machine belongs.

global namespace designation

The global namespace designation (\\...) is the first element in a DFS file or directory pathname. It unites every DFS cell into one uniform namespace.

initial container ACL

An ACL on a directory that determines the default ACL for all directories created in the directory.

initial object ACL

An ACL on a directory that determines the default ACL for all files created in the directory.

IP address

The Internet Protocol address is a 32-bit, dot-separated number that uniquely identifies every computer connected to an IP network.

junction

A specialized entry in the DCE namespace that contains information to enable communications between different implementations of the directory service. For example, the contents of the DFS filespace junction provide information necessary to access DFS objects in the filespace.

LAN

A set of computers sharing a network that does not include bridges or WAN links.

local cell

The cell to which the local machine belongs. For principals, the cell in which the principal's account is defined.

network drive

A connection to the hard drive of a remote computer, allowing you to access shared files and directories. You can establish a network drive connection to a directory in the DFS filespace.

non-LFS file systems

File systems other than the DCE Local File System (LFS) that are supported by DFS. Non-LFS file systems do not offer many of the administrative features available with DCE LFS.

NTFS

The Windows NT File System, Microsoft's file system designed for Windows NT. NTFS is an alternative to the DOS/FAT file system.

object ACL

An ACL on a file or directory that controls access to the file or directory.

principal

Names used to identify users, servers, and computers in DCE. Principals are entities capable of authenticating to DCE.

quota

The amount of space an administrator allocates for a specific fileset. Quota is not the actual amount of filespace occupied by data in the fileset.

read-only fileset

A read-only version of a fileset is an exact copy of a read/write fileset. Multiple read-only copies of a single read/write fileset can exist on different File Servers. A read-only fileset is also referred to as a replica.

read/write fileset

The version of a fileset that contains modifiable versions of the DFS objects in that fileset. Every fileset begins as a read/write fileset. Administrators derive other fileset types from the read/write version by creating a copy or clone of the fileset. There can be only one read/write version of any fileset.

RPC

A Remote Procedure Call is a procedure call executed by an application procedure located in a separate address space from the calling code.

server

A machine that runs one or more server processes, providing services such as storing and transferring files or tracking fileset locations to clients.

symbolic link

A symbolic link connects to another directory or file in the directory tree. It is a direct path from the current directory to a file or directory that resides somewhere else in the DFS directory tree.

ticket

An application-transparent mechanism used by the DCE Security Server to identify a user as an authenticated DCE principal. The ticket has an associated lifetime and expires after a set period of time.

token

A promise by the File Exporter to contact the DFS Cache Manager if the centrally stored copy of a file changes.

unauthenticated

The state of a principal whose identity is not known to DCE. DFS treats an unauthenticated user as the principal **nobody** with the primary group **nogroup** from an unknown foreign cell. The principal is granted the permissions associated with the **any_other** ACL entry, if it exists.

UNIX

A time-sharing operating system kernel. It controls computer resources and allocates these resources among its users. Data from the UNIX file system can be made available and accessed via DFS.

UNIX mode

A protection mechanism from the UNIX files system (used in conjunction with ACLs in DFS) that controls access to files and directories. A UNIX mode specifies three types of permissions that can be granted to three types of users, **user, group**, and **other**.