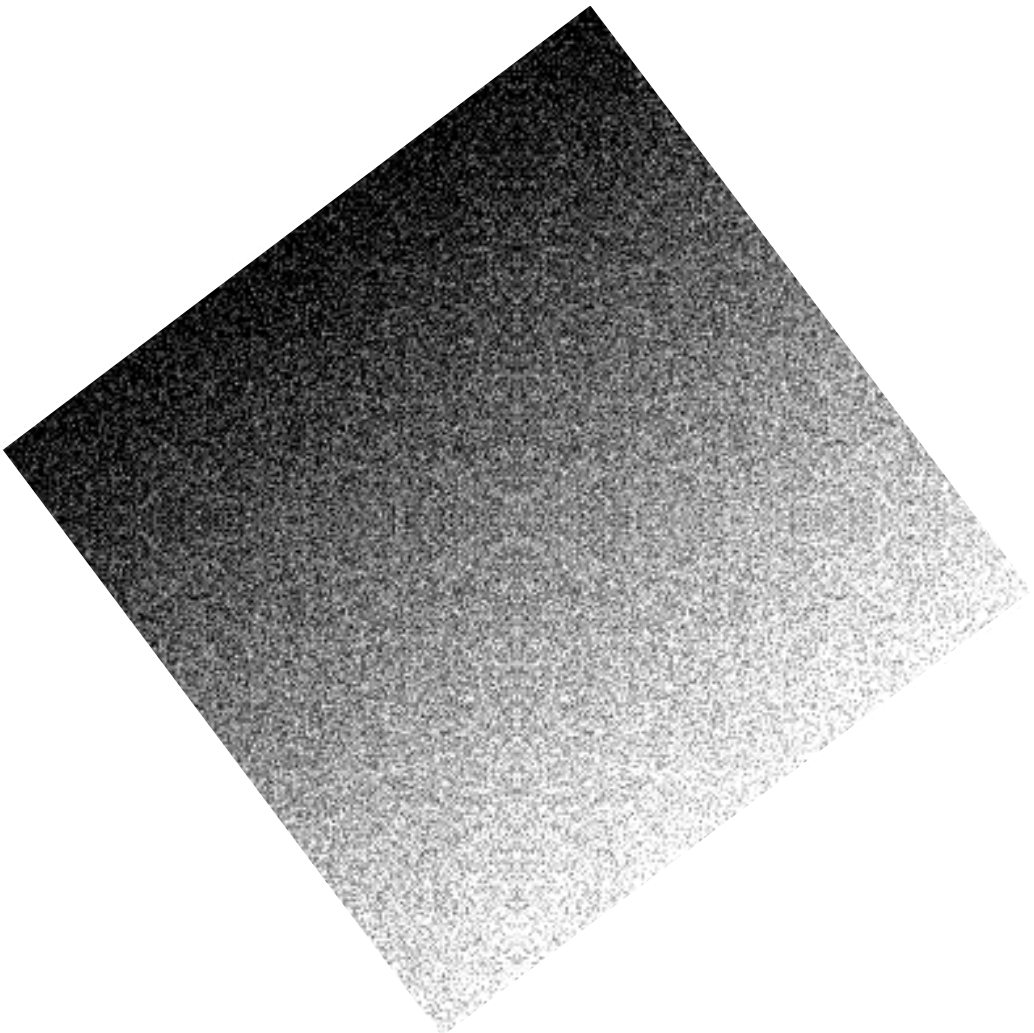
Intelligent Decision Server

IBM

System Administration Guide and Reference

Version 1



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Intelligent Decision Server

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Note

Before using this information and the product it supports, be sure to read the general information under “Notices” on page xii.

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This edition applies to Version 1 of Intelligent Decision Server, 5639–IDS, and to any subsequent releases until otherwise indicated in new editions or technical newsletters. Make sure you are using the correct edition for the level of the product.

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About This Book

This book provides information for system administrators.

The tasks described in this guide are primarily concerned with the Capsule Service product and the LAN components, excluding gateways. The guide section contains information for performing system administration functions on an Intelligent Decision Server, including:

- System and icon configuration
- Software configuration
- System and desktop administration
- Security

The reference section provides syntax, descriptions, and examples of commands for performing system administration functions on an Intelligent Decision Server, including:

- Asset management
- Node management
- File services
- Printing services
- Capsule Services
- Conversion services
- Mail services
- Network operations
- Open Data Access Service

Who Should Read This Book

This guide is intended for IDS system administrators who have a basic understanding of IDS desktop functions and capabilities.

Before performing system administration functions, you should be familiar with IDS terminology. Gateway configuration information is not included in this manual. See the appropriate gateway manuals for that information.

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System Administration Guide

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Chapter 1. Overview of IDS System Administration

This section describes the IBM Intelligent Decision Server (IDS) and lists the major duties of its system administrator (SA).

System Overview

End users of an Intelligent Decision Server use a variety of software tools that communicate with each other through a token-ring or Ethernet local area network (LAN).

Each computer in the LAN can run one or more services, including file services, mail services, printing services, database and mail gateways, and desktop tools. Any of the services can share a computer, although too much sharing can degrade performance.

Through the LAN or a separate telecommunications line, most IDS computers are also connected to one or more database systems.

Additionally, a network can have several *realms*: logical groupings of IDS services within a single network, each realm having its own primary file service. Thus, you can have multiple primary file services on the same network.

For each realm, the minimum requirements are a primary file service, a directory service, and an asset manager. You can assign any unique number to identify each realm; however, the SA tool identifies each realm by its name.

You can interconnect geographically dispersed IDS networks into a large internetwork. With such a connection, any workstation can have transparent access to database and mail services anywhere in that internetwork. A satellite IDS network can use internetwork connections for access to the resources of a more complete IDS network.

Figure 1 on page 3 depicts a sample configuration of an IDS network with several services and workstations connected to a host computer system through an Ethernet LAN.

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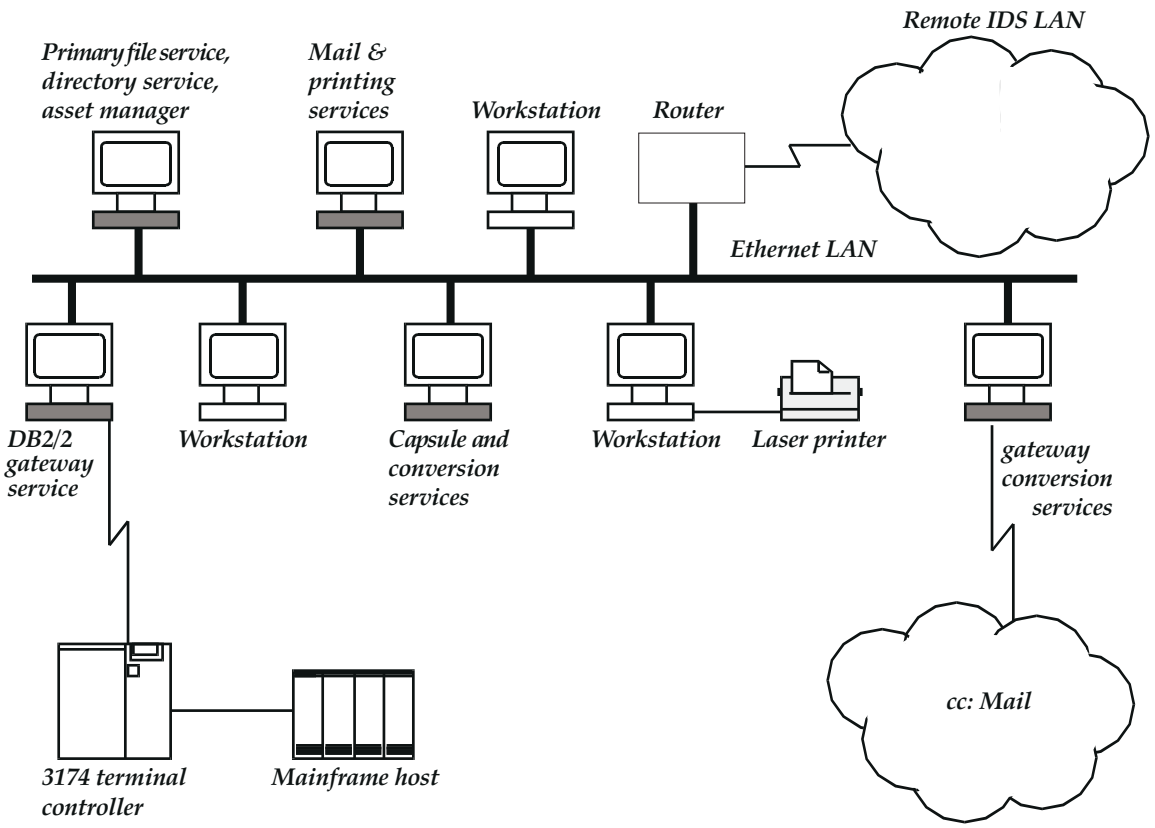

Figure 1. Sample configuration of an IDS network

IDS Services

IDS comprises many kinds of services, including:

Primary file service, which holds desktops, file drawers, and IDS system software.

Auxiliary file service, which gives your network additional disk-storage space for desktops and file drawers. Every IDS realm can support up to seven auxiliary file services, each with one to three disk drives, and one tape device (optional).

Asset manager, which controls the allocation of services and tools to the various nodes, desktops, and users within the network.

Directory service, which tracks the locations of the nodes and services that are to run in each computer.

Printing service, which formats IDS documents and submits them to the printer host's queue for the actual printing.

Workstations, which let users log on to desktops and use tools and services.

Capsule service, which lets capsule applications run in the background or at a delayed time, freeing the submitter's desktop for other work. For Open Data Access Service users, or for desktop users with help from the system administrator, this service also allows periodic execution.

Conversion service, which converts data between the forms that IDS desktops and external software can understand. The Open Data Access Server requires conversion services; in most cases, each type of mail gateway requires a dedicated conversion service.

Database gateway, which provides access to Cooperative Application Services and one or more remote or local relational database management systems (RDBMSs), including DB2, DB2 for OS/2, DB2 for AIX, Red Brick, ORACLE, SYBASE, and other DRDA servers.

The Remote Mail Gateway service, which formats, converts, and transfers mail between a CC:Mail Post Office and IDS Mail Service and IDS desktops. This service converts the mail messages from the CC:Mail format into a format that is understood by IDS desktops and vice versa.

Administration Tasks

As system administrator, your primary job is to maintain the capabilities of the Intelligent Decision Server. Your general responsibilities include:

Performing regular system backups of all disks so that users do not lose vital data

Storing important information offsite for security purposes

Cataloging backup tapes and maintaining a tape library

Providing selective backup and recovery when users request them

Ensuring the system components and software remain functional by viewing details about system components and by performing any corrective actions

Registering new equipment to the network (such as workstations, printers, and servers) and making sure it operates correctly

Establishing and maintaining security of system information and data

Providing specific users with access to the software and databases that they require, while denying access to other users

Creating, removing, and modifying desktops

Troubleshooting and tracking system problems

Monitoring space on disks and informing users of capacity problems

Creating file drawers and folders for specific and general use

Creating and maintaining distribution lists for electronic mail

You perform many of these functions through the use of the SA tool, on any authorized desktop. Some functions require use of a system desktop designated specifically for the

system administrator. Administration of file services requires typing commands at the file-service interface.

SA Tool

The SA tool gives you access to several administration interfaces, each devoted to the management of a different type of service. The SA tool is located in the Administrator Icons file drawer and is also included in the Admin Prototype desktop. On your desktop, its icon is as shown at left.

SA Interfaces

The interfaces in the SA tool are:

Node Management (documented in this guide)

Database Gateway Services (documented in *Configuring and Administering Database Gateway Services*)

Asset Management (documented in this guide)

Mail Gateway Services (documented in *Configuring and Administering Mail Gateway Services*)

Mail (the mail service, not mail gateways; documented in this guide)

Printing (documented in this guide)

Conversion Service (documented in this guide)

Capsule Service (documented in this guide)

SQL Input (documented in *Administering Databases with IDS*)

Network Commands (documented in this guide)

Each interface within the SA tool requires a password, so the tool itself does not require configuration.

To use the SA tool:

1. In the main SA tool window, click on the **Realm** menu button, pull down the menu, and select the realm you want to administer. By default, your local realm is selected. However, if you know the passwords, you can administer services on any realm that is known to your system's interrealm monitor.
2. In the same manner, pull down the **Service Type** menu and select the SA interface that you want to use.
3. In most cases, choose **From List**, pull down the **Service** menu, and select the specific service that you want to administer. If you prefer, you can choose **By Name** and then type the service name in the **Name** field.

   Exceptions:

   For the Network Commands interface, the menu button says **Not Applicable**, because this interface does not govern a specific service.

For the Node Management interface, you cannot use the **From List** choice to manage nodes on a different realm; if you try to do so, the **Service** field tells you to use **By Name**. If you want to connect to another computer's node-management service within your realm, click on **By Name** and type that computer's node name (if any) or network address in the **Name** field. If you use the address, you must precede it with #, as in #12.345.678.90.

For any other interface, if the selected realm has no service of the selected type, the menu button says **No Services**.

4. Click on **Connect to Service**. A password window opens.
5. Type either the interface's password (set within that interface) or the realm's password (set in the Network Commands interface). After checking the password, the system displays the interface's main window.

In any interface, if you need to use the Stop function key, you then have to close all of the interface's windows. If you want to continue using the interface, you must return to the SA tool's main window and reopen the interface.

Chapter 2. Administering Your Desktop

You perform several functions at a special *system desktop*, which is used by the system administrator only. These functions allow users to access icons and data on the system. They include:

Creating user desktops and file drawers

Customizing icons for users

Overview

You can use the system desktop from any workstation, if you have the system administration password. *Working with the Intelligent Decision Server* explains the fundamentals of desktop use. The main distinction of the system desktop is that it is the only one where you can see and use the disk icons. Also, you cannot copy icons to the top level of the desktop (outside of containers), and you cannot set some preferences, such as colors, as you can with regular desktops. You can set other preferences, such as fonts, but when you do so, they become the system-wide defaults.

The system desktop displays one disk icon for each disk installed in the file servers on the network. There is always a System disk icon. Additional disk icons appear when disks are added to a file server.

You can move disk icons around on the system desktop, but you cannot rename, copy, delete, or print them.

When a disk is set offline, its icon representation disappears from the system desktop when you log off. Any attempt to access a disk that you have set offline while you are still on the system desktop results in a system message stating that the disk is unavailable. When you set the disk back online, its icon representation might reappear in a new location the next time you are on the system desktop.

Fonts and Formats

Any user can choose a style and size of type for displaying windows, menus, and other text on the IDS desktop. Each user can also choose measurement units and detailed formats for numbers, dates, and times. For all of these settings, only that user's desktop is affected. When you set them on the system desktop, though, they become the default for all new desktops (but do not affect any desktops that are already in use).

Thus, if you are in an environment where dates are typically expressed date-first, as in 2 June 1946, you can adjust the Date Order setting before creating any new desktops, to ensure that all of the desktops start with the preferred style.

When you install IDS, the font settings are 12-point Palatino type. Afterward, each local desktop's settings override the system defaults (for that desktop).

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You cannot set **Color** or **Other Settings** in the system desktop, but other desktops can do so, as described in *Working with the Intelligent Decision Server*.

Disks

You cannot place any icon directly on the system desktop; all work is done within the window of a disk icon. After secondary disks are erased and installed, each contains file drawers named Desktops and File Drawers. The System disk icon for a new installation holds six icons, named Desktops, File Drawers, Mail, Master Icons, Post Office, and Resources.

File Drawers contains one prototype icon (File Drawer). Desktops contains two prototype icons (Prototype Desktop and Admin Prototype). You copy the File Drawer icon, customize the copies, and then copy them to specific file drawers.

Master Icons holds one of each icon type available on the system and is not intended for end users.

Post Office and Mail rarely require active administration. Chapter 5, “Mail Administration” on page 45 discusses these file drawers.

Resources holds several file folders that do not require active administration.

The Master Icons and Mail icons must reside on the System disk at all times. Do not copy them to other disks. You can copy some of the contents of the file drawers (such as user-specific desktops or specially designed file drawers) to secondary disks, but the original system-provided icons should reside on the System disk. Special system file drawers, such as New Icons, Network Info, DBA, and Distribution Lists should also remain on the System disk.

Desktops

When you first install IDS, each disk contains the Desktops file drawer. Within System|Desktops is a Prototype Desktop icon that contains four icons: New Icons, Blank Icons, Discard, and Mail Tray. There is also an *Admin Prototype desktop icon, which contains those icons plus the SA tool and the Administrator Icons file drawer.

When you want to add desktops to your system, you copy the *Admin Prototype or *Prototype Desktop icon and rename it with the user's name or other identification. If you have many desktops, you might want to distribute some or all of them among secondary disks, for performance purposes.

Specify a unique name and password for each new desktop. It is your responsibility to maintain unique desktop names throughout the system. Using each user's last name is an easy method for assigning desktops. If two or more users have the same last name, use the first initial (or more, as needed) as well (for example, rsmith for Ralph Smith). Only alphanumeric characters are allowed in a desktop name, with no spaces.

The password is displayed the first time you type it, but does not appear when the window is opened thereafter. Only you and the desktop's owner can change a desktop's password.

You might need to move desktops as a result of adding disks or organizing the system. The user of a moved desktop should not experience any functional differences. You should never move a desktop while the user is logged on.

You can view a list of a desktop's contents by opening the specific desktop from the system desktop. You can customize desktops (including the prototype) by adding and removing icons (such as printers, Query, Folder, Text, and locally important file drawers). If you add icons directly to your users' desktops, with the access rights set to Viewed By Anyone/Changed By No One, they cannot move or delete the icon, because you remain the owner.

To create a user desktop:

1. Copy the Prototype Desktop or Admin Prototype icon to an empty area within the Desktops container. Always copy one of these two prototypes, not an existing desktop. Also, you should never use either of them except for copying. A used desktop has an internal identifier that would be duplicated with the desktop, thereby confusing some security programming that checks this identifier.
2. Select the new Prototype Desktop or Admin Prototype icon and open its Options window.
3. Delete Prototype Desktop or Admin Prototype from the **Name** field and type the user's name.
4. Set the access rights to:

   As Set in This Option Window
   Viewed By Anyone/Changed By Anyone
5. Select **Other Data**.
6. Type the user's password in the **Password** field and enter any access key numbers. You can also create new passwords for users who forget their passwords.

   If forced password initialization is set to yes in the security parameters, the new password is valid for only 24 hours after the user's first subsequent logon. A message notifies the user to change the password. After the 24 hours, the new password (the one you set) is automatically disabled. The default setting for forced initialization is no, which avoids disabling passwords until the maximum password lifetime expires.

   Users can change their desktop passwords at any time by selecting **Change Password** (on their desktops).
7. Assign warning and limit thresholds to the user, based on past needs or on job responsibility (see “Disk Quotas” on page 16).
8. Close the Icon Options window.
9. Move the user-specific desktop icon into the appropriate Desktops file drawer.
10. If you have chosen to assign assets to users rather than nodes, use the asset-management interface to register the desktop name as a user and to assign at least one tool set to that user, as described in *Installing IDS LAN Components*. The

user cannot log on to an unregistered desktop node without at least one tool asset assigned.

11. If you are creating an administrative desktop, consider assigning an access key to the desktop and to all of the system file drawers (such as Printer Icons) that are likely to be administered through that desktop. “Setting Access Keys” on page 38 describes access keys in detail.

File Drawers

File drawers are an efficient means for combining the needs of users who share the same data or icons. You can customize the contents of file drawers by adding and removing icons. You have the option to rename and change each new file drawer's access rights. It is your responsibility to maintain unique file-drawer names throughout the system.

Creating file drawers for individual users is discouraged for the following reasons:

To conserve disk space from redundant filing

Only 64 access keys are available

(See “Setting Access Keys” on page 38 for additional information.)

Copying and Moving File Drawers

Copying or moving a file drawer in the File Drawers container creates a real file drawer. If the drawer is copied or moved into any other container (for example, a desktop), a reference icon is created. (See “Reference Icons” on page 24.)

Moving an existing file drawer to another disk or renaming a file drawer causes all of its reference icons to become inaccessible. Place a copy of the newest version of a file drawer container into Public File Drawers in the New Icons file drawer and notify users to delete the old reference icon and copy a new version to their desktops.

Creating a File Drawer

To create a file drawer:

1. Open the File Drawers file drawer.
2. Select and copy the File Drawer icon.
3. Select the new File Drawer icon and open its options window.
4. In the **Name** field of the Icon Options window, type the file drawer's name.
5. Set the access privileges to:

   As Set in This Option Window
   Viewed By Anyone/Changed By No One

   This setting permits general read-only access to the icons in the file drawer. To restrict use to key holders, set the access privileges to:

As Set in This Option Window
Viewed By Key Holders/Changed By No One

6. Close the Icon Options window.
7. Copy other file drawer references to Public File Drawers within New Icons, as appropriate.

Inserting a leading asterisk (*) or other nonalphanumeric character before a file drawer name causes it to appear at the top of a file drawer (when the list is sorted in ascending order).

Provided and Recommended File Drawers

You have the option to rename and change access rights to each new file drawer. It is your responsibility to maintain unique file-drawer names throughout the system.

Table 1 lists file drawers that are provided and recommended for a system, together with their contents. Chapter 5, “Mail Administration” on page 45 provides details about the Post Office and Mail file drawers. Chapter 6, “Printer Administration” on page 52 provides information for the Printer Icons file drawer.

Table 1 (Page 1 of 2). Provided and recommended file drawers and their contents

File drawer	Contents
Administrator Icons	System and database administration icons.
Blank Icons	Blank icons for container types and tools that are accessible to end users.
Capsule Service Icons	Capsule Service icons, preset to specific Capsule Services, along with predefined Capsule applications.
Data Access Icons	Query, Reporter, and other data-access icons, preset to specific database servers and tables for end users.
DBA	Database administration icons; folders containing macros, for each type of database gateway.
Disk Statistics	Reports from the Disk Quota facility.
Distribution Lists	Mail distribution lists.
File Drawer	Prototype to be copied for creation of file drawers.
Mail	Main Office and Post Office folders.
Master Icons	Blank icons for all container types and tools; this file drawer is not intended for end users.
Network Info	SecureNet documents.
New Icons	Blank Icons, Data Access Icons, Printer Icons, Public File Drawers, and Transformer Icons file drawers.
Post Office	Mail from IDS networks.
Printer Icons	Configured printer icons.
Public File Drawers	Copies of file drawers set up for different groups of users or for all nonadministrative users.

Table 1 (Page 2 of 2). Provided and recommended file drawers and their contents

File drawer	Contents
Resources	Various folders for internal use.
Transfer	This recommended file drawer provides a standard location where users can copy desktop items to transfer to other sites. This lets you use a file-drawer backup to put the information on tape.
Transformer Icons	Folders named Regression and Time Series Analysis and Significance and Sample Testing (each of which contains a special set of transformers), and Capsule Transformers (which contains all of the basic IDS transformers, plus a blank transformer icon for programs that your application developers write).
Transformer Programs	Blank transformer icon and programs for transformer icons.

Master Icons File Drawer

The Master Icons file drawer lists all possible icon types (although your system might not be configured to use them all). If an icon from the Blank Icons file drawer is deleted or altered, you can copy a new icon from the Master Icons file drawer.

Master Icons is not intended for access by end users.

Administrator Icons File Drawer

The Administrator Icons file drawer contains icons that you and the database administrator frequently use, such as the Network Diagnostics, SA, and DBA tools; the MakeSecure, MakeUnSecure, SetQuota, and UpdateQuota transformers; and the DBA and Error Logs file drawers.

The DBA tool icon is configured to specific database gateways. Configuring the DBA tool icon requires the following information:

user ID

Password

Gateway name

Database name (available from the database administrator)

Workstation Tools Data Dictionary (WTDD) owner name

This is needed only if you are configuring the DBA tool icon to a database that supports multiple WTDDs and qualified table names. Specifying a WTDD owner makes it unnecessary to drop and recreate synonyms whenever you want to access a different WTDD within the same database.

SQL ID (for DB2 for MVS databases only; available from the database administrator). An SQL ID is needed only if you want to specify a secondary authorization ID to DB2 for MVS.

Transformer Icons File Drawer

The Transformer Icons file drawer contains a blank Transformer icon and many preconfigured transformer icons. The latter are described in the *Transformer's Guide*. The Update Quota, Set Quota, MakeSecure, MakeUnSecure, and SetDBAccess transformers are located in the Administrator Icons file drawer, because they are not intended for general use by desktop users.

Data Access Icons File Drawer

Query icons are configured to specific database gateways, servers, or tables. Reporter and Browser icons are configured to specific categories within specified databases, through specific database gateways or servers. These and other preconfigured data-access icons should be kept here so users can easily find them.

You can postpone icon configuration until you install the database servers or applications.

Configuring a data-access icon, such as Query or Reporter, requires the following information:

user ID

Password

Gateway name

Realm name

Database name (available from the database administrator)

Database category (for Reporter and Browser only)

To configure a data-access icon:

1. Copy the appropriate blank icon from the Blank Icons file drawer into the Data Access Icons file drawer.
2. Select the new copy and open its options window.
3. In the **Name** field, type a name to appear on the icon.
4. Set the following access privileges, unless you want to limit access to a specific group:

   As Set in This Option Window
   Viewed By Anyone/Changed By No One
5. Click on **Other Data**.
6. In the **Gateway** field, specify the path for access to your data, in the format:

   [:gateway realm]

   where gateway is the name of the database gateway that you want the tool to use, and realm is the name of the realm containing that gateway. If the gateway and the tool user are within the same realm, you can omit the realm value.

   For example, you might enter AdminDB:OtherNet, or LocalGW.

7. In the **Database Name** field, specify the physical database you want to use. For DB2 databases, type the name of the DB2 subsystem. If you want to connect to a supported remote database from a local database, immediately follow the local database name with a period and the remote database name, as in DSN.TD1.
8. If the window has a **Category** field, type either the print name or internal name of the database category needed for this access. The name you specify here is displayed in the window header of the category window.
9. In the **WTDD Owner** field, for access to a database that supports qualified table names, type the name of the owner of the WTDD tables.
10. In the **SQL ID** field, if you are using DB2 or DB2 for OS/2 Database Manager and want to specify a secondary authorization ID, type the table-qualifier name. The SQL ID overrides the default name, which is the same as the name you type in the **User Name** field.
11. Select **Specified Here** if you want database access to be based on information you type in the **User Name** and **Password** fields. Select **From Data Access Controls** if you want access to be based on information in each desktop's Data Access Controls window.
12. In the **Secured** field, specify **Yes** if you want the icon's **User Name** field to always be set to the name of the desktop on which it resides. (See Chapter 4, “Administering Access and Security” on page 36 for additional information about the Make Secure feature.)
13. In the **User Name** field, enter a host user identifier that has access privileges to the database. This might or might not be the same as your desktop name, depending on how the database security is set up. When the icon connects to the database manager, it sends this user ID.
14. In the **Password** field, enter the password for the name in the **User Name** field. For security, the password is never displayed.
15. Close the Icon Options window.

For more detailed information about configuring a data-access icon, refer to the manual for the specific data-access tool.

New Icons File Drawer

The New Icons file drawer should be on each desktop and cannot be renamed by the user. The original New Icons file drawer should always reside on the System disk.

Users can obtain blank and preset icons from the New Icons file drawer, whose contents you arrange to suit the needs of your installation.

Blank Icons File Drawer

You can customize more than one file drawer for blank icons, as required by your users. In such a case, each file drawer should have a unique name (for example, Finance or Sales Icons).

Use these guidelines when setting up icons within the Blank Icons file drawer:

Access rights for all file drawers should be:

As Set in This Option
Window Viewed By Anyone/Changed By No One

All blank icons in the Blank Icons file drawer are usable by desktop users. Blank icons should have the following access rights:

Same As Its Container Or Home

In some cases, you might want to store some blank icons in specific file drawers. For example, you might copy a DBA icon to the DBA or Administrator Icons file drawer, or store a blank Query icon in the Data Access Icons file drawer. You cannot open the icons in the PC Data Icons folder.

Shared Dictionaries Folder

Within the Text tool, the spelling checker uses the Dictionary icons in the Shared Dictionaries folder, which is in the Resources file drawer. For information about creating specific dictionaries, either shared or personal, see *Text User's Guide*.

The Shared Dictionaries folder is created on the system disk during system installation. To configure the folder:

1. Set the folder's access rights to:

   As Set in This Option Window
   Viewed By Anyone/Changed By No One

2. Within the folder, set individual Dictionary icons to:

   Same As Its Container Or Home

These access settings let all users see the word lists in the dictionaries, but also let you retain control of the folder's contents. Only you can edit, add, or delete the dictionaries.

Depending on the number of users who will need to view this folder, you might want to copy it to certain file drawers on the system. For example, if you want all users to be able to view the dictionaries, you might copy the Shared Dictionaries folder to Public File Drawers. (Note that the file drawer does not need to be on the desktop of someone who wants to use the spelling checker.)

Attention: Do not add, delete, or edit a shared dictionary while any user is running the spelling checker. Before performing these maintenance activities, broadcast a message informing users that you are about to make changes to the dictionaries and ensure that the dictionaries are not in use before you proceed.

Disk Statistics

Each disk contains a Disk Statistics file drawer. This icon contains a variety of log files. One is the Desktops and File Drawers log file, which lists information about all of the desktops and file drawers residing on that disk. The system automatically updates this document daily. The information includes:

Names of file drawers and desktops

Number of files or descriptors used by each desktop or file drawer

Number of blocks used by each desktop or file drawer (each block is 1,024 bytes)

Types of icons (FD for file drawer or DT for desktop)

You can sort the columns in any desired order, by selecting the header button **Sort Controls**. You can also delete any one or more columns from the display, through use of the header button **Show Controls**.

When you click on the **Sort Controls** button, the sorting window opens. This window lets you sort on any one or more of the columns in the list. It also lets you specify levels of sorting, each based on one of the columns.

When you click on **Unsorted** at any level, any lower-level **Sorting Level** and **Order By** choice fields (and the unsorted level's **Order By** field) immediately disappear from the Sort Controls window and have no effect. Actual sorting takes place automatically, when you close the Sort Controls window.

When you click on the **Show Controls** button, a window opens. In this window, when you click on any column name, you remove that column from the displayed list; when you click on that name again, you restore it to the list.

Disk Quotas

The Disk Quota facility gives you control of the amount of disk space each user can use. Specifically, you can set thresholds on each user's desktop for the number of files and number of disk blocks allowed to that user. Two levels of control are offered: warning and limit. A user who exceeds the warning threshold is warned of the situation but not yet prevented from further consumption of disk space. A user who exceeds the limit threshold is then unable to acquire more disk space.

As system administrator, you can set disk quotas, or thresholds, in two ways:

Designate threshold values in each desktop's Icon Options window, as described in “Quota Administration” on page 18.

Supply parameters to the Set Quota transformer, as described in “Setting Desktop Quotas” on page 19.

Quota Effects

IDS enforces disk quotas by checking the current quota status of the user's desktop at each request for further disk resources. The user's quota status can reflect any of four conditions:

The user is below all quota thresholds. Disk Quota does not interfere with any terminal activities and remains invisible to the user.

The user has exceeded at least one warning threshold. Either the message bar or an Important Message box warns the user of the current quota status at every

request for more disk resources. These messages are specific for both file- and disk-block thresholds, as follows:

Files: You are over your
file quota. Delete some files or inform system administrator.

Blocks:
You are over your disk space quota limits. Delete some files or
inform system administrator.

The user has exceeded at least one limit threshold. Either the message bar or an Important Message box informs the user of the current quota status after every request for more disk resources. These messages are specific for both file and disk-block thresholds.

The user has exceeded at least one limit threshold and has been warned about the situation. Specifically, the user is considered warned after being sent the first notice while exceeding at least one limit threshold. Note that the warned status begins when the warning is sent, not when the user reads it. As soon as the user's quota status is updated and the limit warning is sent, Disk Quota refuses any further requests for disk resources and sends a message after every such request.

A user's quota status changes only after it is explicitly updated. For example, a user who exceeds a limit threshold while working receives no immediate notification. Only after the quota status is subsequently updated and found to be over the threshold is the user notified.

After that updating, the user is notified by a series of status messages. This notification might not take place until the next early-morning collection of disk statistics (and updating of desktop quotas), when the system notices the user's over-limit status. After the over-limit status is noticed, the user is greeted by notices at every attempt to acquire disk space. The user can still use as much disk space as convenient, but the messages continue to arrive. After the next updating of quota status (the second updating after the user first went over the limit), the user is restricted from any further increase in disk resources.

The quota status for each user changes whenever one of three actions occurs. In the first two cases, the update does not take effect until the next time the user logs on. If the desktop is in use when the update is performed, the update does not take effect until the user logs off and then logs back on.

Quota status of all desktops is updated automatically at approximately 2:00 a.m. daily (according to the primary file server's clock), during the disk statistics function.

The system administrator updates the user's quota by running the Update Quota transformer for the user's desktop. (The system administrator can also use the Set Quota transformer to change the user's threshold values before updating the quota with the Update Quota transformer.)

The user updates the desktop's quota status by selecting **Update Quota Status** from the desktop menu. When the user updates the desktop's status, logging off and back on is unnecessary. After your users have deleted icons to lower their disk usage, the restrictions are not lifted until either you or they run Update Quota to

update their desktops, or you run Set Quota to increase their thresholds. A desktop's status remains in violation of the limits until one of these steps is taken.

Attention: The desktop's Discard folder is emptied whenever the user selects Update Quota Status.

After a user updates the quota status, a message at the bottom of the screen indicates success or failure of the update. If the update was successful, an Important Message lists the user's warning and limit thresholds, along with the user's current usage.

At the first logon after a desktop receives an over-limit warning, several situations occur:

The user cannot copy any icon.

The user cannot create an icon (not even log files or mail replies).

The user cannot print, because that involves creation of a temporary copy of the printed item.

The user cannot replace an icon. For certain tools, the process of closing an icon includes putting a backup copy in the Discard folder. Closing the open icon requires either temporarily updating the desktop to a higher limit or rebooting the workstation and losing all unsaved work in the open icon.

Quota Administration

To establish file and disk-block quotas for a desktop, open the desktop's Icon Options window (from the system desktop). The current file size is totalled, and the quota status is updated automatically during each night when disk statistics are gathered or when the user or system administrator total them. Current sizes appear below the threshold fields in the lower half of the window.

You determine space on the disk for the file descriptors (files) and related data (disk blocks). *Files* refers to the number of icons on a desktop, and *disk blocks* refers to the total number of disk blocks used, or one per file plus the size of the file. A disk block is 1024 bytes.

Any threshold value of zero, which is the default in the prototype desktop, disables that quota threshold (files: warning and limit; blocks: warning and limit). If all thresholds are set to zero, the desktop can use disk resources without quota restrictions.

You might allot the quota limits by subtracting a safe number of overhead files and disk blocks (such as file drawers and space for new desktops) from the total disk capacity and dividing by the number of desktops requiring allotment. Thus, the quota allocation formulas might be:

file_limit = (max_files - overhead_files / desktops
disk_block_limit = (max_blocks - overhead_blocks) / desktops

You then need to consider which users require higher quotas and subtract a certain amount from other users who could use lower quotas. If your initial estimates are inaccurate, you can update them later. Desktops assigned under prior software releases

automatically gain disk quota fields in their options blocks after the first quota-status update.

Setting Desktop Quotas

As system administrator, you can use the Set Quota transformer (in the Administrator Icons file drawer) to establish quota values for one or more desktops. You must be logged on to the system desktop to run this transformer.

You can use the Set Quota transformer in any of these three ways:

On the system desktop, open the relevant disk icon and select specific desktops, and then run the Set Quota transformer.

Using the **Program Controls** choice, specify yes or no in the **Set quota for all desktops** field. If no, specify a disk name in the field labeled **Name of disk to set, if any**. (If yes, any disk name that you specify is ignored.)

Using the **Region Controls** choice (after specifying the quota values), use the Text or Spreadsheet tool to create a list of desktops and then copy them into the Set Quota transformer's input region. You can copy them in a capsule application or with the Copy function.

Table 2 describes the fields in the Set Quota transformer's Program Controls page.

Table 2 (Page 1 of 2). Set Quota transformer's program controls parameters

Field	Description
Set quota for all desktops (yes; no)	Lets you set quotas for all desktops on all disks on all file servers at once. If you type yes, it sets quotas for all of those, and it ignores the disk-name parameter, the desktop list, and selected desktops. If you type no, the desktops to be set are determined by the disk-name parameter, the desktop list, and any selected desktops. This field is required. The default value is no. Responses are case sensitive.
Name of disk to set, if any	Lets you indicate the name of a disk, if you want to set quotas on only one disk at a time. This field accepts one disk name of up to 31 characters. After giving a valid disk name, the transformer sets the quota values for all desktops that exist on that disk (desktop icons are stored under disk_name|Desktops). If two or more disks have the same name, Set Quota updates only the first such disk it encounters. If Set Quota finds a disk name to be invalid, it writes an output message to the Failed region. This parameter is optional. The default value is blank. Names are case sensitive. For example, you might use warning thresholds of 300 files and 2000 disk blocks, with limit thresholds of 350 files and 2250 disk blocks. Your actual limits should depend on the available system resources and the number of users.

Table 2 (Page 2 of 2). Set Quota transformer's program controls parameters

Field	Description
Thresholds	Let you set numbers, for files and disk blocks, that will become warning and limit thresholds. This field accepts only positive integer values. File descriptors and disk blocks have separate threshold values. A warning message is displayed if the warning threshold is greater than the limit threshold and the limit threshold is not equal to zero. An error message is displayed if you leave any of these fields blank. The default value is 0, which disables that quota.

The preconfigured Set Quota transformer is distributed in the Administrator Icons file drawer. If the disks of the selected desktops are online, quota values for those desktops are set and the quota status is updated to reflect the new thresholds.

The transformer stops running if it receives an error message, but ignores warning or output messages. You can stop the transformer at any time by pressing the Stop function key.

Table 3. Set Quota options for Region Controls

Field	Description
Desktops	Lists desktops copied into the input region. Desktop names contain 1 to 63 characters each, separated by Enter or Shift+Enter. Names are not case-sensitive. If two or more desktops have the same name, the first one encountered is set. A message is written to the Failed region if a desktop name is invalid. This region is optional. The default is a blank list.
Failed	Lists desktops, disks, and icons that failed the Set Quota transformer run. To copy the list into a spreadsheet or text document, click on the Select All button here. The Failed region contains three columns, separated by tab stops: Column A shows the label, the spreadsheet cell coordinates, or the name of the desktop, disk, or icon. Column B is the contents of the cell or the name of the desktop, disk, or icon. Column C is the output message, giving the reason for failure; you might have to copy the message to a text icon to have enough space to read it.
Succeeded	Lists desktops with quotas that were set without error. To copy the list into a spreadsheet or text document, click on the Select All button here.

To use the Set Quota transformer:

1. To set quotas for specific desktops (instead of all desktops on a disk), create a list of desktops in a spreadsheet or text document.

   If you use a spreadsheet for input, each cell must be of type *text*; any other type causes an output message to be written to the Failed output region. Also, remember to type only one desktop name in each spreadsheet cell. Empty cells are ignored.

2. From the system desktop, open the Set Quota transformer.
3. In the **Set quota for all desktops** field, specify whether you want to set quotas for all desktops on all disks on all file servers at once.
4. If you answered no and you do not intend to use a spreadsheet or text document to specify the affected desktops, specify the disk whose desktops you want to affect.
5. Specify the desired quota values in the threshold fields.
6. If you do not intend to use a spreadsheet or text document to specify the affected desktops, close the Transformer Controls window and select the **Run** button in the transformer's window header. Otherwise, select **Region Controls**.
7. If you want to change the default region names, type the new names.
8. Close the Transformer Controls window.
9. Copy the list of desktops into the transformer's input data region, using either a Capsule application or the Copy function.
10. Select the **Run** button in the transformer's window header.

After the transformer runs, the window automatically shows desktops that failed to have quotas set, if any, and gives the reasons for the failure.

Whenever information is displayed in the information region, you can scroll it using the scroll button. However, the total amount of information you can display is limited. A better approach is to copy the information to a spreadsheet or text document, where you can print the information or read it directly.

Updating Desktop Quotas

As system administrator, you can update the quota status for one or more desktops by using the Update Quota transformer. You can also generate disk usage statistics for the entire system. The Update Quota transformer is preconfigured and stored in the Administrator Icons file drawer.

You can run the Update Quota transformer from the system desktop only.

When you open the transformer icon and select **Show Controls**, four Parameters fields appear with default values. Table 4 on page 22 describes the options you can enter in these fields. Change the defaults to suit your needs. Typing yes in the third field generates a set of quota reports.

If the disks containing the designated desktops are online, the quota status for each desktop is updated when the transformer runs. Warning and error messages appear in the message area and output messages appear in the Failed region of the screen. The transformer stops running if it receives an error message, but it ignores warning or output messages. You can stop the transformer at any time by pressing the Stop function key. Be careful not to update too many desktops at once; it can degrade performance. You might also want to schedule your updates for relatively inactive periods.

Table 4. Update Quota parameter fields

Field	Description
Update for all desktops	Accepts only a yes or no response. If the response is yes, quota status is updated for all desktops on all disks on all file servers; the transformer ignores the disk name parameter, the desktop list, and selected desktops. If the response is no, desktops are determined by the disk-name parameter, the desktop list, and any selected desktops. This field is required. The default value is no. Responses are case sensitive.
Name of disk to update, if any	Accepts one disk name, 1 to 31 characters long. Given a valid disk name, the transformer updates the quota status for all desktops in that disk (desktop icons under disk_name|Desktops). If two or more disks have the same name, the first disk encountered is updated. To update all disks, leave the field blank. An output message is written to the Disks/Desktops Failed region if the disk name is invalid. This parameter is optional. The default value is blank. Names are case-sensitive.
Generate system-wide disk statistics reports	Accepts only a yes or no response. If the response is yes, disk statistics are gathered for all desktops and file drawers for each disk on all file servers, and two reports giving disk statistics are created in the Disk Statistics file drawer (or the file drawer specified in the **System file drawer name** parameter). If the response is no, no statistics are gathered and no report is generated. This field is required. The default is no. Responses are case-sensitive.
System file drawer name	Accepts one file drawer name of up to 80 characters. If the file drawer does not exist on the System disk, one is created. If the file drawer does exist, older reports with the same names are deleted. If two or more file drawers have the same name, the first encountered is used. If this parameter is left blank, the reports are created in the Disk Statistics file drawer. The default value is blank (to put reports in Disk Statistics). Names are case-sensitive.

Setting Region Names

The Update Quota window lets you define input and output regions for easy use within a capsule application. You can set an input region to accept a list of desktops from a spreadsheet or text document, and two output regions from which to send results lists to other documents. You can change the region names, just as with the Set Quota transformer:

1. In the Transformer Controls window, select **Region Controls**. It provides fields where you can rename the input and output regions.
2. Type the new names for the input and output regions, as described in Table 5 on page 23.

Table 5. Update Quota options for Region Controls fields

Field	Description
Desktops	Lists desktops copied into the input region. Desktop names contain 1 to 63 characters each, separated by Enter or Shift+Enter. Names are not case sensitive. If two or more desktops have the same name, the first one encountered is set. A message is written to the Failed region if a desktop name is invalid. This region is optional. The default is a blank list.
Failed	Lists desktops, disks, and icons that the Update Quota transformer did not update. You can click on the Select All button and copy the list into a spreadsheet or text document. It contains three columns, each separated by tab stops: Column A shows the label, the spreadsheet cell coordinates, or the name of the desktop, disk, or icon. Column B is the contents of the cell or the name of the desktop, disk, or icon. Column C is the output message, giving the reason for failure; you might have to copy the message to a text icon to have enough space to read it.
Succeeded	Lists desktops whose quota status was successfully updated. You can click on the Select All button here and copy the list into a spreadsheet or text document. It contains four columns, each separated by tabs: Column A is the desktop name. Column B is the number of files on the desktop. Column C is the number of disk blocks the desktop is using. Column D is the quota status for the desktop; examples include Not over quota and Over warning threshold for number of disk blocks.

Running the Update Quota Transformer

To run the Update Quota transformer, select the **Run** button in the window header. When the transformer has finished, the Failed region is highlighted, as it does with the Set Quota transformer. To discover which desktops are within their limits, select **Succeeded**.

When you set the **Generate system-wide disk statistics reports** parameter to yes and then run the Update Quota transformer, the transformer generates a new Disk Statistics for All Desktops report, in the Disk Statistics file drawer (or other specified file drawer) on the System disk.

The transformer gathers disk statistics for all desktops and file drawers from each disk on all file servers to create that report.

The report provides information on login dates and times and shows the number of days since the most recent login. It also lists key numbers for desktops that are key holders. In that report:

Name	Is the name of each desktop or file drawer.
Disk	Is the name of the disk where the desktop or file drawer resides.

Type	Is DT for a desktop or FD for a file drawer.
Files	Is the number of files contained by the desktop or file drawer.
Blocks	Is the number of disk blocks occupied by the desktop or file drawer.
Files Warning	Is N/A for a file drawer or, for each desktop, the number of files above which the desktop receives warnings.
Files Limit	Is N/A for a file drawer or, for each desktop, the number of files to which the desktop is restricted.
Blocks Warning	Is N/A for a file drawer or, for each desktop, the number of disk blocks above which the desktop receives warnings.
Blocks Limit	Is N/A for a file drawer or, for each desktop, the number of disk blocks to which the desktop is restricted.
Quota Status	Is N/A for a file drawer or, for each desktop, the current relationship of the desktop to its quotas: NtOvr = not exceeding any of the four quotas WFile = exceeding the warning threshold for files LFile = exceeding the limit for files WDBlk = exceeding the warning threshold for disk blocks LDBlk = exceeding the limit for disk blocks Unkwn = unknown status An asterisk (*) immediately before LFile or LDBlk indicates that the user has been warned.
Last Login/Modified	Is the most recent date when the desktop or file drawer was used.
Days Since Then	Is the number of days since the desktop or file drawer was most recently used.
Desktop Access Keys	Is N/A for a file drawer or, for each desktop, any access keys that have been assigned to that desktop. (See “Setting Access Keys” on page 38.)
Read Only Keys	Is N/A for a desktop or, for each file drawer, any access keys that have been assigned to that file drawer for reading only. (See “Setting Access Keys” on page 38.)
Read Write Keys	Is N/A for a desktop or, for each file drawer, any access keys that have been assigned to that file drawer for reading or writing. (See “Setting Access Keys” on page 38.)

If you have more than 800 desktops and file drawers, the Disk Statistics reports list only the first 800.

Reference Icons

When you copy a file drawer icon to a desktop, the file drawer that is displayed on the desktop is actually a reference icon that serves as a pointer to the original icon. Contrast this with a Text icon: whenever you copy a Text icon, you end up with two individual Text icons, the original and the copy. Both are real, independent objects, so

changing one does not affect the other. File-drawer icons are different, because these icons access common contents on the file server.

Changes made to the contents of a file drawer are automatically reflected in file drawer references that exist on users' desktops. The desktop looks at the original whenever its reference icon is opened. Changing the access rights to a file drawer (on the system desktop) also automatically changes the access rights in all its reference icons.

Deleting a reference icon has no effect on the original icon, but deleting or altering the contents of that reference icon affects the contents of the original icon and, therefore, the contents of any other copies of that reference icon.

Renaming the original icon (not a reference icon) makes all of its reference icons inaccessible. You then need to replace each old reference icon with a new one or place the new icon into the Public File Drawer located within the New Icons file drawer and notify your users to get a new copy. The same is true if you move the original icon to another disk. Reference icons on the users' desktops refer to the original disk, where the original is no longer located.

Discard Folder

The Discard folder is a temporary holder for icons that desktop users delete or edit. As many as four deleted or updated icons (edited versions of an icon) are kept during a session (with their original names); you can copy or move them out of the Discard folder in the usual way. The Discard folder lists deleted icons alphabetically, but deletes them chronologically, according to when they arrived in the Discard folder.

Three classifications of icons are automatically moved into the Discard folder:

- Icons that are deleted from the desktop or a folder on the desktop (that is, not from within a file drawer)
- Icons that are opened and edited from the desktop or a folder on the desktop (the unedited version goes into the Discard folder as a backup)
- The edited version of a Text icon when you select the **Cancel Changes** button in its Special button menu (as a backup, in case you select the button accidentally)

When the user logs off the desktop, or when the user or system administrator selects **Update Quota Status**, the Discard folder is emptied. Resetting the desktop does not empty the Discard folder.

Also note that when a user deletes an icon from a file drawer, that icon does not go into the Discard folder, because it was not actually on the user's desktop to start with.

The Discard folder becomes functional when copied directly onto a user's desktop; you cannot put it within another folder or a file drawer. If no Discard folder is on the desktop, deleted and altered icons are permanently lost. A user who inadvertently deletes the Discard icon can copy a replacement Discard icon from the Blank Icons file drawer. A desktop will use only one Discard folder.

Be sure to set the viewing and changing privileges for the Discard folder on the desktop to:

As Set in This Option Window
Viewed By Anyone/Changed By Anyone

Do not set these privileges in the Blank Icons file drawer.

Chapter 3. Configuring Your System

This chapter provides information and instructions necessary for configuring the system, file service, and system software. In some cases, recommendations are included to improve the performance of your system.

Overview

The Intelligent Decision Server allows flexibility in both hardware and software configuration. The size and demands of the system determine the hardware requirements.

Each file service can support several desktops, with the exact number determined by the specific hardware configuration and user workload. Every system (one to eight file services) must have one disk module called the System disk, and file servers can optionally use a streamer tape drive for backup procedures.

The system permits multiple backups on several servers simultaneously. If tape backups are performed, having a streamer tape drive for each file server minimizes the degradation of network performance that can result from lengthy backup procedures and from cross-traffic between servers.

An active file service uses disk modules to read information (user data and software) into memory and to store information that is not in use. The file service automatically refers to its disk modules when it or a desktop requires software. Information is also kept on disk modules until erased by a desktop user or system administrator.

Only the system administrator can direct whether information can be read from or written to a streamer tape. Different sizes of streamer tapes are available.

The system uses the letters A through H to refer to individual file services. The file service containing the System disk is called the primary file service and is designated by the letter A. The primary file service always has the same letter designation because the file service containing the System disk is always the first one started. Any other file services added to your system are referred to as auxiliary file services and are designated by the letters B through H, in the order in which they are started. All disks other than the System disk are secondary disks.

System Procedures

This section introduces the procedures for such tasks as:

- Powering down the file server
- Backing up the file server
- Balancing gateway loads

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Powering Down a File Server

At times, it might be necessary to power down or reset a file server. If you must do so after software installation or under extreme conditions, be very careful not to interrupt critical processes. Never reset a file server based on a suspected problem. You are the only person who should reset or shut down a file server, because information on disks can be lost when the server is reset incorrectly. Furthermore, transmission to the file server is interrupted by constant resetting or powering down of the file server; inconsistencies in the file system can result.

Use the recommended procedure for shutting down and resetting a primary file server: for more explanation, see the discussion of the **Reset All Services** button of the Network Commands interface.

1. At the system level of the file server's interface, use the STATUS and DETAILS commands to check the current situation of the file servers. These commands provide information about the disk and streamer modules and can indicate the cause of any current problems.
2. Make sure that no backups are in progress.
3. Use the BROADCAST command to inform the users that you are powering down the system. You can also, in the Network Commands interface, use the **Show Active Workstations and Services** and **End All Workstation Sessions** buttons to see if users are on the system and to terminate user sessions.
4. Use the OFFLINE ALL command to set all disks offline. This ensures that any current activity against those disks is completed before the system is reset. Otherwise, the disks do not record the activity correctly and files can be marked as bad.
5. Use STATUS to ensure that all disks are offline.
6. Power-down or reset the file server.

Similarly, for any auxiliary file server: check the services, alert the users, and take the disk offline first.

Backing Up the File Server

Before beginning any backup, make sure you have enough tapes or disk space available.

Back up file drawers and desktops. You cannot back up executable code, the system desktop, or the Master Icons file drawer.

Tape backups

Your system should have only one streamer tape drive in each file server; more than one streamer tape drive can cause severe problems. Having a streamer tape drive for each server lets you back up several file servers simultaneously, so the overall task is done more quickly. **Attention:** Using one file server's tape drive to back up a different file server's disks is not recommended. Such a backup causes a high quantity of network activity, severely degrading network responsiveness; any communication failure between the servers would terminate the backup in an abnormal manner.

Run the TAPELISTING command after each backup to create a tape summary. (See “Tape Summaries” on page 31 for additional information on the TAPELISTING command.)

Procedures

After you enter the BACKUP command, the system first checks each tape to confirm that it is erased. If a tape contains recognizable information, the system prompts you for confirmation before erasing it. Using a blank tape immediately starts the backup process without erasing.

If the tape verification fails, it could be because:

The tape drive is malfunctioning

The tape contains invalid data

The tape is defective

Clean the tape drive heads and restart the backup process. Next, try a new tape. If verification continues to fail, use another tape drive, if possible, and restart the backup process.

Backups cannot be time-delayed and are not started automatically. The system warns you if the backup is terminated in an abnormal manner, such as removing the tape prematurely or if communication fails between the tape and the disk.

When tape backup is successful, the file server records (on the tape) the disk name, date written, and sequence number that identifies each backup tape, and you should also record this information on the tape cartridge's label. The sequence number for the first tape is 1, and is incremented by one for each successive tape.

Backing Up a Disk: Each disk can require a set of tapes for the backup process. If multiple tapes are required, the system requests them. All files on a disk are copied to a tape during the backup process. The system can segment a file between tapes.

When a backup requires more than one tape, replace each tape as soon as it is filled. Filling a tape can take a substantial amount of time. For the BACKUP command, disks can be offline or online. However, it is safest (this ensures that disks suffer no changes when you back them up) to use the OFFLINE command to set each disk offline before you back it up.

Taking secondary disks offline does not require you to take other disks offline, just the ones you are currently backing up. Taking the System disk offline does require that all other disks be offline first.

The following example illustrates backing up an entire disk:

```
operator> OFFLINE  A1

Slot A1:  Offline A1: done
operator> BACKUP  A1  A4  /F
Backing up drive A1 to streamer in drive A4
Backup type: FULL
Backup mode: from beginning of tape
Backup scope: volume A1
Are you sure (Y/N)?  Y
WARNING:
If this backup requires multiple tapes, the File Server may
stop responding between tapes.  Insert and continue the next tape
promptly, or back up the disk while it is offline.
Do you wish to continue (Y/N)?  Y
A1: remote operation is in progress.
operator>
Slot A4:  Backing up A1.
Slot A1:  Backup complete (0 soft errors).
operator>
```

This command makes a full backup, copying data from the disk in A1 to the tape drive in A4.

Backing Up a Desktop: You can back up a desktop, rather than an entire disk, by using the BACKUP command with the /D: option and the desktop name. The desktop name you type must match the actual desktop name exactly (including uppercase and lowercase). Otherwise, the command fails with an appropriate error message. You can back up several desktops at once by specifying several desktop names in the command.

The following example illustrates backing up a desktop:

```
operator> OFFLINE  A1

Slot A1:  Offline A1: done
operator> BACKUP  A1  A4  /F  /D:CLAYBROOK Backing up drive A1 to streamer in drive A4
Backup type: FULL
Backup mode: from beginning of tape
Backup scope: Desktops|claybrook
Are you sure (Y/N)?  Y
operator>
```

Backing Up a File Drawer: You can back up a file drawer, rather than a desktop or an entire disk, by using the BACKUP command with the /D: option and the name of the file drawer. The name you type must match the actual name exactly (including upper and lowercase). Otherwise, the command fails with an appropriate error message. You can back up several file drawers at once by specifying several names in the command.

The database of the current activities of Capsule Services and conversion services must remain synchronized with the file drawer that contains the objects currently awaiting execution or conversion. Backup and restoration necessarily access objects sequentially, not simultaneously, and therefore a restored database and the related objects would likely be out of synchronization. For this reason, you should avoid

backing up this database and file drawer while Capsule Service and conversion services are running.

The path name of this database container is specified during installation of Capsule Service and conversion services.

Tape Summaries

When you make a backup image, you might want to make a summary of the contents for each tape. Tape summaries are not automatically generated with a backup; you must use the TAPELISTING command if you want to create a tape summary. Tape summaries are log documents, each with the same title as the tape header, and are located in the Disk Statistics file drawer.

In the listing, double quotes (") represent a container listed above that entry. For example, "|"| Blank Icons indicates File Drawers|New Icons|*Blank Icons.

Erasing a Tape

Each tape is identified by a name that the system assigns when the tape is written. Installation and update tapes are encoded in a way that prevents them from being erased accidentally.

When erasing or reusing a tape, make sure that the tape to be erased is in a drive and secured there. Allow the file server enough time to read the tape header.

You can erase tapes from either level of the file-service interface.

When you try to write a backup on a tape that already contains a valid backup, the system detects the tape header and offers to erase the tape first. If you use a new or erased tape, the system does not make this offer. The ERASE command cannot erase IBM distribution tapes.

Erasing a File Server's Contents

You can also use the ERASE command to initialize new and reused disks and to change disk space allocations. Although you can erase tapes from either level of the file-service interface, erasing disks requires the system level.

Erasing a Disk

You can erase a disk in any file-server slot. There is no limit to the number of secondary disks that you can erase at one time. You can renumber and rename disks, and redistribute data space. When you erase a secondary disk, only the formatted disk space (allotted for file descriptors and data blocks) and two empty file drawers (File Drawers and Desktops) are retained.

From the operator level of the file-service interface, you cannot erase a disk, change disk-space allocations, or adjust the quantity of file descriptors or data blocks. These tasks require that you use the system level. **Attention:** Erasing the System disk that contains the operating system also erases the operating system. The operating system must be reinstalled if the System disk is erased.

You can also rename a disk (other than the System disk) at any time using the DISKRENAME command. Each disk name must be unique within the realm. The name can have as many as 32 characters, and cannot include the vertical bar (|) that is used by file system directories. Any disk that you intend to erase must first be offline. If you intend to erase the System disk, then all disks (including the System disk) must first be offline. After the erasure process is complete, the disks must be set online to access them. See the ONLINE and OFFLINE command descriptions for additional information.

Each disk in the realm is identified by a unique name and number (1 to 250). The System disk should always be number 1. Because disks are identified by number, two disks with the same number cannot be distinguished from each other. Two disks having the same number could result in data being read from one disk and written to another disk; however, the system will not permit two disks with the same number to be online at the same time.

Changing Disk-Space Allocations

When erasing a disk, you have the option to change the disk-space allocations by changing the ratio of file descriptors to data blocks. Use this option only if the ratio of data blocks to file descriptors is very unbalanced (for example, file descriptors at 90 percent and data blocks at 50 percent, or file descriptors at 3 percent and data blocks at 90 percent).

Changing disk-space allocations is useful when you have insufficient numbers of file descriptors or data blocks. A disk can support as many as 262,144 files. If you run out of file descriptors but still have many data blocks available, you can increase the number of file descriptors (while decreasing the number of available data blocks). If you run out of data blocks but have many file descriptors available, you can decrease the number of file descriptors (while increasing the number of available data blocks). This process works only if the number of file descriptors on the backup image is no more than the number of newly allocated file descriptors and the number of data blocks on the backup image is no more than the number of newly allocated data blocks. If not, RESTORE will not complete successfully and you will need to repeat the erasure process and choose a different ratio.

When using the ERASE command on a disk:

1. Make two backups of the contents of the disk that you intend to erase, in case one backup proves to be faulty and loses data.
2. Take offline the disk that you intend to erase.
3. Use the ERASE drive /I command to see information about the disk, including the current ratio of file descriptors to data blocks.
4. Use the ERASE command with as many parameters as you need:

   /N:name to change the disk's name

   /S:descriptors to change the disk's ratio of file descriptors

   /#:number to change the disk's unique number.

   If you are preparing a disk for system installation, number it 1 and name it System.

Erasing a disk can take a substantial amount of time.

5. Restore the contents of the backup image.
6. Put the disk back online.

The following example gets the current information about the disk in slot B3, then erases it without changing the name, number, or ratio:

```
SA=>  ERASE   B3   /I
Disk drive B3 information:
Drive Name: Marketing
Drive number:              4
Minimal share of file descriptors:          1%
Maximal share of file descriptors:         26%
Recommended share of file descriptors: 12%
SA=> OFFLINE    B3
Slot B3:    Offline B3: done
SA=>   ERASE   B3

Drive number:    unchanged or set to default if new drive.
Drive name: unchanged or set to default if new drive.
File descriptors share:    unchanged or set to default if new drive.
Are you sure (Y/N)?    Y
Slot B3:    Erasing.B3: remote operation in progress.
SA=>
Slot B3:    Offline.
```

This example changes both the name and the ratio:

```
SA=> OFFLINE    B3

Slot B3:    Offline B3: done
SA=>   ERASE   B3   /N:Marketing   /S:25
Drive number: unchanged or set to default if new drive.
Drive name:    Marketing.
File descriptors share:    25% of total allocated space.
Are you sure (Y/N)?    Y
Slot B3:    Erasing.B3: remote operation in progress.
SA=>
Slot B3:    Offline.
```

The maximum percentage of disk space that can be allocated to file descriptors is 50 percent. The minimum is based on the size of the disk, not on the data currently stored there.

If you specify a percentage that cannot contain file descriptors for all of the currently stored data, the system displays a warning like the one shown in the next example:

```
Enter the percentage of the disk space to be allocated to FDs for this volume: 4
CAUTION: 4 % of disk space allocated to FDs is not enough space to allow
the data presently on this disk to be restored to this disk after it has been erased.

Do you wish to proceed (Y/N)?
```

In this example, currently stored data requires more than 60 percent of the disk, which a 40 percent allocation for file descriptors would not allow.

Restoring a File Server's Contents

You can use the RESTORE command to copy part or all of a backup image to a file server's disk. You cannot execute this command from the operator level of the file-service interface.

The following sections describe how to restore a whole disk, a specific desktop, or a file drawer.

Restoring a Disk

You can use the RESTORE command to copy the entire contents of a backup image to a disk. Reading a full tape takes a substantial amount of time. Restoring is not the same as installing the system software on the file server. No system software or internal data structures (programs) are copied to or from a backup image; only data is transferred.

The tape is encoded to allow data to be transferred to the correct directory or subdirectory on the disk. All files are restored during the process. Files that were segmented during backup are restored intact.

To restore the entire contents of a disk from a tape:

1. Take offline the disk you intend to restore.
2. Use the ERASE command to erase the disk before restoring it. Alternatively, you can just delete the icons that exist on the disk.
3. Insert and secure the tape.
4. Use the RESTORE command with as many parameters as you need:

   /D:desktop to specify a desktop to be restored

   / L:file_drawer to specify a file drawer to be restored
5. Put the disk back online.

If more than one tape is required, the system prompts you for the next tape. Replace the tape and type continue.

Restoring a Desktop

In the RESTORE command, the name you supply must match the desktop name exactly (including uppercase and lowercase).

Restoring a desktop to another disk on the same network where it originated creates a second desktop of the same name. This is useful when you are trying to restore a particular file to a desktop, because it allows you to compare the contents of the two desktops to find the missing file. You can then move the missing file to the original desktop and delete the second, temporary one.

Restoring a desktop to a network different from the one where it was created is not an additive operation. If that desktop name already exists on the second network, the restored desktop is also displayed, and the contents of the two must be merged manually. You must then delete the empty desktop.

To copy only a desktop from a tape to a disk, use the RESTORE /D:desktop command, being sure to specify the exact desktop name.

For example:

```
operator> RESTORE  A4  A1  /D:CLAYBROOK  Tape
```

Restoring a File Drawer

Restoring a file drawer to another disk creates a second file drawer of the same name. This is useful when restoring a particular file to a file drawer, because it allows comparison between the contents of the two file drawers to find the missing file. You can then move the missing file to the original file drawer and delete the second one.

In the RESTORE command, the name you supply must match the file drawer's name exactly (including uppercase and lowercase). To copy only a file drawer from a tape to a disk, use the RESTORE /L[:]file_drawer command, being sure to specify the exact name (just as with a desktop).

The database of current Capsule Service and conversion services activities must remain synchronized with the file drawer that contains the objects currently awaiting execution or conversion. Backup and restoration necessarily access objects sequentially, not simultaneously, and therefore a restored database and the related objects would likely be inconsistent. For this reason, you should avoid restoring this database and file drawer while Capsule Service and conversion services are running.

The path name of this database container is specified during installation of Capsule Service and conversion services.

Chapter 4. Administering Access and Security

This chapter describes methods for controlling access to the system, desktops, and icons.

You can protect IDS files by:

- Controlling access to icons
- Setting data-access passwords

You can also protect access to administration interfaces and users' desktops by means of passwords.

Administration Interfaces

Every interface in the SA tool has its own password, and a button for changing that password. An overall system-administration password grants access to any interface and to the system desktop. If you have never set a password, the password is the word original for each interface and for the system desktop. You should change all of the original passwords as soon as possible.

In most interfaces, the **Change Password** button opens the Change Password window. To change an interface password, just type the existing password in the first field, and type the new password in the second and third fields.

When you change any interface password, the asset manager writes that information to disk storage. If the disk is out of space, the password remains changed in memory but not on the disk. Therefore, if a service interruption occurs, the restarted system might have the old password.

In addition, an overall system-administration password grants access to any of these interfaces. To change that password, open the SA tool's Network Commands interface and click on **Change Realm Password**.

Upon successful logon, the date and time of the previous logon is displayed in the message bar at the bottom of the user's desktop. This message indicates whether anyone else has used that desktop; it stays posted until the user presses a key or mouse button or receives mail.

Desktop Passwords

Every IDS desktop has its own password. When you create a new desktop, as described in “Desktops” on page 8, you can set the password for that desktop. The user can change that password at will, immediately after logging on to that desktop.

You can also set several password-related parameters for the entire realm:

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Display of an asterisk (*) or nothing, for each password character a user types. The default value is to display nothing.

Shortest allowable length of any user's password. The default value is 4 characters. The maximum password length is 16 characters. You can set the minimum in the Network Commands interface's User Logon Configuration window.

Maximum number of days that a password remains valid. The default value is 365, or one year.

Maximum allowable number of unsuccessful logon attempts on a desktop, over a specified time span. After the specified number of unsuccessful logons, the password is disabled and the user must contact you to regain access. The default value is 20 logons in one day.

Invalidate new passwords after one day's use. The default value is to not invalidate.

Number of days' warning the user gets before any password becomes invalid. The system provides an automatic warning message specifying the date when the password is to expire. The default warning margin is 30 days.

To change any of these password-related parameters, open the SA tool's Network Commands interface and click on **Set User Logon Configuration**.

Icon Security

IDS gives you several ways to control access to individual icons:

Setting access rights in the Icon Options window

Setting access keys

Preventing use of sensitive or privileged icons mailed to unauthorized users

Controlling Icon Access

The Icon Options window for each icon identifies the ownership of that icon. As system administrator, you are the default owner of all icons, except those in the Master Icons file drawer. You can assign access control for any icon in the system, including desktops, using the Icon Options window for that icon.

When you select the option **Same as the Container or Home**, the icon inherits the change or viewing rights of any container into which it can be placed. When this option is selected, no other viewing or changing choices are shown in the Icon Options window.

When access is set for As Set in This Options Window, you can choose the viewing and changing privileges. Users own the icons they copy (such as file folders, documents, and spreadsheets) and can change the access rights to these icons. However, if you put an icon on a desktop from the system desktop, you remain the owner. The options for icon access are:

Viewed By No One/Changed By No One, which permits only the owner and system administrator to use the icon.

Viewed By Anyone/Changed By Anyone, which permits anyone to move, copy, delete, open, edit, or change options of the icon.

Viewed By Anyone/Changed By No One, which permits anyone to copy and open the icon. Only the owner and the system administrator can move, delete, or change options of the icon. If the icon is a text document, other users can open it but cannot edit it. If the icon is a container, no other users can move icons to or from it. When a user copies the icon, that user becomes the owner of the copy.

Viewed By Anyone/Changed By Key Holders, which permits anyone to copy and open the icon. Only the owner and users with the same access key can move, delete, or change options of the icon.

Viewed By Key Holders/Changed By No One, which permits only the owner and users with matching keys to copy and open the icon. Only the owner and the system administrator can move, delete, or change options of the icon.

Viewed By Key Holders/Changed By Key Holders, which permits only the owner and users with matching keys to move, copy, delete, open, or change options of the icon.

If a file drawer is set for public use while one of its icons has restricted access rights, that icon remains protected. In other words, access rights must be allowed by both the container and its contents.

Setting Access Keys

Access keys let you restrict icon access to desktops with proper authorization. These keys affect a user's ability to view or change an icon and its contents. You typically give access keys to a group of users who need access to specific icons.

An access key is a number, 1 through 64, that identifies a user or group of users to a specific icon. For example, the sales department could be assigned key 5, the finance department key 6, and the personnel department key 7. Groups of users can also have common access keys that allow them to share icons (for example, finance and personnel can both access salary data so they each possess key 8, which is also specified in the salary folder).

Access-key numbers are completely arbitrary; no number is reserved for any specific tool or icon until you assign it.

Most icons can be controlled by access keys.

You might find it useful to assign access keys to each administrative desktop and to all of the system file drawers that are likely to be administered through that desktop. For example, when you create a new printer icon, you must do so on a regular desktop (not the system desktop). However, copying the new icon into the Printer Icons file drawer could be awkward, because that file drawer usually is secured as **Changed By No**

One. Assigning one access key to the file drawer and the administrative desktop relieves that awkwardness.

To associate an access-key number with a specific icon:

1. Select the icon and open its Icon Options window.
2. Select **As Set in This Option Window**. Immediately below it, a set of six ownership options is displayed.
3. Select one of the last three of those options:

   The **Keys for Viewing and Changing** field is displayed below the ownership options.

4. In the **Keys for Viewing and Changing** field, enter one or more access-key numbers. Additional numbers can be separated by spaces or commas, but you cannot enter a range of numbers. For example, 1-5 is not a valid entry; type 1, 2, 3, 4, 5 instead.

When setting up a user's desktop, use the Other Data page of the Icon Options window to enter access keys. If you enter the number 3, that user can then use any icon that has been set for key 3. A user whose access key does not match an object's access key is denied access. Access-key numbers can only be changed by the owner of an icon. User desktops and icons can have multiple key assignments.

Restricting Access of Individual Data-Access Icons

Before a user can use a data-access tool, the Icon Options window for that tool must include the information needed to gain access to a database. This information includes:

The name of the appropriate database service or database gateway

The physical name of the database

Database logon information in the form of a valid user ID and password

Data-access icons can be configured to read the database's user ID and password from either:

The settings in the Data Access Controls window of the desktop where the icon resides. This configuration prevents unauthorized use of the icon. Instructions for adding to and modifying the entries in that window are provided in *Working with the Intelligent Decision Server*.

The **User Name** and **Password** fields in the Icon Options window for the icon. The icon can be configured so that the user ID changes to the user ID of the desktop

where the icon resides. When another user mails an icon that has been secured and the database does not recognize the new user's ID, that user cannot open the icon.

Securing and Unsecuring Data-Access Icons

The Make Secure facility prevents users from mailing sensitive or privileged information; it also prevents individuals from gaining access to data located in data-access tools. Each data-access icon (such as DBA, Data Entry, Forms Design, Query, Reporter, Report Builder, and SQL Entry) retains a user ID and a password, even when mailed. The user ID and password provide access to the database server; they do not necessarily correspond to the desktop on which the icon resides.

If a user chooses **Secured Yes** in a data-access icon, the **User Name** field uses the desktop name instead of any user ID that had been entered in its configuration. This name is effective whenever **Specified Here** is selected instead of **From Data Access Controls**. Therefore, such an icon cannot be opened unless it resides on a desktop whose name is also a valid user ID on the database server.

Any user can secure a data-access icon by choosing **Secured Yes** in that icon's Icon Options window. However, do not secure any icons until you consult your database administrator to be sure your database can use Make Secure. The database administrator must define a database user with the relational database management system (RDBMS) to correspond with each desktop that is to use a secured icon; also, each such database user must have access privileges to the necessary tables on the database. If you secure an icon, and its associated database does not have the necessary user IDs and access privileges set up, no one will be able to open that icon.

To secure an individual data-access icon, click on the **Yes** choice in the Other Data page of the icon's Icon Options window. The user ID changes to the desktop name and cannot be changed again. When the icon is mailed or otherwise transferred to a different desktop, the user ID becomes that desktop's name.

To affect the security of groups of data-access icons, you can use the MakeSecure and MakeUnSecure transformers; these transformers are stored in the Administrator Icons file drawer. **Attention:** After an icon is secured, the only way to reverse that state is through use of the MakeUnSecure transformer. Make a copy of the icon that you intend to secure and verify that users are defined and granted access privileges for its associated database.

Securing Groups of Data-Access Icons

The MakeSecure transformer lets you secure groups of data-access icons. This transformer is useful for securing all icons on your system, rather than clicking on **Secured Yes** in the Icon Options window of every individual icon. See *Administering Databases with IDS* for information about securing individual icons.

From the system desktop only, you can use the MakeSecure transformer to secure all data-access icons within any specified container, including those in containers nested within the specified container. You can secure data-access icons that are:

On a specific user's desktop

In a specific folder on a user's desktop

In the New Icons (or other) file drawer

On all desktops on a specific disk

In all file drawers on a specific disk

Before running the MakeSecure transformer, determine exactly which containers (such as folders, envelopes, file drawers, capsule applications, or desktops) you want to secure.

To ensure that the entire realm is secured, use the MakeSecure transformer after ending all sessions or at a time when no users are on the system. Include the Mail, Post Office, and *Printers containers to secure any icons that might have been in transit because of mailing or printing processes.

The Master Icons file drawer is the only container that the MakeSecure transformer cannot affect. The access rights on the Master Icons container are set to ensure that no one can change its contents.

To secure an icon:

1. On the system desktop, locate the container that you want to secure.
2. Either back up that container to tape or copy and rename it.
3. Open the transformer. The MakeSecure transformer does not have to reside in the container that you are securing.
4. Select the **Show Controls** button in the transformer window header. Two parameters appear in the Transformer Controls window. Although the Transformer Controls window warns that the change is irreversible, you can later undo its action by using the MakeUnSecure transformer.
5. In the **Name of container to check** field, type the name of the container whose icons you want to secure.

   The container name will be the access path to the container. It should specify, in order, the disk and all intervening containers in the path to the container of icons that you intend to secure. Use the vertical bar (|) character to separate the names of the containers at different levels.

   The container and icon names are case sensitive; for example, if Wombat works, wombat does not.

   For example, the following path specifies a folder called Private on the Wombat desktop; Wombat is in the Desktops file drawer, which in turn is on the Personnel disk.

   Personnel| Desktops | Wombat | Private
6. In the **Are you absolutely sure?** field, type (in all uppercase): ABSOLUTELY
7. Close the Transformer Controls window.

8. Select the **Run** button in the MakeSecure transformer window header. All data-access icons within the specified container (and in all containers within that container) are made secure. A message is displayed, showing the number of icons that were actually secured.
9. After the transformer has run successfully and you have confirmed that the correct icons are secured, you can recycle your backup tape or delete the copy of the container icon.

If the container you secure contains file drawers, icons within those file drawers are not made secure, because the file drawers on users' desktops are only reference icons, which point to the "real" file drawers in the File Drawers container. To secure a file drawer, the path name must include the File Drawers container, as shown in the following example, where *Data Access Icons is a file drawer within the File Drawers container:

Personnel | File Drawers | Data Access Icons

Unsecuring Groups of Data-Access Icons

The MakeUnSecure transformer lets you reverse the action of either MakeSecure or the **Secured Yes** choice on groups of data-access icons. From the system desktop only, you can use MakeUnSecure to change all data-access icons within any specified container, including those in containers nested within the specified container.

After you use MakeUnSecure, the **User Name** field in every affected icon is restored, so the icon can retain any name entered there (as if the icon had never been secured). You can also change the setting of the affected icons' **Specified Here** and **From Data Access Controls** choices.

To unsecure an icon:

1. On the system desktop, locate the container that you want to secure.
2. Open the transformer. The MakeUnSecure transformer does not have to reside in the container that you are securing.
3. Select the **Show Controls** button in the transformer window header. Two parameters appear in the Transformer Controls window.
4. In the **Name of Container to Check** field, type the name of the container whose icons you want to secure.

   The container name will be the access path to the container. It should specify, in order, the disk and all intervening containers in the path to the container of icons that you intend to secure. Use the vertical bar (|) character to separate the names of the containers at different levels.

   The container and icon names are case sensitive; for example, if Wombat works, wombat does not.

   For example, the following path specifies a folder called Private on the Wombat desktop; Wombat is in the Desktops file drawer, which in turn is on the Personnel disk.

Personnel| Desktops | Wombat | Private

5. In the **Are you absolutely sure?** field, type (in all uppercase): ABSOLUTELY
6. In the **Change Database Logon** field, type 1 if you want to leave the icons with **Specified Here** selected, or type 2 to leave them with **From Data Access Controls** selected. If you leave this field blank, the choice for each icon reverts to whichever was selected before the icon was secured.
7. Close the Transformer Controls window.
8. Select the **Run** button in the MakeUnSecure transformer window header. Securing of all data-access icons within the specified container (and in all containers within that container) is reversed. A message is displayed, showing the number of icons that were actually unsecured.

If the container you unsecure contains file drawers, icons within those file drawers are not affected, because the file drawers on users' desktops are only reference icons, which point to the "real" file drawers in the File Drawers container.

RACF Security for DB2

The IDS software for DB2 for MVS includes a file, DB2S.SAMPLIB, that includes two sample connect-exit routines named M4MRACF and M4MACF2. Use of M4MRACF is recommended for any MVS system that uses RACF or any other security package that uses the functions RACROUTE REQUEST=VERIFY, ENVIR=DELETE and RACROUTE REQUEST=VERIFY, ENVIR=CREATE to validate user IDs and passwords, then set the security environment accordingly.

Use of M4MRACF is recommended for both CA-ACF2 and CA-TOPSECRET, unless you are unable to configure them properly. You should use M4MACF2 if your security system only validates the passwords without changing the security environment. M4MACF2 establishes that environment by issuing the two RACROUTE commands shown above. The security package's configuration parameters control this action.

For further information regarding connect-exit routines, see *Installing Host Services and Configuring Host-to-LAN Communications for MVS*.

Applications Security

Some features, such as the ability to run OS/2 applications from desktops, could allow use of destructive actions such as formatting a server's hard disk. For each server that you configure to run a Capsule Services cluster manager, you can protect against such actions by disabling one or more dynamic link libraries (DLLs). To do so, edit the server's CONFIG.SYS file to insert the line:

SET MET_V2_CAPS_DISABLED_TOOLS = dll_list

where *dll_list* is a list of one or more DLL files, separated by blanks or commas. The file suffix DLL is optional for each specified DLL.

For example:

```
SET MET_V2_CAPS_DISABLED_TOOLS = PCDIR.DLL,OS2APP
```

This line prevents the use of the PC Directory and PC Application desktop tools within capsule applications executed on the server. Disabling these tools, in turn, prevents desktop users from issuing the FORMAT command or changing an important file. The file suffix is optional. This line affects only the server whose CONFIG.SYS file contains it. If you want to protect more than one server with a Capsule Services cluster, be sure to insert the line into all such servers' CONFIG.SYS files.

Disabling OS2APP.DLL prevents users from executing Lotus 1-2-3, FORMAT.COM, or any other OS/2 applications on the server. Disabling PCDIR.DLL prevents the server's users from copying files between desktops and the server's hard disk.

Chapter 5. Mail Administration

When an Envelope is mailed, it goes to the Post Office on the file server. The mail service sorts the mail and sends it to the appropriate network, where it is distributed to the appropriate desktop name.

This chapter contains information on the Post Office, Mail Tray icons, distribution lists, and mail gateways. You are responsible for creating and maintaining the distribution lists on your systems. Additional information on the mail gateway is available in *Configuring and Administering Mail Gateway Services*.

The electronic mail system is part of the system software. Empty Mail Tray and Envelope icons are in the Master Icons file drawer, and copies of each are in the Blank Icons file drawer within the New Icons file drawer.

Mail Overview

Each IDS realm has its own mail service. For mail sent between IDS and cc:Mail, the mail service uses the remote mail gateway.

To send mail from realmA to a different realm, realmB:

realmB must be defined to the IDS directory services in the Known Realms document in the |System|File Drawers|Network Info file drawer on realmA.

realmB must be accessible from realmA via TCP/IP, for example, via ping.

The Known Realms document is a simple text document that lists all the realms you want to access from realmA. For example, such a document on realmA might look like:

```
realmB
realmC
realmD
```

When any user puts an Envelope into the desktop Mail Tray, it goes to the system Post Office, where the mail service examines the address to determine the Envelope's destination. Depending on the destination, the mail service delivers the Envelope to the appropriate Mail Tray, to another realm, or to the appropriate mail gateway and conversion service.

Remote Mail Gateway Service

The Remote Mail Gateway service formats, converts, and transfers mail between a cc:Mail Post Office and IDS Mail Service and IDS desktops. This service converts the mail messages from the cc:Mail format into a format that is understood by IDS desktops and vice versa.

This service requires the presence on the realm of the primary file, asset management, directory, desktop, and the object conversion services to start up successfully. Additionally, the remote mail gateway service must reside on the same computer.

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It is highly recommended that you dedicate an object conversion service with two execution engines to this service.

File Drawers and Folders

All mail gateways use folders within the System|Mail file drawer to sort their mail, as shown in Figure 2.

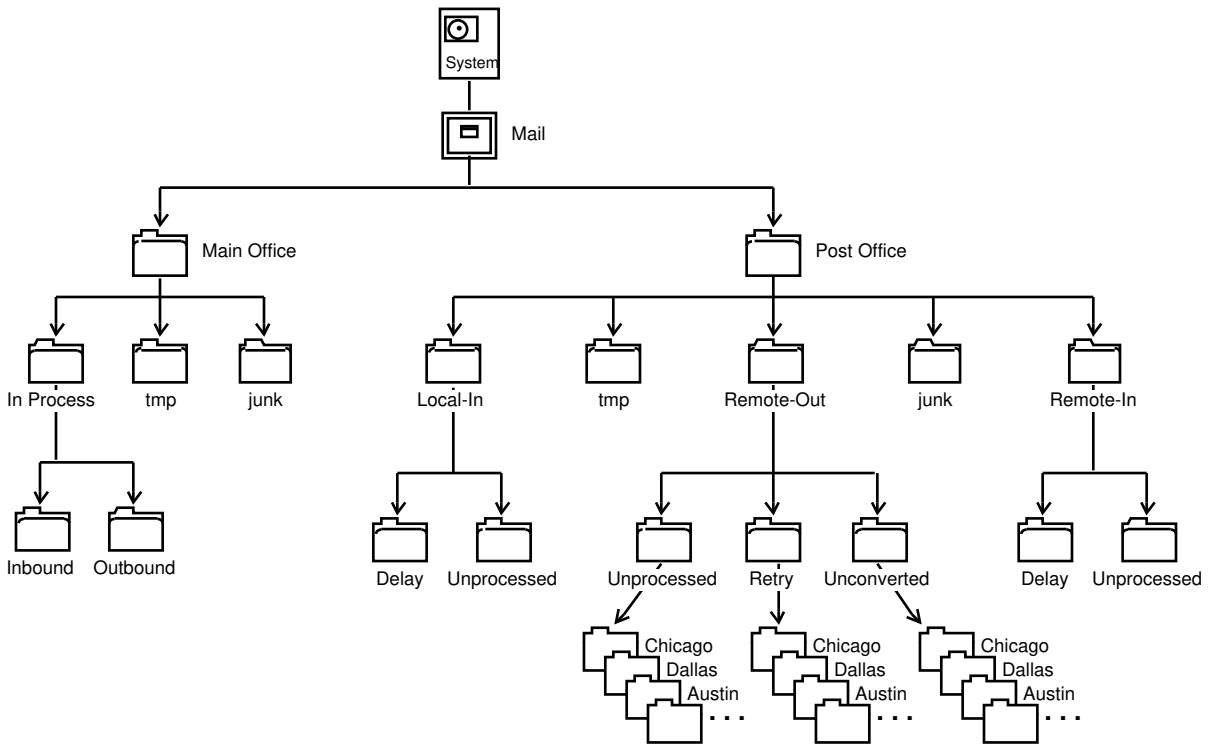

Figure 2. Post Office system

While System|Mail|Post Office can be located elsewhere, System|PostOffice must remain at the top level of the system disk.

Each of the folders within the Remote-Out folder contains a folder for each realm, network, and non-IDS mail system connected to your system, with two exceptions: The Unconverted folder does not contain folders for realms, and the Retry folder does not contain folders for systems whose access depends on mail gateways. The individual system folders are created and deleted automatically and do not normally require any direct maintenance.

Local and Remote Delivery

Mail whose sender and recipient are both within the same realm requires less processing than mail involving two or more realms or networks. This is because the latter requires the mail service to determine both the path between the sender and recipient and which format the remote realm or network might use. Figure 3 and Figure 4 on page 48 illustrate the processing of mail with various combinations of sources and destinations.

Local Delivery

A local address is the name of a desktop that is on a file server within the same realm as the mail service delivering it. If a recipient's desktop is on the local realm, then only the recipient's desktop name is required when addressing an envelope. When there is no network name following the desktop name, the mail service looks for the desktop name on its local realm only. Figure 3 illustrates the processing of mail within the same realm.

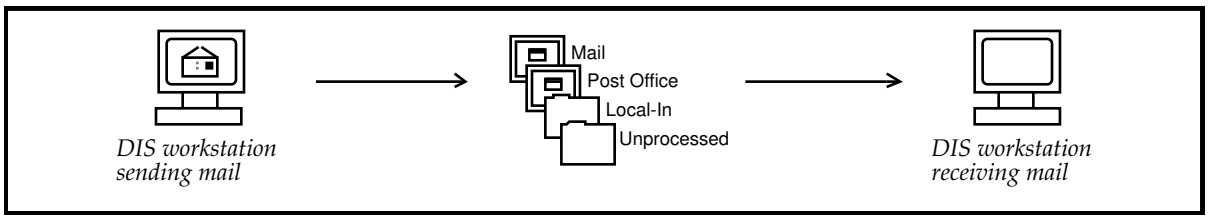

Figure 3. Delivery of mail from one local desktop to another

Remote Delivery

When sending mail to another realm or network, the sender must use both the recipient's desktop name and the realm or network name, separated by a colon.

If the destination is a non-IDS mail system, such as cc:Mail, the mail service passes the Envelope to the appropriate mail gateway, which uses a conversion service to change the mail into the formats used in the remote system.

Figure 4 on page 48 shows mail processing between a local IDS desktop and cc:Mail.

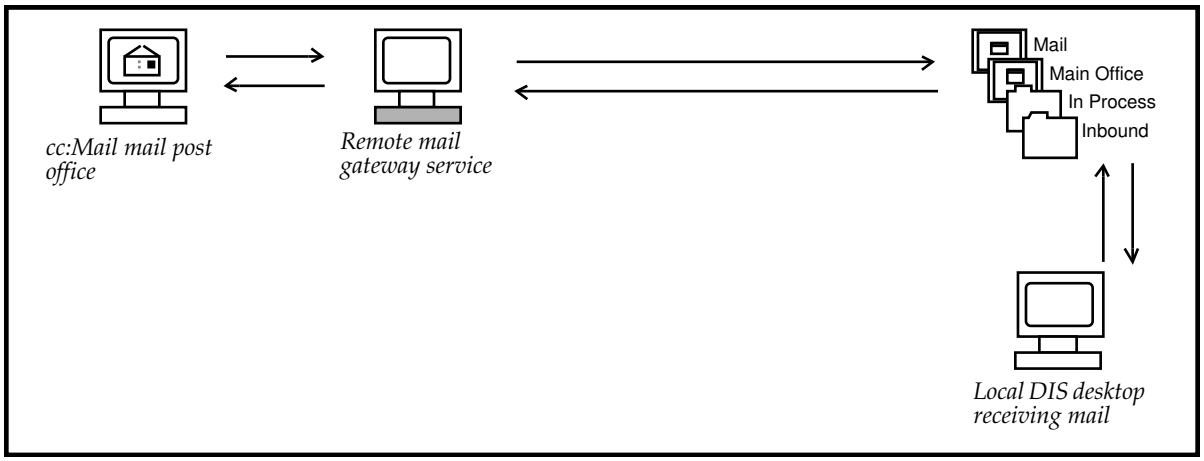

Figure 4. Mail delivery between IDS local desktop and cc:Mail

Administration Tasks

The mail service does not require much ongoing administration. Your tasks include setting envelope lifetime for undeliverable mail, checking mail status, and maintaining distribution lists.

Creating the Mail Service

The first step in establishing the mail service is to configure the relevant assets. One is the mail service itself, which performs all internal mail processing.

Setting up these assets is described in *Installing IDS LAN Components*.

Checking Mail Status

The mail service includes several *threads*, or functions. Through the SA tool's mail interface, you can check on the status of all of these threads. The Status window shows you the current status of each thread and the number, name, time, and date of its most recently processed message. To see this window, click on the **Show Status** button in the Mail window. The status of each thread can be:

Waiting for new envelope

Processing envelope

Waiting to retry delivery

Thread inactive (This part of the mail service is still starting.)

Thread failed (The mail service must be restarted.)

The File ID, Envelope Name, and Last Delivery columns describe the Envelope that each thread is processing or has processed most recently; if the thread has not proc-

essed any mail since the service was most recently started, then File ID is 0 (zero), Envelope Name is blank, and Last Delivery shows the service's starting time and date.

Creating and Maintaining Distribution Lists

You are responsible for creating and maintaining the mailing distribution lists. A distribution list is a Text document containing a list of recipients, which can be either individual desktops or other distribution lists. When a user enters the name of a distribution list in the **To:** or **Copies To:** portions of the Envelope address area, the Post Office sends the mail to all desktops whose names are listed in the document.

Creating the List

To create a distribution list:

1. Copy a blank Text icon to your desktop.
2. Type the user IDs into the Text document. Remember to include commas between names.
3. Rename the Text icon to reflect the category of users listed within it (one area of commonality such as managers, engineers, or personnel).
4. Move the icon into the Distribution Lists file drawer.

Naming the List

The name of the document usually should represent the people or groups on that distribution list (such as finance or personnel). **Attention:** Be careful when naming distribution lists. If a distribution list has the same name as a desktop, the name of the list overrides the desktop name when mail is delivered. That is, the mail will be delivered to all names on the distribution list, but not to the desktop with the same name. Such coincidental naming could cause security overrides, because creation of such a list could divert the mail from the destination desktop. This is a good reason for limiting access to the Distribution Lists file drawer.

Entering Recipient Names

When creating a distribution list, you must use correct desktop and network or realm names. Type a comma between names; failure to include a comma causes names to run together and prevents the mail service from locating those desktops. Names of desktops, realms, and networks are not case sensitive, so you can type them in any combination of uppercase or lowercase letters. You can enter all names on a single line or each name as a separate entry in a list, as in:

```
Mezzetta,
Wright,
Marketing:Austin,
Berg:San
Jose
```

Names at remote locations can be included either in individual lists or in lists that contain local users. For example, in the previous list, Mezzetta and Wright are desktops on the local realm; Marketing is a distribution list on the remote network or realm named Austin; Berg is a desktop on the San Jose network or realm.

Avoiding Mail Loops

Mail loops involving non-IDS systems can cause problems. If a non-IDS system has a distribution list that sends mail to an IDS distribution list, make certain that the IDS list does not send mail to that non-IDS list. For example:

The SHAKERS list on IDS realm HOME:	The MOVERS list on cc:Mail Post Office system CCBOSTON:
IRBE,	CASEY,
MOVERS:CCBOSTON,	SHAKERS:HOME
OZOLINSH	NEELY

Here, if an IDS user sends mail to SHAKERS, it gets forwarded to the cc:Mail system CCBOSTON. That system then looks at its MOVERS list and sees SHAKERS, so it forwards the message back to Home, which sends it back to CCBOSTON, and so on. Avoid this problem by ensuring that you do not have these mutually inclusive distribution lists.

Looping is not a problem if both systems are IDS realms. The mail service can prevent it when both ends of the would-be loop are on IDS realms.

Setting Access Rights

When establishing distribution lists, you might want to limit access rights to a few individuals. This restriction helps maintain security at the icon level. One user should have responsibility for each distribution list.

For example, if the sales department has a list, you might allow the secretary for that department to have the access rights to change that list, and that list only. The Distribution Lists file drawer could have an access key number of 21. (See “Setting Access Keys” on page 38.) All users who have that key would be allowed access to the Distribution Lists file drawer. But each individual list within the file drawer would also have its own access-key number (for example, a list called Finance might have access key 22) so that only the creator of that list could change it (that is, the creator would have both 21 and 22 as access-key numbers).

Sending Mail to a Distribution List

This example demonstrates mail delivery through a distribution list:

1. An envelope addressed to Sales List is copied to a local desktop's Mail Tray, on the Austin realm. Sales List is a Text document in the local realm's Distribution Lists file drawer and has these contents:

   Mezzetta,
   Wright,
   Accounting,
   Chaves:Boston
   Marketing:Boston,

   Mezzetta and Wright are desktops on the local realm, Accounting is another distribution list on the local realm, and Marketing and Chaves are both on the remote

realm named Boston. Notice that both Marketing and Chaves have the remote realm name Boston included with their names. The Accounting list (also on Austin, the local realm) is:

Mezzetta,
Claybrook,
Duchesne

2. The local mail service delivers copies of the envelope to desktops Mezzetta and Wright and distributes copies to every desktop in the Accounting list. Even though Mezzetta is included in both Sales List and Accounting, he receives only one copy of the message.
3. The local mail service sends a copy of the envelope to the Boston realm's mail service for delivery to Chaves and Marketing. Marketing is a distribution list on the Boston realm, with two names:

   Whitney,
   Pederson:Crosstown

4. The mail service in the Boston realm delivers copies of the envelope to Chaves and Whitney (on the Marketing list). It cannot deliver to Pederson, however, because she is on another realm, Crosstown. The Boston mail service returns a message to the original sender on Austin:

   Mail
   from remote realm cannot be sent to remote realm Crosstown via distribution
   list - recipient Pederson:Crosstown

Moving the Distribution Lists

If you decide to keep your distribution lists somewhere other than in System|File Drawers|Distribution Lists, you can change the path through the mail interface's Configuration window. If you do so, be aware that any configuration change will stop the mail service and you will have to restart it manually.

If you need to relocate the distribution lists:

1. Create the new container.
2. Open the SA tool and connect to the mail interface.
3. Click on **Set Configuration**. The Configuration window opens.
4. Type the new path in the **Distribution List Path** field. Separate the container names with a vertical bar (|). For example, the default path, System|File Drawers|Distribution Lists, says the System disk contains the File Drawers container, which contains the Distribution Lists file drawer.
5. Click on **Set Configuration**. The mail service registers the new information and then stops. You must click on **Set Configuration** to make the change effective. If you just close the window, nothing is done.
6. Use the node-management interface to restart the mail service with the new configuration.

Chapter 6. Printer Administration

This chapter provides information on configuring print servers and printer icons for your system. You are responsible for configuring printer icons for specific printers, and for keeping those icons accurate for the printers that they represent. You might also need to perform some troubleshooting procedures if the printing process is interrupted. Integral parts of the printing system are the:

Physical printer

Printer icon

Printing service

Operating system's printing manager

To manage the Intelligent Decision Server's printers, you should be able to configure printer icons, manage the queue, operate the printing service's administration interface, and solve any problems that occur. But first, you should understand what happens when a desktop user prints a desktop object.

Printing Desktop Objects

The process of printing an IDS desktop object involves a printing service, queues on both IDS and the operating system, and a printer host (the computer to which the printer is physically connected).

The printing process takes place in three steps:

1. A printing service formats the item for printing and sends it to the printer host.
2. The printer host passes formatted output to the operating system's printing manager (where it can share the printer with other applications).
3. That printing manager sends the formatted output to the printer.

One LAN can have several printing services. Each has an associated set of printer queues that it continually checks for items to format and print.

A printer icon acts as the request queue for the associated printer. When a user copies an object (such as a Layout or Text document) to a printer icon, the printing service associated with the printer icon formats the information into PostScript code and passes the formatted file to the operating system's Printing Manager. To check the IDS printing queue, open the printer icon.

Configuring Printing for IDS

In IDS, formatting is governed by a service manager, which starts one of the available execution engines for each item submitted for printing. That execution engine converts the item into PostScript code, sends the results to the printer host, then terminates.

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Execution engines are grouped into clusters, each controlled by a cluster manager. Each cluster manager, and all of its execution engines, are in the same computer. A service manager can control several cluster managers in different computers, to distribute the work.

The first step in establishing printing is to configure the relevant assets. IDS printing assets are the service manager, execution engines, and printer hosts. *Installing IDS LAN Components* describes how to set up these assets. When assigning a node to be a printer host, note that it must first have the operating system's printing manager installed.

Adding Printers to IDS

To add a printer to the IDS network, you must decide which printing service to attach it to, then use the SA tool's printing interface to specify the necessary names, and finally create a desktop icon for it.

Configuring Printers

IDS uses the operating system's printing manager. After you have followed the operating system's instructions for attaching the printer to the computer, you use the SA tool to attach it to an IDS printing service and to specify the necessary names.

1. Open the SA tool and connect to the asset manager.
2. Get the address of the computer to which the printer is physically attached and register the computer as an IDS node.
3. Assign the Printer Host asset to that node.
4. Close the asset-management interface.
5. Connect to the printing interface.
6. Click on **Show Printers**. The Printers window lists any printers that are already associated with the service you are administering.
7. For a new printer, click on **Add Printer**.
8. The Details window opens.
9. In the **Printer Host Service Name** field, type the name of the printer-host service from step 3 above.
10. In the **OS/2 Queue Name** field, type the name of the operating system's printing queue, which you can see under the printer icon on the printer host's OS/2 desktop.
11. Click on **Add Printer** in the window header. The printer name is displayed in the list in the Printers window.

There is no limit to the number of printers that you can attach to your network. However, note that each printer icon consumes disk, processor, and memory resources, and attaching too many printer icons could eventually result in performance problems.

Configuring Printer Icons

Users obtain preset printer icons from the *Printer Icons file drawer. The printer's location should be represented in the name you assign it. Use appropriate abbreviations to fit the name in the icon. For example, the accounting printer in room 765 could be abbreviated as Acct Rm765.

You create printer icons through the SA tool's printing interface. You cannot do so on the system desktop, however; you must use a regular desktop.

1. In the Printers window, select a printer from the list.
2. Click on **Create Printer Icon**. The Printer Icon window opens.
3. In the **Priority** field, type a priority number between 0 and 31, inclusive. This number sets the priority, within the formatting queue, of any job submitted through this icon. The priority for highest importance is 0 and the lowest is 31.
4. Choose between **Forced** to force the printing of a banner page with each job, or **Optional** to let users make the choice for each job submission. If you or a user elects to use banner pages, and a user submits multiple icons (or a container with contents) to the printer, a copy of the banner page starts each new printed item.
5. In the window header, click on **Create Printer Icon** to create the icon on your desktop. The pointer, or cursor, takes on the shape of a printer icon.
6. Click on any empty space on your desktop to place the new printer icon at that point.
7. Copy the printer icon to the *Printer Icons file drawer, in the New Icons file drawer.

The icon-access privileges for the new printer icon are set to:

Same
as the Container or Home

If you want to change the printer icon's icon-access privileges, open its option window to the Name and Size page and set the privileges as desired.

Some other options are also available for you or the users to alter, as desired. These options specify the number of copies of each submission to be printed, and whether to print all pages, one page, or a range of pages. To set these options, open the icon's option window, click on **Other Data**, and set the options as desired.

The configured printer icon in the *Printer Icons file drawer becomes a reference icon, as described in “Reference Icons” on page 24.

Administering the Printing Service

The SA tool's printing interface give you several ways to inspect the printing services and queues.

Execution Engines

In the printing interface, the Engines window shows you the identifying number, cluster identifier, network address, status, and the duration of that status for each execution engine. To see this window, click on the **Show Engines** button in the Printing window.

Printers

In the printing interface, the Printers window lists all of the printers controlled by the printing service you are inspecting. To see this window, click on the **Show Printers** button in the Printing window.

To delete a printer from the service, select it in the Printers window and click on the **Delete Printer** button.

To temporarily disable a printer, you can use two **Disabled** choices in the Status window, or the **Offline** choice in the main Printing window.

In the **Job Starts** field, **Disabled** prevents execution of printing jobs currently in the selected printer's queue. The printer can still accept new jobs into the queue, for execution after job starts are enabled. Jobs that are currently being executed continue normally.

In the **Job Submissions** field, *Disabled* prevents the selected printer's queue from accepting new submissions, without affecting printing jobs that are already in the queue.

Offline is more far-reaching, in that it makes the whole service unavailable; that is, it prevents the service from accepting any new jobs or dispatching any existing jobs from the IDS queue to the operating system's printing queue.

To get to the **Job Starts** or **Job Submissions** choice, click on the **Show Printers** button in the Printing window, then select a printer and click on the **Show Status** button.

To reverse any of their actions, use **Enabled** and **Online**, respectively.

From the Printers window, you can also open other windows showing information about each printer's configuration and its queue.

Printer Queues

IDS provides two ways of viewing a printing queue, one for users and the other for administrators. Printer queues displayed through IDS show only the jobs that are still in the Intelligent Decision Server and have not yet been passed to the operating system's printer queue. To view jobs that have been sent to the OS/2 printer queue, as well as jobs originated by applications outside of IDS, use the OS/2 printer icon.

For Administrators

In the printing interface, the Job Queue window shows you the identifying number, submitter, request time, execution time, job name, and status for each job currently in a

printer's IDS queue. To see this window, click on the **Show Printers** button in the Printing window, then select a printer and click on the **Show Job Queue** button.

To delete a job from the queue, select it in the Job Queue window and click on the **Delete Job** button.

To control each printer and see a variety of information for the selected printer, use the Status window. This window lets you specify the printer's maximum queue length and enable or disable job submissions and job starts. It also shows you the number of jobs waiting, ready, running, and on hold, along with the number of execution resources busy and free. To see this window, click on the **Show Printers** button in the Printing window, then select a printer and click on the **Show Status** button.

For Users

As a reference icon, a printer icon continues to function even if the system administrator changes the printer icon's name, printer address, or the server. For example, if you specify a new printer address, subsequent printing jobs initiated by the user will go to the newly addressed printer. However, a change in the name of the original printer icon does not propagate to its reference icons. If you change a printer icon name, you must copy the renamed printer icon into the *Printer Icons file drawer and delete the old one; if a user tries to open the old one, the following message is displayed:

Having trouble with that icon, contact the System Administrator.

Users can only copy icons to a printer icon; they cannot move them there.

Any user can view the IDS printer queue at any time, by double-clicking on the printer icon. Although queued icons in a printer window are printed and deleted chronologically, the printer icon can show the queue sorted by name or by time (like any other container icon). Only the system administrator or the owner of an icon appearing in the printer queue can move or delete that icon from the queue.

To see the queue of jobs that are formatted but not yet printed, you must look at the operating system's printer queue on the printer host.

Stopping the Service

If you need to stop the service, you can use the **Offline** choice or the **Soft Shutdown** or **Hard Shutdown** button, all of which are in the main Printing window.

Hard Shutdown stops the service immediately, without waiting for current printing jobs to finish processing.

Soft Shutdown also stops the service, but only after waiting for current printing jobs to finish processing. When all current jobs have finished, the service and associated execution engines stop.

Offline only makes the service temporarily unavailable; that is, it prevents the service from accepting any new jobs or dispatching any existing jobs from the IDS queue to the operating system's printing queue.

To reverse **Offline**, click on **Online**. To restart the service after a shutdown, open the node-management interface for the affected printing server, select the printing service in the list, and click on the **Start Service** button.

Chapter 7. Capsule Service Administration

The Capsule Service tool lets users run capsule applications in batch mode on a server designated for that purpose. Users can schedule concurrent capsule jobs to run on the server, thereby freeing their desktops for other tasks. Using the tool as a desktop interface to Capsule Service, they can also specify that capsule jobs run at night, or when the workday is over. A desktop user can schedule capsule jobs by copying Capsule icons to a Capsule Service icon and then setting timing options in a standard options window. With Open Data Access Service, client users can run a capsule application:

- Immediately (or as soon as an execution engine is available)
- Once, at a specified date and time
- Periodically (for example, monthly, weekly, or daily)
- In batch mode, during a predefined time range (for example, you could define OVERNIGHT as an alias for some time between midnight and 5 a.m.)

IDS desktop users can run a capsule application immediately, overnight, or at a specified date and time. Open Data Access Service can use customized aliases, but these aliases are not available to desktop users of the Capsule Service tool. As system administrator, however, you can assign a time alias to any waiting job, regardless of who submitted it.

As system administrator, you perform the real-time scheduling, assign priorities to all submitted jobs, and monitor all activities of the Capsule Service, through an SA tool interface. Capsule Service also lets you:

- List all jobs in the Capsule queue, in the order of execution
- Specify the maximum starting-time delay (how long, beyond the scheduled starting time, a capsule job can wait to run before being canceled automatically by Capsule Service)
- Update the scheduled run time, maximum run time, and starting-time delay of any capsule application submitted by a user
- Place on hold, release, or cancel any capsule job submitted by a user

Configuring a Capsule Service

Each Capsule Service is governed by a service manager, which starts one of the available execution engines for each request from Open Data Access or from a desktop user's Capsule Service tool. That execution engine sees that the necessary tasks are performed, sends results to the requester, then terminates.

Execution engines are grouped into clusters, each controlled by a cluster manager. Each cluster manager, and all of its execution engines, are in the same computer. A service manager can control several cluster managers in different computers, to distribute the work.

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The first step in establishing a Capsule Service is to configure the relevant assets—the service manager and its execution engines. *Installing IDS LAN Components* describes how to set up assets.

Configuring Capsule Service Icons

Users obtain preset Capsule Service icons from the *Capsule Service Icons file drawer. As system administrator, you configure these icons for use at desktops.

As with the Mail Tray, there are actually two Capsule Service icons to reflect the tool's two states: it is either full or empty. A full icon indicates that it already contains completed applications. In either state, the icon can accept copied Capsule icons for submission to the Capsule Service.

The name you assign to the service's icon should represent the service's name. If you have multiple icons for the same service, represent that fact in each icon's name. For example, suppose you have two icons with preset options for a service named CapServ, one configured for immediate processing and the other configured for overnight processing; you might call the icons CapServ Now and CapServ Overnight. You might also have a third one called CapServ with a prompt to let users set their own execution times.

You copy the master Capsule Service icon once for each Capsule Service in the system, then customize and configure each copy with the service name and other information, and finally leave the configured icons where desktop users can find them.

To configure the first Capsule Service icon:

1. Copy the Capsule Service icon from the Master Icons file drawer to the *Capsule Service Icons file drawer.
2. Open the *Capsule Service Icons file drawer.
3. Select the new Capsule Service icon and open its options window. The Name and Size page of the Icon Options window opens.
4. In the **Name** field, type a name that you want to appear on the Capsule Service icon.
5. Set the icon-access privileges to As Set in This Option Window and Viewed By Anyone Changed By Anyone.
6. Select **Other Data** in the **Display** option.
7. In the **Service** field, type the name of the Capsule Service, as configured by the asset manager.

   Individual users can set the remaining fields to suit their immediate needs, as described in the *Capsule User's Guide*.

When a desktop user opens the Capsule Service tool window, Now is the default selection for specifying when to run the Capsule job. However, a Capsule job scheduled to run now does not necessarily run immediately. Any job submitted to the queue must wait until an execution resource is available. Furthermore, as system adminis-

trator, you can assign priorities to Capsule jobs; the jobs with the highest priority numbers run first.

The last choice in the **Time When Job May Run** field lets the user designate an actual date and time when the job can be started. When you select **At Specified Time**, the **Date and Time** field shows the current date and time as a template for the required entry format. You must change the time or date to make it later than the time when you either close the Icon Options window or click on **Apply**.

Administering the Capsule Service

The SA tool's Capsule Service interface give you several ways to inspect the services and queues.

The Status window lets you configure and display information about the selected Capsule service. The Statistics window displays statistics about the execution queue. The Change Password window lets you change the password for the Capsule Service interface.

Execution Engines

In the Capsule Service interface, the Engines window shows you the identifying number, cluster identifier, network address, status, and the duration of that status for each execution engine. To see this window, click on the **Show Engines** button in the Capsule Service window.

Aliases

In the Capsule Service interface, the Aliases window lists all of the execution-time aliases that are defined for the service you are inspecting. For each alias, it displays the name, type (periodic or single), day, date, and time. It also lets you delete or add aliases. To see this window, click on the **Show Aliases** button in the Capsule Service window.

To define a new alias:

1. Open the SA tool and connect to the Capsule Service interface.
2. Click on **Show Aliases**.
3. Click on **Add Alias**. The Alias Details window opens.
4. Choose whether the alias is to be for periodic or single execution:

   Periodic specifies that the job should be executed every time the specified time-and-date details occur.

   Single specifies that the job should be executed only once, the next time the specified time-and-date details occur.
5. Type a name that indicates the nature of the alias you are defining. The name can include spaces or punctuation, as in West's Dawn. The name is also case sensitive; for example, AbCdE is different from ABCDE or abcde.

6. Pull down each menu in turn to set the month, date, day, hour, minute, second when you want jobs to be executed.
7. Click on **Add Alias**, in the window header.

To change an existing alias, select the alias in the Aliases window, click on the **Show Details** button, then proceed as if you were defining a new alias.

To remove an alias from the service, select it in the Aliases window and click on the **Delete Alias** button. Whether a job is submitted with an alias or a specified time, its first execution must be within one month of the submission time. For example, a job submitted in November for execution on New Year's Day would be rejected.

Job Queue

In the Capsule Service interface, the Job Queue window lists all of the jobs controlled by the service you are inspecting. It shows you the identifying number, submitter, request time, execution time, job name, and status for each job currently in the queue. To see this window, click on the **Show Job Queue** button in the Capsule Service window.

To remove a job from the queue, select it in the Job Queue window and click on the **Delete Job** button.

To temporarily disable Capsule execution, you can use two **Disabled** choices in the Status window, or the **Offline** choice in the main Capsule Service window.

In the **Job Starts** field, **Disabled** prevents execution of jobs currently in the queue. The service can still accept new jobs into the queue, for execution after job starts are enabled. Jobs that are currently being executed continue normally.

In the **Job Submissions** field, **Disabled** prevents the queue from accepting new submissions, without affecting jobs that are already in the queue.

Offline is more far-reaching, in that it makes the whole service unavailable; that is, it prevents the service from accepting any new jobs or dispatching any existing jobs from the queue for execution. However, any jobs that are already running continue to run.

To get to the **Job Starts** or **Job Submissions** choice, click on the **Show Status** button in the Capsule Service window.

To reverse any of their actions, use **Enabled** and **Online**, respectively.

To see a variety of information for the service, look at the Status and Statistics windows.

The Status window displays the number of jobs waiting, ready, running, and on hold, and the number of execution resources busy and free. To see this window, click on the **Show Status** button in the Capsule Service window.

The Statistics window displays the largest length of the queue since the last reset, along with the current and average sizes. It also displays the largest backlog of

jobs, along with the current and average backlogs. To see this window, click on the **Show Statistics** button in the Capsule Service window.

Stopping the Service

If you need to stop the service, you can use the **Offline** choice or the **Soft Shutdown** or **Hard Shutdown** button, all of which are in the main Capsule Service window.

Hard Shutdown stops the service immediately, without waiting for current Capsule Service jobs to finish processing.

Soft Shutdown also stops the service, but only after waiting for current Capsule Service jobs to finish processing. When all current jobs have finished, the service and associated execution engines stop.

Offline only makes the service temporarily unavailable; that is, it prevents the service from accepting any new jobs or dispatching any existing jobs from the IDS queue for execution.

To reverse **Offline**, click on **Online**. To restart the service after a shutdown, open the node-management interface for the affected server, select the service in the list, and click on the **Start Service** button.

Chapter 8. Network Administration

This chapter contains information on the networking duties of the system administrator. It includes instructions for reporting and diagnosing network problems. You can find additional network information in other chapters of this manual, such as Chapter 5, “Mail Administration” on page 45, and in other IDS books.

Network Interface

The IDS network includes desktops communicating with a variety of services and databases. The SA tool's network interface provides a graphical interface for administration of this network access. Through its buttons and windows, you can end desktop or database sessions, reset desktops or services, set password and logon limits, and list active desktops or services.

System Administration Password

An overall system-administration password grants access to any of the interfaces in the SA tool and to the system desktop. To change that password, open the Network Commands interface and click on **Change Realm Password**. In addition, each interface has its own password that you can change from within that interface. If you have never set a password, the password is the word *original* for each interface and for the system desktop. (You should change all of the original passwords as soon as possible.) “Administration Interfaces” on page 36 discusses interfaces and their passwords.

Services and Workstations

The Network Commands interface lets you list all currently active workstations and services, which can be useful if you want to perform some types of system maintenance. Some situations might require restarting the entire realm's workstations, services, or both. To cope with situations where users do not respond to warnings about system or service shutdowns, you can use the interface to end all database or workstation sessions.

You can also set a variety of parameters governing users' passwords, such as displaying asterisks (*) for passwords, setting password lengths, setting expiration of passwords, limiting unsuccessful logon attempts, limiting the life of new passwords, and warning users before invalidating passwords. These parameters are discussed in “Desktop Passwords” on page 36.

Network Connections

The interface also lets you list all networks and realms that have access to your realm. For each realm or each network that is currently connected to your realm, the Internetwork Connections window shows the name, realm ID, entry type, IDS capability level, network address, and the time when the item was last confirmed.

In the Realm ID column, the first number is the network number and the second is the realm number of the realm or of the mail gateway that provides access to the network.

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A realm number of 0 (zero) indicates an IDS realm. For a non-IDS mail system, Realm ID identifies the IDS realm or network that has access to that system.

The Capability Level column indicates the IDS mail format that the listed destination can accept or pass through.

Translating Network Names and Addresses with the Network Diagnostics Tool

The Network Diagnostics tool provides functions that you can use to monitor activities and diagnose problems for the local network and its connections to other networks. It translates the names of networks, nodes, and services into addresses that services can use. It also displays the address and name of the local realm; the address of the realm's asset-management, directory, and file servers (which might or might not be identical); and the address of the workstation from which you are using the Network Diagnostics tool.

To translate a name to a network number:

1. Open the tool or, if it is already open, click on **Names**.
2. In the **[Service][:Realm Name]** field, type the name of the service, the realm, or both. For example:

Sales Conversion	Refers to the service named Sales Conversion that is on the local realm.
:Mars	Refers to the realm named Mars.
Sales Conversion:Mars	Refers to a service named Sales Conversion that is on the Mars realm.

   The **[Service][:Realm Name]** field is not case sensitive, so Sales Conversion and sales conversion would both work for that service.

   Click on **Name to Address**. The address is displayed to the right of the button, in the format *network-realm#address#socket*. You can ignore the socket number.

The Network Diagnostics tool cannot translate an address into a name, because a single address could apply to several services.

911 Error-Reporting Facility

IDS provides an error reporting facility that can help you find the cause of irrecoverable errors. Irrecoverable errors disrupt system operations by making further processing meaningless. The 911 facility preserves information about these severe errors in a central system error log. You can view the system error log by using a Capsule application named 911 Reports.

The term 911 is taken from the standard 3-digit telephone number used throughout the United States to summon help in an emergency.

The 911 Report application lets you display or print error information in a variety of formats. System administrators can use 911 reports to identify basic network problems such as hardware defects. IBM Support representatives can use 911 reports to find and correct more serious problems that might arise in system software.

Call Processing

When an error occurs because a process is failing somewhere on the local network, a 911 emergency "call" is automatically issued from the error location. The source of the error might be a workstation, gateway, file, INR, or other service. The 911 facility responds to the call by recording details about the failing process before it is automatically halted. For example, an IDS module such as a Spreadsheet tool might report its inability to allocate the required amount of a system resource. The 911 facility collects enough details about the failing tool and its environment to give an IDS Central Support representative meaningful information about the cause of the system failure.

Severe errors can occur within IDS while remaining unknown to the operating system; nevertheless, the 911 facility responds. The 911 facility also responds if the operating system detects an exception condition while an IDS process is running. An exception condition can be caused by any abnormal action such as division by zero or an incorrect page reference.

When an irrecoverable error occurs, the local workstation facility does not rely upon IDS. When called, 911 causes the operating system to run the exception handler in the context of the failing thread (the smallest unit of performance within the process that is not identifiable outside its parent process). The exception handler collects information about the thread and the currently loaded modules and then terminates the IDS process in which the thread resides. Finally, the 911 exception handler stores all this data (about the single error occurrence) to an OS/2 file on the failed server or workstation. As soon as possible, the computer's IDS node-management service retrieves this OS/2 file and stores it in a system error log within the IDS file system, where it is added to similar single-error reports that have accumulated. If the failure caused IDS to stop on a computer, the 911 report cannot be retrieved from the local OS/2 file system to the IDS file system until IDS is restarted on that computer. This can delay the 911 report's availability. It is also one reason why the numerical sequence of 911 entries is not necessarily the same as their chronological sequence.

The system error log is in the Error Logs file drawer, represented by a binary icon. Error Logs is in the Administrator Icons file drawer, which is included in the *Admin Prototype desktop.

The information in the binary system error log is accessible through a Capsule application named 911 Reports. This application also resides in the Error Logs file drawer.

The backing file for the 911 Log icon is the system error log file. Only the IDS system software can alter that file. Only one system error log is active and receiving error data, but you can easily make copies of it; such copies are inactive archives.

Maintaining 911 Entries in the System Error Log

All 911 error information is sent to the system error log, which is stored in:

System|File Drawers|Error Logs|realm 911 Log

where realm is the name of the local realm.

The realm 911 Log file (system error log) stays active and logs incoming errors as long as it remains in that location. The log becomes inactive if you move the system error log file out of the Error Logs file drawer and onto a desktop, or rename the log file kept in the Error Logs file drawer. (The system automatically creates a new active log when needed for the next irrecoverable error.) Only the active log receives 911 reports; each inactive log preserves a record of already-logged errors but does not receive current 911 reports.

The 911 Log file can contain as many as 100 error entries (individual 911 call reports). As new 911 error calls occur after the 100th entry, they are appended to the end, and the 51st entry is removed from the log. A circular buffer preserves the active log's first 50 entries.

If you need to keep the information for a specific group of 911 entries, you can save a snapshot of them by copying the active realm 911 Log icon onto a desktop. The source icon then remains active while the copy is inactive. Check the log regularly to prevent important information from being overwritten and to match certain error trends with unexplained network problems.

Viewing 911 Log Entries

You can display a summary list of all the entries in a 911 log by using the 911 Reports application.

1. Log on to a regular desktop (not the system desktop) that has a copy of the Administrator Icons or Error Logs file drawer.
2. Open the 911 Reports Capsule icon. The Auto Open window opens.
3. If you want to specify a working directory, do so in the Auto Open window.
4. Close the Auto Open window. The 911 Reports Capsule application opens. If you are satisfied with your Working Directory setting, you can delete the AutoOpen icon to avoid having to wait for it to open next time you use the application. The working directory remains set until you change it. If you decide to change it again later, you can always get a new copy of 911 Reports from the Error Logs file drawer.
5. Copy the 911 log from the Error Logs file drawer onto the 911 Data icon in the 911 Reports window.
6. Click on **Run** in the window header. When the application has retrieved the log entries, the 911 Report Generator window opens. Note that this window is in the operating system's format, not that of other IDS windows.
7. When you have finished with this window, double-click in the upper-left corner of the window to close it. The Capsule application then finishes by copying any reports into a Text document.

The 911 Report Generator window is part of the Capsule application. If you generate reports, you cannot see the actual reports until after you have closed the 911 Report Generator window.

The entries in a 911 report are displayed in tabular format. Each line represents a single 911 log entry documenting a single 911 error call. The information presented for each entry is a subset of more detailed data contained in the 911 log. You can obtain additional information about specific log entries by first selecting the entries you want to see and then by clicking on the **Report** button in the window header.

In the commands header of the 911 Report Generator window:

Log Info	Displays information that identifies the log file.
Select	Lets you select all of the log's entries or any subset of them.
Sort	Sorts entries in the 911 Report Generator window and in reports.
Report	Gives you access to two types of 911 reports: Detail and Summary.
About	Displays version and copyright information.

These header commands are described in more detail in the following sections.

In the data columns of the 911 Report Generator window:

Num	Is a sequence number within the log. An entry's position in the log does not necessarily match its recorded date and time in relation to other entries. To list entries in order by any column, you can use the **Sort** button, as described in “Sorting Log Entries” on page 68.
Host Address	Identifies the Ethernet or token-ring address of the computer that encountered the logged error.
Date	Is the date when the exception occurred.
Time	Is the time when the exception occurred, in 24-hour notation.
Env	Indicates the environment, or operating system, of the computer that encountered the logged error, for example, OS2 = OS/2.
Code	Is a code number associated with the error. Together, the Code and Env data indicate the error condition that created the log entry.
Explanation	Briefly describes the error.

Displaying Information about the Application

The Log Info and About commands in the 911 Report Generator window header display information about the log file and the application. Log Info opens the Log Info window. About opens the About This Application window.

In the Log Info window:

Network Address	Identifies the IDS network containing the realm that this log was monitoring.
Transport Type	Identifies the LAN protocol, TCP/IP.

Release	Is the IDS release running on that realm.

Selecting Log Entries

The **Select** menu, in the 911 Report Generator window header, gives you choices you can use to select all of the log's entries or any subset of them—contiguous or not. When selected, you can generate a report that lists only those entries.

In the **Select** menu:

Select All	Highlights every line in the log.
Select Starting at Cursor	Highlights every line below (and including) the one you already selected or deselected with the mouse.
Deselect All	Removes the highlighting from every line in the log.
Deselect Starting at Cursor	Removes the highlighting from every line below (and including) the one you already selected or deselected with the mouse.

For example, suppose you wanted to select entries 3 through 12. You could click on each of those lines individually, or you could use the menu like this:

1. Click on line 3 to select it.
2. Choose **Select Starting at Cursor**. Now, every line from 3 to the bottom is selected.
3. Scroll down and click on line 13.
4. Choose **Deselect Starting at Cursor**. Now, only lines 3 through 12 are selected.

Sorting Log Entries

Sorting 911 log entries is useful in two ways. First, you can sort log entries to be viewed in the desired order in the 911 Report Generator window. Second, you can preselect the sorting order for any reports.

Sorting applies to all entries in the log, regardless of which entries are currently selected or displayed. Entries selected before sorting will still be selected after sorting. The system resets the default sorting order when you close the 911 Log window, so entries are always displayed in numeric order when you open the window.

Numerical order does not necessarily correspond to the chronological order in which log entries have been created, as indicated by the Date and Time columns.

Generating Reports

The actual 911 Log file contains additional, detailed data for each entry shown in the 911 Report Generator window. You can generate two types of reports to show additional information for one or more selected log entries.

In the **Report** menu:

Detail	Shows all detail for each selected entry, with each log entry starting a new page. For each entry, the report includes all summary information shown in the 911 Log window plus modules loaded, code trace, register contents, and stack dump.
Summary	Shows only the limited information that is displayed in the 911 Report Generator window.

To generate a 911 report:

1. Select one or more entries that you want the report to include.
2. Sort the entries as desired.
3. From the **Report** menu, choose the type of report you want.
4. Repeat the preceding steps as needed. The message bar at the bottom of the window counts the number of reports you have generated since opening the window.

You cannot see the actual reports until after you close the 911 Report Generator window.

After the report has been created in the 911 Reports icon within the Capsule window, you can view, edit, format, print, and mail the document as you can with any other Text icon.

Log entries for Detail and Summary reports are arranged according to the sorting and selection choices you have made since opening the 911 Report Generator window. If the sorting and selection have not been changed since the window was opened, the log entries are arranged in the default Num order.

Examining Reports

When the 911 Reports capsule application has completed, the 911 Reports document in it includes a title page, followed by whatever reports you chose to generate. The entire document is generated in 10-point Courier font and is paginated by the insertion of blank lines. If you change the font, the pagination will probably become inaccurate. You can edit the reports as you would edit any Text document.

Title Page: The title page lists the date when the report package was generated and the network, realm, and IDS software release to which it pertains, as in this example:

```
911-Reports generated
on Mon March 6 19: 6:33 1995.
911-Report Application: 911RPTS.EXE
v 1.

  911-Log Information:
Realm Name: "Saturn"
Transport
Type: "TCPIP"
Release: 1.
```

Summary Report: The summary report shows exactly the information that the 911 Report Generator window shows for the selected entries, in the selected sequence. In the following example, four entries were selected and sorted by address.

```
  Summary of Selected Entries - Generated on Mon
Jul 11 19: 6:58 1996

Num Host Address      Date          Time
   Env Code Explanation
 65    2-4472-7  E Jul 1  96 14:26 OS2
911    FirstProcess: Core not started
 64    2-4472-7 C9 Jul 1
94 14: 9 OS2 911    FirstProcess: Core not started
  4 1   -5A25-2C 9
Jul 6 94 13:37 OS2   5 Access violation
  5 1   -5A25-2C 9 Jul
6 94 13:39 OS2   5 Access violation
```

Detail Report: Each detailed report includes much more information about a single entry in the system error log. It includes:

- List of modules present when the error occurred
- Trace of code most recently executed before the failure
- Code near the most-recently executed code
- Register contents
- Stack dump

The detailed information shown in this report usually provides enough details about the failing process and its environment to allow an IDS Central Support representative to find the cause of the failure. The register contents and stack-dump information are, in general, meaningful only to experienced software engineers who have the authority to access, interpret, diagnose, and change the appropriate source code. If the failing device has a floating-point processor, the report shows the floating-point processor environment (register contents) and the floating-point processor stack.

Preparing for a Support Call

When asked to diagnose a severe error condition at your site, your IDS Central Support representative might ask you to send 911 information in one of a number of ways. You can generate the requested report and:

- Send a hard copy by mail
- Send a hard copy by facsimile machine
- Send the appropriate Text icon by electronic mail
- Send the appropriate Text icon stored on tape or other media

You can also create a duplicate of the system error log by copying the active realm 911 Log icon to your desktop. You can then:

Send the copied, inactive realm 911 Log icon by electronic mail

Send the copied, inactive realm 911 Log icon stored on tape or other media

Sending an inactive copy of the realm 911 Log icon gives your IDS Central Support representative the flexibility to view any selection of log entries and to control the selection criteria for generating reports. This can help to expedite an error diagnosis.

Chapter 9. Administering Other Services

This chapter describes administration of node-management services and Capsule Services.

Node-Management Services

The node-management service serves and coordinates many of the other services that comprise the Intelligent Decision Server (IDS). Because you can run several IDS services within one computer, the node-management service is needed to start services, monitor their execution states, and report their errors. As a central, independent process, the node-management service also provides data and functions that are common to all services. It thereby promotes consistency and prevents unnecessary duplication, processing, and memory usage.

The SA tool provides commands for administration of this service. To use them:

1. Open the SA tool.
2. Select **Node Management**.
3. If you want to connect to the IDS node-management service on the same computer that you are using, select **From List** and skip to step 5.
4. If you want to connect to another computer's node-management service, select **By Name** and type that computer's node name (if any) or network address in the **Service Name** field. If you use the address, you must precede it with a crosshatch character, as in #12.345.678.90.

   When you click on **By Name**, the **Service** field changes to Name.

   You cannot use the **From List** choice to manage nodes on a different realm. If you try to do so, the **Service** field tells you to use **By Name**.
5. Click on **Connect to Service**.
6. In the Node Management password window, enter the system administration password. The window then displays various data and buttons.

The node-management interface allows only one access at a time. If you try to open it when someone else already has this interface open, access is denied.

Starting and Stopping a Service

Two buttons in the node-management service's main window let you start or stop any service that is registered to the node whose service you are administering.

To start or stop a service, select it in the list at the bottom of the window and then click on the **Start Service** or **Stop Service** button, respectively.

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Displaying Information

Other buttons let you show server addresses and other information about the selected node-management service, the computer running the service, and the realm.

For the realm as a whole, you can see the network and realm numbers, whether the realm is a compatibility realm, and the addresses of its directory, asset-management, and primary file services.

For each service, you can see the name, type, current status, and number of times it has been started and stopped since the most recent time when the server's node-management service started.

Conversion Services

Conversion services convert files between IDS formats and personal-computer formats. This helps in the exchange of text and spreadsheets by converting their formats between IDS formats and standard PC formats such as WK1.

The conversion service manager starts a preconfigured number of execution engines, but then ends its involvement. The requesting service (such as the mail gateway or compatibility gateway) schedules conversion jobs to be performed by those execution engines. Each execution engine returns results to the requester, then waits to be assigned a new job.

Execution engines are grouped into clusters, each controlled by a cluster manager. Each cluster manager, and all of its execution engines, are in the same computer. A service manager can control several cluster managers, in different computers, to distribute the work.

Configuring a Conversion Service

The first step in establishing a conversion service is to configure the relevant assets—the service manager and its execution engines. *Installing IDS LAN Components* describes how to set up assets.

Each mail gateway requires a separate conversion service dedicated to its own use, with two execution engines. Chapter 5, “Mail Administration” on page 45 discusses mail administration.

Using the Administration Interface

The SA tool provides a graphical interface for administration of the conversion services. Its commands let you control logging, conversion queueing, and status reporting.

For administration of conversion services:

1. Open the SA tool.
2. Select **Conversion Service**.

3. Use **From List** or **By Name** to choose the one you want to administer, and then click on **Connect to Service**.
4. In the Conversion Service window, enter the system administration password. The window then displays various data and buttons.
5. Click on the button for the task you want to accomplish.

The conversion services interface allows only one access at a time. If you try to open it when someone else already has it open, access is denied.

When you select a conversion service in the main interface selection window, the Conversion Service window opens. From this window, you can set the service online or offline, or shut it down. You can also show the log, clear it, and specify detailed logging mode. Further actions are possible when you open the Status, Sessions, Engines, or Change Password window.

Execution Engines

In the conversion service's interface, the Engines window shows you the identifying number, cluster identifier, network address, status, and the duration of that status for each execution engine. To see this window, click on the **Show Engines** button in the Conversion Service window.

Disabling Conversion Sessions

To temporarily disable conversions, you can use two **Disabled** choices, in the Status window, or the **Offline** choice, in the main Conversion Service window.

In the **Job Starts** field, **Disabled** prevents execution of conversion sessions currently in the queue. The service can still accept new sessions into the queue, for execution after job starts are enabled. Jobs that are currently being executed continue normally.

In the **Job Submissions** field, **Disabled** prevents the queue from accepting new submissions, without affecting conversion sessions that are already in the queue.

Offline is more far-reaching, in that it makes the whole service unavailable; that is, it prevents the service from accepting any new sessions or dispatching any existing sessions from the queue for execution. However, any sessions that are already running continue to run.

To get to the **Job Starts** or **Job Submissions** choice, click on the **Show Status** button in the Conversion Service window.

To reverse any of their actions, use **Enabled** and **Online**, respectively.

Stopping the Service

If you need to stop the service, you can use the **Offline** choice or the **Soft Shutdown** or **Hard Shutdown** button, all of which are in the main Conversion Service window.

Hard Shutdown stops the service immediately, without waiting for current sessions to finish processing.

Soft Shutdown also stops the service, but only after waiting for current sessions to finish processing. When all current sessions have finished, the service and associated execution engines stop.

Offline only makes the service temporarily unavailable; that is, it prevents the service from accepting any new sessions or dispatching any existing sessions from the IDS queue for execution.

To reverse **Offline**, click on **Online**. To restart the service after a shutdown, open the node-management interface for the affected server, select the service in the list, and click on the **Start Service** button.

Other Functions

The Status window lets you configure and display information about the selected conversion service. The Sessions window displays the ID number, owner, starting time, running time, description, and status of each job in the queue, so you can select and delete an object. The Change Password window lets you change the password for the conversion services' interface.

Chapter 10. Administering Open Data Access Service

This chapter describes the facilities that are available for administering the Open Data Access Service.

ODAS provides an administrative interface from which you can configure and manage administration activities of the remote network. The administration interface communicates with the service manager and the communications manager to provide configuration, monitoring, and other management needs for the client nodes and the components of the service.

This chapter contains the following topics:

"Checking the Pool Status" on page 80

"Viewing Active Sessions" on page 81

"Configuring Servers" on page 78

"Checking Server Status" on page 82

"Viewing Session Details" on page 83

"Viewing Session History" on page 84

For additional information about these topics, see Chapter 19, "Open Data Access Service" on page 221. For information on using ODAS to automatically distribute reports and software, see Chapter 16, "Conversion Service" on page 190.

For information on installing ODAS clients, including those for the Web, Lotus Notes, and common ODBC applications, see *Installing and Configuring IDS Open Clients*. For information about developing custom applications, see *Developing Applications with Open Data Access Service*.

Starting the ODAS Service

To start the Open Data Access Service, open the IBM program-group icon, and double-click on the Open Data Access Service icon.

To install the Open Data Access Administration application and run the Client Test Program, see *Installing IDS LAN Components*.

Administration Interface

The administration interface is provided by the ODAS Administration application. This application enables you to configure and monitor one or more ODAS servers. It can be installed on any ODAS client and used to remotely administer ODAS servers on the network, or it can be installed on a server and used to administer the local service.

The administration application permits you to log on to ODAS, which can consist of one or more ODAS servers, to perform the following tasks:

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Display service status

Display active sessions

Display a history of service activity

Configure the service

Each server is administered separately, but the administrator can easily move between servers in the service pool.

Logging On To the Administration Application

To log on to and start the ODAS Administration application on an ODAS client or server:

1. If you are logging on from an OS/2 server, start Windows from the OS/2 desktop.

   If you are using a Windows client, start Windows.

2. From the Program Manager window, double-click on the IBM icon.

   The IBM program-group window opens.

3. Double-click on the Open Data Access Administration icon.

   The Open Data Access Administration window opens.

4. Click on the **OK** button to continue.

   The Open Data Access Administration logon window opens.

5. In the **Server** field, type the name of the ODAS server you want to administer.

   The server name is the name by which the server is known on the TCP/IP network. If the server you want to administer is configured as part of a service pool, specify the name of the pool's primary server.

6. In the **Desktop** field, type your desktop name or the name of a desktop that has administrative privileges on the server you want to administer.

7. Until a server is configured otherwise, the system desktop is the only desktop that has administrative privileges

8. In the **Password** field, type the password for the desktop you specified.

9. Click on the **Logon** button to start the session.

   The application connects to the specified service, logs on to the specified desktop, and enables administrative privileges on the server.

   If an error occurs during this process, an error message will appear.

From the Pool Status window, you can perform the administration functions of ODAS described in “Resizing Columns” on page 78 and “Configuring the Server” on page 79. For information on configuring, see Chapter 16, “Conversion Service” on page 190. For reference information on using the ODAS administrator, see

Resizing Columns

Most of the windows within the ODAS Administration application contain columns of text that can be resized. In some cases, the text can be truncated.

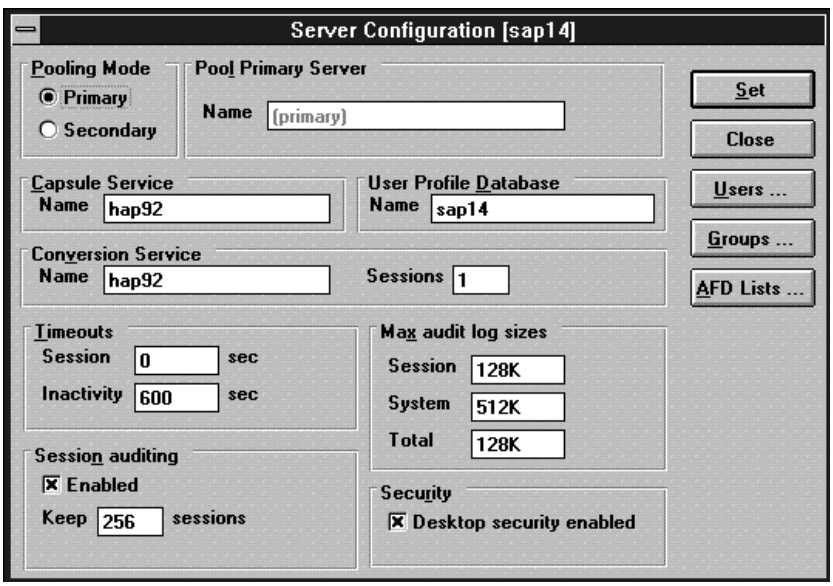
To resize the columns:

1. Place your cursor on the first character of the column name. The cursor should change to a double-ended arrow.
2. When that arrow is displayed, click and hold down mouse button one until you see a vertical line on the left side of the selected column.
3. While you are still holding down the mouse button, resize the column to the width you desire.

Configuring Servers

The Server Configuration window contains fields and controls that allow you to view and update the server's configuration data. This window can be accessed by selecting a server and clicking on the **Configure** button from the Pool Status window.

The title of the Server Configuration window includes the name of the server being administered. This name might be different from the name shown in the title of the Pool Status window, because the Pool Status window displays the name of the server on which the ODAS session is running, not the name of the server being administered.



When this window first opens, it displays the current configuration data for the server you are administering. This data is not automatically refreshed, so if another adminis-

trator changes the configuration while you have the Server Configuration window open, the displayed data might not accurately reflect the actual configuration data in use by the server.

When configuring a server, you can:

Specify the server to be a primary or secondary server

Change the names of the other servers that provide support for this one

Set a maximum number of sessions that can be used

Define security restrictions for the server

Determine auditing capabilities and log sizes

After you modify any of the server settings, click on the **Set** button to apply the changes to the server.

While this window is open, you cannot open any of the other ODAS administration windows, although they will be refreshed during each refresh interval.

You must close the Server Configuration window before attempting to access any of the other administration windows.

Configuring the Server

After ODAS starts, you can configure the server to access other servers so that you can retrieve, manipulate, and send information between those servers and your IDS desktop. Specifically, you must configure the:

ODAS primary server

Capsule server to which you want to connect

Conversion server to which you want to connect

Configuration is done in the Server Configuration window of the Open Data administration application.

To configure the ODAS Server:

1. Log on to the administration application and open the Pool Status window.
2. Select the server you want to configure from the list of servers in the pool.
3. Click on the **Configure** button.

   The Server Configuration window opens.
4. In the Pooling Mode area of the window, specify whether you are configuring a primary server or a secondary server.

   A primary ODAS server manages session assignments for all other services in the service pool. All ODAS clients specify the name of the primary ODAS server to which they connect.

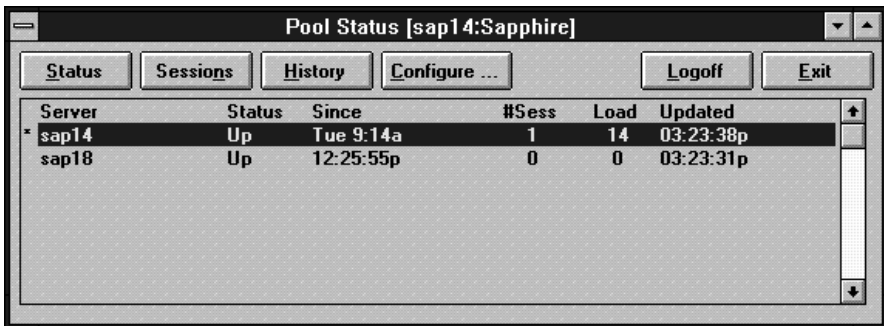
If this is the only server in the service pool, or if it will be the primary ODAS server, select **Primary**. Primary is displayed in the **Name** field within the Pool Primary Server area of the window.

If the server is part of a pool that already has a primary server, select **Secondary**. You must enter a name in the **Name** field within the Pool Primary Server area, or an error message is displayed when you try to save your configuration parameters.

5. In the **Name** field within the Capsule Service area of the window, type the name of the capsule server to which you want to connect.
6. In the **Name** field within the Conversion Service area of the window, enter the name of the conversion server to which you want to connect.
7. In the **Sessions** field within the Conversion Service area of the window, type the number of conversion sessions (or concurrent conversion resources) that you want to allocate to the ODAS server.
8. Click on the **Set** button to save the values.
9. Click on the **Close** button to close the Server Configuration window.

Checking the Pool Status

The Pool Status window displays a list of the servers participating in the current service pool. It also lets you activate monitoring and configuration functions.



This window displays a list of the servers participating in the current service pool. The primary server for the service pool is marked with an asterisk. The primary server monitors the pool status and performs load balancing by distributing incoming client connection requests.

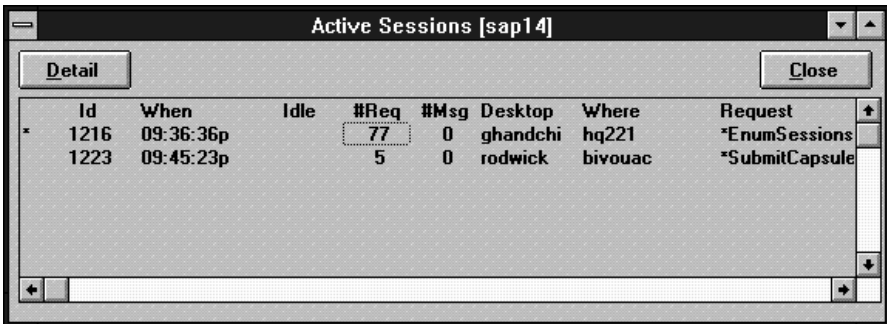
You can select any active server in the service pool to administer. The selected server is highlighted in the display list.

When you first log on to the service, the administration application initially selects the server to which your session was assigned, which is displayed in the title of this window.

To check the pool status of a selected server, either double-click on the desired server or select the server, then press Enter. After a server is selected, you can click on the **Status**, **Sessions**, **History**, or **Configure** button to administer the server.

Viewing Active Sessions

You can view the sessions that are active on the server from the Active Sessions window.



To access the Active Sessions window, click on the **Session** button from the Pool Status window. The Active Sessions window opens. The title of this window includes the name of the server being administered. The server name shown in this window might be different from the name shown in the title of the Pool Status window, because the Pool Status window displays the name of the server on which the ODAS session is running, not the name of the server being administered.

This window contains a scrollable list, which displays the sessions currently active on the selected server. If you are administering the server to which you are connected, your administrative session is identified by an asterisk preceding the session ID.

Each of the session entries in the list contains:

The session identifying number

The time that the session was connected

The length of time since the last request

The number of requests that have been processed by the server for this session

The number of broadcast messages that are queued

The desktop name of the client

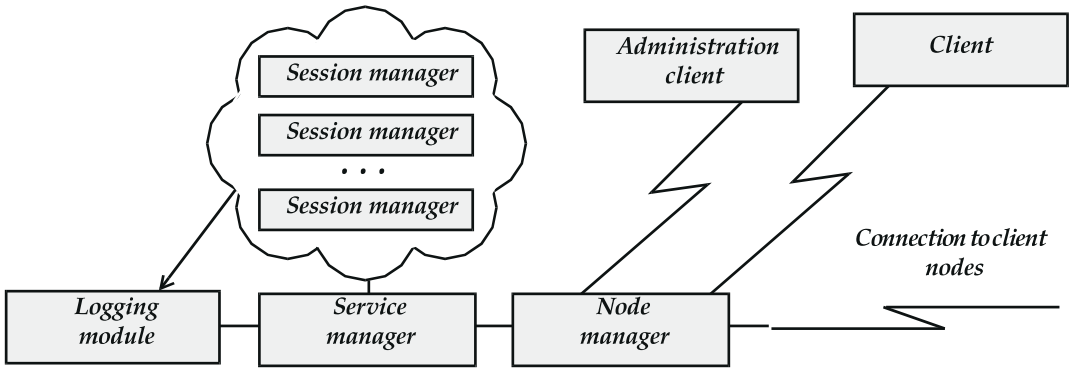
The host name of the client

The current request for the session

To see detailed information about the events of a session, either double-click on the session entry or select the entry and click on the **Detail** button.

Checking Server Status

You can monitor the activity of a server from the Server Status window.



Open the server status window by clicking on the **Status** button in the Pool Status window. The Server Status window displays the statistics collected by the server since it was last started, which indicates the server's usage by ODAS clients. You can also change the status or operational mode of the server.

The title of the Service Status window includes the name of the server being administered. This name might be different from the name shown in the title of the Pool Status window, because the server name displayed in the Pool Status window is the name of the server on which the ODAS session is running, not the name of the server being administered.

This window shows:

- The last time statistics were retrieved from the server
- When the server was started
- The number of sessions allotted for ODAS clients
- The number of requests that were processed by this server
- The average number of requests per second throughput of the server since it was started and since the statistics were last reset

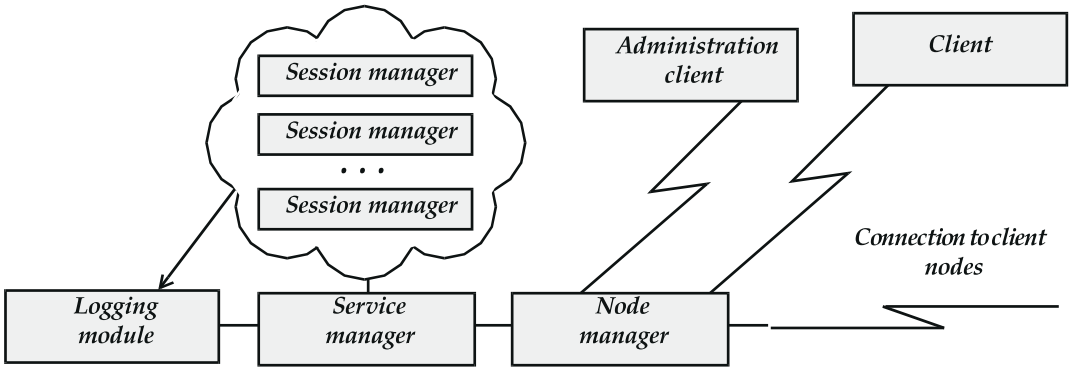
When you click on the **Shutdown** button, the Shut Down Service confirmation window opens; when you click on the **Restart** button, the Restart Service confirmation window opens. These confirmation windows ask you to confirm that you want to shut down or restart the server, and the command is not sent to the server until you click on the **Yes** button.

After you click on the **Yes** button, and the command is accepted by the server, the application closes all windows except the Pool Status window, and will select the default server (the one you are logged on to) as the active server.

If you shut down or restart the server you are logged on to, the application will log you off and open the Open Data Access Administration logon window.

Viewing Session Details

The Session nn Detail window contains information about a specific ODAS session.



Open the Session nn Detail window by first clicking on the **Sessions** button in the Pool Status window. Select a session, then click on the **Detail** button.

The title of this window includes the identification number of the session and the name of the server you are administering (the server on which the session is running).

This window also contains a scrollable list of the first 200 requests processed for the session. The information in the window is updated during each refresh interval. However, when the session ends, the information is no longer updated.

More than one Session Detail window can be displayed at a time. If you select a different server to administer while one or more Session Detail windows are displayed, all Session Detail windows will be automatically closed.

If a session ends while you are looking at the details, the information is not updated at the specified interval.

The details of a session consists of:

An identifying number

The desktop currently logged on to the screen

Information about the connections, times, and number of requests

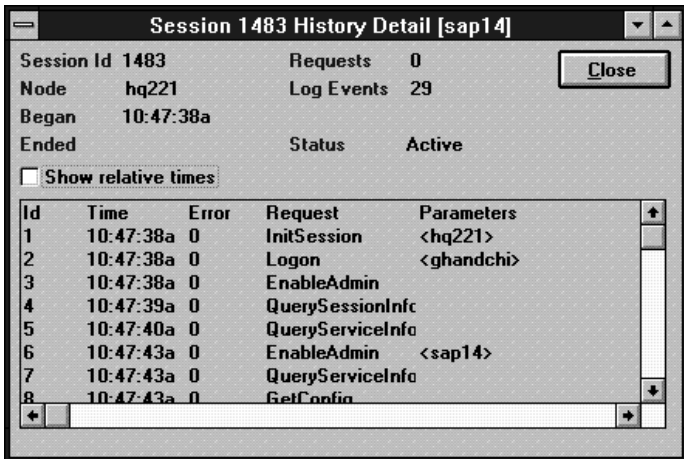
The activity status, how long it has been active or idle

The host name of the client participating in the session

If you decide to administer a different server while the Session Details window is open, the windows will close automatically.

Viewing Session History

You can view the events that occur during a session in the Session nn History Detail window. The list displayed in the window shows the sessions that are currently active on the selected server and the sessions that are still held in the server's system audit log.



Open the Session nn History Detail window by clicking on the **History** button in the Pool Status window. You can see detailed information about a session's events by either double-clicking on the session entry or by selecting the entry and clicking on the **Detail** button.

The Session nn History Detail window contains information about a specific ODAS session. This information is updated during each refresh interval. However, after the session ends, the information is no longer updated.

This window also provides a scrollable list of the first 200 requests processed for the session.

More than one Session nn History Detail window can be displayed at a time. If you select a different server to administer while one or more of these windows are displayed, all of these windows will automatically close.

The title of the window includes the identification number of the session, and the name of the server you are administering, which is the server on which the session is running.

System Administration Reference

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Chapter 11. Managing Assets

The asset management service controls the allocation of services and privileges to the desktops and users in the network. You use it to assign a file service, printing service, or other services to each desktop. You also use it to specify which users and which desktops can run which tools and services.

For example, you might have relatively few users who need the Query or Reporter tool, so you can assign that tool set's licenses to only those users, or to the desktops they use regularly.

To use the asset management interface:

1. Open the SA tool.
2. In the **Service Type** item, select **Asset Management**.
3. Click on **Connect To Service**.
4. In the Asset Management window, enter the interface password or the realm password. The window then displays the node data displays.
5. If you want to add or delete a node, see or alter a node's data, or sort the list, then click on the button for the task you want to accomplish.

   If you want to see or modify data on users or assets (such as services or tool sets), click on the corresponding choice in the **Display** field.

The Asset Management window has three pages: Nodes, Assets, and Users — which you select in the Display area. “Display” on page 94 describes the contents of these pages.

In the Nodes page of the Asset Management window:

Service	Is always *Asset Manager*.
Realm	Is the name of the realm you are managing.
Display	Lets you choose whether to show and control network nodes, IDS assets, or user IDs.
Add Node button	Lets you add a new workstation to the network, as described in “Add Node” on page 89.
Change Password button	Lets you change the password for access to the asset manager's interface, as described in “Change Password” on page 92.
Show Details button	Lets you list or change data about a specific node, as described in “Show Details” on page 99.
Sort Controls button	Lets you choose whether to sort the list of nodes by name, address, or comment, as described in “Sort Controls” on page 106.
Delete Node button	Removes the registration of the selected node and frees any assets assigned to it, as described in “Delete Node” on page 93.

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Select All icon	Selects all of the entries in the list.
Node Name	Is the identifying name assigned to the workstation.
Network Address	Is 0#, followed by the workstation's Ethernet or token-ring address, followed by **:0**.
Comment	Is any text that will help you identify the person or group that Node Name belongs to. The comment must be no more than 63 characters long.

Summary of Choices

Figure 5 shows the relationships of the windows in the asset-management service's interface. The remainder of this section lists the interface choices, grouped by their functions. Later in this chapter, the detailed choice descriptions are sorted in alphabetical order for easy reference.

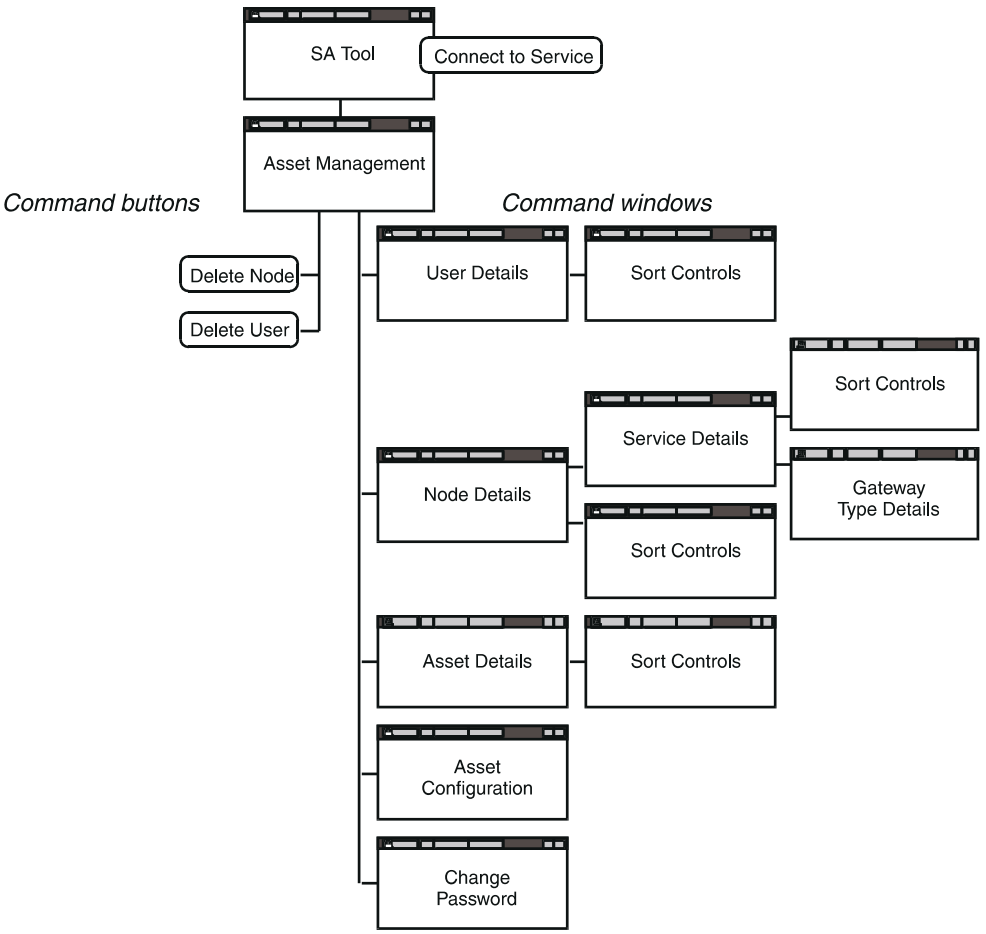

Figure 5. Windows structure for asset management

Table 6. Choice fields in the asset-management interface

Choice	Description
Display	Lets you choose whether to show and control network nodes, IDS assets, or user IDs. (See “Display” on page 94.)
Order By	Lets you choose which columns of a list to sort first. (See “Order By” on page 97.)
Service Status	Sets the service to be inactive or active. (See “Service Status” on page 106.)
Sorting Level	Lets you choose how to sort the corresponding column of the list. (See “Sorting Level” on page 107.)
Status	Lets you set the user or node to be inactive or active. (See “Status” on page 108.)

Table 7. Asset-management interface commands for displaying information

Button or choice	Description
Assets	Lists the vendor, asset name, and number of licenses purchased and available for each type of asset. (See “Display” on page 94.)
Nodes	Lists the name, network address, and comment of each workstation in the network. (See “Display” on page 94.)
Sort Controls	Lets you sort on any one or more of the columns in the list. (See “Sort Controls” on page 106.)
Users	Lists the name and comment for each configured user ID. (See “Display” on page 94.)

Table 8 (Page 1 of 2). Interface commands for controlling assets

Button or choice	Description
Active	Reactivates a node, user ID, or service. (See “Status” on page 108 and “Service Status” on page 106.)
Add Node	Register a new node. (See “Add Node” on page 89.)
Add Service	Adds a service asset to a new or selected node. (See “Add Service” on page 90.)
Add Tool	Adds a tool asset to a new or selected node or user ID. (See “Add Tool” on page 90.)
Add User	Sets up a new user ID for an individual or a group. (See “Add User” on page 91.)
Delete Asset	Removes the selected asset from the user's or node's list. (See “Delete Asset” on page 92.)
Delete Node	Removes the registration of the selected node and frees any assets assigned to it. (See “Delete Node” on page 93.)
Delete User	Removes the registration of the selected user ID and frees any assets assigned to it. (See “Delete User” on page 93.)

Table 8 (Page 2 of 2). Interface commands for controlling assets

Button or choice	Description
Inactive	Deactivates a node, user ID, or service. (See “Status” on page 108 and “Service Status” on page 106.)
Modify Asset Configuration	Lets you set up or change the number of licensed uses of each asset. (See “Modify Asset Configuration” on page 96.)
Service Status	Sets a node, service, or user ID to be inactive or active. (See “Service Status” on page 106.)
Show Details	Lets you change the name, comment, active status, and asset assignments for a specific node, service, or user ID. (See “Show Details” on page 99.)

Use the **Change Password** button to change the asset-management administration password (see “Change Password” on page 92).

Commands

The remainder of this chapter describes each of the asset-management buttons, choices, and windows in detail. The buttons and choices are presented in alphabetical order.

Active

This choice lets you reactivate a node, user ID, or service that has been deactivated.

Choice Description

When you click on **Active** in the Node Details or User Details window, the selected node or user ID is reactivated and immediately available for use. The listed assets are reassigned to that user, subject to the limits described in “Modify Asset Configuration” on page 96.

When you click on **Active** in the Service Details window, the service is reactivated and available for use within a minute or so.

Add Node

This button lets you add a workstation to the network. The workstation then becomes a node.

Window Description

When you click on **Add Node** in the Node page of the Asset Management window, the Node Details window opens. Use this window to set up a new desktop and specify the network address, name, description, active status, and asset assignments. You must click on **Register Node Information** to make any change of address, name, description, or status effective.

In the Node Details window:

Register Node Information button	Registers the new node, with the data that you have specified.
Reset button	Clears your entries from all fields and restores the most recently configured values.
Service	Is always Asset Manager.
Realm	Is the name of the realm you are managing.
Network Address	(For TCP/IP) is the workstation's IP address.
Node Name	Is the identifying name assigned to the workstation.
Comment (optional)	Is any text that will help you identify the person or group that *Node Name* belongs to. The comment must be no more than 63 characters long.
Status	Sets the node to be inactive or active, as described in “Status” on page 108.
Add Service button	Assigns the selected service asset to the node, as described in “Add Service” on page 90.
Add Tool button	Assigns the selected tool asset to the node, as described in “Add Tool” on page 90.
Show Details button	Lets you change the name, active status, number of licenses, and other data for a specific service, as described in “Show Details” on page 99.
Sort Controls	Lets you choose whether to sort by the assets' names, types, or vendors, as described in “Sort Controls” on page 106.
Delete Asset	Removes the selected asset from the node's list, as described in “Delete Asset” on page 92.
Select All icon	Selects all of the entries in the list.

Add Service

This menu, which you can pull down in the Node Details window, lets you assign services to a new or selected node.

Menu Description

When you pull down the **Add Service** menu, it shows a list of services that you can assign to the node. When you choose an asset from the menu, that asset's name is displayed in the field. You then click on the **Add Service** button and the Service Details window opens, as described in “Service Details” on page 101. When you have registered the necessary information in that window, IDS inserts the asset into the Node Details window's list, thereby enabling use of the asset on that node.

Add Tool

This menu, which you can pull down in the Node Details or User Details window, lets you assign a tool asset to the new or selected node or user ID.

Menu Description

When you pull down the **Add Tool** menu, it shows a list of assets that you can assign to the node or user ID.

When you choose an asset from the menu, that asset's name is displayed in the field. You then click on the **Add Tool** button and IDS inserts the asset into the Node Details or User Details window's list, thereby enabling use of the asset on that node or for that user.

Add User

This button lets you set up a new user ID for an individual or a group.

Window Description

When you click on **Add User**, in the User page of the Asset Management window, the User Details window opens. This window lets you set up a new user ID for an individual or a group, specifying the ID, comment, active status, and asset assignments.

Whenever anyone logs on using that user ID, the assets shown for it in the User Details window are the only ones that person can use.

You must click on **Register User Information** to make any change of ID, description, or status effective. If you close the window, nothing is done.

Registering this information only establishes the user ID for the asset-management service. It does not create a desktop for that user ID.

In the User Details window:

Register User Information button	Registers the new user ID, with the data that you have specified.
Reset Button	Clears your entries from all fields and restores the most recently configured values.
Service	Is always Asset Manager.
Realm	Is the name of the realm you are managing.
User ID	Is the ID that the user will use when logging on. This identifier must be no more than 63 characters long and must correspond to a desktop name.
Comment (optional)	Is any text that will help you identify the person or group that User ID belongs to. The comment must be no more than 63 characters long.
Status	Sets the user ID to be inactive or active, as described in “Status” on page 108.
Add Tool Button	Assigns an asset to the user ID, as described in “Add Tool” on page 90.
Sort Controls Button	Lets you choose whether to sort by user ID or comment, as described in “Sort Controls” on page 106

Delete Asset Button	Removes the selected asset from the user ID's list, as described in “Delete Asset” on page 92.
Select All Button	Selects all of the entries in the list.
Asset	Lists the assets that have been assigned to the selected user ID.
Vendor	Lists the name of the creator of each asset.

Assets

Selecting this choice causes the Asset Management window to list the vendor, name, and number of licenses purchased and available for each type of asset.

Change Password

This button lets you change the password for access to the asset manager's interface.

Window Description

When you click on **Change Password** in the Asset Management window, the Change Password window opens. This window lets you type the old and new passwords. Type the new password twice, to protect against mistyped entries. As you type each character, the screen displays either an asterisk (*) or nothing, instead of your character, for security. (See “Password Display” on page 215.) You must click on **Change Password** to make the change effective.

In the Change Password window:

Change Password	Changes the password.
Reset	Clears your entries from all three password fields and restores the most recently configured values.
Service	Is always Asset Manager.
Realm	Is the name of the realm you are managing.
Current password	Is the password you logged on with.
New password	Is the password you want to become effective. The maximum password length is 31 characters. You can set the minimum in the User Logon Configuration window, as described in “Set User Logon Configuration” on page 217.
Confirm new password	Is the same as the new password, entered again to protect against mistyped entries.

You can open the asset-management interface with either the interface password or the realm password. This Change Password window cannot change the realm password; to change it, use the **Change Realm Password** button in the network administration interface (see “Change Realm Password” on page 214).

Delete Asset

This button removes the selected asset from the user's or node's list.

Button Description

When you select an asset in the Node Details window and click on **Delete Asset**, the service removes the selected asset from the list, thereby disabling the use of that asset on that desktop by unregistered users.

When you select an asset in the User Details window and click on **Delete Asset**, the service removes the selected asset from the list, thereby disabling the use of that asset through that user ID.

The Asset Details window has no **Delete Asset** button.

When you delete an asset from a node or user, you free that license to be assigned to another node or user.

Delete Node

This button removes the registration of the selected node and frees any assets assigned to it.

Button Description

When you select a node in the Node page of the Asset Management window and then click on **Delete Node**, the service unregisters the selected node.

This action simultaneously removes any asset licenses that you had previously assigned to the deleted node and frees them for other use.

A registered user can use an unregistered desktop, but you cannot assign any services or other assets to an unregistered desktop.

Delete User

This button removes the registration of the selected user ID and frees any assets assigned to it.

Button Description

When you select a user ID in the Users page of the Asset Management window and then click on **Delete User**, the service unregisters the selected user ID.

This action simultaneously removes any asset licenses that you had previously assigned to the deleted user ID and frees them for other use.

Deleting a registered user ID does not affect the corresponding desktop. An unregistered user can use an registered node as a desktop, but you cannot assign any tools to such a user. An unregistered user can use only those assets that are registered to the node.

Display

This choice field of the Asset Management window lets you choose whether to show and control network nodes, IDS assets, or user IDs.

Choice Description

The **Display** field gives you these choices:

Nodes

Assets

Users

When you click on **Nodes**, the Asset Management window lists the name, network address, and comment of each workstation in the network. The default choice is **Nodes**.

When you click on **Assets**, the window lists the vendor, asset name, and number of licenses purchased and available for each type of asset.

When you click on **Users**, the window lists the name and comment for each configured user ID.

In the Nodes page of the Asset Management window:

Service	Is always Asset Manager.
Realm	Is the name of the realm you are managing.
Display	Lets you choose whether to show and control network nodes, IDS assets, or user IDs.
Add Node Button	Lets you add a new workstation to the network, as described in “Add Node” on page 89.
Change Password Button	Lets you change the password for access to the asset manager's interface, as described in “Change Password” on page 92.
Show Details Button	Lets you list or change data about a specific node, as described in “Show Details” on page 99.
Sort Controls Button	Lets you choose whether to sort the list of nodes by name, address, or comment, as described in “Sort Controls” on page 106.
Delete Node Button	Removes the registration of the selected node and frees any assets assigned to it, as described in “Delete Node” on page 93.
Select All Button	Selects all of the entries in the list.
Node Name	Is the identifying name assigned to the workstation.
Network Address	Is 0#, followed by the workstation's Ethernet or token-ring address, followed by **:0**.
Comment	Is any text that will help you identify the person or group that Node Name belongs to. The comment must be no more than 63 characters long.

In the Assets page of the Asset Management window:

Service	Is always Asset Manager.
Realm	Is the name of the realm you are managing.
Display	Lets you choose whether to show and control network nodes, IDS assets, or user IDs.
Modify Asset Configuration Button	Lets you set up or change the number of licensed uses of each asset, as described in “Modify Asset Configuration” on page 96.
IBM	Is a pull-down menu from which you can choose the vendor whose assets you want to configure.
Change Password Button	Lets you change the password for access to the asset manager's interface, as described in “Change Password” on page 92.
Show Details Button	Lets you find which nodes or user IDs the selected asset has been assigned to, as described in “Show Details” on page 99.
Sort Controls Button	Lets you choose whether to sort the list of assets by vendor, asset name, number of licenses, or number of available licenses, as described in “Sort Controls” on page 106.
Select All Button	Selects all of the entries in the list.
Vendor	Is the name of the creator of the listed assets.
Asset	Shows the name of each asset.
Number of Licenses	Is the number of copies of this asset that are licensed to run on this realm. For each asset with the quantity 99,999, you can run as many copies as you need at no extra cost.
Available Licenses	Is the number of licenses for this asset that are unassigned and, therefore, available for assignment to a node or user ID.

In the Users page of the Asset Management window:

Service	Is always Asset Manager.
Realm	Is the name of the realm you are managing.
Display	Lets you choose whether to show and control network nodes, IDS assets, or user IDs.
Add User Button	Lets you set up a new user ID for an individual or a group, as described in “Add User” on page 91.
Change Password Button	Lets you change the password for access to the asset manager's interface, as described in “Change Password” on page 92.
Show Details Button	Lets you list or change data about a specific user ID, as described in “Show Details” on page 99.
Sort Controls Button	Lets you choose whether to sort the list of user IDs by name or comment, as described in “Sort Controls” on page 106.
Delete User Button	Removes the registration of the selected user ID and frees any assets assigned to it, as described in “Delete User” on page 93.
Select All Button	Selects all of the entries in the list.
User ID	Shows each registered user ID.

Comment	Is any text that will help you identify the person or group the user ID belongs to. The comment must be no more than 63 characters long.

Inactive

This choice lets you deactivate a node, user ID, or service.

Choice Description

When you add or change a service in the Service Details window and click on **Inactive**, that service is deactivated (for that node) and cannot be used until you reactivate it. If the service is currently in use on that node when you deactivate it, the service stops within a minute, regardless of any current activity.

When you select a node in the Node Details window and click on **Inactive**, that node is deactivated and cannot be used until you reactivate it. No one can use IDS functions on the node while it is in the inactive state. If a tool asset is assigned to the node and is currently in use on the node when you deactivate the node, the user can continue to use the tool until the tool is closed; the tool cannot be reopened until the node is reactivated. If a service is currently in use on that node when you deactivate the node, the service stops within a minute, regardless of any current activity.

When you click on **Inactive** in the User Details window, the selected user ID is deactivated and cannot be used until you reactivate it; tool assets assigned to that user ID are freed for reassignment.

However, a user ID's inactive status does not affect the ability to use the desktop of the same name on a properly registered node. When you use an inactive user ID, IDS behaves as if the name were not registered with the asset manager; that is, you can use only the tools that are assigned to the logged-on node, regardless of what assets are assigned to the inactive user ID.

If a tool asset is assigned to the user ID and is currently in use when you deactivate the user ID, the user can continue to use the tool until the tool is closed; the tool cannot be reopened until the user ID is reactivated.

Modify Asset Configuration

This button lets you set up or change the number of licensed uses of each IDS asset.

Window Description

When you click on **Modify Asset Configuration**, in the Assets page of the Asset Management window, the Asset Configuration window opens. This window lists all of the possible IDS assets from the selected vendor, and the fields are preset for new installations. Select **Enable New Configuration** to make the values the governing limits of your IDS network.

You are then able to assign these assets to your network's nodes or user names. If you have purchased additional IDS software from a vendor other than IBM, the Asset Con-

figuration window applies only to the vendor you have selected in the Asset Management window.

The number in parentheses, at the end of each asset name in the list, is the number of licenses specified in the current configuration. The number in the field to the right is number of licenses in the proposed configuration. The number in parentheses changes only after you click on **Enable New Configuration**.

Notice that some of the services are specified with the quantity 99,999; you can have unlimited use of these services at no extra cost. You must click on **Enable New Configuration** to make any change effective. If you just close the window, nothing is done.

In the Asset Configuration window:

Enable New Configuration	Effects the actual changes that you have typed in one or more fields.
Reset	Clears your entries from all fields and restores the most recently configured values.
*	Marks a menu containing the Invoke Grace Period command, which lets you temporarily establish new limits without a validation string. The grace period lasts 14 days, after which your configuration reverts to the previously authorized limits.
Service	Is always Asset Manager.
Realm	Is the name of the realm you are managing.
Vendor	Is the name of the creator of the listed assets.
Verification string	Is any 8-digit number.
Asset names	Show the name of each asset and the number of licenses that are currently purchased, but do not indicate how many of those are currently in use; the assets list in the Asset Management window provides that information. For example, Auxiliary File Service (7) means that you have purchased a total of seven auxiliary file services. Services that have no limits, such as conversion services, are not listed in this window.
Quantity fields	Specify how many licenses you own, for each asset. For example, if you already had 24 IDS toolkits and you buy 12 more, you specify the total (36).

Nodes

This choice causes the Asset Management window to list the name, network address, and comment of each registered node in the realm.

Order By

These choice fields of the Sort Controls window let you choose which columns of the list to sort first.

Choice Description

Every Sort Controls window lets you sort on any one or more of the columns in the list. It also lets you specify levels of sorting, each based on one of the columns in the list. In the window, each of the **Order By** choice fields lets you choose among all the columns in the list. For example, the Nodes page of the Asset Management window has three columns, and its Sort Controls window gives you these choices:

Node Name

Network Address

Comment

The Assets page of the Asset Management window has four columns, and its Sort Controls window gives you these choices:

Vendor

Asset

Number of Licenses

Available Licenses

The Users page of the Asset Management window has two columns, and its Sort Controls window gives you these choices:

User ID

Comment

The Node Details window has three columns, and its Sort Controls window gives you these choices:

Name

Asset

Vendor

The Asset Details window has three columns, and its Sort Controls window gives you these choices:

Assignee

Assignee Type

Quantity

The User Details window has two columns, and its Sort Controls window gives you these choices:

Asset

Vendor

When you click on **Unsorted** (in the corresponding **Sorting Level** choice area) at any level, any lower-level **Sorting Level** and **Order By** choice fields (and the unsorted level's **Order By** choice field) immediately disappear from the Sort Controls window.

When you choose anything in the first **Order By** choice field, you specify which column the list in the Details window is to be sorted on (unless you also click on **Unsorted** in **Sorting Level 1**).

If you click on a different value in the second **Order By** choice field, you specify that entries after the first sorting are to be sorted in that order (unless you also click on **Unsorted** in **Sorting Level 2**).

If you click on the same value in both **Order By** choice fields, you specify that entries after the first sorting are to appear in random order.

For example, suppose that you are sorting the Users page of the Asset Management window, the first **Order By** setting is **Comment**, and several user IDs all have the comment **Sports reps**. In this situation, the sorting of user IDs within the group having the **Sports reps** comment (but not of the overall list) is governed by the second **Order By** setting.

When you click on **User** instead, you specify that the list is to be sorted by the user IDs.

See also “Sort Controls” on page 106 and “Sorting Level” on page 107.

Show Details

This button lets you list or change data about a specific node, asset, user ID, service, or gateway type.

Window Descriptions

When you select a network node, asset, service, user ID, or gateway type, and you then click on **Show Details**, the appropriate window opens:

Asset Details

Node Details

Service Details

Gateway Type Details

User Details

Asset Details

To open the Asset Details window:

1. Select **Assets** in the Asset Management window.
2. Select an asset from the resultant list.
3. Click on **Show Details**.

This window lets you find which nodes or user IDs the selected asset has been assigned to. You cannot perform any actions in this window, however.

In the Asset Details window:

Service	Is always Asset Manager.
Realm	Is the name of the realm you are managing.
Sort Controls Button	Lets you choose which column to sort by, as described in “Sort Controls” on page 106.
Select All Button	Selects all of the entries in the list.
Assignee	Is the node or user name to which an asset has been assigned.
Assignee Type	Tells whether the asset is assigned to a node or to a user ID.
Quantity	Tells how many simultaneous uses of the asset are allowed to the assignee.

Node Details

To open the Node Details window:

1. Select **Nodes** in the Asset Management window.
2. Select a node from the resultant list.
3. Click on **Show Details**.

Here, you can change the address, name, description, active status, and asset assignments for a specific network node. Also, by opening the Service Details window, you can add or change the service name, locked memory, starting and restarting, and assigned parameters. You must click on **Register Node Information** to make any change of address, name, description, or status effective. If you just close the window, nothing is done.

In the Node Details window:

Register Node Information	Effects the actual changes that you have typed in one or more fields.
Reset	Clears your entries from all fields and restores the most recently configured values.
Service	Is always Asset Manager.
Realm	Is the name of the realm you are managing.
Network Address	(For TCP/IP) is the workstation's IP address.
Node Name	Is the identifying name assigned to the workstation.
Comment (optional)	Is any text that will help you identify the person or group that Node Name belongs to. The comment must be no more than 63 characters long.
Status	Sets the node to be inactive or active, as described in “Status” on page 108.

Add Service Button	Assigns the selected service asset to the node, as described in “Add Service” on page 90.
Add Tool Button	Assigns the selected tool asset to the node, as described in “Add Tool” on page 90.
Show Details Button	Lets you change the name, active status, number of licenses, and other data for a specific service, as described in “Show Details” on page 99.
Sort Controls Button	Lets you choose whether to sort by the assets' names, types, or vendors, as described in “Sort Controls” on page 106
Delete Asset Button	Removes the selected asset from the node's list, as described in “Delete Asset” on page 92.
Select All Button	Selects all of the entries in the list.
Name	Is the identifying name assigned to the workstation.
Asset	Is any text that will help you identify the person or group that Node Name belongs to. The comment must be no more than 63 characters long.
Vendor	Sets the node to be inactive or active, as described in “Status” on page 108.

Service Details

When you select a service in the Node Details window and click on **Add Service** or **Show Details**, the Service Details window opens. If you select a tool set and click on **Show Details**, an error message is displayed.

Here, you can add or change the service name, locked memory allocation, active status, automatic starting and restarting, number of services to run, and parameter values for a specific service. You must click on **Register Service Information** to make any change effective. If you just close the window, nothing is done.

When you add a database gateway service or use **Show Details** for an existing one, the Service Details window expands. In the expanded window, you can specify the specify kind of gateway you want to have, and the maximum number of access sessions it can have simultaneously.

In the Service Details window:

Register Service Information	Effects the actual changes that you have typed in one or more fields.
Reset	Clears your entries from all fields and restores the most recently configured values.
Service	Is always Asset Manager.
Realm	Is the name of the realm you are managing.

Service Name	Is the name of the service. The name can include blank characters, apostrophes ('), and other punctuation, but must be no more than 63 characters long. If you leave this field blank, IDS names the service with the service type followed by a unique hexadecimal number; for example, *AIX Database Gateway Service.00d0086*. It is best to keep the name no longer than 32 characters for a printing or conversion service, and 8 characters for a Capsule Service. If you change the name of an existing printing, conversion, or Capsule Service manager, you can confuse the service's internal database. To avoid this problem, change the database name (parameter #1, described in Table 9 on page 104) at the same time.
Locked Memory	Is a block of memory to reserve for use by this service. For all services other than file services, leave this value at 0. For a file service, the default value is 1,336,000 bytes.
Service Status	Lets you set the node, service, or user ID to be inactive or active, as described in "Service Status" on page 106.
Auto Start	Specifies whether the service should start automatically as soon as the service is registered and whenever the server is booted.
Auto Restart	Specifies whether the service should start automatically whenever the server has stopped for any abnormal reason. The service does not restart if you stop it intentionally, by means of the node-management interface.
Number of Licenses	Is the number of copies of this service you want to run on this workstation. In most instances, this is 1. For execution engines, it is usually between 2 and 10. For execution engines of a conversion service that is dedicated to a mail gateway, it must be 2. The minimum for any service is 1; the maximum is governed by the amount of memory and processing speed available in the workstation.
PARAMETER VALUES	Are described in Table 9 on page 104.
Show Details Button	In the expanded Service Details window only, lets you specify the number of simultaneous user-access sessions, of each type, to be allowed for the selected type of database gateway, as described in "Gateway Type Details" on page 104.
Sort Controls Button	In the expanded Service Details window only, lets you choose whether to sort by gateway type or sessions limit, as described in "Sort Controls" on page 106.
Select All Button	Selects all of the entries in the list.

Gateway Type

In the expanded Service Details window only, lists all of the possible types of database gateways for the gateway service you are configuring. For the OS/2 database gateway service, the possible gateway types are:

- DB2
- DB2 Unlimited
- DB2 for OS/2
- DB2 for OS/2-DRDA
- MVS CAS (Cooperative Application Service)
- OS/400

For the AIX database gateway service, the possible gateway types are:

- DataJoiner for AIX
- DB2 for AIX
- ORACLE AIX
- Red Brick AIX
- SYBASE AIX

For the HP-UX database gateway service, the possible gateway types are:

- ORACLE HP-UX
- Red Brick HP-UX
- SYBASE HP-UX

For the Solaris database gateway service, the possible gateway types are:

- ORACLE Solaris
- SYBASE Solaris

Number of Sessions

In the expanded Service Details window only, shows the maximum number of data-access sessions, of each type, that are currently allowed on this gateway service.

Table 9. Parameters for various services

Parameter number	Type of service	Description
#1	Service managers for printing, conversion, and Capsule Service	Specify a unique file name for the service's internal database (which IDS will create automatically). This file name must follow the operating system's naming rules (not the IDS rules). If the server uses IBM's High Performance File System (HPFS), you can use long names that include spaces and punctuation, such as Marketing's Printing. If the server uses the File Allocation Table (FAT) file system, you must adhere to the MS-DOS name.ext rule, where name is 1 to 8 alphanumeric characters and ext is 0 to 3 alphanumeric characters; for example, MKTPRINT.DB. It is often convenient to use the service name, or an abbreviation of it, for this parameter. Doing so makes it easier to identify the database file and helps to insure that no other system database has the same name.
	Execution engines	Leave this parameter blank.
#5	Service managers for printing, conversion, and Capsule Service	Specify the location of the service's working folder. For example, you might specify Disk2|File Drawers|DXS. Notice that vertical bars (|) separate the elements of the path. For performance reasons, it is best to put this folder on an auxiliary disk that does not have a lot of desktops. If you put it on the System disk, overall system performance can seriously degrade when the service is busy. You must also ensure that the file drawer you specify actually exists. If it does not, you must create it.
#5	Execution engines for printing, conversion, and Capsule Service	Specify the name of the corresponding service manager. For example, if your printing-service manager is named LaserOne, then parameter #5 for your printing-service execution engines must be LaserOne.
#6		(Reserved for future use)
#7		(Reserved for future use)
#8		(Reserved for future use)

Gateway Type Details

When you select a type of gateway in the expanded Service Details window and click on **Show Details**, the Gateway Type Details window opens.

Here, you can add or change the number of simultaneous user-access sessions, of each type, to be allowed for a specific database gateway. Type the number in the **Number of Sessions** field and then click on **Register Gateway Information**. You must click on **Register Gateway Information** to make any change effective.

In the Gateway Type Details window:

Register Gateway Information	Effects the actual change that you have typed in the **Number of Sessions** field.
Reset	Clears your entries from all fields and restores the most recently configured values.
Service	Is always Asset Manager.
Realm	Is the name of the realm you are managing.
Gateway Type	Is the kind of database to be accessed through this gateway.
Number of Sessions	Specifies the maximum number of access sessions this gateway can have simultaneously.

User Details

After you have selected **Users** in the Asset Management window, the User Details window opens when you select an existing user ID and click on **Show Details**. Here, you can add or change the name, comment, active status, and asset assignments for a specific user.

Whenever anyone logs on using that user ID, the assets shown for it in the User Details window are the only ones that person can use.

In the User Details window:

Register User Information	Effects the actual changes that you have typed in one or more fields.
Reset	Clears your entries from all fields and restores the most recently configured values.
Service	Is always Asset Manager.
Realm	Is the name of the realm you are managing.
User ID	Is the identifying name that the user will use when logging on. This identifier must be no more than 63 characters long and must correspond to a desktop name.
Comment (optional)	Is any text that will help you identify the person or group that User ID belongs to. The comment must be no more than 63 characters long.
Status	Sets the user ID to be inactive or active, as described in “Status” on page 108.
Add Tool Button	Assigns an asset to the user ID, as described in “Add Tool” on page 90.
Sort Controls Button	Lets you choose whether to sort by asset or vendor, as described in “Sort Controls” on page 106

Delete Asset Button	Removes the selected asset from the user name's list, as described in “Delete Asset” on page 92.
Select All Button	Selects all of the entries in the list.
Asset	Lists the assets that have been assigned to the selected user ID.
Vendor	Lists the name of the creator of each asset.

Service Status

This choice field of the Service Details window lets you set a service to be inactive or active.

Choice-Field Description

The **Service Status** choice field gives you these choices:

Active

Inactive

When you add or change a service in the Service Details window and click on **Inactive**, that service is deactivated (for that node) and cannot be used until you reactivate it. If the service is currently in use on that node when you deactivate it, the service stops within a minute, regardless of any current activity.

When you click on **Active**, the service is reactivated and available for use within a minute or so.

The default setting for a new service is Active.

Sort Controls

This button lets you sort on any one or more of the columns in the list.

Window Descriptions

When you click on the **Sort Controls** button, the Sort Controls window opens. This window lets you sort on any one or more of the columns in the selected list. It also lets you specify levels of sorting, each based on one of the columns in the list.

When you click on **Unsorted** at any level, any lower-level **Sorting Level** and **Order By** choice fields (and the unsorted level's **Order By** choice field) immediately disappear from the Sort Controls window and have no effect.

When you click on **Unsorted** at any level, any lower-level **Sorting Level** and **Order By** choice fields (and the unsorted level's **Order By** choice field) immediately disappear from the Sort Controls window and have no effect.

When you close the Sort Controls window, actual sorting takes place.

In each Sort Controls window:

Sorting Level 1	Lets you set the primary sequence into which the entries are to be sorted, as described in “Sorting Level” on page 107.
Sorting Level *n*	Lets you set the *n*th sorting sequence, as described in “Sorting Level” on page 107.
Order By	Lets you choose which columns of the list to sort first, as described in “Order By” on page 97.

Asset Management (Nodes)
From the Nodes page of the Asset Management window, the Sort Controls window lets you sort on the node names, network addresses, or comments.

Asset Management (Assets)
From the Assets page of the Asset Management window, the Sort Controls window lets you choose whether to sort the list of assets by vendor, asset name, number of licenses, or number of available licenses.

Asset Management (Users)
From the Users page of the Asset Management window, the Sort Controls window lets you sort on the user IDs or comments.

Node Details
From the Node Details window, the Sort Controls window lets you sort on the node names, assets, or vendors.

Asset Details
From the Asset Details window, the Sort Controls window lets you sort on the assignee (each user ID or node to which the asset is assigned), type of assignee (user or node), or number of licenses assigned.

Service Details
From the expanded Service Details window, the Sort Controls window lets you sort on either the type of gateway or the number of session licenses assigned.

User Details
From the User Details window, the Sort Controls window lets you sort on either the assets or the vendors.

Sorting Level
These choice fields of the Sort Controls window let you choose how to sort the corresponding column of the list.

Choice Description
Every Sort Controls window lets you sort on any one or more of the columns in the selected list. It also lets you specify levels of sorting, each based on one of the columns in the list. In the window, each of the **Sorting Level** choice fields lets you choose

whether and how to sort the list column that is specified in the corresponding **Order By** choice field. Each of the **Sorting Level** choice fields give you these choices:

Unsorted

Ascending

Descending

If you click on **Unsorted** in the **Sorting Level 1** choice field of the Sort Controls window, you specify that the list is to appear in random order. If you click on **Unsorted** in the **Sorting Level 2** choice field, you specify that entries after the first sorting are to appear in random order. Subsequent sorting levels work similarly. For example, suppose you are sorting the User Details window, **Sorting Level 1** has **Order By** set to *Comment*, and several user IDs all have the comment *Sports reps*; then the sorting of user IDs within the group having the *Sports reps* comment is governed by **Sorting Level 2**.

When you click on **Unsorted** at any level, any lower-level **Sorting Level** and **Order By** choice fields immediately disappear from the Sort Controls window.

If you click on **Ascending**, you specify that the list of services is to appear in alphanumeric order with numbers listed 0 through 9, followed by letters listed A through Z.

If you click on **Descending**, you specify that the list is to appear in alphanumeric order with letters listed Z through A, followed by numbers listed 9 through 0.

With either Ascending or Descending, the sorting can be based on any column, as described in "Sort Controls" on page 106.

Status

This choice field of the Node Details or User Details window lets you set the node or user ID to be inactive or active.

Choice-Field Description

The **Status** choice field gives you these choices:

Active

Inactive

When you select a node in the Node Details window and click on **Inactive**, that node is deactivated and cannot be used until you reactivate it. No one can use IDS functions on the node while it is in the inactive state. If a tool asset is assigned to the node and is currently in use on the node when you deactivate the node, the user can continue to use the tool until the tool is closed; the tool cannot be reopened until the node is reactivated. If a service is currently in use on that node when you deactivate the node, the service stops within a minute, regardless of any current activity.

When you click on **Inactive** in the User Details window, the selected user ID is deactivated and cannot be used until you reactivate it; tool assets assigned to that user ID are freed for reassignment.

However, a user ID's inactive status does not affect the ability to use the desktop of the same name on a properly registered node. When you use an inactive user ID, IDS behaves as if the name were not registered with the asset manager; that is, you can use only the tools that are assigned to the logged-on node, regardless of what assets are assigned to the inactive user ID.

If a tool asset is assigned to the user ID and is currently in use when you deactivate the user ID, the user can continue to use the tool until the tool is closed; the tool cannot be reopened until the user ID is reactivated.

When you click on **Active**, the selected node or user ID is reactivated and immediately available for use. The listed assets are reassigned to that user, subject to the limits described in “Modify Asset Configuration” on page 96.

The default setting for a new node or user ID is Active.

Users

This choice causes the Asset Management window to list the name and comment for each configured user ID.

Chapter 12. Managing Nodes

The node-management service initiates, monitors, and coordinates many of the other services that comprise the Intelligent Decision Server (IDS). Because you can run several IDS services within one computer, the node-management service is needed to start services, monitor their execution states, and report their errors. As a central, independent process, the node-management service also provides data and functions that are common to all services. It thereby promotes consistency and prevents unnecessary duplication, processing, and memory usage.

The SA tool provides a graphical interface for administration of node-management services. This chapter describes its commands, which display information and start and stop the services.

Interface Access

For administration of node-management services:

1. Open the SA tool.
2. Select **Node Management**.
3. If you want to connect to the node-management service on the same computer that you are using, select **From List** and skip to step 5.
4. If you want to connect to another computer's node-management service, click on **By Name** and type that computer's node name (if any) or network address in the **Name** field. If you use the address, you must precede it with a crosshatch character, as in #12.345.678.90.

   When you click on **By Name**, the **Service** field label changes to Name. You cannot use the **From List** choice to manage nodes on a different realm. If you try to do so, the **Service** field tells you to use **By Name**.
5. Click on **Connect to Service**.
6. In the Node Management window, enter the interface password or the realm password. The node-management interface allows only one access at a time. If you try to open it when someone else already has this interface open, access is denied.

In the Node Management window:

Service	Identifies the computer whose node-management service you have selected.
Realm	Is the name of the realm containing that service.
Start Time	Is the date and time when the node-management service was most recently started.
Show Realm Information Button	Displays information about the realm that contains the computer whose node-management service you have selected, as described in “Show Realm Information” on page 114.

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Change Password Button	Changes the password for the node-management interface, as described in “Change Password” on page 113.
Start Service Button	Starts the service you have selected, as described in “Start Service” on page 117.
Stop Service Button	Stops the service you have selected, as described in “Stop Service” on page 117.
Show Service Details Button	Displays the type and status of the service you have selected, as described in “Show Service Details” on page 115
Show Service Statistics Button	Displays a count of starts and stops of the service you have selected, as described in “Show Service Statistics” on page 115
Sort Controls Button	Lets you sort on any one or more of the columns in the list, as described in “Sort Controls” on page 116
Select All Button	Selects all of the entries in the list.
Service	Lists the hexadecimal identifying number of each IDS service that is running on the computer whose node-management service you have selected. For any service other than workstations, this number is unique within the realm; if you created the service with a default name, this number is part of that name.
Service Name	Lists the name you have given to each IDS service that is running on the computer.

Summary of Commands

Figure 6 on page 112 shows the flow of the windows in the node-management service's interface. Table 10 and Table 11 on page 112 list the commands for node-management services, grouped by their functions. Later in this chapter, the detailed command descriptions are sorted in alphabetical order for easy reference.

Table 10. Choice fields in the node-management service's interface

Choice	Description
Order By	Lets you choose which columns of a list to sort first. (See “Order By” on page 113.)
Sorting Level	Lets you choose how to sort the corresponding column of the list. (See “Sorting Level” on page 116.)

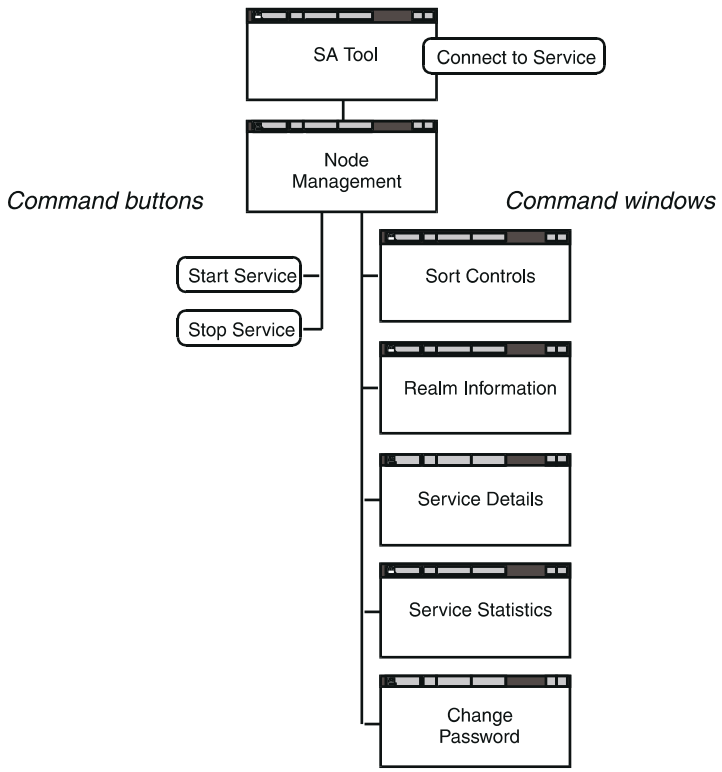

Figure 6. Window structure for node management

Table 11. Interface commands for node management

Button	Action
Change Password	Changes the password for the node-management interface. (See “Change Password” on page 113.)
Show Realm Information	Displays information about the realm that contains the computer whose node-management service you have selected. (See “Show Realm Information” on page 114.)
Show Service Details	Displays the type and status of the service you have selected. (See “Show Service Details” on page 115.)
Show Service Statistics	Displays a count of starts and stoppages of the service you have selected. (See “Show Service Statistics” on page 115.)
Sort Controls	Lets you sort on any one or more of the columns in the list. (See “Sort Controls” on page 116.)
Start Service	Starts the service you have selected. (See “Start Service” on page 117.)
Stop Service	Stops the service you have selected. (See “Stop Service” on page 117.)

Commands

The remainder of this chapter describes each of the node-management buttons, choices, and windows in detail. The buttons and choices are presented in alphabetical order.

Change Password

This button lets you change the password for access to the node-management service's interface.

Window Description

When you click on **Change Password** in the Node Management window, the Change Password window opens. This window lets you type the old and new passwords. Type the new password twice, to protect against mistyped entries. As you type each character, the screen displays either an asterisk (*) or nothing, instead of your character, for security. (See “Password Display” on page 215.) You must click on **Change Password** to make the change effective. If you just close the window, nothing is done.

In the Change Password window:

Change Password	Effects the actual change.
Reset	Clears your entries from all three fields in the window.
Service	Identifies the computer whose node-management service you have selected.
Realm	Is the name of the realm containing that service.
Current password	Is the password you logged on with.
New password	Is the password you want to become effective. The maximum password length is 31 characters. You can set the minimum in the User Logon Configuration window, as described in “Set User Logon Configuration” on page 217.
Confirm new password	Is the same as the new password, entered again to protect against mistyped entries.

You can open the node-management interface with either the interface password or the realm password. This Change Password window cannot change the realm password; to change it, use the **Change Realm Password** button in the network administration interface (documented on “Change Realm Password” on page 214).

Order By

These choice fields of the Sort Controls window let you choose whether the Node Management window is to list services by number or name.

Choice-Field Description

Each of the two **Order By** choice fields gives you these choices:

Service

Service Name

If you also click on **Unsorted** in the corresponding **Sorting Level** choice field of the Sort Controls window, the **Order By** choice field has no effect.

When you choose **Service** or **Service Name** in the first **Order By** choice field, you specify which column the list of services in the Node Management window is to be sorted on (unless you also click on **Unsorted** in **Sorting Level 1**).

If you click on the opposite value in the second **Order By** choice field, you specify that entries after the first sorting are to be sorted in that order (unless you also click on **Unsorted** in **Sorting Level 2**).

If you click on the same value in both **Order By** choice fields, you specify that entries after the first sorting are to appear in random order.

For example, if the first **Order By** setting is Service, if you click on **Service Name**, you specify that the list of services is to be sorted by the names of the services.

See also “Sort Controls” on page 116.

Show Realm Information

This button displays information about the realm that contains the computer whose node-management service you have selected.

Window Description

When you click on the **Show Realm Information** button, the Realm Information window opens. This window shows the network number, realm number, and the network addresses of the file, directory, and asset-management servers. Any two or more of these servers can be the same or separate computers.

In the Realm Information window:

Service	Identifies the computer whose node-management service you have selected.
Realm	Is the name of the realm containing that service.
Network Number	Identifies the network containing that realm.
Realm Number	Identifies the realm.
Compatibility Realm	Indicates whether this is a compatibility realm (1) or a noncompatibility realm (0). The default value for IDS installations is 2. Do not change this value.
File Service	Is the Ethernet or token-ring address of the realm's primary file server.
Directory Service	Is the Ethernet or token-ring address of the realm's directory server.
Asset Management	Is the Ethernet or token-ring address of the realm's asset-management server.

Show Service Details

This button displays the type and status of the service you have selected in the Node Management window.

Window Description

When you select a service from the list in the Node Management window and click on the **Show Service Details** button, the Service Details window opens. This window shows the name, type, and status of the selected service.

In the Service Details window:

Service	Identifies the computer whose node-management service you have selected.
Realm	Is the name of the realm containing that service.
Service Name	Is the name of the selected service.
Service Type	Is the type of service.
Service Status	Tells whether the selected service is: Starting Running Updating Stopped (by the Stop Service command) Stopped Abnormally

Show Service Statistics

This button displays a count of starts and stoppages of the service you have selected in the Node Management window.

Window Description

When you click on the **Show Service Statistics** button, the Service Statistics window opens. This window shows the name of the selected service and number of times it has been started and abnormally stopped.

In the Service Details window:

Service	Identifies the computer whose node-management service you have selected.
Realm	Is the name of the realm containing that service.
Service Name	Is the name of the selected service.
Starts	Is the number of times the service has been started since the most recent time when the server's node-management service started.
Abnormal Stops	Is the number of times the service has stopped under abnormal circumstances. This number does not include times when you have used the **Stop Service** button.

Sort Controls

This button lets you set how to list the services that the selected node-management service controls.

Window Description

When you click on the **Sort Controls** button, the Sort Controls window opens. This window lets you specify two levels of sorting, each based on either the service numbers or names. Actual sorting takes place automatically, when you close the Sort Controls window.

Sorting can be useful if you have many services running in the same server.

In the Sort Controls window:

Sorting Level 1	Lets you set the primary sequence into which the services are to be sorted, as described in “Sorting Level.”
Sorting Level 2	Lets you set the secondary sorting sequence, as described in “Sorting Level.”
Order By	Lets you choose whether to list the services by numbers or names, as described in “Order By” on page 113.

When you click on **Unsorted** at any level, any lower-level **Sorting Level** and **Order By** choice fields (and the unsorted level's **Order By** choice field) immediately disappear from the Sort Controls window and have no effect.

Sorting Level

These choice fields of the Sort Controls window let you set whether or how the Node Management window is to sort the services that the selected node-management service lists.

Choice-Field Description

Each of the two **Sorting Level** choice fields give you these choices:

Unsorted

Ascending

Descending

If you click on **Unsorted** in the **Sorting Level 1** choice field of the Sort Controls window, you specify that the list of services in the Node Management window is to appear in random order. If you click on **Unsorted** in the **Sorting Level 2** choice field, you specify that entries after the first sorting are to appear in random order.

If you click on **Ascending**, you specify that the list of services is to appear in alphanumeric order with numbers listed 0 through 9, followed by letters listed A through Z.

If you click on **Descending**, you specify that the list is to appear in alphanumeric order with letters listed Z through A, followed by numbers listed 9 through 0.

With either Ascending or Descending, the sorting can be based on either the service types or the service names, as described in “Sort Controls.”

Start Service

This button starts the service you have selected.

Action

When you select a listed service and click on the **Start Service** button, the selected service starts. You cannot start a service unless the IDS node-management service is already running on that server. You cannot use Start Service to start a node-management service.

Stop Service

This button stops the service you have selected.

Action

When you select a listed service and click on the **Stop Service** button, the selected service stops. You can restart the stopped service by clicking on the **Start Service** button. You cannot use Stop Service to stop an IDS node-management service.

Chapter 13. File-Service Interface

File services provide centralized filing and retrieval services for the other IDS computers. The File-Service icon lets you run a session from a desktop or on the primary file server. The File-Service interface is always started on the primary file server.

This chapter describes the file service administration commands, which let you control backing up, restoring, logging, status reporting, and other functions.

System administration commands are case-insensitive; you can use uppercase, lowercase, or any combination. Some commands have abbreviations or synonyms specified; no other abbreviations are allowed.

A detailed syntax description is provided for each command. You should also be aware of the following points:

System prompts and messages can randomly interrupt screen operations, but they do not affect system operations.

Unless otherwise specified, issue each command or response by typing the command and then pressing the Enter key.

Responding to some command prompts automatically brings the next line back. Before you press the Enter key, let a few moments pass to ensure that no other prompt is displayed.

Console Access

For administration of file services:

1. Locate a File Service icon in the System Administrator Icons file drawer and open the icon.
2. At the login prompt, type the level to which you want access: SYSTEM or OPERATOR.

   If the level of interface that you want to access is already in use, add the command HERE to your login—for example, SYSTEM HERE. The HERE command forces the already-logged on operator or system interface to be logged off.
3. At the password prompt, type the appropriate password for that access level. If there is no password, just press Enter.
4. Type the desired commands.
5. To change command levels, type USER followed by SYSTEM or OPERATOR and repeat steps 3 and 4. You can also use the HERE command when changing command levels—for example, USERSYSTEM HERE.
6. Type QUIT or EXIT. This will return the interface to the login prompt. Another QUIT or EXIT command will close the File Service Console icon.

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Summary of Commands

Table 12 lists the file-service interface commands, grouped by their functions. Later in this chapter, the detailed command descriptions are sorted in alphabetical order for easy reference.

Table 12 (Page 1 of 2). File-service interface commands

Command	Level	Action
ADDRESSES	system	Displays the current network addresses for the file servers, in hexadecimal format.
BACKUP or BKP	operator or system	Copies the contents of a disk, desktop, or file drawer to a tape.
BROADCAST or BCAST	operator or system	Sends an Important Message to every workstation in the network.
CHDIR or CD	system	Specifies an IDS container for the LIST command.
CONTINUE or CONT	operator or system	Continues a suspended BACKUP, RESTORE, or TAPELISTING command.
DETAILS or DET	system	Displays detailed information about all file services or about one specified file service.
DISKRENAME or DREN	operator or system	Changes the name of a disk without having to erase it.
ECHO	operator or system	Displays the specified text in the interface window, primarily for use in batch files. (See SCRIPT.)
ERASE	operator or system	Erases and initializes disks and tapes and reallocates disk space.
FORMAT	operator or system	Formats a tape.
HELP or ?	any level	Lists and briefly describes all commands of the current level or displays the syntax for a specified command.
INSTALL	system	Installs IDS software from an installation tape to the specified disk.
LIST or DIR	system	Lists the specified containers and files, relative to the current or specified IDS container.
OFFLINE or OFF	system	Denies access to a disk from devices on the network.
ONLINE or ONL	system	Permits access to a disk from devices on the network.
OPERATOR	any level	Opens the operator level of interface access.
PASSWORD or PASS	operator	Lets you change the password for the operator level.
	system	Lets you change the password for either the operator level or the system level.
PROMPT	system	Specifies the information and characters to appear in the command-line prompt.
QUIT	any level	Quits the file-service interface.

Table 12 (Page 2 of 2). File-service interface commands

Command	Level	Action
RESTORE	operator or system	Copies the specified files from a tape to a disk.
RETENSION	system	Corrects the tension of the tape.
REWIND	operator or system	Rewinds the specified tape to its beginning.
SCRIPT	operator or system	Executes all of the interface commands in the specified OS/2 file, as a batch job.
STATUS or ST	system	Displays information about all file services or about one specified file service.
STOP	operator or system	Stops a backup or restore.
SYSTEM	any level	Opens the system level of interface access.
TAPELISTING or TL	operator or system	Creates a tape summary that lists the tape's contents, after a backup.
TAPEVOLLIST or TV	operator or system	Lists the header information of a tape.
UPDATE	system	Updates IDS system software from an installation tape.
USER	any level	Lets you specify the level of interface access: OPERATOR or SYSTEM.

Commands

The remainder of this chapter describes each of the file-service commands in detail. The commands are presented in alphabetical order.

ADDRESSES

This command displays the current network addresses for the file services, in hexadecimal format. File services are identified by the letters A through H. The letter A always identifies the primary file service — the one that has the System disk. The auxiliary file services are designated in random order.

This command is valid at the system level only; you cannot use it at the operator level.

Syntax

ADDRESSES

Example

```
SA=> ADDRESSES
The port addresses of A are:
        S411 comm address - 143.241.36.21: 4 4
        Pod comm address - 143.241.36.21: 4
        SA interface address - 143.241.36.21: 4 1
        Pipe address - 143.241.36.21: 4 2
        DSP address - 143.241.36.21: 4 3
The port addresses of B are:
        S411 comm address - 143.241.36.2: 4
        Pod comm address - 143.241.36.2: 41
        SA interface address - 143.241.36.2: 411
        Pipe address - 143.241.36.2: 4 8
        DSP address - 143.241.36.2: 412
SA=>
```

BACKUP

This command copies the contents of a disk, desktop, or file drawer to a backup file on tape or disk and verifies that the backup has been completed successfully. You cannot back up the system desktop, any executable code, or the Master Icons file drawer.

Perform backups as frequently as required by your user community.

When backup is successful, the disk name, date written, and (in the case of tape backup) sequence number that identifies each backup tape is recorded on the tape or file backup image by the file server, and you must also record this information on the tape cartridge's label. The sequence number for the first tape is 1, and the number is incremented by one for each successive tape. To ensure that disks suffer no changes when you back them up, use the OFFLINE command to set each disk offline before you back it up. Taking secondary disks offline does not require you to take other disks offline, just the ones you are currently backing up. Taking the System disk offline does require that all other disks be offline first.

This command is valid from the system level or the operator level.

Syntax

```
                                    /F
BACKUP|BKP source destination /I[:]D[AILY]      [/A] /D[:]desktop
                              /I[:]W[EEKLY]           /L[:]file_drawer
                              /I[:]days
```

where:

source — Specifies the IDS designation of the disk from which files are to be copied, such as A1 or D3. The letter indicates the file server, and the number indicates the disk within that server. The primary file server is always A, but auxiliary file servers are randomly B through H. To find which letter applies to which server, use the ADDRESSES command.

destination — Specifies the tape drive or full path of the OS/2 file that files are copied to. For example, the path might be d:\backups\0628.bak .

/F	Specifies a full backup; that is, to back up all contents of the specified disk or of the specified container within that disk.
/I	Specifies an incremental backup of all specified containers: /I[:]D[AILY] backs up all contents that have changed in the 24 hours preceding this command. /I[:]W[EEKLY] backs up all contents that have changed in the 168 hours (7 days) preceding this command. This is the default. /I[:]*days* backs up all contents that have changed within the specified number of days preceding this command. If you omit /I, the default is a 1-week backup.
/A	Specifies that the data should be written after any existing data on the tape. If you omit /A, the backup starts at the beginning of the tape.
/D[:]desktop	Specifies a desktop to be backed up. You do not have to specify a path; the desktop must be in the source|Desktops file drawer. If the desktop name includes a space, the name must be enclosed in single quotation marks, as in 'John Smith'.
/L[:]file_drawer	Specifies a file drawer to be backed up. You do not have to specify a path; the specified file drawer must be in the source|File Drawers file drawer. If the name includes a space, the name must be enclosed in single quotation marks, as in 'Sales Drawer'.

Example

This example illustrates backing up all of the contents of a single desktop:

```
operator> OFFLINE B1
Slot B1:    Offline B1: done
operator>  BACKUP   B1   B4   /F   /D:CLAYBROOK
Backing up drive B1 to streamer in drive B4
Backup type: FULL
Backup mode: from beginning of tape
Backup scope: Desktops|claybrook
Are you sure (Y/N)? Y
WARNING:
If this backup requires multiple tapes, the File Server may
stop responding between tapes.    Insert and continue the next tape
promptly, or back up the disk while it is offline.
Do you wish to continue (Y/N)?    Y
B1: remote operation is in progress.
operator>
Slot B4:    Backing up B1.
Slot B1:    Backup complete (  soft errors).
operator>
```

BROADCAST

This command sends a message to every desktop and server that is currently powered on and running IDS. If you make an error while typing the message, you can correct it by backspacing over the message, then retyping.

On each desktop, the message is displayed in a box in the middle of the screen.

All desktops, whether logged on or not, receive your message. Some common examples of broadcast messages are:

We will shut down the system at 6 pm for the holiday weekend.
The system will be backed up tonight.

This command has the same effect as the **Broadcast Message** button in the SA tool's service-selection window, which you can use (if authorized) from any IDS desktop.

This command is valid from the system level or the operator level.

Syntax

BROADCAST|BCAST [message]

where:

message	Is the message you want to broadcast. If you do not specify a message in the command line, the system prompts you for it. In either case, you do not have to enclose the message in quotation marks.

Examples

This example lets the system prompt for the message.

```
SA=>
BROADCAST Message text:  The system will be down in 5 minutes.
From System Administrator (July 29, 94 16:27: 8) – The system will be down in 5
minutes.
Broadcasting the above message. Are you sure (Y/N)?  Y
operator>
```

The result is the same if you include the message in the command line. Notice that the message reflects which level of the interface it was issued from (system or operator).

```
operator>
BROADCAST  The system will be down in 5 minutes.
From System Operator (July 29, 94 16:27: 8) – The system will be down in 5
minutes.
Broadcasting the above message. Are you sure (Y/N)?  Y
operator>
```

If you send the message from the SA tool, it shows the name of the desktop from which it was sent but is otherwise identical to the same message sent through the BROADCAST command.

CHDIR

This command specifies an IDS container for the LIST command.

This command is valid at the system level only; you cannot use it at the operator level.

Syntax

CHDIR|CD container

where:

container — Specifies a file drawer, folder, or other container, either fully qualified or relative to the current container. The container name is case-sensitive; for example, AbCdE is different from ABCDE or abcde. If the container name includes a space, the name must be enclosed in single quotation marks, as in 'File Drawers'.

Specify two periods (..) to go up one level. Specify a backslash (\) to go up to the top level of the disk.

Example

In this example, the prompt has been set to show the current container. The example changes from the top level of the System disk to the Desktop file drawer, on to a desktop named claybrook, and back to the System disk.

```
|System> CHDIR  Desktops
|System|Desktops> CHDIR  claybrook
|System|Desktops|claybrook> CHDIR  ..
|System|Desktops> CHDIR  \
|System>
```

CONTINUE

This command causes a BACKUP, RESTORE, or TAPELISTING process to proceed after the system has paused to request a user action.

This command is valid from the system level or the operator level.

Syntax

CONTINUE|CONT drive

where:

drive — Specifies the tape drive whose operation is to be continued (such as A4 or B4).

Example

In this example, the first backup tape is filled before the backup operation is complete.

```
operator> BACKUP   B1   B4   /F   /D:CLAYBROOK
Backing up drive B1 to streamer in drive B4
Backup type: FULL
Backup mode: from beginning of tape
Backup scope: Desktops|claybrook
Are you sure (Y/N)?    Y
WARNING:
If this backup requires multiple tapes, the File Server may
stop responding between tapes.    Insert and continue the next tape
promptly, or back up the disk while it is offline.
Do you wish to continue (Y/N)?    Y
B1:remote operation is in progress.
operator>
Slot B4: Backing up B1.
Slot B4: Tape full. (  soft errors)
            Label it, insert next tape, and type 'continue'.    CONTINUE B4
Slot B4:    Backup complete (  soft errors).
operator>
```

DETAILS

This command displays specific information about slots in a file server. The system returns the following information for each specified slot in the file server:

- Whether the disk is online or offline
- Whether a tape is loaded in the tape drive
- The name and number of the drive
- The number of megabytes available on the disk after it is formatted
- File descriptors, indicating the number and percentage of icons that have been used on the disk
- Data blocks, indicating the amount and percentage of space used by icons on that disk

You should use the DETAILS command daily to minimize any potential system problems that might occur as a result of insufficient disk space. If the System disk is 95 percent full, mail delivery through the system can stop or become severely impaired. Also, formatting for the printer icons located on the disk can stop. If the capacity for a disk other than the System disk reaches the 95-percent limit, mail delivery to the desktops on that particular disk might be affected. See the ERASE command for additional information on changing the ratio of data blocks and file descriptors.

To alleviate disk-capacity problems, make sure users periodically clean their desktops by deleting unnecessary or obsolete icons.

This command is valid from the system level or the operator level.

Syntax

```
DETAILS|DET   [drive   ...]
```

where:

drive	Specifies one or more disks or tape drives with information you want listed. If you do not specify any servers, the command displays information for all available file servers.

Example

This example displays information about the slots in the primary file service:

```
operator> DETAILS A B
Slot A1:  Disk module 'System, #1' is online.
            Size 2 6MB:   14554 file descriptors (89%), 69655 data blocks (65%)
Slot A2:  Disk module 'Personnel, #2' is online.
            Size 314MB:   12534 file descriptors (82%), 51625 data blocks (54%)
Slot A3:  Blank
Slot A4:  Streamer module, available
Slot B1:  Disk module 'Marketing, #1' is online.
            Size 2 6MB:   14554 file descriptors (89%), 69655 data blocks (65%)
Slot B2:  Disk module 'Sales, #2' is online.
            Size 314MB:   12534 file descriptors (82%), 51625 data blocks (54%)
Slot B3:  Blank
Slot B4:  Blank
operator>
```

DISKRENAME

This command changes the name of a disk without having to erase it. You cannot rename the System disk or give the name System to any other disk. If you want to change system disks, use the ERASE command.

Each disk name must be unique within the realm. The name can have as many as 32 characters, and cannot include the vertical bar (|) that is used by file system directories.

This command is valid at the system level only; you cannot use it at the operator level.

Syntax

DISKRENAME|DREN drive name

where:

drive	Specifies a disk drive to be renamed.
name	Specifies the new name for the drive.

Example

This example changes the name of the disk in slot A3:

```
SA=> DISKRENAME A3 Facilities
Slot A3:  Disk module renamed 'Facilities'
SA=>
```

ECHO

This command displays the specified text in the interface window. In the interactive environment, the text is displayed below the current prompt. In batch files, ECHO lets you identify the job's progress.

This command is valid from the system level or the operator level.

Syntax

ECHO message

where:

message	Is any text that you want displayed.

Example

This example displays the indicated message:

```
operator> ECHO  Now starting to back up desktops.
Now starting to back up desktops.
operator>
```

ERASE

This command erases and initializes new and reused disks and tapes. You can also use the ERASE command to change disk space allocations.

You can specify a unique name or number, or both, to be assigned to the erased medium.

This command is valid from the system level (for tapes and disks) or the operator level (for tapes only). The ERASE command does not erase IBM distribution tapes. The ERASE command does not erase IBM distribution tapes.

Syntax

ERASE drive [/#[:]number] [/N[:]name] [/S[:]descriptors] [/I]

where:

drive	Specifies the tape or disk drive you want to erase.
/#[:]number	Specifies a unique number to be assigned to the tape or disk.
/N[:]name	Specifies a unique name to be assigned to the tape or disk.
/S[:]descriptors	Specifies the percentage of disk space to be allocated for file descriptors. The remainder of the disk is allocated for data. This parameter is ignored for tapes.
/I	Returns information about the disk's name, number, and share of file descriptors. This parameter is ignored for tapes. If any other parameters accompany /I, they are ignored.

Example 1

```
SA=> ERASE B3 /I
Slot B3 information:
Volume name:          Marketing
Volume number:            3
Minimum disk space allocatable to file descriptors:       1%
Maximum disk space allocatable to file descriptors:      5 %
 Disk space currently allocated to file descriptors:      6%
Recommended disk space for file descriptors:     5%
SA=>
```

Example 2

In this example, A4 contains a tape drive with a tape in it. A3, for disks, is unused.

```
operator> ERASE   A4
Are you sure you want to erase the entire
'System Backup:   April 6, 1994 15:49' tape (Y/N)?   Y
Slot A4:   Erasing
operator> ERASE A3
Slot A3 is empty.
operator>
```

HELP

This command displays the syntax of the specified command, or a list of all commands, in the interface window.

This command is valid from any level.

Syntax

```
HELP [command...]
```

where:

command	Specifies a command for which you want help. If you do not specify a command, HELP lists all commands available in your current level of the interface. To see help for two or more commands at once, separate them with a space, as in the second example below.

Example 1

This example describes your choices at the login prompt:

```
login:HELP
HELP  –provide brief command descriptions.
USER  –set user access level.
login:
```

Example 2

This example describes the syntax for the CHDIR and CONTINUE commands:

```
operator>HELP   CHDIR   CONTINUE
Use the CHDIR command to change working directory.
SYNTAX: CHDIR [directory]
Where:
[directory] – is a relative name of a directory, which you
                wish to make current.

Use the CONTINUE command to continue suspended backup, restore,
or tapelisting.
SYNTAX: CONTINUE <drive>
Where:
<drive> – specifies a drive to be invoked.
operator>
```

INSTALL

This command copies the contents of an installation file onto a disk. This command installs the system portion of IDS. The IDS installation CD-ROM must be inserted in the CD-ROM drive when you run this command.

You must first set the target disk offline.

If you respond N to the query, you cancel the command.

This command is valid at the system level only; you cannot use it at the operator level.

Syntax

```
INSTALL
```

Example

```
SA=> INSTALL
Are you sure you want to install the 'system' disk module from the
file: F:\SERVER\DIS_FS.BKP (Y/N)?    Y
Installing (this will take a few minutes) . . .    Complete.
SA=>
```

LIST

This command lists the specified containers and files, relative to the current or specified IDS container.

This command is valid at the system level only; you cannot use it at the operator level.

Syntax

```
                                        [/O[:]N  ]
                                        [/O[:]-N]
                  [/A[:]F  ]            [/O[:]S  ]
LIST|DIR path [/A[:]-F] [/F][/S] [/O[:]-S]
                  [/A[:]D  ]            [/O[:]D  ]
                  [/A[:]-D]             [/O[:]-D]
                                        [/O[:]G  ]
                                        [/O[:]-G]
```

where:

path	Specifies the path to the containers and files you want listed, relative to the current container. All elements of the path are case-sensitive; for example, AbCdE is different from ABCDE or abcde. Use a vertical bar (|) to begin each element of the path. Specify two periods (..) to go up one level. If any element of the path includes a space, the name must be enclosed in single quotation marks, as in |System|'File Drawers'. By default, LIST looks in the System disk; thus, LIST |Private is equivalent to LIST |System|Private.
/A[:]F or /A[:]–D	Displays files, but not containers.
/A[:]D or /A[:]–F	Displays containers, but not files.
/F	Displays all information about each file or container.
/S	Recursively displays contents of containers within any listed containers.
/O[:]N	Displays all items by name, in alphabetical order.
/O[:]–N	Displays all items by name, in reverse alphabetical order.
/O[:]S	Displays all items by size, in increasing order.
/O[:]–S	Displays all items by size, in decreasing order.
/O[:]D	Displays all items by date and time, with the newest first.
/O[:]–D	Displays all items by date and time, with the oldest first.
/O[:]G	Displays containers before files.
/O[:]–G	Displays files before containers.

Example

This example lists all contents of the System disk (A1), in no specified order:

```
|System>   LIST   A1
[ 1 1   2]       9       2 48        9:54: 6        8/ 4/93       <DIR>       Resources
[ 1 1 2bd]               1 24        1 :14: 9        4/14/94       <DIR>       Overlays
[ 1 1 2be]       1       3 72        1 :28: 4        6/15/93       <DIR>       Post  Office
[ 1 1 2bf]               1 331       14:13:24        4/29/94                   Directory  Service  Table
[ 1 1 2c ]               12          3:2 :55         2/17/93                   Backup  Times
[ 7 11f d]       9       13312       19:14: 9        2/25/94       <DIR>       Master  Icons
[ 1 1 2c2]       9       7168        12:3 :53        4/29/94       <DIR>       Desktops
[ 1 1 87c]       1       6144        15: 2:32        4/21/94       <DIR>       File  Drawers
[ b 1 fa1]       1       1 24        1 :22:15        11/ 5/93      <DIR>       Mail
[12 1  b1]               255 4       21:24:47        4/29/94                   Monitor  Table
[1e 1  69]               368         19:47:42        4/29/94                   FSC_Config
[ c 11661]               58654       1 : 9:39        4/12/94                   Monitor  Table
        12 file(s)                   128661 data bytes                          1656 option bytes
                                        13 317 bytes total
|System>
```

For each object in the list, the first column displays a unique, hexadecimal, identification number. The system requires this number to distinguish among multiple objects with the same name.

The second column displays the number of enclosures in each object.

The third column displays the size of each object, in bytes.

The fourth and fifth columns display the time and date when each object was last changed.

The sixth column indicates whether each object is a container (<DIR>).

The last column displays the name of each object.

OFFLINE

This command denies access to a disk from devices on the network.

Before you erase a disk, you must set it offline; after the erasure, you can set it on line again. For the BACKUP and RESTORE commands, disks can be offline or online. However, it is safest (to ensure that disks suffer no changes when you back them up) to use the OFFLINE command to set each disk offline before you back it up. If you are only backing up a single desktop, you need only ascertain that desktop is not in use.

Taking secondary disks offline does not require you to take other disks offline, just the ones you are currently backing up. Taking the System disk offline does require that all other disks be offline first.

You are responsible for notifying users (by using the BROADCAST command) when a disk will be made unavailable. Open icon windows associated with data on a particular disk cannot close when that disk is offline. Users cannot access desktops that reside on an offline disk.

You must set all other disks offline before setting the System disk offline.

This command is valid at the system level only; you cannot use it at the operator level.

Syntax
OFFLINE|OFF disk|ALL

where:

disk	Specifies the disk to be taken offline.
ALL	Specifies that all disks in the realm are to be taken offline.

Example
```
SA=> OFFLINE  A1

Slot A1:  Offline A1: done
SA=>
```

ONLINE

This command permits access to a disk from devices on the network.

This command is valid at the system level only; you cannot use it at the operator level.

Syntax
ONLINE|ONL disk|ALL

where:

disk	Specifies the disk to be brought on line.
ALL	Specifies that all disks in the realm are to be brought on line.

Example
```
SA=> ONLINE  A1

Slot A1:  Online A1: done
SA=>
```

OPERATOR

This command gives you access to the operator level of the interface, after requesting the appropriate password.

Syntax
[USER] OPERATOR

Example

```
SA=> USER    OPERATOR
Password:
operator> USER
Operator
operator>
```

PASSWORD

This command lets you change the password for the current level of the interface. If you are in the system level, you can change the password for the system or operator level. You can open the file-service interface with either the interface password or the realm password. This PASSWORD command cannot change the realm password; to change it, use the **Change Realm Password** button in the network administration interface (see “Change Realm Password” on page 214).

As you type the passwords, only asterisks (*) are displayed.

This command is valid from the system level or the operator level.

Syntax

PASSWORD|PASS OPERATOR|SYSTEM

where:

OPERATOR	Changes the password of the operator level.
SYSTEM	Changes the password of the system level. In the operator level, you cannot change the system-level password.

Example

```
SA=> PASSWORD    SYSTEM
Old password:
Enter new password:
Please, enter new password again:
SA=>
```

PROMPT

This command lets you change the prompt that begins each command line.

The default prompt for the system level is SA=>; for the operator level, it is operator>.

This command is valid at the system level only; you cannot use it at the operator level.

Syntax

PROMPT template

where:

template — Is a string of one or more of the specifiers listed below, together with any text you want to include. If the text includes a space character, enclose it in quotation marks.

$T	The current time and date (as of when the prompt is displayed)
$P	The current path (see CHDIR)
$Q	An equal sign (=)
$$	A dollar sign ($)
$G	A right angle bracket (>)
$L	A left angle bracket (<)
$B	A vertical bar (|)
$_	A carriage-return and line-feed pair (CRLF)
$E	An ASCII escape code (x1b)
$H	A backspace character

Do not type a space between any of these specifiers; a space character is considered the end of the specifiers string.

Example

In this example, notice that the first $G has no effect, because it follows a space character.

```
SA=>  PROMPT   $T$B$P   $G
12:43:52 11/11/94||System PROMPT    $T$P$G
12:43:52 11/11/94|System> PROMPT    $Q$Q$G
==> PROMPT    SA$Q$G
SA=>
```

QUIT

This command lets you leave the interface's command mode.

This command is valid from the system level or the operator level.

Syntax

QUIT |EXIT

Example

```
operator> QUIT
login:
```

RESTORE

This command copies from a backup tape or file:

An entire backup

A selected desktop

A selected file drawer

The restoring process is always performed from tape or backup file to an IDS disk. When started, it cannot be interrupted but can be canceled at any continuation prompt.

When you restore a desktop or a file drawer from a backup image, any icons on the backup image that have the same names and creation dates as those within the desktop or file drawer are overwritten; icons on the backup image that have the same names but different creation dates are added to the desktop or file drawer within which they are being restored. Icons restored to a desktop or file drawer can have the same names as existing icons and only differ in their creation dates.

If you find a duplicate icon in the New Icons file drawer after restoring a desktop or file drawer, delete the older icon. The duplicate icon can only occur because of a change in one of the new icons since the last backup or restoration; it is not ordinarily a problem.

This command is valid from the system level or the operator level.

Syntax

RESTORE source destination [/C][/D[:]desktop]
[/L[:]file_drawer]

where:

source	Specifies the tape drive or backup file from which the files are to be copied (such as A4 or B4). The letter indicates the file server to which the tape drive is attached, and the number is always 4. The primary file server is always A, but auxiliary file servers are randomly B through H. To find which letter applies to which server, use the ADDRESSES command.
destination	Specifies the IDS designation of the disk to which files are to be copied, such as A1 or D3. The letter indicates the file server and the number indicates the disk within that server.
/C	Specifies that the data should be from the tape's current position. If you omit /C, the operation starts at the beginning of the tape. This option is only valid for restoring from tape.
/D[:]desktop	Specifies a desktop to be restored. You do not have to specify a path; the desktop will be written to the destination|Desktops file drawer.
/ L[:]file_drawer	Specifies a file drawer to be restored. You do not have to specify a path; the specified file drawer will be written to the destination|File Drawers file drawer. If the name includes a space, the name must be enclosed in single quotation marks, as in 'Sales Drawer'.

Example

This example restores the claybrook desktop from a tape.

```
operator> OFFLINE    B1

Slot B1:    Offline B1: done
operator>  RESTORE   B4   B1   /D:CLAYBROOK
Tape volume header: 'claybrook Desktops Backup #1: 15: 1: 3  8/ 8/94'
Do you want to restore this volume (Y/N)?    Y
Source tape volume: 'claybrook Desktops Backup #1: 15: 1: 3  8/ 8/94'
Destination: Desktops|claybrook
Do you wish to continue (Y/N)? Y
B4: remote operation is in progress.
operator>
Slot B4:    Restoring B1.
Slot B4:    Restore complete.
operator>
```

RETENSION

This command corrects the tension between the recording tape and the drive belt by forwarding the tape to its end and then rewinding. It is usually a good idea to issue the RETENSION command before reading or writing to a used tape. The RETENSION command is useful for streamer tapes only. If you use it on a digital (DAT) tape, it is harmless but does nothing.

This command is valid from the system level or the operator level.

Syntax

```
RETENSION   drive
```

where:

drive — Specifies the tape drive to be adjusted (such as A4 or B4).

Example

```
operator> RETENSION    A4
A4:remote operation is in progress.
SA=>
Slot A4:    Retensioning tape.
Slot A4:    Retension tape complete.
operator>
```

REWIND

This command rewinds the specified tape to its beginning.

This command is valid from the system level or the operator level.

Syntax

```
REWIND   drive
```

where:

drive	Specifies the tape drive to be rewound (such as A4 or B4).

Example

```
operator> REWIND    A4
Slot A4: Rewinding tape.    A4: remote operation is in progress.
SA=>
Slot A4:    Rewind completed.
operator>
```

SCRIPT

This command executes all of the interface commands that are in the specified OS/2 file, as a batch job.

The script file must be plain ASCII text and must reside in the OS/2 file system. You can create the file using your favorite text editor. Be careful when constructing batch files containing tape commands. If two successive commands (such as REWIND and BACKUP) are issued to the same tape drive, then the second one produces an error (“Streamer busy”), because the batch execution does not wait on the first one's completion.

This command is valid from the system level or the operator level.

Syntax

```
SCRIPT   file
```

where:

file	Specifies the OS/2 file containing the command script to be executed.

Example

In this example, the script file includes ECHO commands to track the script's progress.

```
operator>SCRIPT BACKUP.SAT
Slot B1:    Offline B1: done
Backing up the Reports file drawer.
Backing up the Statistics file drawer.
Slot B1:    Online B1: done
operator>
```

The script file resembles this example:

```
OFFLINE B1
BACKUP  B1   B4   /F   /L:Reports
BACKUP  B1   B4   /F   /L:Statistics
ONLINE B1
```

STATUS

This command displays information for all active file servers on the network. This is useful when performing multiple tasks at the file-server terminal, because you can see quickly what is happening for each drive on the system at any given time.

IDS refers to file servers alphabetically, by the letters A through H. The file server containing the System disk is called the primary file server and is designated by the letter A. The primary file server always has the same letter designation because the file server containing the System disk is always the first to start. All other file servers are referred to as auxiliary file servers and are designated by the letters B through H, in random order. All disks other than the System disk are secondary disks.

Each column in the status display is for one volume (potential disk or tape drive). Volumes 1, 2, and 3 are always disks; volume 4 is always a tape drive. The interface commands and output see each disk or tape drive by its server and volume designation. For example, B2 refers to the disk that is volume 2 in file server B.

Except for file server A, the letter designations can change with each rebooting of the system. You can use the ADDRESSES command to find the file server that is assigned to a specific letter designation.

The STATUS command gives only an overview for each file server's status. Use the DETAILS command for more detailed information about a specific file server. Table 13 shows the abbreviations used in the status listing.

Table 13. Status codes

Abbreviation	Description
BAD	The file structure on the disk in that slot has been damaged.
BSY	The tape in that slot is backing up or restoring a disk.
CHK	The disk in that slot is being checked.
ERA	The disk or tape in that slot is being erased.
IDL	The tape drive is currently idle, and therefore is available.
OFL	The disk in that slot is offline.
ONL	The disk in that slot is on line.
STP	The disk in that slot is not accessible.
VER	The backup is being verified.

This command is valid at the system level only; you cannot use it at the operator level.

Syntax

STATUS|ST [drive ...]

where:

drive	Specifies one or more disks or tape drives whose information you want listed. If you do not specify any servers, the command displays information for all available file servers.

Example

In this example, the slot designations with no data in the status display have no corresponding devices. for example, server A has just two disk volumes and one tape volume; there is no device A3.

```
SA=> STATUS
Copyright 1984, 1994     IBM Corporation
File Server -- Software Version 2. .1
Current time:        17:33:34    8/ 8/94
Server up since:    14: 7:13    7/ 7/94
FS          VOL  1                VOL  2                VOL  3                VOL  4
--    --------------    --------------    --------------    --------------
A:       ONL system            ONL Data1                                BSY Backing up A2
B:       OFL  Data2            OFL  Data3       ONL  Data4              IDL  Streamer
C:       CHK  Data5            STP  stopped
SA=>
```

SYSTEM

This command gives you access to the system level of the interface, after requesting the appropriate password.

This command is valid from any level.

Syntax

[USER] SYSTEM

Example

```
operator> SYSTEM
Password:
SA=> USER
System
SA=>
```

TAPELISTING

This command creates a tape summary that lists the tape's contents, after a backup, tape or disk and stores the list in the Disk Statistics file drawer. For each listing, it creates a log document in the Disk Statistics file drawer.

If a backup uses more than one tape, TAPELISTING requires the first tape of the series. The second and subsequent tapes do not have headers and therefore are not useful with the TAPELISTING command.

This command is valid from the system level or the operator level.

Syntax

TAPELISTING|TL drive [/C] [/V]

where:

drive	Specifies the tape drive whose contents are to be listed (such as A4 or B4).
/C	Starts with the current tape position. If you omit this parameter, TAPELISTING starts at the beginning of the tape.
/V	Generates a "verbose," or detailed listing. If you omit this parameter, TAPELISTING lists only the container and file names.

Example

This example creates two log files, in the Disk Statistics file drawer, named "Markets File Drawer Backup #56: 15:01:03 08/08/94" (a backup of the Markets file drawer, made at 3:01 pm in August, 1994).

```
operator> TAPELISTING    A4
Tape volume header: 'Markets File Drawer Backup #56: 15: 1: 3  8/ 8/94'
Do you want to list this volume (Y/N)?    Y
Creating listing of 'Markets File Drawer Backup #56:15: 1: 3  8/ 8/94'...
A4: remote operation is in progress
operator>
Slot A4: Tapelist complete.
```

TAPEVOLLIST

This command lists the tape's header information.

If a backup uses more than one tape, TAPEVOLLIST requires the first tape of the series. The second and subsequent tapes do not have headers and therefore are not useful with the TAPEVOLLIST command.

This command is valid from the system level or the operator level.

Syntax

TAPEVOLLIST|TV   drive

where:

drive	Specifies the tape drive whose tape header is to be listed (such as A4 or B4).

Example

```
operator> TAPEVOLLIST    A4
#          1: 'raines Desktops Backup #23:  9:48:3   8/ 8/94'
#          2: 'claybrook Desktops Backup #56: 15: 1: 3  8/ 8/94'
#          3: end of tape
operator>
```

UPDATE

This command updates IDS system software from an IBM update tape or backup file. The tape or backup file must be in a drive attached to the primary file server. The UPDATE command does not work with an installation image, only with an update tape or backup file.

You must first set the target disk offline.

If you respond N to the query, you cancel the command.

This command is valid at the system level only; you cannot use it at the operator level.

Syntax

UPDATE

Example

```
SA=> UPDATE
Are you sure you want to update IDS software (Y/N) Y
Updating IDS software. Please, wait . . .

A4: Update complete.
SA=>
```

USER

This command lets you specify the level of interface access. The keyword USER is optional, unless you want to display the current level of interface access.

This command is valid from any level.

Syntax

[USER] [OPERATOR|SYSTEM] [HERE]

where:

USER with no parameter	Displays the current level of interface access.
OPERATOR	Prompts you for the operator-level password, then establishes interface access at that level.
SYSTEM	Prompts you for the system-level password, then establishes interface access at that level.
HERE	Forces the already-logged on interface to be logged off.
EXIT | QUIT	Leaves the interface. To use the interface again, you must specify the level and corresponding password.

Example

This example starts with the interface in the operator level, changes it to the system level, then leaves the interface.

```
operator> USER
Current user: operator.
operator> USER    SYSTEM
Password:
SA=> USER    OPERATOR
Password:
operator>
```

Chapter 14. Printing

In IDS, printing is governed by a service manager, which starts one of the available execution engines for each item submitted for printing. That execution engine runs a program that converts the item into PostScript code, sends the results to the service manager for transmission to the printer host for printing, then terminates.

Execution engines are grouped into clusters, each controlled by a cluster manager. Each cluster manager, and all of its execution engines, are in the same computer. A service manager can control several cluster managers in different computers, to distribute the work.

The SA tool provides a graphical interface for administration of printing services. This chapter describes its commands, which let you control logging, queueing, and status reporting.

Interface Access

To administer printing services:

1. Open the SA tool.
2. Select **Printing**.
3. Use **From List** or **By Name** to choose the printing service manager you want to administer, and then click on **Connect to Service**. When you click on **By Name**, the **Service** field label changes to **Name**.
4. In the Printing window, type the interface password or the realm password.
5. Click on the button for the task you want to perform.

The printing interface allows only one access at a time. If you try to open it when someone else already has it open, access is denied.

In the Printing window:

Update Service Status	Effects the actual change that you have made in Service Status and Detail Log Mode.
Reset	Clears your choices and restores the most recently configured values.
Service	Identifies the printing service you have selected.
Realm	Is the name of the realm containing that service.
Service Status	Lets you set the service offline or online, as described in “Service Status” on page 155.
Hard Shutdown Button	Immediately stops the printing service's manager and all associated cluster managers and execution engines, without waiting for current printing jobs to finish, as described in “Hard Shutdown” on page 152.

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Soft Shutdown Button	Stops accepting new printing jobs into the queue and stops dispatching queued sessions for execution, as described in “Soft Shutdown” on page 160.
Show Log Button	Shows the time, date, and text of each message in the service's log file, as described in “Show Log” on page 158.
Detail Log Mode	Lets you choose among System, All, and Off to set the service's logging facility to record all messages, no messages, or just interface-initiated messages, as described in “Detail Log Mode” on page 151.
Show Printers Button	Lists all of the printers that are currently configured under this printing service, as described in “Show Printers” on page 158.
Show Engines Button	Displays the status of the printing service's execution engines, as described in “Show Engines” on page 156.
Change Password Button	Changes the password for the printing interface, as described in “Change Password” on page 149.

Summary of Commands

Figure 7 on page 145 shows the flow of the windows in the printing service's interface. Table 14 on page 145 through Table 17 on page 147 list the printing service's interface commands, grouped by their functions. Later in this chapter, the detailed command descriptions are sorted in alphabetical order for easy reference.

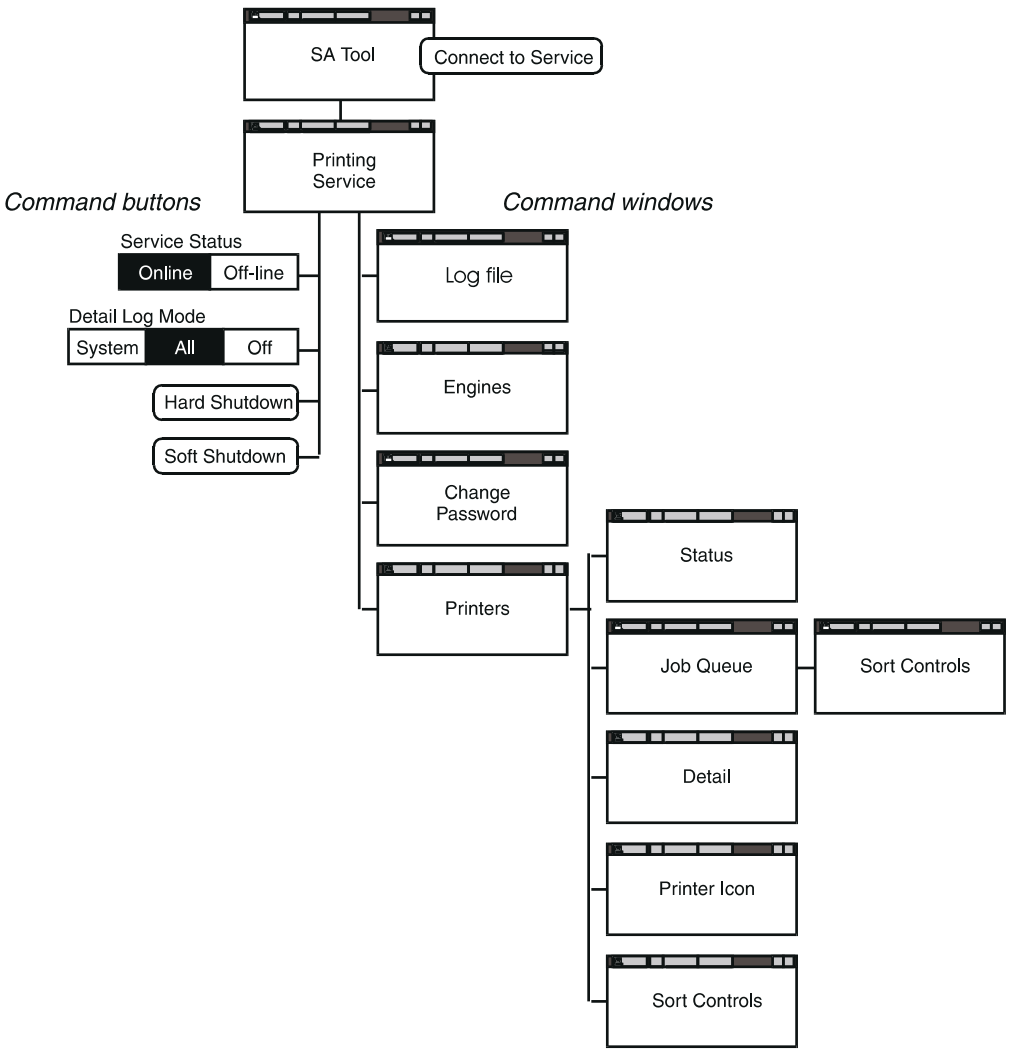

Figure 7. Window structure for printing

Table 14 (Page 1 of 2). Choice fields in the printing service's interface

Choice	Description
Banner Page	Lets you require the printing of banner pages. (See “Banner Page” on page 148.)
Detail Log Mode	Lets you choose among All, Off, and System to set the service's logging facility to record all messages, no messages, or just interface-initiated messages. (See “Detail Log Mode” on page 151.)
Job Starts	Lets you enable or disable execution of jobs currently in the printer's queue. (See “Job Starts” on page 152.)

Table 14 (Page 2 of 2). Choice fields in the printing service's interface

Choice	Description
Job Submissions	Lets you accept or reject new job submissions. (See “Job Submissions” on page 153.)
Order By	Lets you choose which columns of a list to sort first. (See “Order By” on page 154.)
Service Status	Lets you set the service offline or online. (See “Service Status” on page 155.)
Sorting Level	Lets you choose how to sort the corresponding column of the list. (See “Sorting Level” on page 161.)

Table 15. Interface commands for displaying information about the printing service

Button	Description
Show Details	Shows the name and other information about one printer. (See “Show Details” on page 156.)
Show Engines	Displays the status of the printing service's execution engines. (See “Show Engines” on page 156.)
Show Job Queue	Displays the identifying number, owning service, and other information for each job currently in the queue. (See “Show Job Queue” on page 157.)
Show Log	Shows the time, date, and text of each message in the service's log file. (See “Show Log” on page 158.)
Show Printers	Lists all of the printers that are currently configured under this printing service. (See “Show Printers” on page 158.)
Show Status	Shows information about jobs and execution resources. (See “Show Status” on page 159.)
Sort Controls	Lets you sort on any one or more of the columns in the list. (See “Sort Controls” on page 161.)
Update	Rechecks the status of all execution engines and updates the display. (See “Update” on page 162.)
Update Service Status	Effects any changes you have made in the **Service Status** or **Detail Log Mode** choice field. (See “Update Service Status” on page 162.)

Table 16 (Page 1 of 2). Interface commands for controlling the printing log

Button or choice	Description
All	Causes the printing service's logging facility to begin recording all messages. (See “Detail Log Mode” on page 151.)
Off	Causes the printing service's logging facility to stop recording any messages. (See “Detail Log Mode” on page 151.)
Show Log	Shows the time, date, and text of each message in the service's log file. (See “Show Log” on page 158.)

Table 16 (Page 2 of 2). Interface commands for controlling the printing log

Button or choice	Description
System	Causes the printing service's logging facility to begin recording only those messages that are internally generated by the printing service. (See “Detail Log Mode” on page 151.)

Table 17. Interface commands for controlling the printing service

Button or choice	Description
Add Printer	Adds a printer to run under this printing service. (See “Add Printer” on page 148.)
Change Password	Changes the printing service's administration password. (See “Change Password” on page 149.)
Create Printer Icon	Lets you create a desktop icon for a printer. (See “Create Printer Icon” on page 149.)
Delete Job	Deletes the selected job from the printer's job queue. (See “Delete Job” on page 150.)
Delete Printer	Deletes the selected printer from this printing service. (See “Delete Printer” on page 150.)
Disabled	Disables execution of a printer's currently queued printing jobs or its acceptance of new job submissions. (See “Job Starts” on page 152 and “Job Submissions” on page 153.)
Enabled	Enables execution of a printer's currently queued printing jobs or its acceptance of new job submissions. (See “Job Starts” on page 152 and “Job Submissions” on page 153.)
Hard Shutdown	Immediately stops the printing service's manager and all associated cluster managers and execution engines, without waiting for current printing jobs to finish. (See “Hard Shutdown” on page 152.)
Offline	Makes the printing service's manager unavailable. (See “Service Status” on page 155.)
Online	Makes the printing service's manager available. (See “Service Status” on page 155.)
Show Printers	Lets you add or delete printers in the IDS realm. (See “Show Printers” on page 158.)
Show Status	Lets you specify the maximum queue length and set a printer to enable or disable job submissions and job starts. (See “Show Status” on page 159.)
Soft Shutdown	Stops accepting new printing jobs into the queue and stops dispatching queued sessions for execution. (See “Soft Shutdown” on page 160.)

Commands

The remainder of this chapter describes each of the printing interface's commands in detail. The commands are presented in alphabetical order.

Add Printer

This button lets you add a printer to run under this printing service.

Window Description

When you click on **Add Printer** in the Printers window, the Details window opens. This window lets you set the names of the printer, its host service, and its OS/2 queue.

In the Printing Details window:

Add Printer	Adds the printer to the service's list, using the following settings.
Reset	Voids any settings you have changed and restores the previous settings.
Service	Identifies the printing service you have selected.
Realm	Is the name of the realm containing that service.
Printer Name	Specifies a name to identify the printer and its icon. You might want to design your printer name to help identify the printer's location or department.
Printer Host Service Name	Specifies the IDS name of the Printer Host service asset, on the computer to which the printer is physically attached.
OS/2 Queue Name	Specifies the operating system's printing queue, which you can see under the printer icon on the printer host's OS/2 desktop.

You must click on **Add Printer** to make any change effective. If you just close the window, nothing is done.

All

This choice causes the printing service's logging facility to begin recording all messages.

You must click on **Update Service Status** for the All choice to take effect. To cancel the setting (before you have used **Update Service Status**), click on the **Reset** button. If you just close the window, nothing is done.

Banner Page

This field of the Printer Icon window lets you require the printing of banner pages.

Choice Description

The Banner Page field gives you these choices:

Forced

Optional

If you click on **Forced** in the Printer Icon window, a banner page will accompany every item printed through the selected printer. The banner page lists the originating desktop, the printed item's name, the time and date when the item was submitted, and the time and date when it was formatted for printing.

If you click on **Optional**, the user chooses whether to print a banner page, for each item submitted for printing.

The default choice is Forced.

If you or a user elects to use banner pages, and a user submits multiple icons (or a container with contents) to the printer, a copy of the banner page starts each new printed item.

Change Password

This button lets you change the password for access to the printing service's interface.

Window Description

When you click on **Change Password** in the Printing window, the Change Password window opens. This window lets you type the old and new passwords. Type the new password twice, to protect against mistyped entries. As you type each character, the screen displays either an asterisk (*) or nothing, instead of your character, for security. (See “Password Display” on page 215.) You must click on **Change Password** to make the change effective. If you just close the window, nothing is done.

In the Change Password window:

Change Password	Effects the actual change.
Reset	Clears your entries from all three fields in the window.
Service	Identifies the printing service you have selected.
Realm	Is the name of the realm containing that service.
Current password	Is the password you logged on with.
New password	Is the password you want to become effective. The maximum password length is 31 characters. You can set the minimum in the User Logon Configuration window, as described in “Set User Logon Configuration” on page 217.
Confirm new password	Is the same as the new password, entered again to protect against mistyped entries.

You can open the printing services interface with either the interface password or the realm password. This Change Password window cannot change the realm password; to change it, use the **Change Realm Password** button in the network administration interface (documented on “Change Realm Password” on page 214).

Create Printer Icon

This button lets you create a desktop icon for a printer.

Window Description

When you select a printer in the Printers window and click on **Create Printer Icon**, the Printer Icon window opens. This window lets you set the priority for each job submitted

through the new icon, and also lets you specify whether to force the printing of a banner page with each job.

You cannot create printer icons on the system desktop, because you cannot create any new icons at the top level of that desktop. Therefore, you must use the SA tool on a regular desktop, then copy the new icon into the *Printer Icons file drawer. Because the file drawer usually is secured as **Changed By No One**, it is useful to have an access key assigned to it and to your administrative desktop.

In the Printer Icon window:

Create Printer Icon	Creates the icon, using the following settings. The cursor changes to a small printer outline; move it to an empty location on the desktop and click mouse button one to place the icon in that location. You can then rename the icon as needed; for example, if you create two icons with different priorities, you might want to indicate that in their names.
Reset	Voids any settings you have changed and restores the previous settings.
Service	Identifies the printing service you have selected.
Realm	Is the name of the realm containing that service.
Priority	Establishes priority, within the formatting queue, of any job submitted through this icon. The priority for highest importance is 0 and the lowest is 31. The default is 16.
Banner Page	Specifies whether to force the printing of a banner page with each job, as described in “Banner Page” on page 148.

Delete Job

This button deletes the selected job from the queue.

Button Description

When you select a printing job in the Job Queue window and click on **Delete Job**, the service permanently removes that job from the printer's job queue.

Delete Printer

This button deletes the selected printer from this printing service.

Button Description

To delete a printer from the configuration list, you must:

1. Select the printer from the list. (See “Show Printers” on page 158.)
2. Disable job submissions to that printer. (See “Job Submissions” on page 153.)
3. Wait for any currently queued jobs to finish processing.
4. When the queue is empty, click on **Delete Printer**.

Deleting the printer does not remove the printer's icon. If you are permanently deleting the printer, you should manually delete its icon.

Detail Log Mode

This choice field of the Printing window lets you set the service's logging facility to record all messages, no messages, or just interface-initiated messages.

Choice-Field Description

The **Detail Log Mode** choice field gives you these choices:

System

All

Off

When you click on **All**, in the Printing window, the service's logging facility begins recording all messages.

When you click on **Off**, the logging facility stops recording messages of any kind.

When you click on **System**, the logging facility begins recording only those events that are initiated internally by the service.

The default choice is All. You must click on **Update Service Status** for the System, All, or Off choice to take effect. To cancel the setting (before you have used **Update Service Status**), click on the **Reset** button. If you just close the window, nothing is done.

Disabled

This choice lets you set the service to disable execution of printing jobs or to reject new job submissions.

Choice Description

When you click on **Disabled** in the **Job Starts** field of the Status window, you prevent execution of printing jobs currently in the selected printer's queue. This choice does not affect acceptance of new jobs into the queue and does not affect jobs that are currently being executed.

When you click on **Disabled** in the **Job Submissions** field of the Status window, you prevent the selected printer's queue from accepting new submissions. This choice does not affect printing jobs that are already in the queue.

Enabled

This choice lets you set the selected printer to enable execution of printing jobs or to accept new job submissions.

Choice Description

When you click on **Enabled** in the **Job Starts** field of the Status window, you allow execution of printing jobs currently in the printer's queue.

When you click on **Enabled** in the **Job Submissions** field of the Status window, you allow the printer to accept new job submissions.

Forced

This choice lets you require the printing of banner pages on every item printed through the selected printer.

Choice Description

If you click on **Forced** in the Printer Icon window, a banner page will accompany every item printed through the selected printer. The banner page lists the originating desktop, the printed item's name, the time and date when the item was submitted, and the time and date when it was formatted for printing.

Hard Shutdown

This button immediately stops the printing service manager and all associated cluster managers and execution engines, without waiting for current printing jobs to finish processing.

To restart the service, open the node-management interface for the affected server, select the service manager in the list, and click on the **Start Service** button, as described in Chapter 12, “Managing Nodes” on page 110. Now do the same for the execution engines. If the service has execution engines distributed in more than one node, you must restart them on each of those nodes.

Button Description

When you click on the **Hard Shutdown** button in the Printing window, the service stops immediately, without waiting for current printing jobs to finish processing.

Job Starts

This choice field of the Status window lets you set the service to enable or disable execution of jobs currently in the printer's queue.

Choice-Field Description

The **Job Starts** choice field gives you these choices:

Enabled

Disabled

When you click on **Disabled** in the **Job Starts** choice field of the Status window, you prevent execution of printing jobs currently in the selected printer's queue. This choice does not affect acceptance of new jobs into the queue and does not affect jobs that are currently being executed.

When you click on **Enabled**, you allow execution of printing jobs currently in the printer's queue.

The default choice is Enabled.

Job Submissions

This choice field of the Status window lets you set the service to accept or reject new job submissions.

Choice-Field Description

The **Job Submissions** choice field gives you these choices:

Enabled

Disabled

When you click on **Disabled** in the **Job Submissions** choice field of the Status window, you prevent the selected printer's queue from accepting new submissions. This choice does not affect printing jobs that are already in the queue.

When you click on **Enabled**, you allow the printer to accept new job submissions.

The default choice is **Enabled**.

Off

This choice causes the printing service's logging facility to stop recording any messages.

You must click on **Update Service Status** for the Off choice to take effect. To cancel the setting (before you have used **Update Service Status**), click on the **Reset** button. If you just close the window, nothing is done.

Offline

This choice makes the printing service unavailable; that is, it prevents the service from accepting any new jobs or dispatching any existing jobs from the IDS queue to the operating system's printing queue.

You must click on **Update Service Status** for the **Offline** or **Online** choice to take effect. To cancel the setting (before you have used **Update Service Status**), click on the **Reset** button. If you just close the window, nothing is done.

To control the submission and starting of jobs for a specific printer, see “Job Submissions” and “Job Starts” on page 152.

Online

This choice makes the printing service available again, after it has been taken offline; that is, it allows the service to accept new jobs and to dispatch existing jobs from the IDS queue to the operating system's printing queue.

You must click on **Update Service Status** for the **Offline** or **Online** choice to take effect. To cancel the setting (before you have used **Update Service Status**), click on the **Reset** button. If you just close the window, nothing is done.

To control the submission and starting of jobs for a specific printer, see “Job Submissions” on page 153 and “Job Starts” on page 152.

Optional

This choice lets you give the users the choice of whether to print a banner page for each item printed through the selected printer.

Order By

These choice fields of the Sort Controls window let you choose which columns of the list to sort first.

Choice-Field Description

Every Sort Controls window lets you sort on any one or more of the columns in the selected list. It also lets you specify levels of sorting, each based on one of the columns in the list. In the window, each of the **Order By** choice fields lets you choose among all the columns in the list. For example, the Printers window has only one column, and its Sort Controls window has one choice, **Name**.

The Job Queue window has six columns, and its Sort Controls window gives you these choices:

ID

Owner

At

Run Time

Description

Status

The log file's window has two columns, and its Sort Controls window gives you these choices:

Time

Message

When you click on **Unsorted** (in the corresponding **Sorting Level** choice field) at any level, any lower-level **Sorting Level** and **Order By** choice fields (and the unsorted level's **Order By** choice field) immediately disappear from the Sort Controls window.

When you choose anything in the first **Order By** choice field, you specify which column the list in the Details window is to be sorted on (unless you also click on **Unsorted** in **Sorting Level 1**).

If you click on a different value in the second **Order By** choice field, you specify that entries after the first sorting are to be sorted in that order (unless you also click on **Unsorted** in **Sorting Level 2**).

If you click on the same value in both **Order By** choice fields, you specify that entries after the first sorting are to appear in random order.

For example, suppose that you are sorting the Job Queue window, the first **Order By** setting is Owner, and several items all have the owner Claybrook. In this situation, the sorting of owners within the group owned by Claybrook (but not of the overall list) is governed by the second **Order By** setting.

When you click on **ID** instead, you specify that the list is to be sorted by the items' identifying numbers.

See also “Sort Controls” on page 161 and “Sorting Level” on page 161.

Reset

This button voids any changes you have made in the window.

Button Description

When you click on **Reset** in any window header, any changes in the window's fields are voided and reset to the previous settings (if any).

Service Status

This choice field of the Printing window lets you set the service online or offline.

Choice-Field Description

The **Service Status** choice field gives you these choices:

Online

Offline

When you click on **Offline** in the Printing window, the service becomes unavailable; that is, choosing **Offline** prevents the service from accepting any new jobs or dispatching any existing jobs from the IDS queue to the operating system's printing queue.

When you click on **Online**, the service becomes available again, after it has been taken offline; that is, choosing **Online** allows the service to accept new jobs and to dispatch existing jobs from the IDS queue to the operating system's printing queue.

The default choice is Online. You must click on **Update Service Status** for the **Offline** or **Online** choice to take effect. To cancel the setting (before you have used **Update Service Status**), click on the **Reset** button. If you just close the window, nothing is done.

To control the submission and starting of jobs for a specific printer, see “Job Submissions” on page 153 and “Job Starts” on page 152.

Show Details

This button sets the name and other information about one printer.

Window Description

When you click on **Show Details** in the Printers window, the Details window opens. This window shows the names of the printer, its host service, and its OS/2 queue. You must click on **Set Configuration** to make the change effective. If you just close the window, nothing is done.

In the Printing Details window:

Set Configuration	Effects any changes in the host name and queue name.
Reset	Voids any settings you have changed and restores the previous settings.
Service	Identifies the printing service you have selected.
Realm	Is the name of the realm containing that service.
Printer Name	Is the name of the printer. You cannot change this name, except by deleting the printer and adding it again.
Printer Host Service Name	Specifies the IDS name of the Printer Host service asset, on the computer to which the printer is physically attached.
OS/2 Queue Name	Specifies the operating system's printing queue, which you can see under the printer icon on the printer host's OS/2 desktop.

You must click on **Set Configuration** to make any change effective. If you just close the window, nothing is done.

Show Engines

This button displays the status of the printing service's execution engines.

Window Description

When you click on **Show Engines** in the Printing window, the Engines window opens. This window shows the identifying number, cluster identifier, network address, status, and the duration of that status for each execution engine.

In the Engines window:

Service	Identifies the printing service you have selected.
Realm	Is the name of the realm containing that service.
Update Button	Rechecks the status of all displayed data and updates the display, as described in “Update” on page 162.
Sort Controls Button	Lets you choose whether to sort by identifying numbers, cluster numbers, network addresses, status, or dates, as described in “Sort Controls” on page 161.
Select All Button	Selects all of the entries in the list.

ID	Is an 8-digit, hexadecimal number that identifies the execution engine. The first four digits (including any leading zeros, which are not displayed) identify the cluster, and the remaining four identify the specific engine within that cluster. The Job Queue window also shows this number for engines that are running printing jobs.
Cluster	Is a hexadecimal number that identifies the cluster. This number is the same as the first four digits of ID (including any undisplayed leading zeros).
Address	Is the node address of each cluster manager.
Status	Is the current state of each execution engine: **Ready** indicates that the engine is available. **Running** indicates that the engine is executing a job now. **Notify** indicates that the engine has completed execution of its job and is now notifying its manager. **Unusable** indicates that the engine is in the process of initializing again. **Deregistered** indicates that the engine is finished initializing again.
Since	Is the date and time when each execution engine achieved its current state.

Show Job Queue

This button displays the identifying number, owning service, and other information for each job currently in the selected printer's queue.

Window Description

When you select a printer in the Printers window and click on **Show Job Queue**, the Job Queue window opens. This window displays the identifying number, submitter, request time, execution time, job name, and status for each job currently in the queue.

In the Job Queue window:

Service	Identifies the printing service you have selected.
Realm	Is the name of the realm containing that service.
Update Button	Rechecks the status of all displayed data and updates the display, as described in “Update” on page 162.
Sort Controls Button	Lets you choose whether to sort by identifying numbers, owners, submission time, formatting time, or name, as described in “Sort Controls” on page 161.
Delete Job Button	Removes the job you have selected from the printer's queue.
Select All Button	Selects all of the entries in the list.
ID	Is a hexadecimal number identifying the printing job.
Owner	Shows the name of the user who submitted the job for execution.

At	Shows the date and time when the job was requested by the service that owns it.
Run Time	Shows the date and time when the printing job was started.
Description	Shows the name of the object to be printed.
Status	Is the current state of each printing job: **Waiting** indicates that the job is waiting to be scheduled. **Ready** indicates that the job has been scheduled and is in the queue, waiting to be formatted. **Running** indicates that the job is being formatted now. **Done** indicates that the job is formatted and ready to be sent to the operating system's printing queue. **Notify** indicates that the execution engine is notifying its manager that the formatting is done. **Abort** indicates that the job has been cancelled.

Show Log

This button shows the time, date, and text of each message in the service's log file.

Button Description

When you click on **Show Log** in the Printing window, IDS copies the current log file to your desktop and opens it.

You cannot use **Show Log** on the system desktop, because you cannot create any new icons at the top level of that desktop. For this task, you must use the SA tool on a regular desktop.

Each entry in the log includes the time, date, and text of one message.

In the log window:

Show Controls	Lets you specify whether to show the Time column, the Message column, or both.
Sort Controls	Lets you choose whether to sort by time, by message text, or neither, as described in “Sort Controls” on page 161.
Time	Lists the date and time when each message was posted to the log.
Message	Lists each message posted by the printing service

Show Printers

This button lists all of the printers that are currently configured under this printing service and lets you add or delete printers.

Button Description

When you click on **Show Printers** in the Printing window, the Printers window opens.

In the Printers window:

Service	Identifies the printing service you have selected.
Realm	Is the name of the realm containing that service.
Add Printer Button	Opens the Details window. This window lets you add a printer to run under this printing service, as described in “Show Details” on page 156.
Create Printer Icon Button	Creates a desktop icon for a newly added printer, as described in “Create Printer Icon” on page 149.
Show Status Button	Opens the Status window. This window displays information about jobs and execution resources, and lets you specify the maximum queue length and set the service to enable or disable job submissions and job starts, as described in “Show Status.” The information in this window applies to the selected printer only.
Show Job Queue Button	Opens the Job Queue window. This window displays the identifying number, job owner, and other information for each job currently in the queue, as described in “Show Job Queue” on page 157. The information in this window applies to the selected printer only.
Show Details Button	Opens the Details window. This window lets you change the names of the printer's host service and its OS/2 queue, in the printer's configuration, as described in “Show Details” on page 156.
Sort Controls Button	Lets you choose whether to sort the printer names in ascending or descending order, as described in “For Printers” on page 161, in “Sort Controls” on page 161.
Delete Printer Button	Removes the selected printer from this printing service.
Select All Button	Selects all of the entries in the list.
Name	Lists the names of each printer running under this printing service.

Show Status

This button displays information about jobs and execution resources, and lets you specify the maximum queue length and set a printer to enable or disable job submissions and job starts.

Window Description

When you click on **Show Status** in the Printers window, the Status window opens. This window displays the number of jobs waiting, ready, running, and on hold; displays the number of execution resources busy and free; lets you specify the printer's maximum queue length; and lets you enable or disable job submissions and job starts for this printer.

In the Status window:

Set Configuration	Changes the enabling of job submissions and starts, and the maximum queue length, according to the values you have specified.
Reset	Voids any settings you have changed and restores the previous settings.
Service	Identifies the printing service you have selected.
Realm	Is the name of the realm containing that service.
Update Button	Rechecks the status of all displayed data and updates the display, as described in “Update” on page 162.
Job Submissions	Lets you set the printer's queue to accept or reject new job submissions, as described in “Job Submissions” on page 153.
Job Starts	Lets you enable or disable execution of jobs currently in the printer's queue, as described in “Job Starts” on page 152.
Queue Length Maximum	Lets you set the largest number of jobs to be allowed in the printer's queue. The default maximum is 256. The smallest maximum allowed is 16. When the queue reaches its maximum size, no new submissions are allowed until an existing job is finished and leaves the queue.
Current Jobs Waiting	Is the number of jobs being processed into the queue.
Ready	Is the number of jobs ready for formatting and waiting for execution engines to become available.
Running	Is the number of jobs currently being formatted.
Hold	Is always 0 for the printing service.
Total	Is the total number of jobs in the printer's queue.
Execution Resources Busy	Is the number of execution engines currently engaged in formatting or otherwise processing jobs.
Free	Is the number of execution engines available for assignment.
Total	Is the total number of execution engines configured for the service.

Soft Shutdown

This button stops accepting new printing jobs into the queue and stops dispatching already-queued jobs to the OS/2 printing manager. When all printing jobs have finished processing, the service and associated execution engines stop.

To restart the service, open the node-management interface for the affected server, select the service manager in the list, and click on the **Start Service** button, as described in Chapter 12, “Managing Nodes” on page 110. Now do the same for the execution engines. If the service has execution engines distributed in more than one node, you must restart them on each of those nodes.

Button Description

When you click on the **Soft Shutdown** button in the Printing window, the printer service stops, but only after waiting for current printing jobs to finish processing. When all jobs have finished, the service and associated execution engines stop.

Sort Controls

This button lets you sort on any one or more of the columns in the Job Queue or Printers window.

Window Descriptions

When you click on the **Sort Controls** button, the Sort Controls window opens. This window lets you sort on any one or more of the columns in the selected list. It also lets you specify levels of sorting, each based on one of the columns in the list.

When you click on **Unsorted** at any level, any lower-level **Sorting Level** and **Order By** choice fields (and the unsorted level's **Order By** choice field) immediately disappear from the Sort Controls window and have no effect.

When you close the Sort Controls window, sorting takes place automatically.

In each Sort Controls window:

Sorting Level 1	Lets you set the primary sequence into which the entries are to be sorted, as described in "Sorting Level."
Sorting Level *n*	Lets you set the *n*th sorting sequence, as described in "Sorting Level."
Order By	Lets you choose which columns of the list to sort first, as described in "Order By" on page 154.

For Job Queue

From the Job Queue window, the Sort Controls window lets you sort on the identifying numbers, owners, submission time, formatting time, or name.

For Printers

From the Printers window, the Sort Controls window lets you sort the printer names in ascending or descending order.

For the Log File

From the open log file (see "Show Log" on page 158), the Sort Controls window lets you sort on the identifying numbers, owners, submission time, formatting time, or name. Unlike most other Sort Controls windows, the default for the log file is Unsorted.

Sorting Level

These choice fields of the Sort Controls window let you choose how to sort the corresponding column of the list.

Choice-Field Description

Every Sort Controls window lets you sort on any one or more of the columns in the selected list. It also lets you specify levels of sorting, each based on one of the columns in the list. In the window, each of the **Sorting Level** choice fields lets you choose whether and how to sort the list column that is specified in the corresponding **Order By** choice field. Each of the **Sorting Level** choice fields give you these choices:

Unsorted

Ascending

Descending

If you click on **Unsorted** in the **Sorting Level 1** choice field of the Sort Controls window, you specify that the list is to appear in random order. If you click on **Unsorted** in the **Sorting Level 2** choice field, you specify that entries after the first sorting are to appear in random order. Subsequent sorting levels work similarly. For example, suppose you are sorting the Job Queue window, **Sorting Level 1** has **Order By** set to **Owner** and several items all are owned by Claybrook; then the sorting of items within the group owned by Claybrook is governed by **Sorting Level 2.**

When you click on **Unsorted** at any level, any lower-level **Sorting Level** and **Order By** choice fields immediately disappear from the Sort Controls window.

If you click on **Ascending**, you specify that the list of services is to appear in alphanumeric order with numbers listed 0 through 9, followed by letters listed A through Z.

If you click on **Descending**, you specify that the list is to appear in alphanumeric order with letters listed Z through A, followed by numbers listed 9 through 0.

With either Ascending or Descending, the sorting can be based on any column, as described in “Sort Controls” on page 161.

System

This choice causes the printing service's logging facility to begin recording only those messages that are internally generated by the printing service.

You must click on **Update Service Status** for the System choice to take effect. To cancel the setting (before you have used **Update Service Status**), click on the **Reset** button. If you just close the window, nothing is done.

Update

This button rechecks the status of all displayed data and updates the display.

Button Description

When you click on **Update** in the Engines, Job Queue, or Status window, the service rechecks the status of all displayed data and updates the display.

Update Service Status

This button effects any changes you have made in the **Service Status** or **Detail Log Mode** choice field.

Button Description

When you click on **Update Service Status** in the header of the Printing window, the current settings of **Service Status** and **Detail Log Mode** take effect. To cancel those

settings (before you have used **Update Service Status**), click on the **Reset** button. If you just close the window, nothing is done.

Chapter 15. Capsule Service

The Capsule Service controls the execution of capsule applications. With Open Data Access Service, client users can run a capsule application:

Immediately (or as soon as an execution engine is available)

Once, at a specified date and time

Periodically (for example, monthly, weekly, or daily)

In batch mode, during a predefined time range (for example, you could define OVERNIGHT as an alias for some time between midnight and 5 a.m.)

IDS desktop users can run a capsule application immediately, overnight, or at a specified date and time. User-defined aliases are available to client computer users through Open Data Access Service, but are not available to desktop users of the Capsule Service tool. As system administrator, however, you can assign a time alias to any waiting job.

Capsule Service also lets you:

List all jobs in the capsule queue, in the order of execution

Specify the maximum starting-time delay (how long, beyond the scheduled starting time, a capsule job can wait to run before being canceled automatically by Capsule Service)

Update the scheduled run time, maximum run time, and starting-time delay of any capsule application submitted by that user

Place on hold, release, or cancel any capsule job submitted by that user

The service manager for Capsule Service starts one of the available execution engines for each request from Open Data Access Service or from a desktop user's Capsule Service tool. That execution engine sees that the necessary tasks are performed, sends results to the requester, then terminates.

Execution engines are grouped into clusters, each controlled by a cluster manager. Each cluster manager and all of its execution engines are in the same computer. A service manager can control several cluster managers in different computers, to distribute the work.

The SA tool provides a graphical interface for administration of Capsule Service. This chapter describes its commands, which let you control logging, queueing, status reporting, and aliases for job-execution times.

Console Access

To administer the Capsule Service:

1. Open the SA tool.

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2. Select **Capsule Service**.
3. Use **From List** or **By Name** to choose the Capsule Service manager you want to administer, and then click on **Connect to Service**. When you click on **By Name**, the **Service** field label changes to **Name**.
4. In the Capsule Service window, enter the interface password or the realm password.
5. Click on the button for the task you want to accomplish.

The Capsule Service interface allows only one access at a time. If you try to open it when someone else already has it open, access is denied.

In the Capsule Service window:

Update Service Status	Effects the actual change that you have made in Service Status and Detail Log Mode.
Reset	Clears your choices and restores the most recently configured values.
Service	Identifies the Capsule Service you have selected.
Realm	Is the name of the realm containing that service.
Service Status	Lets you set the service offline or online, as described in “Service Status” on page 177.
Hard Shutdown Button	Immediately stops the service's manager and all associated cluster managers and execution engines, without waiting for current jobs to finish, as described in “Hard Shutdown” on page 174.
Soft Shutdown	Stops accepting new jobs into the queue and stops dispatching queued sessions for execution, as described in “Soft Shutdown” on page 186.
Show Log Button	Shows the time, date, and text of each message in the service's log file, as described in “Show Log” on page 183.
Detail Log Mode	Lets you choose among All, Off, and System to set the service's logging facility to record all messages, no messages, or just interface-initiated messages, as described in “Detail Log Mode” on page 173.
Show Status Button	Displays information about jobs and execution resources, and lets you set the service to enable or disable job submissions and job starts, as described in “Show Status” on page 185.
Show Job Queue Button	Displays the identifying number, owning service, and other information for each job currently in the queue, as described in “Show Job Queue” on page 182.
Show Engines Button	Displays the status of the Capsule Service execution engines, as described in “Show Engines” on page 182.
Change Password Button	Changes the password for the Capsule Service interface, as described in “Change Password” on page 171.

Show Statistics Button	Displays information about the length of the queue and the backlog of jobs, as described in “Show Statistics” on page 184.
Show Aliases Button	Lists and defines aliases for job-execution times, as described in “Show Aliases” on page 178.

Summary of Commands

Figure 8 on page 167 shows the flow of the windows in the Capsule Service interface. Table 18 on page 168 through Table 22 on page 169 list the Capsule Service interface commands, grouped by their functions. Later in this chapter, the detailed command descriptions are sorted in alphabetical order for easy reference.

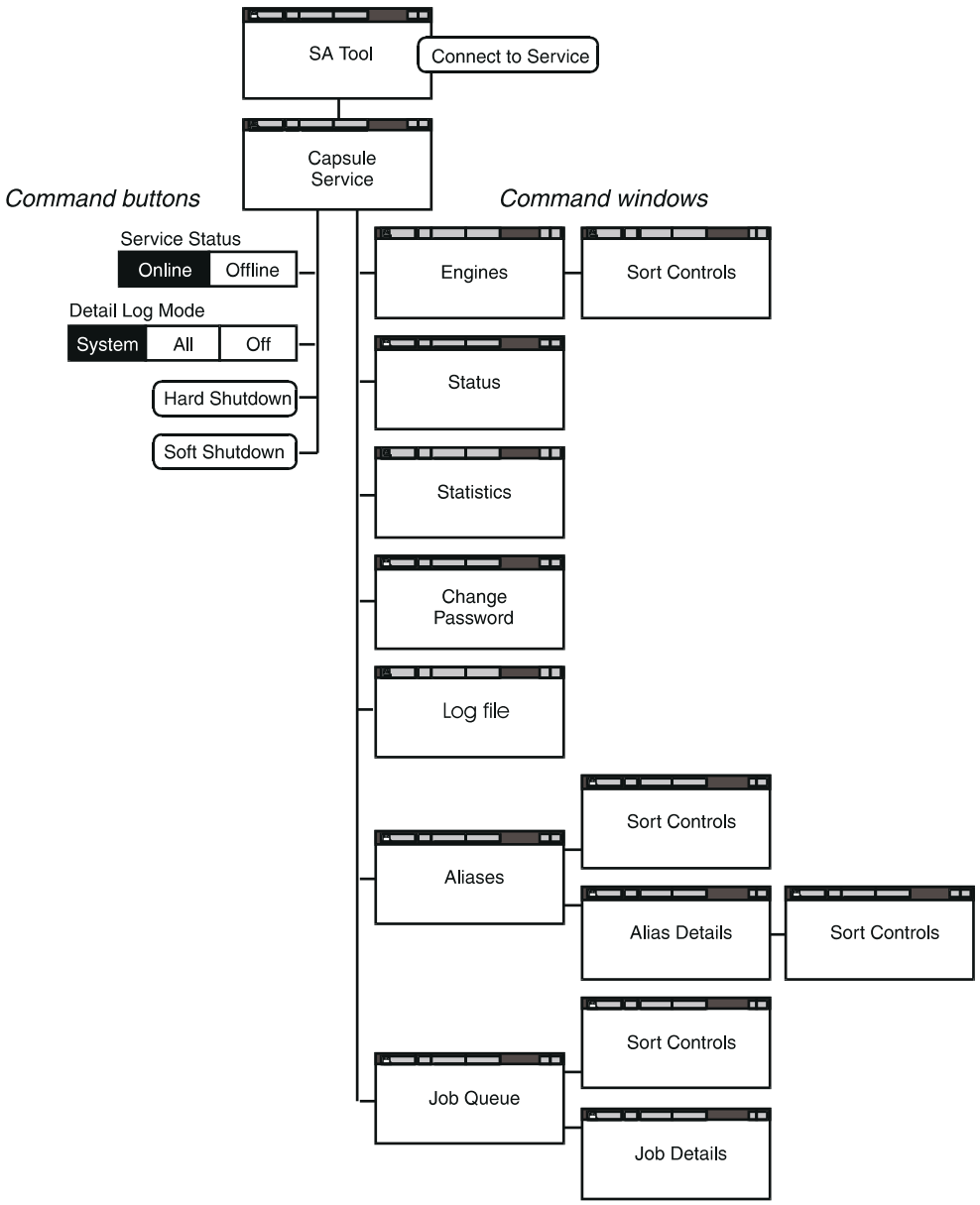

Figure 8. Window structure for Capsule Services

Table 18. Fields in the Capsule Service interface

Choice	Description
Detail Log Mode	Lets you choose among All, Off, and System to set the service's logging facility to record all messages, no messages, or just interface-initiated messages. (See “Detail Log Mode” on page 173.)
Job Starts	Lets you enable or disable execution of Capsule Service sessions currently in the queue. (See “Job Starts” on page 174.)
Job Submissions	Lets you accept or reject new job submissions. (See “Job Submissions” on page 174.)
Service Status	Lets you set the service offline or online. (See “Service Status” on page 177.)
Type	Specifies whether an alias is for periodic or single execution. (See “Job Submissions” on page 174.)

Table 19. Capsule Service interface commands to display information

Button or choice	Description
Reset Statistics	Resets the maximum and average statistics to zero and resets Statistics Last Reset to the current time. (See “Reset Statistics” on page 177.)
Show Alias	Lists and defines aliases for job-execution times. (See “Show Aliases” on page 178.)
Show Details	Displays more detailed data about the selected job or alias. (See “Show Details” on page 179.)
Show Engines	Displays the status of the Capsule Service execution engines. (See “Show Engines” on page 182.)
Show Job Queue	Displays the identifying number, owning service, and other information for each job currently in the queue. (See “Show Job Queue” on page 182.)
Show Log	Shows the time, date, and text of each message in the service's log file. (See “Show Log” on page 183.)
Show Statistics	Displays information about the length of the queue and the backlog of jobs. (See “Show Statistics” on page 184.)
Show Status	Displays information about jobs and execution resources, and lets you set the service to enable or disable job submissions and job starts. (See “Show Status” on page 185.)
Update	Rechecks the status of all execution engines and updates the display. (See “Update” on page 189.)

Table 20 (Page 1 of 2). Capsule Service interface commands for controlling aliases

Button or choice	Description
Add Alias	Creates a new alias for a job-execution time. (See “Add Alias” on page 170.)
Show Aliases	Lists and defines aliases for job-execution times. (See “Show Aliases” on page 178.)

Table 20 (Page 2 of 2). Capsule Service interface commands for controlling aliases

Button or choice	Description
Delete Alias	Deletes an alias for a job-execution time. (See “Delete Alias” on page 172.)
Periodic	Specifies that the job should be executed every time the alias' time-and-date details occur. (See “Job Submissions” on page 174.)
Single	Specifies that the job should be executed only once, the next time the alias' time-and-date details occur. (See “Job Submissions” on page 174.)
Show Details	Sets or changes the date, time, and other details of an alias for a job-execution time. (See “Show Details” on page 179.)
Update Example	Displays the next four times when the specified alias would cause execution. (See “Update Example” on page 189.)

Table 21. Capsule Service interface commands for controlling the log

Button or choice	Description
All	Causes the service's logging facility to begin recording all messages. (See “Detail Log Mode” on page 173.)
Off	Causes the service's logging facility to stop recording any messages. (See “Detail Log Mode” on page 173.)
Show Log	Shows the time, date, and text of each message in the service's log file. (See “Show Log” on page 183.)
System	Causes the service's logging facility to begin recording only those messages that are internally generated by the Capsule Service. (See “Detail Log Mode” on page 173.)

Table 22 (Page 1 of 2). Capsule Service interface commands to control the service

Button or choice	Description
Change Password	Changes the Capsule Service administration password. (See “Change Password” on page 171.)
Disabled	Disables execution of Capsule Service sessions or rejects new job submissions. (See “Job Starts” on page 174 and “Job Submissions” on page 174.)
Enabled	Enables execution of Capsule Service sessions or accepts new job submissions. (See “Job Starts” on page 174 and “Job Submissions” on page 174.)
Hard Shutdown	Immediately stops the Capsule Service manager and all associated cluster managers and execution engines, without waiting for current Capsule Service sessions to finish processing. (See “Hard Shutdown” on page 174.)
Offline	Makes the Capsule Service manager unavailable. (See “Service Status” on page 177.)
Online	Makes the Capsule Service manager available. (See “Service Status” on page 177.)

Table 22 (Page 2 of 2). Capsule Service interface commands to control the service

Button or choice	Description
Soft Shutdown	Stops accepting new Capsule Service sessions into the queue and dispatching queued sessions for execution. (See “Soft Shutdown” on page 186.)

Table 23. Other Capsule Service interface commands

Button or choice	Description
Delete Job	Deletes a job from the execution queue. (See “Delete Job” on page 172.)

Commands

The remainder of this chapter describes each of the Capsule Service commands in detail. The commands are presented in alphabetical order.

Add Alias

This button creates a new alias for a job-execution time.

WIndow Description

When you click on **Add Alias** in the Alias window, the Alias Details window opens. Use this window to specify the name, date, time, and other details of an alias for a job-execution time. User-defined aliases are available to users of Open Data Access Service, but are not available to desktop users of the Capsule Service tool. As system administrator, however, you can assign a time alias to any waiting job.

In the Alias Details window:

Add Alias	Creates an alias with the specified name and other parameters.
Reset	Clears your choices and restores the most recently configured values.
Service	Identifies the Capsule Service you have selected.
Realm	Is the name of the realm containing that service.
Name	Specifies the name of the alias that you are creating. The name cannot include spaces or punctuation. The name is also case-sensitive; for example, AbCdE is different from ABCDE or abcde.
Type	Specifies whether this alias is for periodic or single execution: *Periodic* specifies that the job should be executed every time the specified time-and-date details occur. *Single* specifies that the job should be executed only once, the next time the specified time-and-date details occur.
Year	Specifies the year of execution. You can select any year from 1993 through 1999, or choose the asterisk (*) to allow execution in all years.

Month	Specifies the month of execution. You can select any month from January through December, or choose the asterisk (*) to allow execution in all months.
Date	Specifies the day-of-month of execution. You can select: Any day from 1 through 31 (or 28, 29, or 30). The menu limits the number of dates shown according to the month you have selected. Last Day, to run on the last day of any month. The asterisk (*), which allows execution on all days of the month.
Day of Week	Specifies the day-of-week of execution. You can select any day from Sunday through Saturday, or choose the asterisk (*) to allow execution on all days of the week.
Hour	Specifies the hour of execution. You can select any hour from 0 (midnight) through 23 (11 p.m.), or choose the asterisk (*) to allow execution at all hours of the day.
Minute	Specifies the minute of execution (within the specified hour). You can select any minute from 0 through 59, or choose the asterisk (*) to allow execution in all minutes of the hour.
Second	Specifies the second of execution (within the specified minute). You can select any second from 0 through 59, or choose the asterisk (*) to allow execution in all seconds of the minute.
Update Example Button	Displays the next time when the specified details would cause execution.
If Submitted:	Displays the date and time when the window was opened, for comparison with the dates and times given for *n*th Execution.
First Execution: Second Execution: Third Execution:	For a periodic alias, displays the first three dates and times that would trigger the alias for a job submitted at the If Submitted: date and time. For a single alias, only First Execution: is displayed.

All

This choice causes the Capsule Service logging facility to begin recording all messages.

All Entries for Repeating Job

This choice lets you cancel all executions of a periodic capsule application. When you select this choice, or delete a single-execution job, the service permanently removes that job from the service's job queue.

Change Password

This button lets you change the password for access to the Capsule Service interface.

Window Description

When you click on **Change Password** in the Capsule Service window, the Change Password window opens. This window lets you type the old and new passwords. Type

the new password twice, to protect against mistyped entries. As you type each character, the system displays either an asterisk (*) or nothing, instead of your character, for security. (See “Password Display” on page 215.) You must click on **Change Password** to make the change effective. If you just close the window, nothing is done.

In the Change Password window:

Change Password	Effects the actual change.
Reset	Clears your entries from all three fields in the window.
Service	Identifies the Capsule Service you have selected.
Realm	Is the name of the realm containing that service.
Current password	Is the password you logged on with.
New password	Is the password you want to become effective. The maximum password length is 31 characters. You can set the minimum in the User Logon Configuration window, as described in “Set User Logon Configuration” on page 217.
Confirm new password	Is the same as the new password, re-entered to protect against mistyped entries.

You can open the Capsule Service interface with either the interface password or the realm password. This Change Password window cannot change the realm password; to change it, use the **Change Realm Password** button in the network administration interface (described on “Change Realm Password” on page 214).

Delete Alias

This button removes an execution-time alias.

Button Description

When you select an alias and click on **Delete Alias** in the Aliases window, the service removes that alias from the list.

Delete Job

This button deletes the selected job from the execution queue.

Window Description

When you select a capsule application in the Job Queue window and click on **Delete Job**, the Job Deletion window opens.

If the job is scheduled with a periodic alias, you can choose to cancel either the entire job or only the current execution. You cannot cancel only one future instance of a periodic job. For example, if you have a job scheduled to run on the last day of each month, and in mid-July you choose to delete **This Job Only**, the job remains scheduled for the end of July, August, September, and so on. If the job is running when you delete **This Job Only**, it stops, and then runs again the next month.

If you choose **All Entries for Repeating Job**, or delete a single-execution job, the service permanently removes that job from the service's job queue.

In the Job Deletion window:

Delete	Permanently removes the job from the Capsule Service's queue.
Reset	Voids any setting you have changed and restores the previous setting.
Service	Identifies the Capsule Service you have selected.
Realm	Is the name of the realm containing that service.
Delete	Lets you choose whether to cancel one or all executions of a periodic job or, for a single job, simply cancels the job.

Detail Log Mode

This area of the Capsule Service window lets you set the service's logging facility to record all messages, no messages, or just interface-initiated messages.

Choice Description

The Detail Log Mode area gives you these choices:

System

All

Off

When you click on **All** in the Capsule Service window, the service's logging facility begins recording all messages.

When you click on **Off**, the logging facility stops recording messages of any kind.

When you click on **System**, the logging facility begins recording only those events that are internally generated by the Capsule Service. Events that are initiated by Open Data Access Service are not to be recorded.

The default choice is System.

Disabled

This choice lets you set the service to prevent execution of capsule applications currently in the Capsule Service queue. This choice does not affect acceptance of new sessions into the queue and does not affect capsule applications that are currently being executed.

When you click on **Disabled** in the Job Submissions area of the Status window, you prevent the Capsule Service queue from accepting new submissions. This choice does not affect capsule applications that are already in the queue.

Enabled

This choice lets you set the service to enable execution of capsule applications or to accept new job submissions.

When you click on **Enabled** in the Job Submissions area of the Status window, you allow the service to accept new job submissions.

Hard Shutdown

This button immediately stops the Capsule Service manager and all associated cluster managers and execution engines, without waiting for current capsule applications to finish processing.

To restart the service, open the node-management interface for the affected server, select the service manager in the list, and click on the **Start Service** button, as described in Chapter 12, “Managing Nodes” on page 110. Now do the same for the execution engines. If the service has execution engines distributed in more than one node, you must restart them on each of those nodes.

Button Description

When you click on the **Hard Shutdown** button in the Capsule Service window, the Capsule Service stops immediately, without waiting for current capsule applications to finish processing.

Job Starts

This area of the Status window lets you set the service to enable or disable execution of capsule applications currently in the Capsule Service queue.

Choice Description

The Job Starts area gives you these choices:

Enabled

Disabled

When you click on **Disabled** in the Job Starts area of the Status window, you prevent execution of capsule applications currently in the Capsule Service queue. This choice does not affect acceptance of new sessions into the queue and does not affect capsule applications that are currently being executed.

When you click on **Enabled**, you allow execution of capsule applications currently in the queue.

The default choice is Enabled.

Job Submissions

This area of the Status window lets you set the service to accept or reject new job submissions.

Choice Description

The Job Submissions area gives you these choices:

Enabled

Disabled

When you click on **Disabled** in the Job Submissions area of the Status window, you prevent the Capsule Service queue from accepting new submissions. This choice does not affect capsule applications that are already in the queue.

When you click on **Enabled**, you allow the service to accept new job submissions.

The default choice is Enabled.

Off

This choice causes the Capsule Service logging facility to stop recording any messages.

Offline

This choice makes the Capsule Service unavailable; that is, it prevents the service from accepting any new jobs or dispatching any jobs from the queue for execution, but already-running jobs continue to run.

Online

This choice makes the Capsule Service available again, after it has been taken offline; that is, it allows the service to accept new sessions and to dispatch sessions from the queue for execution.

Order By

These choice fields of the Sort Controls window let you choose which columns of the list to sort first.

Choice Description

Every Sort Controls window lets you sort on any one or more of the columns in the list. It also lets you specify levels of sorting, each based on one of the columns in the list. In the window, each of the **Order By** choice fields lets you choose among all the columns in the list. For example, the Job Queue window has six columns, and its Sort Controls window gives you these choices:

ID

Owner

All

Run Time

Description

Status

The Engines window has five columns, and its Sort Controls window gives you these choices:

ID

Cluster

Address

Status

Since

The Aliases window has nine columns, and its Sort Controls window gives you these choices:

Name

Type

Year

Month

Date

Day of Week

Hour

Minute

Second

The Alias Details window has one column, and its Sort Controls window gives you this choice:

Execution Example

The log file's window has two columns, and its Sort Controls window gives you these choices:

Time

Message

When you click on **Unsorted** (in the corresponding **Sorting Level** choice area) at any level, any lower-level **Sorting Level** and **Order By** choice fields (and the unsorted level's **Order By** choice field) immediately disappear from the Sort Controls window.

When you choose anything in the first **Order By** choice field, you specify which column the list is to be sorted on (unless you also click on **Unsorted** in **Sorting Level 1**).

If you click on a different value in the second **Order By** choice field, you specify that entries after the first sorting are to be sorted in that order (unless you also click on **Unsorted** in **Sorting Level 2**).

If you click on the same value in both **Order By** choice fields, you specify that entries after the first sorting are to appear in random order.

For example, suppose that you are sorting the Engines window, the first **Order By** setting is *Status*, and several execution engines all have the status listed as Running. In this situation, the sorting of execution engines within the group having the Running status (but not of the overall list) is governed by the second **Order By** setting.

When you click on **ID** instead, you specify that the list is to be sorted by the ID numbers.

See also “Sort Controls” on page 186 and “Sorting Level” on page 187.

Periodic

This choice lets you specify that the alias, when used, should execute a job every time the specified time-and-date details occur.

Reset Statistics

This button resets the maximum and average statistics to zero and resets Statistics Last Reset to the current time.

Window Description

When you click on **Reset Statistics** in the Statistics window, that window resets the display of the largest and average queue length and jobs backlog. It also resets the **Statistics Last Reset** field to the current time.

Service Status

This area of the Capsule Service window lets you set the service online or offline.

Choice Description

The Service Status area gives you these choices:

Online

Offline

When you click on **Offline** in the Capsule Service window, the service becomes unavailable; that is, choosing **Offline** prevents the service from accepting any new sessions or dispatching any capsule jobs from the queue for execution, although already-running jobs continue to run.

When you click on **Online**, the service becomes available again, after it has been taken offline; that is, choosing **Online** allows the service to accept new jobs and to dispatch jobs from the queue for execution.

The default choice is Online.

Show Aliases

This button lets you list and define aliases for job-execution times.

Window Description

When you click on **Show Aliases** in the Capsule Service window, the Aliases window opens. This window shows the name, date, and time for each execution alias. One alias, OVERNIGHT, is preconfigured. Do not delete this alias; when a desktop user of the Capsule Service tool selects overnight execution, that tool submits the job with the OVERNIGHTalias.

In the Aliases window:

Service	Identifies the Capsule Service you have selected.
Realm	Is the name of the realm containing that service.
Add Alias Button	Creates a new alias and opens the Alias Details window, as described in “For Aliases” on page 179.
Show Details Button	Opens the Alias Details window, as described in “For Aliases” on page 179.
Sort Controls Button	Lets you choose whether to sort by alias name, year, month, day, weekday, hour, minute, or second, as described in “For Aliases” on page 187, in “Sort Controls” on page 186.
Delete Alias Button	Deletes the selected alias, as described in “Delete Alias” on page 172.
Select All Button	Selects all of the entries in the list.
Name	Is the name of each alias.
Type	Specifies whether this alias is for periodic or single execution: *Periodic* specifies that the job should be executed every time the specified time-and-date details occur. *Single* specifies that the job should be executed only once, the next time the specified time-and-date details occur.
Year	Specifies the year of execution in each alias. An asterisk (*) allows execution in all years.
Month	Specifies the month of execution in each alias. An asterisk (*) allows execution in all months.
Date	Specifies the day-of-month of execution (from 1 through 31) in each alias. An asterisk (*) allows execution on all days.
Day of Week	Specifies the weekday of execution (from Sunday through Saturday) in each alias. An asterisk (*) allows execution on all days of the week.
Hour	Specifies the hour of execution (from 0 (midnight) through 23 (11 p.m.)) in each alias. An asterisk (*) allows execution at all hours.
Minute	Specifies the minute of execution (within the specified hour) in each alias. An asterisk (*) allows execution in all minutes of the hour.

Second	Specifies the second of execution (within the specified minute) in each alias. An asterisk (*) allows execution in all seconds of the minute.

Show Details

This button causes its window to display more detailed data.

Button Description

When you click on **Show Details** in the Aliases or Job Queue window, the Alias Details or Job Details window opens with more data.

For Aliases

When you click on **Add Alias** or **Show Details** in the Aliases window, the Alias Details window opens. This window sets or changes the name, date, time, and other details of an alias for a job-execution time. See also “Add Alias” on page 170 and “Show Job Queue” on page 182.

An alias can be one of two types: single or periodic. With a single alias, a job gets executed once, at the specified date and time. With a periodic alias, a job gets executed at regular intervals, such as weekly or monthly.

Each time or date field is a pop-up menu. In each field, an asterisk (*) means "don't care", or any time that matches the other fields' settings; for example, an asterisk in the Hour column means the job can run at any hour, if the other parameters are met. If you set Second as an asterisk, a short job can repeat until the start of the next minute. For example, suppose your capsule application takes 15 seconds to run. If you run it with an alias specifying Hour = 8, Minute = 0, and Second = *, the job would be scheduled to run at 8:00:00, 8:00:15, 8:00:30, and 8:00:45, because all of these match the 8:00:* specification.

Similarly, a specification of 8:*:00 would schedule the job to run at 8:00:00, 8:01:00, 8:02:00, and so forth through 8:59:00. To avoid this kind of repetition, be sure to set specific values for Hour, Minute, and Second.

In the Alias Details window:

Set Configuration	Alters the alias with the specified type and other parameters.
Reset	Clears your choices and restores the most recently configured values.
Service	Identifies the Capsule Service you have selected.
Realm	Is the name of the realm containing that service.
Name	Is the name of the alias that you are modifying.

Type	Specifies whether this alias is for periodic or single execution: *Periodic* specifies that the job should be executed every time the specified time-and-date details occur. *Single* specifies that the job should be executed only once, the next time the specified time-and-date details occur.
Year	Specifies the year of execution. You can select any year from 1993 through 1999, or choose the asterisk (*) to allow execution in all years.
Month	Specifies the month of execution. You can select any month from January through December, or choose the asterisk (*) to allow execution in all months.
Date	Specifies the day-of-month of execution. You can select: Any day from 1 through 31 (or 28, 29, or 30, depending on the month). The menu limits the number of dates shown according to the month you have selected. Last Day, to run on the last day of any month. The asterisk (*), which allows execution on all days of the month.
Day of Week	Specifies the day-of-week of execution. You can select any day from Sunday through Saturday, or choose the asterisk (*) to allow execution on all days of the week.
Hour	Specifies the hour of execution. You can select any hour from 0 (midnight) through 23 (11 p.m.), or choose the asterisk (*) to allow execution at all hours of the day.
Minute	Specifies the minute of execution (within the specified hour). You can select any minute from 0 through 59, or choose the asterisk (*) to allow execution in all minutes of the hour.
Second	Specifies the second of execution (within the specified minute). You can select any second from 0 through 59, or choose the asterisk (*) to allow execution in all seconds of the minute.
Update Example Button	Displays the next time when the specified details would cause execution.
If Submitted:	Displays the date and time when the window was opened, for comparison with the dates and times given for *n*th Execution.
First Execution: Second Execution: Third Execution:	For a periodic alias, displays the first three dates and times that would trigger the alias for a job submitted at the If Submitted: date and time. For a single alias, only First Execution: is displayed.

For Job Queue

When you click on **Show Details** in the Job Queue window, the Job Details window opens. This window sets or changes the name date, time, and other details of an alias for a job-execution time. See also “Show Job Queue” on page 182.

In the Job Details window:

Set Configuration	Changes the job parameters according to the choices you have selected.
Reset	Voids any settings you have changed and restores the previous settings.
Service	Identifies the Capsule Service you have selected.
Realm	Is the name of the realm containing that service.
Priority	Determines whether this job is to be run before or after others scheduled for the same time. The highest priority is 1 and the lowest is 31; the default is 16.
Status	Shows the current status of the job, as of the time the window was opened: *Hold* indicates that you have put the capsule application on hold; the job remains in this status until you restart it. *Waiting* indicates that the capsule application is waiting for a prespecified execution time. *Ready* indicates that the capsule application is waiting for an execution engine to become available. *Running* indicates that the capsule application is being executed now. *Abort* indicates that the capsule application has been canceled and the execution engine is notifying its manager. *Done* indicates that the capsule application has completed execution and the execution engine is notifying its manager.
Hold or Restart	Specifies whether to delay execution indefinitely. If the job is already on hold, the choice is labeled Restart; for any other status, the label is Hold.
Run Time	Specifies whether the job is scheduled to run at a user-specified time or at a time defined by an alias.
Date and Time	Specifies the time when the job is schedule to run; this field is displayed only when Time is selected.
Alias Name	Is a menu that you pull down to choose the alias defining the next time when the job is scheduled to run; this menu is displayed only when **Alias** is selected. User-defined aliases are available to users of Open Data Access Service, but are not available to workstation users of the Capsule Service tool. As system administrator, however, you can assign a time alias to any waiting job.
Maximum Acceptable Delay	Specifies the maximum delay to be allowed after the scheduled starting time. After delay time, the submission is canceled. Exception: 0 indicates there is no limit on execution delay.
Maximum Duration	Specifies the maximum amount of time the job will be allowed to run before being canceled. The default value, 0, sets the maximum duration to 24 hours.

Show Engines

This button displays the status of the Capsule Service execution engines.

Window Description

When you click on **Show Engines** in the Capsule Service window, the Engines window opens. This window shows the identifying number, cluster identifier, network address, status, and the duration of that status for each execution engine.

In the Engines window:

Service	Identifies the service you have selected.
Realm	Is the name of the realm containing that service.
Update Button	Rechecks the status of all displayed data and updates the display, as described in “Update” on page 189.
Sort Controls Button	Lets you choose whether to sort by identifying numbers, cluster numbers, network addresses, status, or dates, as described in “Sort Controls” on page 186.
Select All Button	Selects all of the entries in the list.
ID	Is an 8-digit, hexadecimal number that identifies the execution engine. The first four digits (including any leading zeros, which are not displayed) identify the cluster, and the remaining four identify the specific engine within that cluster. The Job Queue command, in its detail mode, also shows this number for engines that are running capsule applications.
Cluster	Is a hexadecimal number that identifies the cluster. This number is the same as the first four digits of *ID* (including any undisplayed leading zeros).
Address	Is the node address of each cluster manager.
Status	Is the current state of each execution engine: *Ready* indicates that the execution engine is available. *Running* indicates that the execution engine is executing a job now. *Unusable* indicates that the execution engine is in the process of reinitializing. *Deregistered* indicates that the execution engine is finished reinitializing. *Running notify* indicates that the capsule application has completed execution and notification is now occurring.
Since	Is the date and time when each execution engine achieved its current state.

Show Job Queue

This button displays the identifying number, owning service, and other information for each job currently in the queue.

Window Description

When you click on **Show Job Queue** in the Capsule Service window, the Job Queue window opens. This window displays the identifying number, submitter, request time, execution time, and current status for each job currently in the queue.

In the Job Queue window:

Service	Identifies the Capsule Service you have selected.
Realm	Is the name of the realm containing that service.
Update Button	Rechecks the status of all displayed data and updates the display, as described in “Update” on page 189.
Show Details Button	Opens the Job Details window, as described in “For Job Queue” on page 180.
Sort Controls Button	Lets you choose whether to sort by identifying numbers, owners, dates, descriptions, or status, as described in “For Job Queue” on page 187, under “Sort Controls” on page 186.
Delete Job Button	Lets you delete the selected job from the queue, as described in “Delete Job” on page 172.
Select All Button	Selects all of the entries in the list.
ID	Is a hexadecimal number identifying the job.
Owner	Shows the name of the desktop or Open Data Access Server that submitted the capsule application for execution.
At	Shows the date and time when the capsule application was submitted.
Run Time	Shows the date and time when the capsule application was or is scheduled to be started.
Description	Shows the name of the capsule application that was submitted.
Status	Shows the current state of the job: *Waiting* indicates that the capsule application is waiting for a prespecified execution time. *Ready* indicates that the capsule application is waiting for an execution engine to become available. *Running* indicates that the capsule application is being executed now. *Abort* indicates that the capsule application has been canceled but the resulting notification has not yet finished. *Done* indicates that the capsule application has completed execution but notification has not yet finished.

Show Log

This button shows the time, date, and text of each message in the service's log file.

Button Description

When you click on **Show Log** in the Capsule Service window, IDS copies the current log file to an icon on your desktop and opens it.

Each entry in the log includes the time (including the date) and text of one message.

Time	Message
August 20, 94 1:09:54	Job <39> failed due to timeout or system error.
August 20, 94 1:09:54	Job finished with system error <10064>.
August 20, 94 1:10:45	Shutting down cluster manager <4>.
August 20, 94 1:10:54	Shutting down service manager.
August 20, 94 1:10:59	Deleted cluster manager while EE <4007> was running its notification task

In the log window:

Show Controls	Lets you specify whether to show the Time column, the Message column, or both.
Sort Controls	Lets you choose whether to sort by time, by message text, or neither, as described in “For the Log File” on page 187, in “Sort Controls” on page 186.
Time	Lists the date and time when each message was posted to the log.
Message	Lists each message posted by the Capsule Service.

Show Statistics

This button displays information about the length of the queue and the backlog of jobs.

Window Description

When you click on **Show Statistics** in the Capsule Service window, the Statistics window opens. This window displays the largest length of the queue since the last reset, along with the current and average sizes. It also displays the largest backlog of jobs, along with the current and average backlogs.

In the Status window:

Service	Identifies the service you have selected.
Realm	Is the name of the realm containing that service.
Reset Statistics Button	Resets the maximum and average numbers to zero and sets the **Statistics From** field to the current time and date.
Statistics From	Shows the time and date when the current collection of statistics began.
To	Shows the time and date when you opened the Statistics window (not necessarily the time when you are looking at it).

Queue Length Maximum	Shows the largest number of jobs the queue has held since the most recent resetting. The queue length can include both back-logged jobs (those awaiting resources) and jobs scheduled to run later.
Current	Shows the current number of jobs in the queue.
Average	Shows the average number of jobs the queue has held since the most recent resetting.
Job Backlog Maximum	Shows the largest number of jobs that have simultaneously awaited resources, since the most recent resetting.
Current	Shows the number of jobs that were awaiting resources when the Statistics window was opened (not necessarily the time when you are looking at it).
Average (hour)	Shows the average number of jobs that have simultaneously awaited resources, since the most recent resetting.

Show Status

This button displays information about jobs and execution resources, and lets you set the service to enable or disable job submissions and job starts.

Window Description

When you click on **Show Status** in the Capsule Service window, the Status window opens. This window displays the number of jobs waiting, ready, running, and on hold; displays the number of execution resources busy and free; and lets you set the service to enable or disable job submissions and job starts.

In the Status window:

Set Configuration	Changes the enabling of job submissions and starts, according to the choices you have selected.
Reset	Voids any settings you have changed and restores the previous settings.
Service	Identifies the service you have selected.
Realm	Is the name of the realm containing that service.
Update Button	Rechecks the status of all displayed data and updates the display, as described in “Update” on page 189.
Job Submissions	Lets you set the service to accept or reject new job submissions, as described in “Job Submissions” on page 174.
Job Starts	Lets you set the service to enable or disable execution of jobs currently in the Capsule Service queue, as described in “Job Starts” on page 174.
Current Jobs Waiting	Is the number of jobs being processed into the queue.
Ready	Is the number of jobs that are ready to run but waiting for an execution engine to become available.
Running	Is the number of jobs that are currently being executed.

Hold	Is the number of jobs that are currently on hold, awaiting further instructions.
Total	Is the total number of jobs in the service's queue.
Execution Resources Busy	Is the number of execution engines currently engaged in processing.
Free	Is the number of execution engines available for assignment.
Total	Is the total number of execution engines configured for the service.

Single

This choice lets you specify that the alias, when used, should execute a job only once.

Soft Shutdown

This button stops accepting new capsule applications into the queue and dispatching queued applications for conversion. When all currently executing capsule applications have finished processing, the service and associated execution engines stop.

To restart the service, open the node-management interface for the affected server, select the service manager in the list, and click on the **Start Service** button, as described in Chapter 12, “Managing Nodes” on page 110. Now do the same for the execution engines. If the service has execution engines distributed in more than one node, you must restart them on each of those nodes.

Button Description

When you click on the **Soft Shutdown** button in the Capsule Service window, the Capsule Service stops, but only after waiting for current capsule applications to finish processing. When all have finished, the service and associated execution engines stop.

Sort Controls

This button lets you set how to list the Capsule Service processes.

Window Description

When you click on the **Sort Controls** button, the Sort Controls window opens. This window lets you sort on any one or more of the columns in the selected list. It also lets you specify levels of sorting, each based on one of the columns in the list.

When you click on **Unsorted** at any level, any lower-level **Sorting Level** and **Order By** choice fields (and the unsorted level's **Order By** choice field) immediately disappear from the Sort Controls window and have no effect.

When you close the Sort Controls window, sorting takes place automatically.

In each Sort Controls window:

Sorting Level 1	Lets you set the primary sequence into which the entries are to be sorted, as described in “Sorting Level” on page 187.

Sorting Level *n*	Lets you set the *n*th sorting sequence, as described in “Sorting Level” on page 187.
Order By	Lets you choose which columns of the list to sort first, as described in “Order By” on page 175.

For Aliases
From the Aliases window, the Sort Controls window lets you sort on the name, type, year, month, day, weekday, hour, minute, or second.

For Alias Details
From the Alias Details window, the Sort Controls window lets you sort the execution examples in ascending or descending order.

For Job Queue
From the Job Queue window, the Sort Controls window lets you sort on the identifying numbers, owners, submission times, execution times, names, or status.

For Engines
From the Engines window, the Sort Controls window lets you sort the execution engines by identifying numbers, cluster numbers, server addresses, status, and status durations.

For the Log File
From the open log file (see “Show Log” on page 183), the Sort Controls window lets you sort on the times or messages. Unlike most other Sort Controls windows, the default for the log file is Unsorted.

Sorting Level
These areas of the Sort Controls window let you set whether or how to sort the list in the Aliases, Alias Details, Job Queue, or Engines window.

Choice-Field Description
Every Sort Controls window lets you sort on any one or more of the columns in the selected list. It also lets you specify levels of sorting, each based on one of the columns in the list. In the window, each of the **Sorting Level** choice fields lets you choose whether and how to sort the list column that is specified in the corresponding **Order By** choice field. Each of the **Sorting Level** choice fields give you these choices:

Unsorted

Ascending

Descending

If you click on **Unsorted** in the **Sorting Level 1** choice field of the Sort Controls window, you specify that the list is to appear in random order. If you click on **Unsorted** in the **Sorting Level 2** choice field, you specify that entries after the first sorting are to appear in random order. Subsequent sorting levels work similarly. For example,

suppose you are sorting the Engines window, **Sorting Level 1** has **Order By** set to Status, and several execution engines all have the status Running; then the sorting of engines within the group having the Running status is governed by **Sorting Level 2**.

When you click on **Unsorted** at any level, any lower-level **Sorting Level** and **Order By** choice fields immediately disappear from the Sort Controls window.

If you click on **Ascending**, you specify that the list of services is to appear in alphanumeric order with numbers listed 0 through 9, followed by letters listed A through Z.

If you click on **Descending**, you specify that the list is to appear in alphanumeric order with letters listed Z through A, followed by numbers listed 9 through 0.

With either Ascending or Descending, the sorting can be based on any column, as described in "Sort Controls" on page 186.

System

This choice causes the Capsule Service logging facility to begin recording only those messages that are internally generated by the Capsule Service. Events that are initiated by Open Data Access Service are not to be recorded.

This Job Only

This choice lets you cancel a single execution of a capsule application.

If the job is scheduled with a periodic alias, you can choose to cancel either the entire job or only the current execution. You cannot cancel only one future instance of a periodic job. For example, if you have a job scheduled to run on the last day of each month, and in mid-July you choose to delete **This Job Only**, the job remains scheduled for the end of July, August, September, and so on. If the job is running when you delete **This Job Only**, it stops, and then runs again the next month.

If you choose **All Entries for Repeating Job**, or delete a single-execution job, the service permanently removes that job from the service's job queue.

Type

This area of the Alias Details window lets you set an alias to execute jobs once or periodically.

Choice-Field Description

The Type area of the Alias Details window gives you these choices:

Single

Periodic

When you click on **Periodic**, you specify that the alias, when used, should execute a job every time the specified time-and-date details occur.

When you click on **Single**, you specify that the alias, when used, should execute a job only once.

The default choice is Periodic.

Update

This button rechecks the status of all displayed data and updates the display.

Button Description

When you click on **Update** in the Engines, Job Queue, or Status window, the service rechecks the status of all displayed data and updates the display.

Update Example

This button displays the next four times when the specified job-execution alias would cause execution.

WIndow Description

When you click on **Update Example**, in the Alias Details window, the window shows the next four times when the specified job-execution alias would cause execution. “Show Details” on page 179 describes the Alias Details window, which you use to create or change an alias.

Chapter 16. Conversion Service

Conversion services convert files between IDS formats and personal-computer formats. This helps in the movement of text and spreadsheets by changing their formats between Intelligent Decision Server (IDS) formats and standard PC formats such as WK1.

The conversion service manager starts a preconfigured number of execution engines, but then ends its involvement. The requesting service (such as the mail service or compatibility gateway) schedules conversion jobs to be performed by those execution engines. Each execution engine returns results to the requester, then waits to be assigned a new job.

Execution engines are grouped into clusters, each controlled by a cluster manager. Each cluster manager, and all of its execution engines, are in the same computer. A service manager can control several cluster managers in different computers, to distribute the work.

The SA tool provides a graphical interface for administration of the conversion services. This chapter describes its commands, which let you control logging, conversion queueing, and status reporting.

A detailed syntax description is provided for each command.

Console Access

To administer conversion services:

1. Open the SA tool.
2. Select **Conversion Service**.
3. Use **From List** or **By Name** to choose the conversion-service manager you want to administer, and then click on **Connect to Service**. When you click on **By Name**, the **Service** field label changes to **Name**.
4. In the Conversion Service window, enter the interface password or the realm password. The window then displays various data and buttons.
5. Click on the button for the task you want to accomplish.

The conversion services interface allows only one access at a time. If you try to open it when someone else already has it open, access is denied.

In the Conversion Service window:

Update Service Status	Effects the actual change that you have made in Service Status and Detail Log Mode.
Reset	Clears your choices and restores the most recently configured values.

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Service	Identifies the conversion service you have selected.
Realm	Is the name of the realm containing that service.
Service Status	Lets you set the service offline or online, as described in “Service Status” on page 198.
Hard Shutdown Button	Immediately stops the service's manager and all associated cluster managers and execution engines, without waiting for current jobs to finish, as described in “Hard Shutdown” on page 195.
Soft Shutdown Button	Stops accepting new jobs into the queue and stops dispatching queued sessions for execution, as described in “Soft Shutdown” on page 201.
Show Log Button	Shows the time, date, and text of each message in the service's log file, as described in “Show Log” on page 199.
Detail Log Mode	Lets you choose among All, Off, and System to set the service's logging facility to record all messages, no messages, or just interface-initiated messages, as described in “Detail Log Mode” on page 194.
Show Status Button	Displays information about jobs and execution resources, and lets you set the service to enable or disable job submissions and job starts, as described in “Show Status” on page 200.
Show Sessions Button	Displays the identifying number, owning service, and other information for each conversion session that is currently running, as described in “Show Sessions” on page 200.
Show Engines Button	Displays the status of the conversion services' execution engines, as described in “Show Engines” on page 198.
Change Password Button	Changes the password for the conversion services interface, as described in “Change Password” on page 194.

Summary of Commands

Figure 9 on page 192 shows the flow of the windows in the conversion service interface. Table 24 through Table 27 on page 193 list the conversion services interface commands, grouped by their functions. Later in this chapter, the detailed command descriptions are sorted in alphabetical order for easy reference.

Table 24 (Page 1 of 2). Fields in the conversion interface

Choice field	Description
Detail Log Mode	Lets you choose among All, Off, and System to set the service's logging facility to record all messages, no messages, or just interface-initiated messages. (See “Detail Log Mode” on page 194.)
Job Starts	Lets you enable or disable execution of conversion sessions currently in the conversion services' queue. (See “Job Starts” on page 196.)
Job Submissions	Lets you accept or reject new job submissions. (See “Job Submissions” on page 196.)

Table 24 (Page 2 of 2). Fields in the conversion interface

Choice field	Description
Service Status	Lets you set the service offline or online. (See “Service Status” on page 198.)

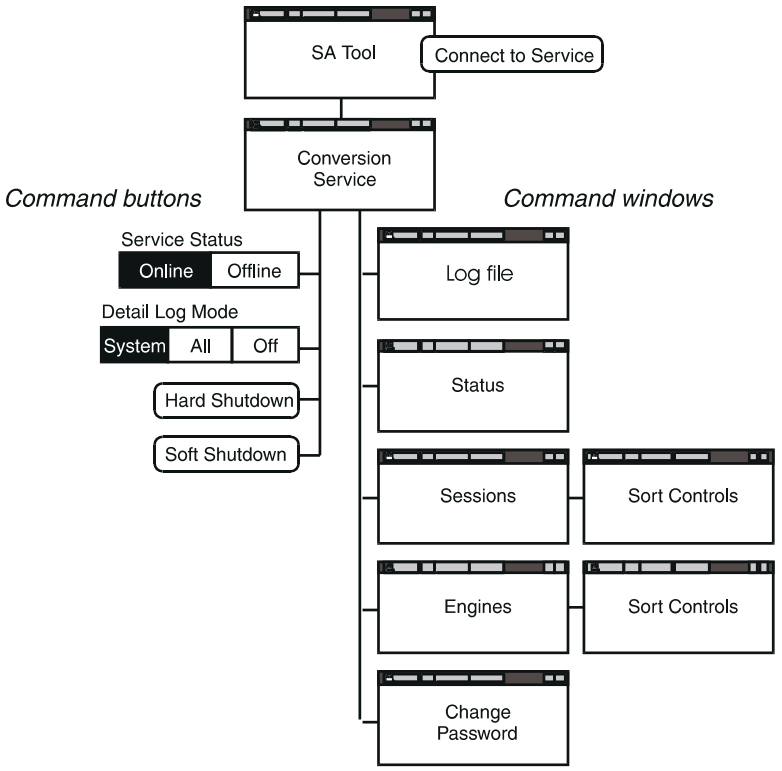

Figure 9. Window structure for conversion services

Table 25 (Page 1 of 2). Interface commands for displaying conversion information

Button	Description
Show Engines	Displays the status of the conversion services' execution engines. (See “Show Engines” on page 198.)
Show Log	Shows the time, date, and text of each message in the service's log file. (See “Show Log” on page 199.)
Show Sessions	Displays the identifying number, owning service, and other information for each conversion session that is currently running. (See “Show Sessions” on page 200.)
Show Status	Displays information about jobs and execution resources, and lets you set the service to enable or disable job submissions and job starts. (See “Show Status” on page 200.)

Table 25 (Page 2 of 2). Interface commands for displaying conversion information

Button	Description
Update	Rechecks the status of all execution engines and updates the display. (See "Update" on page 203.)

Table 26. Interface commands for controlling the conversion log

Button or choice	Description
All	Causes the conversion service's logging facility to begin recording all messages. (See "Detail Log Mode" on page 194.)
Off	Causes the conversion service's logging facility to stop recording any messages. (See "Detail Log Mode" on page 194.)
Show Log	Shows the time, date, and text of each message in the service's log file. (See "Show Log" on page 199.)
System	Causes the conversion service's logging facility to begin recording only those messages that are internally generated by the conversion service. (See "Detail Log Mode" on page 194.)

Table 27. Interface commands for controlling the conversion service

Button or choice	Description
Change Password	Changes the conversion services' administration password. (See "Change Password" on page 194.)
Disabled	Disables execution of conversion sessions or rejects new job submissions. (See "Job Starts" on page 196 and "Job Submissions" on page 196.)
Enabled	Enables execution of conversion sessions or accepts new job submissions. (See "Job Starts" on page 196 and "Job Submissions" on page 196.)
Hard Shutdown	Immediately stops the conversion service manager and all associated cluster managers and execution engines, without waiting for current conversion sessions to finish processing. (See "Hard Shutdown" on page 195.)
Off-line	Makes the conversion service manager unavailable. (See "Service Status" on page 198.)
Online	Makes the conversion service manager available. (See "Service Status" on page 198.)
Soft Shutdown	Stops accepting new conversion sessions into the queue and dispatching queued sessions for conversion. (See "Soft Shutdown" on page 201.)

Commands

The remainder of this chapter describes each of the conversion services commands in detail. The commands are presented in alphabetical order.

All

This choice causes the conversion service's logging facility to begin recording all messages.

Change Password

This button lets you change the password for access to the conversion service's interface.

Window Description

When you click on **Change Password** in the Conversion Service window, the Change Password window opens. This window lets you type the old and new passwords. Type the new password twice, to protect against mistyped entries. As you type each character, the screen displays either an asterisk (*) or nothing, instead of your character, for security. (See “Password Display” on page 215.) You must click on **Change Password** to make the change effective. If you just close the window, nothing is done.

In the Change Password window:

Change Password	Effects the actual change.
Reset	Clears your entries from all three fields in the window.
Service	Identifies the conversion service you have selected.
Realm	Is the name of the realm containing that service.
Current password	Is the password you logged on with.
New password	Is the password you want to become effective. The maximum password length is 31 characters. You can set the minimum in the User Logon Configuration window, as described in “Set User Logon Configuration” on page 217.
Confirm new password	Is the same as the new password, entered again to protect against mistyped entries.

You can open the conversion services interface with either the interface password or the realm password. This Change Password window cannot change the realm password; to change it, use the **Change Realm Password** button in the network administration interface (described on “Change Realm Password” on page 214).

Detail Log Mode

This area of the Conversion Service window lets you set the service's logging facility to record all messages, no messages, or just interface-initiated messages.

Choice-Field Description

The Detail Log Mode area gives you these choices:

System

All

Off

When you click on **All** in the Conversion Service window, the service's logging facility begins recording all messages.

When you click on **Off**, the logging facility stops recording messages of any kind.

When you click on **System**, the logging facility begins recording only those events that are initiated from the conversion services interface. Events that are initiated by Open Data Access Service are not to be recorded.

The default choice is System.

Disabled

This choice lets you set the service to disable execution of conversion sessions or to reject new job submissions.

When you click on **Disabled** in the Job Starts area of the Status window, you prevent execution of conversion sessions currently in the conversion service's queue. This choice does not affect acceptance of new sessions into the queue and does not affect conversion sessions that are currently being executed.

When you click on **Disabled** in the Job Submissions area of the Status window, you prevent the conversion services' queue from accepting new submissions. This choice does not affect conversion sessions that are already in the queue.

Enabled

This choice is displayed in two areas:

In the Job Starts area of the Status window, this choice lets you set the service to enable execution of conversion sessions currently in the queue.

In the Job Submissions area of the Status window, this choice allows the service to accept new job submissions.

Hard Shutdown

This button immediately stops the conversion service manager and all associated cluster managers and execution engines, without waiting for current conversion sessions to finish processing.

To restart the service, open the node-management interface for the affected server, select the service manager in the list, and click on the **Start Service** button, as described in Chapter 12, “Managing Nodes” on page 110. Now do the same for the execution engines. If the service has execution engines distributed in more than one node, you must restart them on each of those nodes.

Button Description

When you click on the **Hard Shutdown** button in the Conversion Service window, the conversion service stops immediately, without waiting for current conversion sessions to finish processing. Conversion-service shutdowns are usually hard shutdowns, because each conversion session continues running until its owning service is stopped.

Job Starts

This area of the Status window lets you set the service to enable or disable execution of conversion sessions currently in the conversion services' queue.

Choice-Field Description

The Job Starts area gives you these choices:

Enabled

Disabled

When you click on **Disabled** in the Job Starts area of the Status window, you prevent execution of conversion sessions currently in the conversion service's queue. This choice does not affect acceptance of new sessions into the queue and does not affect conversion sessions that are currently being executed.

When you click on **Enabled**, you allow execution of conversion sessions currently in the queue.

The default choice is Enabled.

Job Submissions

This area of the Status window lets you set the service to accept or reject new job submissions.

Choice Description

The Job Submissions area gives you these choices:

Enabled

Disabled

When you click on **Disabled** in the Job Submissions area of the Status window, you prevent the conversion services' queue from accepting new submissions. This choice does not affect conversion sessions that are already in the queue.

When you click on **Enabled**, you allow the service to accept new job submissions.

The default choice is Enabled.

Off

This choice causes the conversion service's logging facility to stop recording any messages.

Offline

This choice makes the conversion service unavailable; that is, it prevents the service from accepting any new sessions or dispatching any sessions from the queue for execution, but already-running sessions continue to run.

Online

This choice makes the conversion service available again, after it has been taken offline; that is, it allows the service to accept new sessions and to dispatch sessions from the queue for execution.

Order By

These choice fields of the Sort Controls window let you choose which columns of the list to sort first.

Choice-Field Description

Every Sort Controls window lets you sort on any one or more of the columns in the list. It also lets you specify levels of sorting, each based on one of the columns in the list. In the window, each of the **Order By** choice fields lets you choose among all the columns in the list. For example, the Sessions window has six columns, and its Sort Controls window gives you these choices:

ID

Owner

At

Run Time

Description

Status

The Engines window has five columns, and its Sort Controls window gives you these choices:

ID

Cluster

Address

Status

Since

The log file's window has two columns, and its Sort Controls window gives you these choices:

Time

Message

When you click on **Unsorted** (in the corresponding **Sorting Level** choice area) at any level, any lower-level **Sorting Level** and **Order By** choice fields (and the unsorted level's **Order By** choice field) immediately disappear from the Sort Controls window.

When you choose anything in the first **Order By** choice field, you specify which column the list is to be sorted on (unless you also click on **Unsorted** in **Sorting Level 1**).

If you click on a different value in the second **Order By** choice field, you specify that entries after the first sorting are to be sorted in that order (unless you also click on **Unsorted** in **Sorting Level 2**).

If you click on the same value in both **Order By** choice fields, you specify that entries after the first sorting are to appear in random order.

For example, suppose that you are sorting the Engines window, the first **Order By** setting is Status, and several execution engines all have the status listed as Running. In this situation, the sorting of execution engines within the group having the Running status (but not of the overall list) is governed by the second **Order By** setting.

When you click on **ID** instead, you specify that the list is to be sorted by the ID numbers.

See also “Sort Controls” on page 202 and “Sorting Level” on page 203.

Service Status

This area of the Conversion Service window lets you set the service on or offline.

Choice Description

The Service Status area gives you these choices:

Online

Offline

When you click on **Offline** in the Conversion Service window, the service becomes unavailable; that is, choosing **Offline** prevents the service from accepting any new sessions or dispatching any sessions from the queue for execution, although already-running sessions continue to run.

When you click on **Online**, the service becomes available again, after it has been taken offline; that is, choosing **Online** allows the service to accept new sessions and to dispatch sessions from the queue for execution.

The default choice is Online.

Show Engines

This button displays the status of the conversion services' execution engines.

Window Description

When you click on **Show Engines** in the Conversion Service window, the Engines window opens. This window shows the identifying number, cluster identifier, network address, status, and the duration of that status for each execution engine.

In the Engines window:

Service	Identifies the conversion service you have selected.

Realm	Is the name of the realm containing that service.
Update Button	Rechecks the status of all displayed data and updates the display, as described in “Update” on page 203.
Sort Controls Button	Lets you choose whether to sort by identifying numbers, cluster numbers, network addresses, status, or dates, as described in “For Engines” on page 202, under “Sort Controls” on page 202.
Select All Button	Selects all of the entries in the list.
ID	Is an 8-digit, hexadecimal number that identifies the execution engine. The first four digits (including any leading zeros, which are not displayed) identify the cluster, and the remaining four identify the specific engine within that cluster.
Cluster	Is a hexadecimal number that identifies the cluster. This number is the same as the first four digits of ID.
Address	Is the node address of each cluster manager.
Status	Is the current state of each execution engine: *Ready* indicates that the execution engine is available. *Running* indicates that the execution engine is executing a job now. *Unusable* indicates that the execution engine is in the process of initializing again. *Deregistered* indicates that the execution engine is finished initializing again. *Running notify* indicates that the conversion session has completed execution and notification is now occurring.
Since	Is the date and time when each execution engine achieved its current state.

Show Log

This button shows the time, date, and text of each message in the service's log file.

Button Description

When you click on **Show Log** in the Conversion Service window, IDS copies the current log file to an icon on your desktop and opens it.

Each entry in the log includes the time, date, and text of one message.

In the log window:

Show Controls	Lets you specify whether to show the Time column, the Message column, or both.
Sort Controls	Lets you choose whether to sort by time, by message text, or neither, as described in “For the Log File” on page 202, in “Sort Controls” on page 202.
Time	Lists the date and time when each message was posted to the log.

Message	Lists each message posted by the conversion service.

Show Sessions

This button displays the identifying number, owning service, and other information for each conversion session that is currently running.

Window Description

When you click on **Show Sessions** in the Conversion Service window, the Sessions window opens. This window displays the identifying number, owning service, request time, execution time, type of requester, and status for each conversion session.

In the Sessions window:

Service	Identifies the conversion service you have selected.
Realm	Is the name of the realm containing that service.
Update Button	Rechecks the status of all displayed data and updates the display, as described in “Update” on page 203.
Sort Controls Button	Lets you choose whether to sort by identifying numbers, owners, dates, descriptions, or status, as described in “For Sessions” on page 202, under “Sort Controls” on page 202.”
Delete Job Button	Permanently removes the selected job from the queue.
Select All Button	Selects all of the entries in the list.
ID	Is a hexadecimal number identifying the job.
Owner	Shows the name of the service that submitted the conversion job for execution.
At	Shows the date and time when the conversion job was submitted.
Run Time	Shows the date and time when the conversion job was or is scheduled to be started.
Description	Shows the type of server, such as Open Data Access Service, from which the job was submitted.
Status	Shows the current state of the job: *Ready* indicates that the job is waiting for an execution engine to become available. *Running* indicates that the job is being executed now. *Abort* indicates that the job has been canceled but the resulting notification has not yet finished. *Done* indicates that the job has completed execution but notification has not yet finished.

Show Status

This button displays information about jobs and execution resources, and lets you set the service to enable or disable job submissions and job starts.

Window Description

When you click on **Show Status** in the Conversion Service window, the Status window opens. This window displays the number of jobs waiting, ready, running, and on hold; displays the number of execution resources busy and free; and lets you set the service to enable or disable job submissions and job starts.

In the Status window:

Set Configuration	Changes the enabling of job submissions and starts, according to the choices you have selected.
Reset	Voids the settings you have changed and restores the previous settings.
Service	Identifies the conversion service you have selected.
Realm	Is the name of the realm containing that service.
Update Button	Rechecks the status of all displayed data and updates the display, as described in “Update” on page 203.
Job Submissions	Lets you set the service to accept or reject new job submissions, as described in “Job Submissions” on page 196.
Job Starts	Lets you set the service to enable or disable execution of jobs currently in the conversion service's queue, as described in “Job Starts” on page 196.
Current Jobs Waiting	Is the number of jobs being processed into the queue.
Ready	Is the number of jobs that are ready to run but waiting for an execution engine to become available.
Running	Is the number of jobs that are currently being executed.
Hold	Is always 0.
Total	Is the total number of jobs in the conversion queue.
Execution Resources Busy	Is the number of execution engines currently engaged in processing.
Free	Is the number of execution engines available for assignment.
Total	Is the total number of execution engines configured for the service.

Soft Shutdown

This button stops accepting new conversion sessions into the queue and dispatching queued sessions for conversion. When all currently executing conversion sessions have finished processing, the service and associated execution engines stop.

To restart the service, open the node-management interface for the affected server, select the service manager in the list, and click on the **Start Service** button, as described in Chapter 12, “Managing Nodes” on page 110. Now do the same for the execution engines. If the service has execution engines distributed in more than one node, you must restart them on each of those nodes.

Button Description

When you click on the **Soft Shutdown** button in the Conversion Service window, the conversion service stops, but only after waiting for current conversion sessions to finish processing. When all jobs have finished, the service and associated execution engines stop.

Sort Controls

This button lets you sort on any one or more of the columns in the selected list.

Window Descriptions

When you click on the **Sort Controls** button, the Sort Controls window opens. This window lets you sort on any one or more of the columns in the selected list. It also lets you specify levels of sorting, each based on one of the columns in the list.

When you click on **Unsorted** at any level, any lower-level **Sorting Level** and **Order By** choice fields (and the unsorted level's **Order By** choice field) immediately disappear from the Sort Controls window and have no effect.

When you close the Sort Controls window, sorting takes place automatically.

In each Sort Controls window:

Sorting Level 1	Lets you set the primary sequence into which the entries are to be sorted, as described in “Sorting Level” on page 203.
Sorting Level *n*	Lets you set the *n*th sorting sequence, as described in “Sorting Level” on page 203.
Order By	Lets you choose which columns of the list to sort first, as described in “Order By” on page 197.

For Sessions

From the Sessions window, the Sort Controls window lets you sort on the identifying numbers, owners, submission times, execution times, names or status.

For Engines

From the Engines window, the Sort Controls window lets you sort the execution engines by identifying numbers, cluster numbers, server addresses, status, and status durations.

For the Log File

From the open log file (see “Show Log” on page 199), the Sort Controls window lets you sort on the time or the message text. Unlike most other Sort Controls windows, the default for the log file is Unsorted.

Sorting Level

These areas of the Sort Controls window let you set whether or how to sort the list in the Aliases, Alias Details, Sessions, or Engines window.

Choice Description

Every Sort Controls window lets you sort on any one or more of the columns in the selected list. It also lets you specify levels of sorting, each based on one of the columns in the list. In the window, each of the **Sorting Level** choice fields lets you choose whether and how to sort the list column that is specified in the corresponding **Order By** choice field. Each of the **Sorting Level** choice fields give you these choices:

Unsorted

Ascending

Descending

If you click on **Unsorted** in the **Sorting Level 1** choice field of the Sort Controls window, you specify that the list is to appear in random order. If you click on **Unsorted** in the **Sorting Level 2** choice field, you specify that entries after the first sorting are to appear in random order. Subsequent sorting levels work similarly. For example, suppose you are sorting the Engines window, **Sorting Level 1** has **Order By** set to Status, and several execution engines all have the status Running; then the sorting of engines within the group having the Running status is governed by **Sorting Level 2**.

When you click on **Unsorted** at any level, any lower-level **Sorting Level** and **Order By** choice fields immediately disappear from the Sort Controls window.

If you click on **Ascending**, you specify that the list of services is to appear in alphanumeric order with numbers listed 0 through 9, followed by letters listed A through Z.

If you click on **Descending**, you specify that the list is to appear in alphanumeric order with letters listed Z through A, followed by numbers listed 9 through 0.

With either Ascending or Descending, the sorting can be based on any column, as described in “Sort Controls” on page 202.

System

This choice causes the conversion service's logging facility to begin recording only those messages that are internally generated by the conversion service. Events that are initiated by the Open Data Access Service are not to be recorded.

Update

This button rechecks the status of all displayed data and updates the display.

Button Description

When you click on **Update** in the Engines, Sessions, or Status window, the service rechecks the status of all displayed data and updates the display.

Chapter 17. Mail Service

Any Intelligent Decision Server (IDS) user can send electronic mail to other users in the same network or in connected networks. Mail enters and leaves the IDS network through one or more mail gateway services (described in *Configuring and Administering Mail Gateway Services*). Within each realm, the mail service handles both incoming and locally generated mail.

The SA tool provides a graphical interface for administration of the mail service. This chapter describes its commands, which let you control logging, queueing, and status reporting.

Console Access

To administer the mail service:

1. Open the SA tool.
2. Select **Mail**.
3. Click on **Connect to Service**.
4. In the Mail window, enter the interface password or the realm password.
5. Click on the button for the task you want to accomplish.

The mail service's interface allows only one access at a time. If you try to open it when someone else already has it open, access is denied.

In the Mail window:

Service	Identifies the mail service you selected.
Realm	Is the name of the realm containing that service.
Show Status Button	Displays the name, status, and other information about each function of the mail service, as described in “Show Status” on page 208.
Set Configuration Button	Lets you set path names for the Post Office and for distribution lists, along with the Envelope expiration limit, as described in “Set Configuration” on page 207.
Change Password	Changes the password for the mail service's interface, as described in “Change Password” on page 206.

Summary of Commands

Figure 10 on page 205 shows the flow of the windows in the mail service's interface. Table 28 on page 205 through Table 30 on page 205 list the interface's windows, buttons, and choices, grouped by their functions. Later in this chapter, the detailed command descriptions are sorted in alphabetical order for easy reference.

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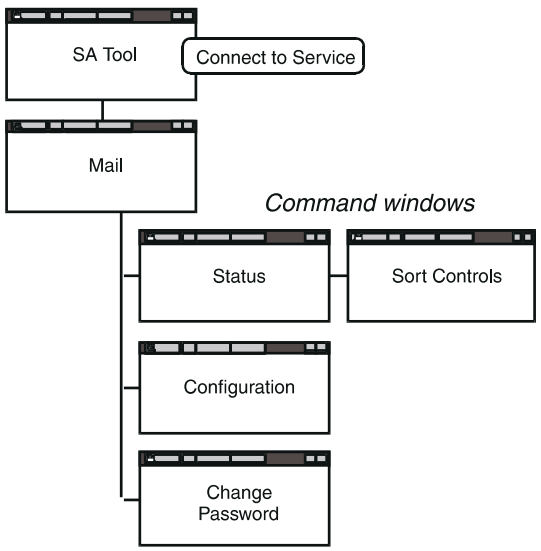

Figure 10. Window structure for the mail service

Table 28. Choice areas in the mail service's interface

Choice field	Description
Order By	Lets you choose which columns of a list to sort first. (See “Order By” on page 206.)
Sorting Level	Lets you choose how to sort the corresponding column of the list. (See “Sorting Level” on page 209.)

Table 29. Commands for displaying information about the mail service

Button	Description
Show Status	Shows the name, status, and other information about each function of the mail service. (See “Show Status” on page 208.)
Sort Controls	Lets you sort on any one or more of the columns in the list. (See “Sort Controls” on page 209.)

Table 30. Interface commands for controlling the mail service

Button	Description
Change Password	Changes the mail service's administration password. (See “Change Password” on page 206.)
Set Configuration	Lets you set path names for the Post Office and for distribution lists, along with the Envelope expiration limit. (See “Set Configuration” on page 207.)

Commands

The remainder of this chapter describes each of the mail interface's commands in detail. The commands are presented in alphabetical order.

Change Password

This button lets you change the password for access to the mail service's interface.

Window Description

When you click on **Change Password** in the Mail Service window, the Change Password window opens. This window lets you type the old and new passwords. Type the new password twice, to protect against mistyped entries. As you type each character, the screen displays either an asterisk (*) or nothing, instead of your character, for security. (See “Password Display” on page 215.) You must click on **Change Password** to make the change effective. If you just close the window, nothing is done.

In the Change Password window:

Change Password	Effects the actual change.
Reset	Clears your entries from all three fields in the window.
Service	Identifies the mail service you have selected.
Realm	Is the name of the realm containing that service.
Current password	Is the password you logged on with.
New password	Is the password you want to become effective. The maximum password length is 31 characters. You can set the minimum in the User Logon Configuration window, as described in “Set User Logon Configuration” on page 217.
Confirm new password	Is the same as the new password, entered again to protect against mistyped entries.

You can open the mail service's interface with either the interface password or the realm password. This Change Password window cannot change the realm password; to change it, use the **Change Realm Password** button in the network administration interface (documented on “Change Realm Password” on page 214).

Order By

These choice fields of the Sort Controls window let you choose whether the Mail Service Status window is to list its processes by name, status, ID, envelope, or date.

Choice-Field Description

The Sort Controls window lets you sort on any one or more of the columns in the Status window. It also lets you specify levels of sorting, each based on one of the columns in the list. In the window, each of the **Order By** choice fields gives you this choice:

Thread Name

Status

File ID

Envelope Name

Last Delivery

When you click on **Unsorted** (in the corresponding **Sorting Level** choice area) at any level, any lower-level **Sorting Level** and **Order By** choice fields (and the unsorted level's **Order By** choice field) immediately disappear from the Sort Controls window and have no effect.

When you choose anything in the first **Order By** choice field, you specify which column the list in the Details window is to be sorted on (unless you also click on **Unsorted** in **Sorting Level 1**).

If you click on a different value in the second **Order By** choice field, you specify that entries after the first sorting are to be sorted in that order (unless you also click on **Unsorted** in **Sorting Level 2**).

If you click on the same value in both **Order By** choice fields, you specify that entries after the first sorting are to appear in random order.

For example, suppose that the first **Order By** setting is Status, and several user IDs all have the status Waiting for New Envelope. In this situation, the sorting of processes that are waiting for new Envelopes (but not of the overall list) is governed by the second **Order By** setting. In this example, Processing is listed before Waiting.

If you sort on Thread Name instead, you specify that the list of processes is to be sorted by the names of the processes, or threads. In this case all thread names starting with Delayed are sorted before those starting with Mail.

The first example described here is sorted by status (with secondary sorting by process name), and the second is sorted by process name.

See also “Sort Controls” on page 209.

Set Configuration

This button lets you set path names for the Post Office and for distribution lists, with the Envelope expiration limit.

Window Description

When you click on **Set Configuration** in the Mail window, the Configuration window opens. This window displays the current settings and lets you type the path name for the Post Office, the path name for distribution lists, and the Envelope expiration limit. You must click on **Set Configuration** to make the change effective. If you just close the window, nothing is done. Changing the configuration stops the mail service. To restart the service, use the node-management interface for that server.

In the Configuration window:

Set Configuration	Effects the information you have typed and stops the mail service.
Reset	Voids the information you have typed and restores the previous settings.
Service	Identifies the mail service you have selected.
Realm	Is the name of the realm containing that service.
Post Office Path	Specifies the path to the Post Office folder, which is where the mail is processed. The default path is System|Mail|Post Office.
Distribution List Path	Specifies the path to the container where mail distribution lists are kept. The default path is System|File Drawers|Distribution Lists.
Envelope Lifetime (hours)	Specifies the number of hours that any Envelope can be kept while its delivery is retried. If an Envelope cannot be delivered within this time limit, it is returned to the sender, with a message saying that it could not be delivered. The default setting is 72 hours (three days).

Show Status

This button shows the name, status, and other information about each function of the mail service.

Button Description

When you click on **Show Status** in the Mail window, the Status window opens. Each entry in the window shows the name of one *thread*, or function of the mail service, with the current status of that function and the number, name, time, and date of the most recently processed message. If the mail service was recently started and one or more functions have not processed any mail yet, the last three fields are blank for those threads.

In the Status window:

Service	Identifies the mail service you have selected.
Realm	Is the name of the realm containing that service.
Service Version	Shows the software version number of the mail service. This is not the overall IDS release number.
Service Started	Shows the most recent date and time when the mail service was started.
Sort Controls Button	Lets you choose whether to sort by thread name, status, ID number, Envelope name, or date, as described in “Sort Controls” on page 209.
Select All Button	Selects all of the entries in the list.
Thread Name	Lists each of the service's functions.

Status	Shows what the function is currently doing. It can be: Waiting for new envelope Processing envelope Waiting to retry delivery Thread inactive (this part of the mail service is still starting.) Thread failed (the mail service must be restarted.)
File ID	Shows the identifying number of the Envelope that is being processed or was most recently processed, or 0 if the function has been idle since being started.
Envelope Name	Shows the name of the Envelope that is being processed or, if the function is idle, shows the name of the last Envelope processed. If blank, it indicates that the thread has not processed any mail since the service was most recently started.
Last Delivery	Shows the time and date when the function last received an Envelope to process. If the thread has not processed any mail since the service was most recently started, this field shows when the service was most recently started.

Sort Controls

This button lets you set how to list the mail service's processes.

Window Description

When you click on the **Sort Controls** button, the Sort Controls window opens. This window lets you sort on any one or more of the columns in the Status window's list of processes. It also lets you specify levels of sorting, each based on one of the columns in the list.

In the Sort Controls window:

Sorting Level 1	Lets you set the primary sequence into which the services are to be sorted, as described in “Sorting Level.”
Sorting Level 2	Lets you set the secondary sorting sequence, as described in “Sorting Level.”
Order By	Lets you choose whether to list the services by type or name, as described in “Order By” on page 206.

When you click on **Unsorted** at any level, any lower-level **Sorting Level** and **Order By** choice fields (and the unsorted level's **Order By** choice field) immediately disappear from the Sort Controls window and have no effect.

Sorting Level

These areas of the Sort Controls window let you set whether or how to sort the list in the Mail Service Status window.

Choice-Field Description

Each of the five Sorting Level areas give you these choices:

Unsorted

Ascending

Descending

If you click on **Unsorted** in the Sorting Level 1 area of the Sort Controls window, you specify that the list of services in the Mail Service Status window is to appear in random order. If you click on **Unsorted** in the Sorting Level 2 area, you specify that entries after the first sorting are to appear in random order. For example, suppose Sorting Level 1 has **Order By** set to Service and there are several printing services; then the sorting of printing services is governed by Sorting Level 2.

If you click on **Ascending**, you specify that the list of services is to appear in alphanumeric order with numbers listed 0 through 9, followed by letters listed A through Z.

If you click on **Descending**, you specify that the list is to appear in alphanumeric order with letters listed Z through A, followed by numbers listed 9 through 0.

With either Ascending or Descending, all service types or names beginning with letters are listed before all those beginning with numerical digits. In either case, the sorting can be based on any column, as described in “Sort Controls” on page 209.

Chapter 18. Network Commands

The Intelligent Decision Server (IDS) network includes desktops communicating with a variety of services and databases.

The SA tool provides a graphical interface for administration of this network access. This chapter describes its commands, which let you end desktop or database sessions, reset desktops or services, set password and logon limits, and list active desktops or services.

Console Access

To perform network administration tasks:

1. Open the SA tool.
2. Select **Network Commands**.

   The **Service** menu says **Not Applicable**, because the network interface is not a selectable service. Also, you can ignore the **Realm** menu; you can only control the local realm.
3. Click on **Connect to Service**.
4. In the Network Commands window, enter the interface password or the realm password.
5. Click on the button for the task you want to accomplish.

In the Network Commands window:

Show Active Workstations and Services Button	Shows the address, type, and name of each service that is currently running, as described in “Show Active Desktops and Services” on page 218.
End All Workstation Sessions Button	Immediately logs off all workstation users, as described in “End All Desktop Sessions” on page 215.
End All Database Sessions Button	Immediately logs off all data-access sessions, as described in “End All Database Sessions” on page 215.
Reset All Workstations Button	Immediately resets all workstations on the network, as described in “Reset All Desktops” on page 217.
Reset All Services Button	Immediately resets all non-workstation services on the network, as described in “Reset All Services” on page 216.
Reset All Workstations and Services Button	Immediately resets all workstations and services on the network, as described in “Reset All Desktop and Services” on page 217.
Set User Logon Configuration Button	Lets you change several parameters governing users' passwords and logons, as described in “Set User Logon Configuration” on page 217.

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Show Internetwork Connections Button	Shows the name, IDS version, and other information about each network connected to yours, as described in “Show Internetwork Connections” on page 219.
Change Realm Password Button	Changes the system administration password, for access to all interfaces in the SA tool, as described in “Change Realm Password” on page 214.
Change Network Console Password Button	Changes the password for access to the network administration interface, as described in “Change Network Console Password” on page 214.

Summary of Commands

Figure 11 shows the flow of the windows in the network administration interface. Table 31 on page 213 through Table 33 on page 213 list the interface's windows, buttons, and choices, grouped by their functions. Later in this chapter, the detailed command descriptions are sorted in alphabetical order for easy reference.

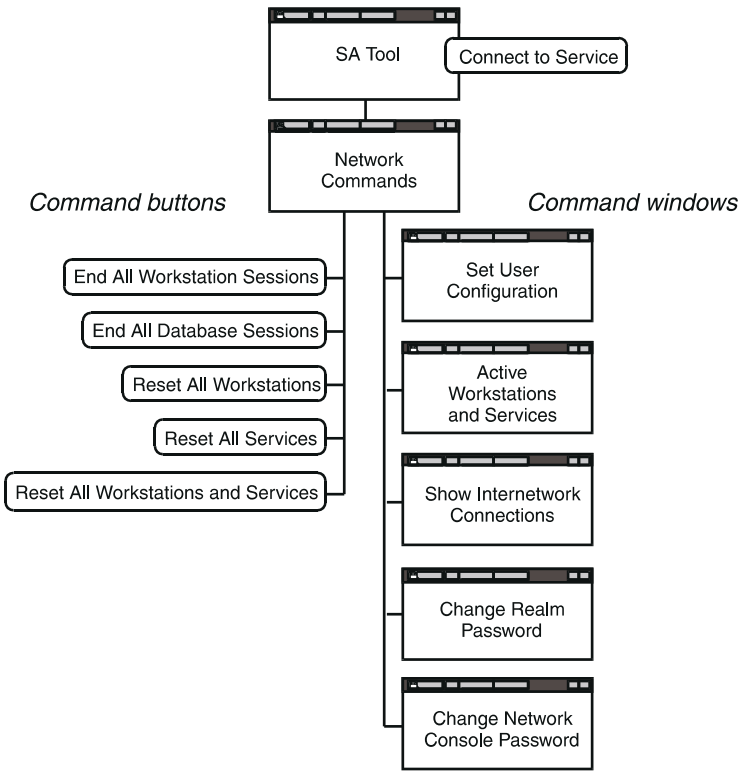

Figure 11. Window structure for network commands

Table 31. Choice areas in the network interface

Choice field	Description
Password display	Specifies what the logon screen is to do when the user types a password. (See “Password Display” on page 215.)
Password initialization forced at next logon	Specifies whether the system should invalidate new passwords after one day's use. (See “Password initialization forced at next logon” on page 216.)
Type of user logon attempts logged	Limits the recording of information about logon attempts. (See “Type of user logon attempts logged” on page 219.)

Table 32. Commands for displaying information about desktops and services

Button	Description
Show Active Workstations and Services	Shows the address, type, and name of each service that is currently running. (See “Show Active Desktops and Services” on page 218.)
Show Internetwork Connections	Shows the name, IDS version, and other information about each network connected to yours. (See “Show Internetwork Connections” on page 219.)

Table 33. Interface commands for controlling desktops and services

Button	Description
Change Network Console Password	Changes the password for access to the network administration interface. (See “Change Network Console Password” on page 214.)
Change Realm Password	Changes the system administration password, for access to all interfaces in the SA tool. (See “Change Realm Password” on page 214.)
End All Database Sessions	Immediately logs off all data-access sessions. (See “End All Database Sessions” on page 215.)
End All Workstation Sessions	Immediately logs off all workstation users. (See “End All Desktop Sessions” on page 215.)
Reset All Services	Immediately resets all non-workstation services on the network. (See “Reset All Services” on page 216.)
Reset All Workstations	Immediately resets all workstations on the network. (See “Reset All Desktops” on page 217.)
Reset All Workstations and Services	Immediately resets all workstations and services on the network. (See “Reset All Desktop and Services” on page 217.)
Set User Logon Configuration	Lets you change several parameters governing users' passwords and logons. (See “Set User Logon Configuration” on page 217.)

Commands

The remainder of this chapter describes each of the network administration interface's commands in detail. The commands are presented in alphabetical order.

Change Network Console Password

This button lets you change the password for access to the network administration interface.

Window Description

When you click on **Change Network Console Password** in the Network Commands window, the Network Password window opens. This window lets you type the old and new passwords. Type the new password twice, to protect against mistyped entries. As you type each character, the screen displays an asterisk (*), instead of your character, for security. You must click on **Change Password** to make the change effective. If you just close the window, nothing is done.

In the Change Password window:

Change Password	Effects the actual change.
Current password	Is the password you logged on with.
New password	Is the password you want to become effective. The maximum password length is 31 characters. You can set the minimum in the User Logon Configuration window, as described in “Set User Logon Configuration” on page 217.
Confirm new password	Is the same as the new password, entered again to protect against mistyped entries.

You can open the network administration interface with either the interface password or the realm password. This Network Password window cannot change the realm password; to change it, use the **Change Realm Password** button (documented on “Change Realm Password”).

Change Realm Password

This button lets you change the system administration password, for access to all interfaces in the SA tool.

Window Description

When you click on **Change Realm Password** in the Network Commands window, the Realm Password window opens. This window lets you type the old and new passwords. Type the new password twice, to protect against mistyped entries. As you type each character, the screen displays either an asterisk (*) or nothing, instead of your character, for security. (See “Password Display” on page 215.) You must click on **Change Password** to make the change effective. If you just close the window, nothing is done.

In the Change Password window:

Change Password	Effects the actual change.
Current password	Is the password you logged on with.
New password	Is the password you want to become effective. The maximum password length is 31 characters. You can set the minimum in the User Logon Configuration window, as described in “Set User Logon Configuration” on page 217.
Confirm new password	Is the same as the new password, entered again to protect against mistyped entries.

You can access any interface in the SA tool with either the realm password or the specific interface's password.

End All Database Sessions

This button immediately logs off all data-access sessions.

Attention: Ending the sessions can destroy work in progress.

Button Description

When you click on **End All Database Sessions**, the system immediately halts all Query, Reporter, and other data-access sessions. No confirmation is required. Even if a user has a tool open, data access stops immediately.

If processing is currently in progress, the results are undetermined. Therefore, you should be sure to warn all users through a broadcast message or personal contact before using this button.

End All Desktop Sessions

This button immediately logs off all desktop users.

Attention: Ending the sessions can destroy work in progress.

Button Description

When you click on **End All Workstation Sessions**, the system immediately logs off all desktop users. No confirmation is required. Even if a user has a tool open, desktop activity stops immediately.

If a Text document or other desktop object is open, it is saved to disk as if the user had logged off. If processing is currently in progress, the results are undetermined. Therefore, you should be sure to warn all users through a broadcast message or personal contact before using this button.

Password Display

This choice field of the User Logon Configuration window specifies what the logon screen is to do when the user types a password.

Choice Description

The **Password Display** choice field gives you these choices:

Stars

No Display

When you click on **Stars** in the User Logon Configuration window, users' logon screens display an asterisk (*) for each password character a user types.

When you click on **No Display**, users' logon screens display nothing when a user types a password character.

The default choice is Stars.

Password initialization forced at next logon

This choice field of the User Logon Configuration window specifies whether the system should invalidate new passwords after one day's use.

Choice Description

The **Password Initialization Forced at Next Logon** choice field gives you these choices:

No

Yes

When you click on **Yes** in the User Logon Configuration window, and you then assign someone a new password, the new password is valid for only 24 hours after the user's first subsequent logon. After the 24 hours, the new password is automatically disabled. A message notifies the user to change the password. This 24-hour password limit applies to new users as well as to existing users with new passwords.

When you click on **No**, the system does not force this initialization.

The default choice is No.

Reset All Services

This button immediately stops all non-desktop services on the network.

Attention: Resetting services can destroy work in progress.

Button Description

When you click on **Reset All Services**, the system immediately terminates activity on all non-desktop services, on all computers in the realm, and stops those services. The effect is as if you had used the node-management interface to stop every service. No confirmation is required.

If processing is currently in progress, the results are undetermined. Therefore, you should be sure to warn all users through a broadcast message or personal contact before using this button.

Reset All Desktops

The **Reset All Desktops** button immediately resets all desktops on the network.

Attention: Resetting desktops can destroy work in progress.

Button Description

When you click on the **Reset All Workstations** button, the system immediately terminates any in-progress desktop activity and stops the desktop software on all computers in the realm. The effect is as if each desktop user had selected **Exit Intelligent Decision Server**. No confirmation is required.

If a Text document or other desktop object is open, it is saved to disk as if the user had logged off. If processing is currently in progress, the results are undetermined. Therefore, you should be sure to warn all users through a broadcast message or personal contact before using this button.

Reset All Desktop and Services

This button immediately resets all desktops and all services on the network.

Attention: Resetting desktops and services can destroy work in progress.

Button Description

When you click on **Reset All Workstations and Services**, the system immediately terminates any in-progress activity and stops all IDS programs on all computers in the realm. The effect is as if you had used the node-management interface to stop every service, and each desktop user had selected **Exit Intelligent Decision Server**. No confirmation is required.

If a Text document or other desktop object is open, it is saved to disk as if the user had logged off. If processing is currently in progress, the results are undetermined. Therefore, you should be sure to warn all users through a broadcast message or personal contact before using this button.

Set User Logon Configuration

This button lets you change several parameters governing user passwords and logons.

Window Description

When you click on **Set User Logon Configuration** in the Network Commands window, the User Logon Configuration window opens. This window lets you set the limits of failed logons, length and duration of passwords, and displaying of passwords. You must click on **Set Configuration** to make any change effective. If you just close the window, nothing is done.

In the User Logon Configuration window:

Set Configuration	Effects the actual changes that you have typed or chosen in one or more fields.
Reset	Clears your entries from all fields and restores the most recently configured values.
Maximum user password life (days)	Is the of days that a password remains valid. The default value is 365, or one year.
Timespan of allowable failed logons (days)	Is the number of days over which the limit of unsuccessful logon attempts applies. After the specified number of unsuccessful logons, the password is disabled and the user must contact you to regain access. The default value is one day.
Maximum number of failed user logons	Is the maximum allowable number of unsuccessful logon attempts on a desktop, over the time span specified in the previous parameter. The default value is 20 logons.
Minimum number of characters in user password	Is the shortest allowable length of any user's password. The default value is 4 characters; the maximum is 16.
Type of user logon attempts logged	Limits the recording of information about logon attempts, as described in “Type of user logon attempts logged” on page 219. The default value is None.
Password display	Specifies what the logon screen is to do when the user types a password, as described in “Password Display” on page 215. The default value is Stars.
Days of warning before expiration	Is the number of days' warning the user gets before the password becomes invalid. The system provides an automatic warning message specifying the date when the password is to expire. The default warning margin is 30 days.
Password initialization forced at next logon	Specifies whether the system should invalidate new passwords after one day's use, as described in “Password initialization forced at next logon” on page 216. The default value is No.

Show Active Desktops and Services

This button shows the address, type, and name of each service that is currently running. It also shows the address of every running desktop and, if anyone is logged on, the user ID.

Button Description

When you click on **Show Active Workstations and Services** in the Network Commands window, the Active Workstations and Services window opens. Each line shows the address, service type, and name for one network node.

In the Active Workstations and Services window:

Select All Button	Selects every line in the list, so you can copy the list to a Text document or other destination.
Node Address	Shows the network address of the node.
Type	Shows either *Workstation* or the type of service.

User Name	For a service, shows the name of the service; for a workstation, shows the ID of the user currently logged on, if any.

Show Internetwork Connections

This button shows the name, IDS capability level, router address, and other information about each network that is currently connected to the realm you are governing.

WIndow Description

When you click on **Show Internetwork Connections** in the Network Commands window, the Internetwork Connections window opens. For each realm or mail gateway, a line shows the name, realm ID, entry type, IDS capability level, network address, and the time when the item was last confirmed.

In the Internetwork Connections window:

Select All Button	Selects every line in the list, so you can copy the list to a Text document or other destination.
*	Marks a menu containing the Delete All command, which removes all lines from the list. This lets the system build a new list, free of obsolete entries.
Name	Shows the name of a connected realm, network, or mail gateway. The Type column indicates how mail gets to and from the named destination. For a non-IDS mail system, Name is the name of that system, but the Realm ID, Type, and Capability Level columns apply to the realm or network whose mail gateway provides access to that system.
Realm ID	Shows the network number and the realm number of the realm or mail gateway. For a non-IDS mail system, Realm ID identifies the IDS realm or network that has access to that system.
Type	Shows whether Name identifies a realm or a network whose access is through a mail gateway.
Capability Level	Indicates the IDS mail format that the listed destination can accept or pass through.
Last-Heard Time	Shows the most recent time and date when the system verified connectivity to the listed realm or mail gateway.
Node Address	Shows the network address of the related directory service, if the listed realm or mail gateway is in the same network from which you are using the SA tool. If it is in a different network, this column shows no entry.

Type of user logon attempts logged

This choice field of the User Logon Configuration window limits the recording of information about logon attempts.

Choice Description

If you choose to maintain a record of all attempted logons or just failed attempts, the logged information is kept in the Logon Log file, in the Security file drawer (System|File Drawers|Security|Logon Log).

The **Type of User Logon Attempts Logged** choice field gives you these choices:

All

Failed

None

When you click on **All** in the User Logon Configuration window, the log file notes every attempted logon.

When you click on **Failed**, the log file notes only the unsuccessful logon attempts.

When you click on **None**, the log file does not keep a record of any logon attempts.

The default choice is None.

Chapter 19. Open Data Access Service

You should have installed the Open Data Access Service (ODAS) Client program and administration application to run a client test program and start an Administration application.

The ODAS Administration application provides a graphical interface that can be used to perform administration tasks.

This chapter provides detailed descriptions of each of the windows, fields, and buttons in the administration interface. The descriptions are arranged in alphabetical order.

The administrative functions within the Administration application allow you to manage ODAS server sessions, view the activity of the server, and view and modify the server configuration, among other things.

After you successfully log on to the ODAS Administration application, it initially displays the Pool Status window.

The title bar in the Pool Status window displays the name of the ODAS server to which you are connected, and the Intelligent Decision Server (IDS) network name (or realm name) for which it provides service.

This window always opens displaying a list of the servers participating in the current service pool, which is referred to as the *pool status list*. The primary server for the service pool is prefaced with an asterisk (*). The primary server monitors the pool status and performs load-balancing for the pool by distributing incoming client connection requests.

Administrative Functions

The tables in this section list all of the administrative windows and the functions that can be performed from them.

Each table entry includes a page reference where you can find details on the window or function.

Table 34 lists the administration windows. Figure 12 on page 225 shows a hierachical view of the administration windows.

Table 34 (Page 1 of 3). Administration windows

Window	Description
AFD Lists	Opens the AFD Lists window, where you can add, remove, or edit an AFD list (see “AFD Lists” on page 226).
Active Sessions	View the active sessions and display details about each of them (see “Active Sessions” on page 226).

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Table 34 (Page 2 of 3). Administration windows

Window	Description
Add AFD List	Add a new AFD list to the user profile database (see “Add AFD List” on page 227).
Add Action	Add a new action to the selected AFD list (see “Add Action” on page 227).
Add List	Embed an AFD list within your AFD list (see “Add List” on page 229).
Add Group	Add a new user group to the user profile database (see “Add Group” on page 229).
Add User	Add a new user to the user profile database (see “Add User” on page 230).
Assign AFD Lists	Add and remove AFD lists to and from the selected group or user (see “Assign AFD Lists” on page 230).
Assign Groups	Add and remove groups to and from the selected user entry (see “Assign Groups” on page 231).
Assign Members	Add or remove new user members to and from the selected group (see “Assign Members” on page 232).
Assign Users	Add and remove groups and users to and from the selected AFD list (see “Assign Users” on page 232).
Edit AFD List	Add and remove groups to and from the selected AFD list (see “Edit AFD List” on page 233).
Edit Action	Modify actions belonging to the selected AFD list (see “Edit Action” on page 234).
Edit Group	Modify specifications of the selected group (see “Edit Group” on page 235).
Edit User	Modify specifications of the selected user (see “Edit User” on page 236).
Groups	Add, remove, or edit a group (see “Groups” on page 237).
Open Data Access Administration	Log on to the ODAS (see “Logon” on page 238).
Pool Status	Displays a list of the servers participating in the current service pool, and provides administration functions (see “Pool Status” on page 238).
Restart service	Specify whether you want to restart ODAS (see “Restart service” on page 240).
Server Configuration	Examine and update the server's configuration data (see “Server Configuration” on page 240).
Server Status	View or modify the existing status of the server (see “Server Status” on page 242).
Session History	Displays the sessions currently active on the selected server and the sessions that are still held in the server's system audit log (see “Session History” on page 243).

Table 34 (Page 3 of 3). Administration windows

Window	Description
Session nn Detail	Displays detailed information about a specific session (see "Session nn Detail" on page 244).
Session nn History Detail	Displays information about a specific session (see "Session nn History Detail" on page 245).
Shutdown service	Specify whether you want to shut down ODAS (see "Shut Down Service" on page 246).
Users	Add, remove, or edit an ODAS user (see "Users" on page 247).

Table 35 lists most of the command buttons within the Administration application. These buttons either issue a command or produce another window from which you can perform additional commands.

Table 35 (Page 1 of 2). Command buttons

Button	Description
AFD Lists	Opens the AFD Lists window (see "AFD Lists" on page 226).
Add List	Opens the Add AFD List window (see "Add List" on page 229).
Assign AFD Lists	Closes the window (see "Add AFD List" on page 227).
Assign Groups	Opens the Assign Groups window (see "Assign Groups" on page 231).
Assign Members	Opens the Assign Members window (see "Assign Members" on page 232).
Assign Users	Opens the Assign Users window (see "Assign Users" on page 232).
Configure	Opens the Server Configuration window (see "Server Configuration" on page 240).
Detail	Displays additional detail about the selected session, including the audit log (if available) of session requests (see "Session nn Detail" on page 244).
Exit	Ends your ODAS session and exits from the Administration application (see "Exit" on page 237).
Groups	Opens the Groups window (see "Groups" on page 237).
History	Opens the Session History window (see "Session History" on page 243).
Logoff	Ends your ODAS session and returns you to the Open Data Access Administration logon window (see "Logoff" on page 238).
Logon	Lets you log on to ODAS, which starts a session (see "Logon" on page 238).
Reset	Resets the statistics counters to 0 (see "Reset" on page 239).
Restart	Terminates all active sessions, shuts down the server, then restarts it (see "Restart" on page 240).

Table 35 (Page 2 of 2). Command buttons

Button	Description
Resume	Allows new sessions to be connected to the server (see "Resume" on page 240).
Sessions	Opens the Active Sessions window (see "Active Sessions" on page 226).
Set	Updates the server configuration data with any changes that you have made (see "Set" on page 246).
Shutdown	Terminates all active sessions and shuts down the server (see "Shutdown" on page 246).
Status	Opens the Service Status window (see "Status" on page 247).
Suspend	Allows active sessions to continue, but prevents new sessions from being connected to the server (see "Suspend" on page 247).
Users	Opens the Users window (see "Users" on page 247).

Command Reference Section

Figure 12 on page 225 illustrates the flow of the windows and commands within the Administration application.

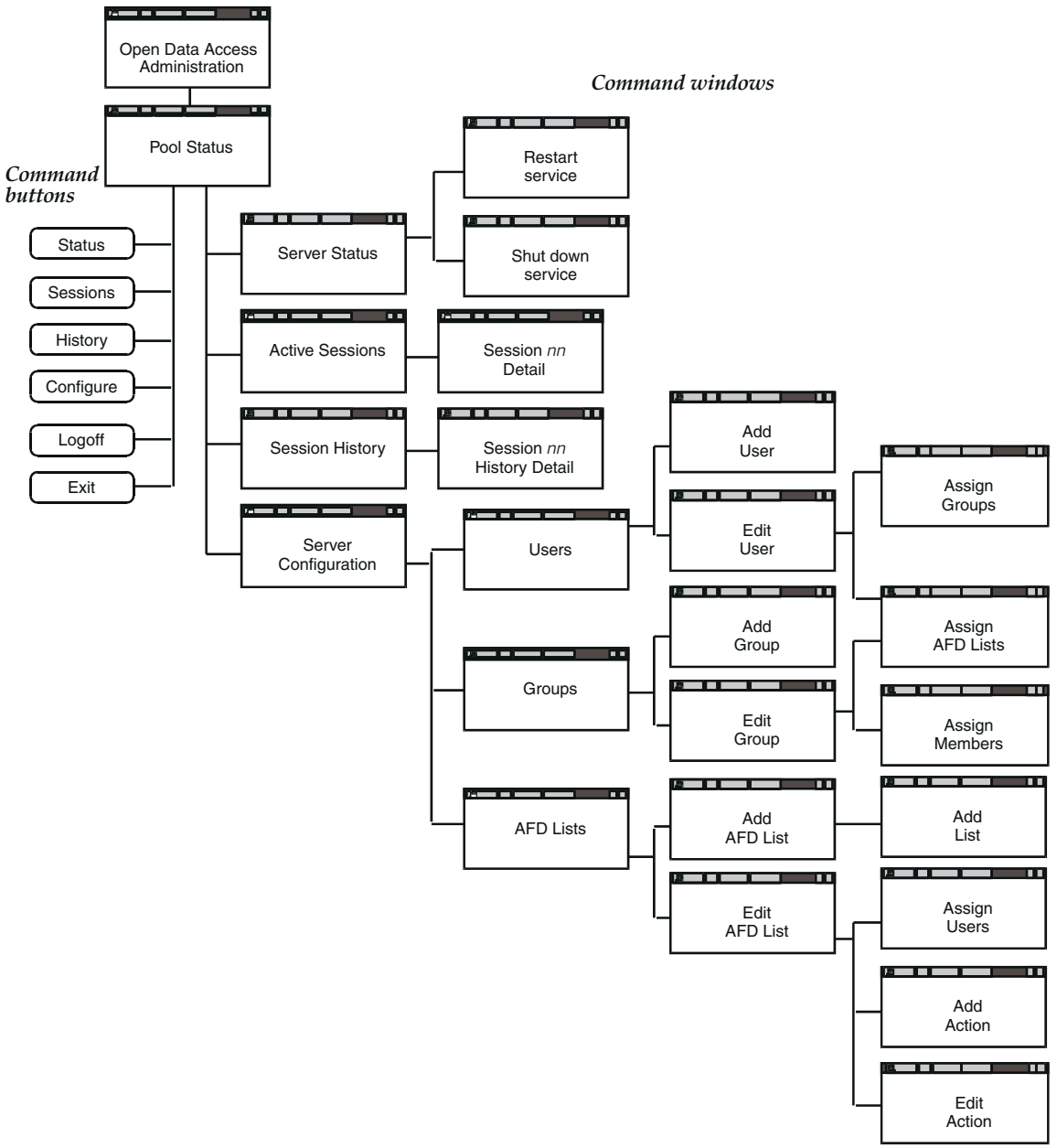

Figure 12. Open Data Access Services interface window structure

The remainder of this chapter contains the detailed function descriptions sorted in alphabetical order.

AFD Lists

The **AFD Lists** command button opens the AFD Lists window, which enables you to add, remove, or edit an AFD list.

Button and Window Description

The **AFD Lists** command button resides in the Server Configuration window. When you click on this button, it opens the AFD Lists window.

In this window:

Add	Opens the Add AFD List window so a new AFD list can be created.
Delete	After an AFD list is selected, this button removes it.
Edit	After an editable AFD list is selected, this button opens the Edit AFD List window, from which you can edit the list's specifications.
Close	Closes the AFD Lists window.
Name	Is the name of the AFD lists in the UDB.
Comment	Is the comment associated with the AFD lists. This is an optional field.
Actions	Is the number of actions that the AFD list contains.
Users	Is the number of users that have the selected AFD list assigned to them.

Active Sessions

This command window lets you view the active sessions and display details about each of them.

Window Description

When you click on the **Sessions** command button in the Pool Status window, the Active Sessions command window opens.

In this window:

Detail	Displays additional detail about the selected session, including the audit log (if available) of session requests. Session detail can also be requested by double-clicking on the desired session in the displayed list.
Close	Closes the Active Sessions window.
Id	Is the identifying number for this session. Session ID numbers are assigned sequentially as each new session is connected. The numbers continue increasing while the server remains installed.
When	Is the time of day the session was connected.
Idle	Is the number of minutes the session has been idle. That is, the number of minutes since the last request was completed for the client.

#Req	Is the number of requests processed by the server for this session.
#Msg	Is the number of network broadcast messages (from the IDS system administrator) that are queued for this session.
Desktop	Is the name of the desktop logged on to the session.
Where	Is the host name of the client that is connected on the session.
Request	Is the current (or most recent) request from the client. If an asterisk (*) precedes the request name, the request is still being processed by the server.

Add AFD List

This command window enables you to add a new AFD list to the user database.

Window Description: When you click on the **Add** button in the AFD Lists window, the Add AFD List window opens.

In this window:

Add	After you enter a name for the new AFD list, this command button adds the name to the UDB, then opens the Edit AFD List window.
Cancel	Cancels any changes that were made, closes the Add AFD List window, and returns you to the AFD Lists window.
Add List	Opens the Add List window, where you can add another AFD list to your current list.
Name	Is the name of the AFD list you want to add.
Comment	Is a comment about the AFD list you want to add. This is an optional field.
Execution Mode	Describes the mode of operation. Automatic lists are executed when an automatic AFD session is run; the user is configured for Automatic at Logon or Automatic at Logoff AFD mode. Manual lists must be specifically requested by the user application.

Add Action

This command window enables you to add a new action to the selected AFD list.

Window Description: When you click on the **Add** button in the Edit AFD List window, the Add Action window opens.

In this window:

Add	After you have entered the specifications for the new action, this command button adds the new action to the specified AFD list, then returns to the Edit AFD List window.
Cancel	Cancels any changes that were made, closes the Add Action window, and returns to the Edit AFD List window.
List	Is the name of the AFD list to which you want to add the action.

Verb	Lets you select the descriptive verb associated with the new action you are adding. The choices are: Distribute, Collect, Synchronize, Replicate-to-client, Replicate-from-client, and Custom. Distribute is selected by default. For details, see “Adding, Editing, and Deleting Users” on page 257.
Server file specification	Is the path and file name of the file residing on the server that is associated with the new action. This file is compared with the file specified in the **Client file specification** field that is residing on the client's computer.
Location	Indicates whether the associated file is located on a IDS desktop or on a server file system.
Client file specification	Is the path and file name of the file residing on the client's computer, which is compared with the file specified in the **Server file specification** field that is residing on the server.
Recursion mode	Determines whether subdirectories will be included in the search for files that match a name pattern. There are three options: Off, Pattern-match files, and Pattern-match directories. Off is selected by default. For details, see “Adding or Editing an AFD Action” on page 265.
Server file options	Allows you to determine the type of operations to perform on the server files. The server file options are: **Retrieve client file if it is newer**: The server will retrieve a copy of the client file if the server file exists and is older than the client file. **Retrieve client file if it is older or newer**: The server will retrieve a copy of the client file if the server file exists and does not match the client file date. **Create the file if it does not exist**: If the client has a file that matches the name pattern and the corresponding file on the server does not exist, the server will retrieve a copy of the client file. **Delete if no matching client file exists**: If the server has a file that matches the name pattern and the corresponding file on the client does not exist, the server file is deleted.

Client file options	Allows you to determine the type of operations to perform on the client files. The client file options are: **Send server file if it is newer**: The client will retrieve a copy of the server file if the client file exists and is older than the server file. **Send server file if it is older or newer**: The client will retrieve a copy of the server file if the client file exists and does not match the server file date. **Create client file if it does not exist**: If the server has a file that matches the name pattern and the corresponding file on the client does not exist, the server sends a copy of its file. **Delete if no matching server file exists**: If the client has a file that matches the name pattern and the corresponding file on the server does not exist, the client file is deleted.

When you select one of the predefined action verbs, the appropriate options are set automatically. If you modify the file options and the resulting combination of options corresponds to a predefined verb, that verb will appear in the **Verb** field. If the combination of options does not correspond to a predefined verb, Custom will appear in the **Verb** field.

Add List

This button opens the Add List command window, which contains a list of AFD lists that can be added to your current AFD list.

Button and Window Description: The **Add List** command button resides in the Add AFD List window. When you click on this button, it opens the Add List window.

In this window:

Add	Adds the selected AFD list to the current list.
Cancel	Cancels any changes that were made, closes the AFD List window, and returns to the Add AFD List window.

Add Group

This command window enables you to add a new user group to the UDB.

Window Description: When you click on the **Add** button in the Groups window, the Add Groups window opens.

In this window:

Add	After you have entered a name for the new user group, this command button adds the group to the UDB, then opens the Edit Group window.

Cancel	Cancels any changes that were made, closes the Add Group window, and returns to the Groups window.
Name	Is the name of the user group you want to add.
Comment	Is a comment about the group you want to add. This is an optional field.

After you enter a name for the group in the **Name** field and click on the **Add** button, the Edit Group window opens.

Add User

This command window enables you to add a new user to the UDB.

Window Description: When you click on the **Add** button in the Users window, the Add Users window opens.

In this window:

Add	After you have entered a name for the new user, this command button adds the user to the UDB, then opens the Edit User window.
Cancel	Cancels any changes that were made, closes the Add User window, and returns to the Users window.
Name	Is the name of the user you want to add.
Comment	Is a comment about the user you want to add. This is an optional field.
Status	Determines whether the selected user is allowed to log on to this ODAS server. The choices are Active and Inactive. The default is Active.
User Type	Determines whether the user is granted administrative privileges to use the ODAS Administration application. The choices are: User and Administrator. The default is User.
AFD Mode	Determines when automatic AFD processing will occur. The choices are: Manual, Automatic at logon, and Automatic at logoff. The default is Manual.

Assign AFD Lists

The **Assign AFD Lists** command button opens the Assign AFD Lists window, which enables you to add and remove AFD lists to and from the selected group or user.

Button and Window Description: The **Assign AFD Lists** command button resides in the Edit Group and Edit User windows. When you click on this button, it opens the Assign AFD Lists window.

In this window:

Add	Adds an AFD list to the Assigned AFD Lists: column.

Remove	Removes an AFD list from the Assigned AFD Lists: column and places it into the Unassigned AFD Lists: column.
Add All	Adds all of the AFD lists that are listed in the Unassigned AFD Lists: column to the Assigned AFD Lists: column.
Remove All	Removes all of the AFD lists that are listed in the Assigned AFD Lists: column, and places them back in the Unassigned AFD Lists: column.
Save	Saves any changes that were made.
Cancel	Cancels any changes that were made and returns to the Edit Group window or to the Edit User window.
Group	If accessed by the Edit Group window, this is the name of the group to which you are assigning AFD lists.
Assigned AFD Lists:	Is the list of AFD lists that are assigned to the user or group.
Unassigned AFD Lists:	Is the list of AFD lists that are not assigned.
User	If accessed by the Edit User window, this is the name of the user to which you are assigning AFD lists.

Assign Groups

The **Assign Groups** command button opens the Assign Groups window, which enables you to add and remove groups to and from the selected user.

Button and Window Description: The **Assign Groups** command button resides in the Edit User window. When you click on this button, it opens the Assign Groups window.

In this window:

Add	Adds a group to the Assigned Groups: column.
Remove	Removes a group from the Assigned Groups: column and places it into the Unassigned Groups: column.
Add All	Adds all of the groups that are listed in the Unassigned Groups: column to the Assigned Groups: column.
Remove All	Removes all of the groups that are listed in the Assigned Groups: column, and places them back in the Unassigned Groups: column.
Save	Saves any changes that were made.
Cancel	Cancels any changes that were made and returns you to the Edit User window.
User	Is the name of the user to which you are assigning groups.
Assigned Groups:	Is the list of groups to which the user belongs.
Unassigned Groups:	Is the list of groups to which the user does not belong.

Assign Members

This command window enables you to add or remove new user members to and from the selected group.

Button and Window Description: The **Assign Members** command button resides in the Edit Group window. When you click on this button, it opens the Assign Members window.

In this window:

Add	Adds a member to the Assigned Members: column.
Remove	Removes a member from the Assigned Members: column and places it into the Unassigned Members: column.
Add All	Adds all of the members that are listed in the Unassigned Members: column to the Assigned Members: column.
Remove All	Removes all of the members that are listed in the Assigned Members: column, and places them back in the Unassigned Members: column.
Save	Saves any changes that were made.
Cancel	Cancels any changes that were made and returns you to the Edit Group window.
Group	Is the name of the group to which you are assigning members.
Assigned Members:	is the list of users or groups that are already members of the selected group.
Unassigned Members:	Is the list of users or groups that are not members of the selected group.

Assign Users

The **Assign Users** command button opens the Assign Users window, which enables you to add and remove groups and users to and from the selected AFD list.

Button and Window Description: The **Assign Users** command button resides in the Edit AFD List window. When you click on this button, it opens the Assign Users window.

In this window:

Add	Adds a user to the Assigned Users: column.
Remove	Removes a user from the Assigned Users: column and places it into the Unassigned Users: column.
Add All	Adds all of the users that are listed in the Unassigned Users: column to the Assigned Users: column.
Remove All	Removes all of the users that are listed in the Assigned Users: column, and places them back in the Unassigned Users: column.
Save	Saves any changes that were made.

Cancel	Cancels any changes that were made and returns to the Edit AFD List window.
AFD List	Is the name of the AFD list to which you are assigning users.
Assigned Users:	Is the list of users and groups that already are assigned to the selected AFD list.
Unassigned Users:	Is the list of users and groups that are not assigned to the selected AFD list.

Configure

This command button opens the Server Configuration window.

Button Description: The **Configure** command button resides in the Pool Status window. When you click on this button, the Server Configuration window opens.

See also “Server Configuration” on page 240.

Detail

This command button enables you to display additional detail about the selected session, including the audit log (if available) of session requests.

Button Description: The **Detail** command button resides in the Active Sessions window and the Session History window.

When you click on this button from the Active Sessions window, the Session nn Detail window opens.

When you click on this button from the Session History window, the Session nn History Detail window opens.

Also see “Session nn Detail” on page 244 and “Session nn History Detail” on page 245.

Edit AFD List

The **Edit AFD List** command button opens the Edit AFD List window, which enables you to add and remove groups to and from the selected AFD list.

Window Description: When you click on the **Edit** button in the AFD Lists window, the Edit AFD List window opens.

In this window:

Save	After you have modified the specifications of the selected AFD list, this button saves any changes that were made.
Cancel	Cancels any changes that were made, closes the Edit AFD List window, and returns to the AFD Lists window.
Add List	Opens the Add List window, which is where you can add another AFD list to your current list.

Assign Users	Opens the Assign Users command window. Below this button is a list of users who are already assigned to the selected AFD list.
Add	Opens the Add Action command window so you can add an action.
Name	Is the name of the AFD list.
Comment	Is a comment about the AFD list. This is an optional field.
Execution Mode	Describes the mode of operation. Automatic lists are executed when an automatic AFD session is run; the user is configured for Automatic at Logon or Automatic at Logoff AFD mode. Manual lists must be specifically requested by the user application.

This command window can also be accessed from the **Add** button in the Add AFD List command window. After the new list has been added, the Edit AFD List window opens in the event you want to change some specifications.

Edit Action

The Edit Action command window enables you to modify actions belonging to the selected AFD list.

Window Description: When you click on the **Edit** button in the Edit AFD List window, the Edit Action window opens.

In this window:

Save	After you have modified the specifications for the selected action, this command button saves any changes, then returns to the Edit AFD List window.
Cancel	Cancels any changes that were made, closes the Edit Action window, and returns you to the Edit AFD List window.
List	Is the name of the AFD list that contains the action being modified.
Verb	Is the descriptive verb associated with the selected action. The choices are: Distribute, Collect, Synchronize, Replicate-to-client, Replicate-from-client, and Custom. Distribute is selected by default. For details, see “Adding or Editing an AFD Action” on page 265.
Server file specification	Is the path and file name of the file residing on the server that is associated with the selected action. This file is compared with the file specified in the **Client file specification** entry field that is residing on the client's computer.
Location	Indicates whether the associated file is located on a IDS desktop or on a server file system.
Client file specification	Is the path and file name of the file residing on the client's computer, which is compared with the file specified in the **Server file specification** field that is residing on the server.

Recursion mode	Determines whether subdirectories will be included in the search for files that match a name pattern. There are three options: Off, Pattern-match files, and Pattern-match directories. Off is selected by default. For details, see “Adding or Editing an AFD Action” on page 265.
Server file options	Gives you full control over the rules used to determine the type of operations to perform on the server files. The server file options are: **Retrieve client file if it is newer**: The server will retrieve a copy of the client file if the server file exists and is older than the client file. **Retrieve client file if it is older or newer**: The server will retrieve a copy of the client file if the server file exists and does not match the client file date. **Create the file if it does not exist**: If the client has a file that matches the name pattern and the corresponding file on the server does not exist, the server will retrieve a copy of the client file. **Delete if no matching client file exists**: If the server has a file that matches the name pattern and the corresponding file on the client does not exist, the server file is deleted.
Client file options	Gives you full control over the rules used to determine the type of operations to perform on the client files. The client file options are: **Send server file if it is newer**: The client will retrieve a copy of the server file if the client file exists and is older than the server file. **Send server file if it is older or newer**: The client will retrieve a copy of the server file if the client file exists and does not match the server file date. **Create client file if it does not exist**: If the server has a file that matches the name pattern and the corresponding file on the client does not exist, the server sends a copy of its file. **Delete if no matching server file exists**: If the client has a file that matches the name pattern and the corresponding file on the server does not exist, the client file is deleted.

When you select one of the predefined action verbs, the appropriate options are set automatically. If you modify the file options and the resulting combination of options corresponds to a predefined verb, that verb will appear in the **Verb** field. If the combination of options does not correspond to a predefined verb, Custom will appear in the **Verb** field.

Edit Group

The Edit Group command window enables you to modify specifications of the selected group.

Window Description: When you click on the **Edit** button in the Groups window, the Edit Group window opens.

In this window:

Save	After you have modified the specifications for the selected group, this command button saves any changes, then returns to the Groups window.
Cancel	Cancels any changes that were made, closes the Edit Group window, and returns you to the Groups window.
Assign Members	Opens the Assign Members window, which lets you add new members to the selected group. Below this button is a list of members who are currently assigned to this group.
Assign AFD Lists	Opens the Assign AFD Lists window, which lets you assign or remove AFD lists to and from the selected group. Below this button might be a list of AFD lists that are assigned to members of the selected group.
Name	Is the name of the selected group that is being modified.
Comment	Is the comment associated with the group. This is an optional field.

Edit User

The Edit User command window enables you to modify specifications of the selected user.

Window Description: When you click on the **Edit** button in the Users window, the Edit User window opens.

In this window:

Save	After you have modified the specifications for the selected user, this command button saves any changes, then returns to the Users window.
Cancel	Cancels any changes that were made, closes the Edit Users window, and returns you to the Users window.
Assign Groups	Opens the Assign Groups window, which lets you assign or remove groups to and from the selected user. Below this button is a list of groups to which the selected user belongs.
Assign AFD Lists	Opens the Assign AFD Lists window, which lets you assign or remove AFD lists to and from the selected user. Below this button might be a list of AFD lists that are assigned to the selected user.
Name	Is the name of the selected user that is being modified.
Comment	Is the comment associated with the selected user. This is an optional field.
Status	Determines whether the selected user is allowed to log on to this ODAS server. The choices are Active and Inactive. The default is Active.

User Type	Determines whether the user is granted administrative privileges to use the ODAS Administration application. The choices are User and Administrator. The default is User.
AFD Mode	Determines when automatic AFD processing will occur. The choices are: Manual, Automatic at logon, and Automatic at logoff. The default is Manual.

Exit

This command button ends your ODAS session and exits from the Administration application.

Button Description: The **Exit** command button resides in the Pool Status command window. When you click on this button, it ends your ODAS session, exits from the application, and returns to the Windows desktop.

Groups

The **Groups** command button opens the Groups window, which enables you to add, remove, or edit a group.

Button and Window Description: The **Groups** command button resides in the Server Configuration window. When you click on this button, it opens the Groups window.

In this window:

Add	Opens the Add Group window so a new group can be added.
Delete	After a group is selected, this button removes it.
Edit	After an editable group is selected, this button opens the Edit Group window, from which you can edit the group's specifications.
Close	Closes the Groups window.
Name	Is the name of the groups in the UDB.
Comment	Is the comment associated with the groups. This is an optional field.
Members	Is the number of members that belong to the selected group.
AFD Lists	Is the number of AFD lists that are assigned to the selected group.

History

This command button opens the Session History window.

Button Description: The **History** command button resides in the Pool Status command window. When you click on this button, the Session History window opens, which displays the session currently active on the selected server.

Also see “Session History” on page 243.

Logoff

This command button ends your ODAS session and returns to the Open Data Access Administration logon window.

Button Description: The **Logoff** command button resides in the Pool Status command window. When you click on this button, it ends your ODAS session and opens the Open Data Access Administration logon window.

Logon

This command button lets you log on to the Open Data Access Service, which starts a session.

Button Description: The **Logon** command button resides in the Open Data Access Administration window. Provided that the information you entered in the fields are valid, when you click on this button, the Pool Status window opens, from which you can perform many administration tasks.

Open Data Access Administration

This logon window enables you to log on to the Open Data Access Service, thus starting a session.

Window Description: When you click on the **OK** button in the Open Data Access Administration window, the Open Data Access Administration logon command window opens.

In this window:

Logon	Lets you log on to ODAS, which starts a session.
Exit	Exits from ODAS and returns to the Windows desktop.
Server	Is the name of the server you want to administer.
Desktop	Enter your IDS desktop name or the name of a desktop that has administrative privileges on the server you want to administer. Until a server has been configured otherwise, the system desktop is the only desktop that has administrative privileges.
Password	Is the name of the IDS desktop password for the desktop you specified in the **Desktop** field.

Pool Status

This command window displays a list of the servers participating in the current service pool. It also lets you activate monitoring and configuration functions.

Window Description: When you click on the **Logon** command button in the Open Data Access Administration window, the Pool Status command window opens.

This window displays a list of the servers participating in the current service pool. The primary server for the service pool is marked with an asterisk (*). The primary server

monitors the pool status and performs load balancing by distributing incoming client connection requests.

You can select any server in the service pool to administer, provided that the server is active. The selected server is highlighted in the display list.

When you first log on to the service, the Administration application initially selects the server to which your session was assigned, which is displayed in the title of this window.

To change the selected server, either double-click on the desired server, or select the server (using the keyboard or mouse) and press the Enter key. After a server is selected, you can press the **Status**, **Sessions**, **History**, or **Configure** command buttons to administer the server.

In this window:

Status	Opens the Service Status window.
Sessions	Opens the Active Sessions window.
History	Opens the Session History window.
Configure	Opens the Server Configuration window.
Logoff	Ends your ODAS session and returns to the Open Data Access Administration logon window.
Exit	Ends your ODAS session, exits from the Administration application, and returns to the Windows desktop.
Server	Is the name of the ODAS server.
Status	Is the current status of the server. Possible values are: Up - the server is running and accepting new sessions. Unavail - the server is running but is not accepting new sessions; it is suspended. Down - the server is not running.
Since	Is the time the server status last changed.
#Sess	Is the number of sessions active on the server.
Load	Is the current server load, which is a measure of the average response time of the server and is used for load-balancing across the service pool.
Updated	Is the time the last status update was sent by the server.

Reset

This command button resets the statistics counters to 0.

Button Description: The **Reset** command button resides in the Service Status command window. When you click on this button, the statistics that can be reset (which appear in the last column) are reset to 0.

The time of day that the statistics were last reset is displayed under this button.

Restart

This command button opens the Restart service window, which allows you to terminate all active session, and shut down and restart the ODAS server.

Button Description: The **Restart** command button resides in the Service Status command window. When you click on the **Restart** command button, the Restart service confirmation window opens.

Restart service

This command window terminates all active sessions, shuts down the ODAS server, then restarts it.

Window Description: When you click on the **Restart** command button in the Service Status window, the Restart service confirmation window opens.

From the Restart service confirmation window, indicate whether you want to restart ODAS, by clicking on the **Yes** or **No** button. If you select No, you are returned to the Service Status window.

If you select Yes, after the command is accepted by the server, the Administration application closes all of the windows except the Pool Status window, and selects the default server (the one you are logged on to) as the active server.

If you restart the server you are logged on to, the application will log you off and display the Open Data Access Administration window.

The actual shutdown sequence starts approximately 15 seconds after the server receives the shutdown command. The server restart typically takes from 30 seconds to 2 minutes, depending on your server processing speed and network load.

Resume

This command button allows new ODAS sessions to be connected to the server.

Button Description: The **Resume** command button resides in the Service Status command window. When you click on this button, all suspended sessions (from the Suspend command) are allowed to be connected to the server.

Server Configuration

This command window lets you examine and update the server's configuration data.

Window Description: When you click on the **Configure** command button in the Pool Status window, the Server Configuration window opens.

In this window:

Set	Updates the server configuration data with any changes that you have made.
Close	Closes the Server Configuration window.
Users	Opens the Users window, which displays information about the current ODAS users.
Groups	Opens the Groups window, which displays information about ODAS groups.
AFD Lists	Opens the AFD Lists window, which displays information about the current AFD lists.
Pooling Mode	Determines if the server is to act as a primary or a secondary server in a multi-server pool.
Pool Primary Server (Name)	If the server is configured as a secondary server, this is the name of the primary server in the server pool.
Capsule Service (Name)	Is the name of the server providing Capsule Services support for this server.
User Profile Database (Name)	Is the name of the database to which the user is assigned.
Conversion Service (Name)	Is the name of the server providing conversion service support for this server.
Conversion Service (Sessions)	Is the number of conversion service sessions (or execution engines) this server should attempt to allocate.
Timeouts (Session)	Is the maximum time (in seconds) a session is allowed to remain connected before being disconnected by the server. If 0 seconds is specified, the server enforces no limit.
Timeouts (Inactivity)	Is the maximum time (in seconds) a session is allowed to remain idle (not executing any ODAS requests) before being disconnected by the server. If 0 seconds is specified, the server enforces no limit.
Security (Desktop security enabled)	Determines whether the server enforces normal desktop security, including password expiration and network security logging. If desktop security is disabled, clients must still provide a valid desktop password to log on to a desktop.
Session auditing (Enabled)	Determines whether the audit logging is enabled. When enabled, the server keeps an audit trail of the session requests as they are processed.
Session auditing (Keep nn sessions)	If audit logging is enabled, determines how many session audit logs are kept as new sessions are connected. The server deletes the oldest session audit logs to keep the total number within the specified limit.
Max audit log sizes (Session)	Specifies the maximum size (in bytes) to which a session audit log might grow. If 0 seconds is specified, the server enforces no limit.
Max audit log sizes (System)	Specifies the maximum size (in bytes) to which the audit log might grow. If 0 seconds is specified, the server enforces no limit.

Max audit log sizes (Total)	Specifies the combined maximum size (in bytes) to which the system and session audit logs might grow. If 0 seconds is specified, the server enforces no limit.

Server Status

This command window enables you to view or modify the existing status of the ODAS server.

Window Description: When you click on the **Status** command button in the Pool Status window, the Server Status command window opens.

In this window:

Suspend	Allows active sessions to continue, but prevents new sessions from being connected to the server.
Resume	Allows new sessions to be connected to the server.
Shutdown	Terminates all active sessions and shuts down the server. The actual shutdown sequence starts approximately 15 seconds after the server receives the shutdown command. after the server is shut down, it must be manually restarted.
Restart	Terminates all active session, shuts down the server, then restarts it. The actual shutdown sequence starts approximately 15 seconds after the server receives the shutdown command. The server restart typically takes from 30 seconds to 2 minutes, depending on your server processing speed and network load.
Close	Closes the Server Status window.
Reset	Resets the statistics counters (located under the **Reset** button) to 0. The time of day the statistics were last reset is also displayed under the **Reset** button.
Service time:	Is the time of day when the statistics were last retrieved from the server.
Last booted:	Is the time of day when the server was last started.
Sessions	Is the number of ODAS client sessions. Three values are displayed: the number of active sessions, the total number of sessions connected since the server was last started, and the number of sessions connected since the statistics were reset.
Requests	Is the number of ODAS requests processed by the server. Two values are displayed: the number of requests processed since the server was last started, and the number of requests processed since the statistics were reset.
Requests/sec	Is the average request throughput of the server. Two values are displayed: the average throughput since the server was last started, and the average throughput since the statistics were last reset.

Session History

This command window displays the sessions currently active on the selected ODAS server, as well as those sessions that are still held in the server's system audit log.

Window Description: When you click on the **History** command button from the Pool Status window, the Session History window opens.

The Session History window contains a scrollable list displaying the sessions currently active on the selected server, and those sessions that are still held in the server's system audit log.

The title of this window includes the name of the server being administered. This name can be different than the name shown in the title of the Pool Status window, because it displays the name of the server on which the ODAS session is running, not the name of the server being administered.

In this window:

Detail	Displays additional detail about the selected session, including the audit log.
Close	Closes the Session History window.
Id	Is the identifying number for this session. Session ID numbers are assigned sequentially as each new session is connected. The numbers continue increasing while the server remains installed. If you are administering the server to which you are connected, your administrative session is identified by an asterisk (*) preceding the session ID.
Began	Is the time of day when the session was connected.
Ended	Is the time of day when the session was disconnected. If the session is currently active or the session ended for an unknown reason, this time will be blank.
Status	Is the session termination status. This column lists the reason the session was disconnected. If the session is active, or if it ended normally (in response to a request by the ODAS client application), this column is blank. The possible values are: Active - session is still active (blank) - session ended normally Admin - session was terminated by the administrator Network - the network connection to the client was interrupted Shutdown - the administrator shut down the server Inactivity - session exceeded the idle timeout limit Service - session ended due to a problem in the server Unknown - the termination status is not known METnnnn - the termination status code is *METnnnn*

#Req	Is the number of requests processed by the server for this session.
#Log	Is the number of messages stored in the session's audit log.
Where	Is the node name of the client's computer.

Session nn Detail

This command window displays detailed information about a specific ODAS session.

Window Description: When you click on the **Detail** command button from the Active Session window, the Session nn Detail window opens.

In this window:

Close	Closes the Session nn Detail window.
Session Id	Is the session identifying number.
Desktop	The desktop currently logged on the session.
Node	Is the host name of the client machine, which is connected to the server.
Connected	Is the time of day the session was started.
Last Logon	Is the time of day the most recent logon request was executed.
Requests	Is the number of requests that have been processed for the session.
Messages	Is the number of network broadcast messages (from the IDS system administrator) that are queued for the session.
Avg response	Is the average response time for the requests that have been executed by the server for this session.
Current request	When displayed, it is the name of the request currently being executed for this session.
Started	Is the time of day the request started executing on the server.
Show Relative Times	If selected, specifies the time (in the Time column) the request completed execution relative to the start of the session is displayed instead.
Id (from scrollable list)	Is the sequence number of the request
Time (from scrollable list)	Is the time of day the request completed execution on the server.
Error (from scrollable list)	Is the return code of the request.
Request (from scrollable list)	Is the name of the request.
Parameters (from scrollable list)	Are the parameters for the request. Certain parameters (such as passwords) will not be displayed.

In this window, **Current request** can be replaced with **Last request** or **Status**. Only one of these labels can be displayed at a time. Also, **Started** can be replaced with **Idle for** or **Ended**. Only one of these labels can be displayed at a time.

Session nn History Detail

This command window displays information about a specific ODAS session.

Window Description: When you click on the **Detail** command button from the Session History window, the Session nn History Detail window opens.

In this window:

Close	Closes the Session nn History Detail window.
Session Id	Is the session identifying number.
Node	Is the host name of the client machine, which is (or was) connected for the session.
Began	Is the time of day the session was connected.
Ended	Is the time of day the session was disconnected.
Requests	Is the number of requests that have been processed for the session.
Log Events	Is the number of requests contained in the session audit log.
Status	Is the session termination status. This column lists the reason the session was disconnected. If the session is active, or if it ended normally (in response to a request by the ODAS client application), this column is blank. The possible values are: Active - session is still active (blank) - session ended normally Admin - session was terminated by the administrator Network - the network connection to the client was interrupted Shutdown - the administrator shut down the server Inactivity - session exceeded the idle timeout limit Service - session ended due to a problem in the server Unknown - the termination status is not known METnnnn - the termination status code is *METnnnn*
Show Relative Times	If selected, determines whether the Time column display of the request execution time is relative to the start of the session, rather than to the clock time.
Id (from scrollable list)	Is the sequence number of the request.
Time (from scrollable list)	Is the time of day the request completed execution on the server.
Error (from scrollable list)	Is the return code of the request.
Request (from scrollable list)	Is the name of the request.
Parameters (from scrollable list)	Are the parameters for the request. Certain parameters (such as passwords) will not be displayed.

Sessions

This command button opens the Active Sessions window.

Button Description: The **Sessions** command button resides in the Pool Status window. When you click on this button, the Active Sessions window opens, which lets you view the active sessions and display details about each of them.

Set

This command button updates the server configuration data with any changes that you have made.

Button Description: The **Set** command button resides in the Server Configuration window. After you modify the configuration data in the Server Configuration window, you can click on the **Set** button to save your changes. When the configuration values are successfully changed, the Configuration Successful window opens.

If an error occurs while setting a particular configuration value, a message explaining the error is displayed.

Shutdown

This command button opens the Shutdown service window, which allows you to terminate all active sessions and shut down the server.

Button Description: The **Shutdown** command button resides in the Service Status command window. When you click on the **Shutdown** command button, the Shut down service confirmation window opens.

Shut Down Service

This command window terminates all active session, shuts down the ODAS server, then restarts it.

Window Description: When you click on the **Shutdown** command button in the Service Status window, the Shut down service confirmation window opens.

In this window:

Yes	Closes all of the windows except for the Pool Status window, and selects the default server (the one you are logged on to) as the active server. If you shut down the server you are logged on to, the application will log you off and display the Open Data Access Administration window.
No	Returns to the Service Status window without shutting down the service.

From the Shut down service confirmation window, indicate whether you want to shut down the ODAS service by clicking on the **Yes** or **No** button. If you select **No**, you are returned to the Service Status window.

If you select Yes, after the command is accepted by the server, the Administration application closes all of the windows except for the Pool Status window, and selects the default server (the one you are logged on to) as the active server.

If you shut down the server you are logged on to, the application will log you off and display the Open Data Access Administration window. The actual shutdown sequence starts approximately 15 seconds after the server receives the shutdown command.

After the server is shut down, it must be manually restarted at the server.

Status

This command button opens the Service Status command window.

Button Description: The **Status** command button resides in the Pool Status command window. When you click on it, the Service Status command window opens, which lets you view or modify the existing status of the ODAS server.

Suspend

This command button allows active sessions to continue, but prevents new sessions from being connected to the ODAS server.

Button Description: The **Suspend** command button resides in the Service Status command window. When you click on the **Suspend** button, no new sessions are allowed to start.

Users

The **Users** command button opens the Users window, which enables you to add, remove, or edit an ODAS user.

Button and Window Description: The **Users** command button resides in the Server Configuration window. When you click on this button, it opens the Users window.

In this window:

Add	Opens the Add User window to add a new user.
Delete	After a user is selected, this button removes it.
Edit	After an editable user is selected, this button opens the Edit User window, from which you can edit the users's specifications.
Close	Closes the Users window.
Name	Is the name of the users in the UDB.
Comment	Is the comment associated with the users. This is an optional field.
Groups	Is the number of groups to which the user belongs.
AFD Lists	Is the number of AFD lists that are assigned to the user.

Appendixes

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Appendix A. System Administration Checklists

This appendix presents, in checklist form, many of the procedures you use most often as system administrator. For details and explanations, see the chapters and sections that cover the same procedures.

Desktop and File-Drawer Management

The tasks outlined here are described more thoroughly in Chapter 3, “Configuring Your System” on page 27.

To Create a File Drawer:

1. Copy the blank File Drawer icon to an empty space in the File Drawers file drawer.
2. Open the options window of the new File Drawer icon.
3. Type the file drawer's name in the **Name** field.
4. Set access privileges **As Set in This Options Window** and **Viewed By Anyone/Changed By No One**, or specify key holders.
5. Close the Icon Options window.
6. Copy other file drawer references to *Public File Drawers in New Icons, as appropriate.

To Assign a New User or Administrator Desktop:

1. Copy the *Prototype Desktop or *Admin Prototype icon to an empty area in the Desktops container.
2. Open the options window of the new *Prototype Desktop or *Admin Prototype icon.
3. Delete *Prototype Desktop or *Admin Prototype from the **Name** field.
4. Type the user's name in the **Name** field.
5. Set access privileges **As Set in This Options Window** and **Viewed By Anyone/Changed By No One**, or specify key holders.
6. Select **Other Data** in the **Display** option.
7. Type the user's password in the **Password** field and type any access-key numbers.
8. Assign some warning and limit thresholds to the user.
9. Close the Icon Options window.
10. Move the user-specific desktop icon into the appropriate Desktops file drawer.

To Set Desktop Quotas:

1. Select and open the Set Quota transformer icon from the system desktop.
2. Designate your quota values in the parameters fields.

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3. Select Region Names for the input and output regions.
4. Designate a list of desktops you want to set and copy it into the transformer.
5. Run the transformer, using the **Run** button.

To Update Desktop Quotas:

1. Select Region Names to rename the input and output regions.
2. Type the new names you want for the input and output regions.
3. Run the transformer using the **Run** button. Analyze the results.
4. Generate disk statistics reports by responding yes in the **Generate system-wide disk statistics reports** field.

Shutdown and Disk Management

The tasks outlined here are described more thoroughly in Chapter 3, “Configuring Your System” on page 27.

To Shut Down or Reset a File Server:

1. Use the STATUS command to see the state of all disks.
2. If you plan to change the name or ratio, use the DETAILS command to see the current name and ratio for each disk.
3. Use the BROADCAST command to let users know you are bringing down the system.
4. Use the OFFLINE ALL command to take all disks offline.
5. Use the STATUS command again to be sure all disks are offline.
6. Use the SOFT SHUTDOWN or HARD SHUTDOWN command to shut down the file server, or use the Network Commands interface to reset it.

To Back Up a Disk:

1. Use the OFFLINE command to take the required disk offline.
2. Use the BACKUP command to copy the disk's contents to tape, with the appropriate parameters as described in “Backing Up the File Server” on page 28.
3. If more than one tape is required, insert the next tape, close the lock tab, and type CONTINUE and the slot designation until the backup is complete.
4. Label the tapes.

To Back Up a Desktop:

1. Use the BACKUP /D:desktop command to copy the desktop's contents to tape, with any other appropriate parameters. Make sure you type the exact desktop name.

To Back Up a File Drawer:

Use the BACKUP /L[:]file_drawer command to copy the file drawer's contents to tape, with any other appropriate parameters. Make sure you type the exact name of the file drawer.

To Restore the Contents of a Disk:

1. Use the OFFLINE command to take the required disk offline.
2. Use the ERASE command or delete the icons on the disk, to clear the disk before restoration.
3. Insert the tape and turn the lock tab up.
4. Use the RESTORE command to copy the tape's contents to the disk, with the appropriate parameters as described in “Restoring a File Server's Contents” on page 34.
5. If more than one tape is required, insert the next one and close the lock tab.

To Restore the Contents of a Desktop:

Use the RESTORE /D:desktop command to copy the desktop's contents to tape, with any other appropriate parameters. Make sure you type the exact desktop name.

To Restore the Contents of a File Drawer:

Use the RESTORE /L[:]file_drawer command to copy the file drawer's contents to tape, with any other appropriate parameters. Make sure you type the exact name of the file drawer.

To Change the Name of a Disk:

1. Make two backups of the disk you intend to erase.
2. Use the ERASE /N:name command.
3. Restore the disk's contents from a backup tape.

To Change the Ratio of File Descriptors to Data on a Disk:

1. Make two backups of the disk you intend to erase.
2. Record the current number of file descriptors and data blocks.
3. Use the ERASE /S:descriptors command, where descriptors specifies the percentage of disk space to be allocated for file descriptors.
4. Restore the disk's contents from a backup tape.

To Assign Services to Nodes:

1. Open the Nodes page of the Asset Management window.
2. Select the node to which you want to assign the service.
3. Click on **Show Details**.

4. Pull down the menu by the **Add Service** button and select the service you want to assign.
5. Click on **Add Service.**
6. Specify the service name and another parameters, as needed.
7. Click on **Register Service Information**. If the service is anything other than a database gateway, you are finished.
8. If the service is a database gateway, the Service Details window expands; select a kind of relational database to which you want the gateway to connect.
9. Click on **Show Details**.
10. In the Gateway Type Details window, type the maximum number of simultaneous user-access sessions, of the selected type.
11. Click on **Register Service Information**.
12. Configure the gateway, as described in *Configuring and Administering Database Gateway Services*.

Security Tasks

The tasks outlined here are described more thoroughly in separate chapters of this manual.

To Change an Individual Password:

This task is described more thoroughly in Chapter 2, “Administering Your Desktop” on page 7.

1. Log on to the system desktop.
2. Open the icon of the disk containing the user's desktop.
3. Open the Desktops file drawer on that disk.
4. Open the options window of the user's desktop.
5. Click on **Other Data**.
6. Type the new password.
7. Close the options window.

To Change Password Parameters:

This task is described more thoroughly in Chapter 4, “Administering Access and Security” on page 36.

1. Open the SA tool's Network Commands interface.
2. Click on **Set User Logon Configuration**.
3. Specify the required parameters.
4. Click on **Set Configuration** in the window header.
5. Close the User Logon Configuration window.

Appendix B. Troubleshooting

Printers

When the physical printer is not providing output, ensure that the operating system's printing manager is properly configured. The first thing to look at is the operating system's printing queue. You might also open the IDS printer icon and check for the following problems:

If you designate a range of pages to print from 1 to 2, you receive only the cover page (page 0) and page 1. This happens because the cover page is counted as page 1 in the range, but as page 0 in numbering. If you want physical pages 1 and 2, ask for range pages 2 and 3.

If the printer and printing service appear to be functioning properly, check the workstation designated as the printer host. The printer host must be running IDS code during printing.

The printing interface can maintain a log of the printing service's activities, depending on the setting you make in the Printers window. There, you can set the service's logging facility to record all messages, no messages, or just events that are initiated from the printing interface.

To see the log, click on the **Show Log** button in the Printing window. IDS then copies the current log file to your desktop and opens it.

Each entry in the log includes the time, date, and text of one message.

To look at the operating system's printing queue, double-click on the operating system's (not IDS) printer icon. The following table describes some of the printing problems you might encounter.

If IDS printing jobs	Try this
Show black boxes.	This is an artifact of which character codes are not supported in various fonts. The hexadecimal number following the letter U is the Unicode code for the unprintable character. Characters commonly unsupported in some fonts include (plus or minus), fractions (such as 1/2), and m (mu). To correct this problem, install and use a font that does support the character.

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If IDS printing jobs	Try this
Have substituted fonts or show some characters overlapping when printed.	This is an artifact of which fonts are not available on the printer. Not all printers have all 10 of the fonts that IDS lets you select. For example, some popular printers do not have Korrina, Garamond, or Helvetica Light, unless you have purchased them separately. When you print a document that uses a font that the printer is missing, the printer substitutes Courier, which can cause overlapping and incorrect line formatting. To correct this problem, either use a different font or install the missing font in your printer.
Appear in the operating system's printing queue and stay there, with no printing or other action	Make sure the printer has paper and is not jammed. Also, you might have to restart the printing job:In the operating system's printing queue, right-click on the printing job. Click on **Start again** to restart the operating system's processing of the job.
Appear in the operating system's printing queue but then disappear without being printed	Check the operating system's printer queue on the printer's host workstation. The queue displayed in the desktop's Printer window shows only those jobs that are still in the Intelligent Decision Server and have not yet been passed to the operating system's printer queue. One possible cause is the printing manager's timeout setting; the default setting, 45 seconds, is often too short, causing the printer to give up on a job that IDS is still sending to it. To change the setting: On the operating system's desktop, open the printer icon's Settings window. Click on the **Output** tab. The printer's Settings window shows several icons, each representing an output port, one of which is highlighted. Double-click on the highlighted output-port icon (the one that the printer is set to use). The port's settings window shows the current timeout, baud-rate, worth-length, parity, stop-bits, and handshake settings. Change the timeout setting to 300 seconds (five minutes). Note that this number is approximate, and can vary with different kinds of printers.

Capsule Service

The Capsule Service interface can maintain a log of the Capsule Service's activities, depending on the setting you make in the Capsule Service window. There, you can set the service's logging facility to record all messages, no messages, or just events that are initiated from the Capsule Service interface.

To see the log, click on the **Show Log** button in the Capsule Service window. IDS then copies the current log file to your desktop and opens it.

Each entry in the log includes the date, time, and text of one message.

Appendix C. Using AFD Lists

ODAS provides an Automated File Distribution (AFD) feature for the distribution, collection, and synchronization of arbitrary files and directory trees between ODAS servers and clients. AFD can be used to perform tasks such as:

Automatically distributing reports or software to ODAS users

Collecting daily inventory or sales information

Synchronizing files between an office network and a user's workstation

To perform such tasks, AFD enables administration clients to create file-transfer scripts or AFD lists. AFD lists are created, an administration client can create users and lists of users or groups to access those lists. ODAS includes the configuration database, called User Profile Database (UDB), which contains information about users, groups, and AFD lists, and is stored on the IDS primary file server.

This appendix describes how to set up the UDB and manipulate users, groups, and AFD lists. The following topics are contained in this chapter:

"Setting Up the User Profile Database"

"Adding, Editing, and Deleting Users" on page 257

"Adding, Editing, and Deleting Groups" on page 261

"Adding, Editing, and Deleting AFD Lists" on page 264

"Assigning a User and Group to an AFD List" on page 269

"AFD Processing Phases" on page 270

Setting Up the User Profile Database

When an ODAS server is installed, its UDB name is set to the server's host name, as specified in the IDS Local Servers document. A single UDB can, and should, be shared among all of the servers in an ODAS service pool. A single UDB can also be shared among multiple ODAS service pools on a single IDS network.

Setting the UDB Name

To set the UDB name:

1. Log on to the ODAS administration application.
2. From the Pool Status window, click on the **Configure** button. The Server Configuration window opens.
3. In the **Name** field of the User Profile Database area of the window, add a name or modify the existing server name.
4. Click on the **Set** button to save your change.

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When the database name is changed, the currently loaded database is cleared from the service. If the database exists, it is loaded from the IDS primary file server.

5. Click **OK** on the message that is displayed.

   If the database does not exist, you receive a message asking you whether the new database should be created. Click **OK** to create the database.

6. Click on **OK** to create the database.

   All servers in an ODAS service pool should be configured with the same UDB database name. This ensures that the users see consistent operation regardless of which server provides service.

Maintaining the UDB

All ODAS user profile databases (which use a proprietary binary format) are stored in the User Databases folder, which resides in the IDS Access file drawer on the system disk. You should include the User Databases folder in your normal IDS file server backup schedule.

If you accumulate obsolete databases over time, they can be removed by logging on to the system desktop from an IDS desktop. Be careful not to remove a database that is being used by one or more ODAS servers.

Adding, Editing, and Deleting Users

This section describes how to add, edit, and delete a user entry. These tasks can be performed from the Users window within the ODAS administration application.

A user entry in the UDB includes:

Access control information which determines whether the user is allowed to log on to ODAS, and whether the user is granted administrative privileges

The user's AFD mode that determines whether AFD processing must be requested by the user's ODAS application or will occur automatically when the user logs on or off of ODAS

The AFD lists that are assigned to the user

To open the Users window:

1. Log on the ODAS administration application.
2. In the Pool Status window, click on the **Configure** button. The Server Configuration window opens.
3. Click on the **Users** button. The Users window opens.

The Users window displays a list of user entries currently in the database, including:

Their name

Comment text

The number of groups to which the user directly belongs

The number of AFD lists to which the user is directly assigned

There is no predefined limit for the length of the name and comment text, but it is recommended that you restrict their lengths to about 40 characters.

A group can be a member of another group, so a user can indirectly belong to additional groups that are not counted in the number listed under Groups.

AFD lists can be assigned to groups to which the user belongs, so the user can have additional AFD lists indirectly assigned that are not counted in the number listed under AFD Lists.

Using the Default User Entry

When a database is created, a system database entry is added for the default user. The name of the entry is *defuser*. This entry is used when a user logs on to the ODAS server and there is no explicit entry for the user in the database.

Use the *defuser* entry for these purposes:

To deny ODAS access to all users except those that are explicitly defined in the UDB by setting the status for *defuser* to Inactive

To assign one or more AFD lists to all users that are not explicitly defined by assigning those AFD lists to *defuser*

Adding a User

To add a user entry to the user profile database:

1. In the Users window, click on the **Add** button. The Add User window opens.
2. In the **Name** field, type a name that corresponds to a desktop name on the IDS network.
3. In the **Comment** field, you can enter a comment to describe the user.

   This field is optional.
4. Select either **Active** or **Inactive** in the Status area of the window.

   These options determine whether the user is allowed to log on to this ODAS server.
5. Select either **User** or **Administrator** in the User Type area of the window.

   This option determines whether the user is granted administrative privileges. A user with administrative privileges can use the ODAS administration application to monitor and configure the ODAS server.
6. In the AFD mode area of the window, select either **Book**, **Automatic at login**, or **Automatic at logoff**.

   This option determines when automatic AFD processing will occur.

If you select **Book**, no automatic processing will occur. An ODAS application can request AFD processing at any point during a session.

If you select **Automatic at logon**, AFD processing will occur automatically immediately after the user is successfully logged on to the ODAS server. However, an ODAS application can override the automatic processing and either suppress it or defer it until the user is ready to log off.

If you select **Automatic at logoff**, AFD processing will occur automatically immediately before the user is logged off the ODAS server. However, an ODAS application can suppress this automatic processing.

7. After you enter the desired user profile information, click on the **Add** button to add the new user entry to the database.

   If the entry is successfully added, the Edit User window opens.

Editing a User Entry

Typically, when you update a user entry, you can:

Modify the name or comment

Modify the status, user type, or AFD mode information

Assign groups to the user

Assign AFD lists to the user

To update a user entry:

1. In the Users window, select an entry and click on the **Edit** button.

   The Edit User window opens.

2. Modify the ID of the user, the comment (if applicable), and the Status, User Type, and AFD mode information as necessary.

   From the Edit User window, you can make additional changes, such as assigning the user to existing groups or assigning AFD lists to the user.

3. When you finish editing the user entry, click on the *Save* button.

   The user entry is updated in the database.

Assigning Groups to User Entries

Below the **Assign Groups** button in the Edit User window is a list of the groups to which the user currently belongs.

To add the user to, or remove the user from existing groups:

1. Click on the **Assign Groups** button. The Assign Groups window opens.

   In this window, the Assigned Groups area of the window lists the groups to which the user currently belongs. The Unassigned Groups area of the window lists the groups to which the user can be added.

You cannot add or remove members from the predefined system groups, which are followed by an asterisk (*). Membership in these groups is controlled automatically by the system.

2. To add a user to a group, or several groups, select entries from the Unassigned Groups list, and click on the **Add** button to transfer them to the Assigned Groups list.

   To transfer all of the entries from the Unassigned Groups list to the Assigned Groups list, click on the **Add all** button.

3. To remove a user from a group, or several groups, select the entries from the Assigned Groups list and click on the **Remove** button to transfer them to the Unassigned Groups list.

   To transfer all of the entries from the Assigned Groups list to the Unassigned Groups list, click on the **Remove all** button.

4. After you make all of the desired changes, click on the **Save** button to save your changes. If you make some changes, but then decide you do not want to save them, click on the **Cancel** button to cancel them.

Assigning AFD Lists to User Entries

Below the **Assign AFD Lists** button in the Edit User window is a list of the AFD lists (if any) to which the user is currently assigned.

To assign AFD lists to a user, or to remove previous assignments:

1. Click on the **Assign AFD Lists** button. The Assign AFD Lists window opens.

   In this window, the Assigned AFD Lists area of the window lists the AFD lists to which the user is currently assigned. The Unassigned AFD Lists area of the window lists the AFD lists to which the user can be assigned.

2. To assign an AFD list, or several lists, to a user, select entries from the Unassigned AFD Lists list, and click on the **Add** button to transfer them to the Assigned AFD Lists list.

   To transfer all of the entries from the Unassigned AFD Lists list to the Assigned AFD Lists list, click on the **Add all** button.

3. To prevent a user from using an AFD list, or several lists, select the entries from the Assigned AFD Lists list and click on the **Remove** button to transfer them to the Unassigned AFD Lists list.

   To transfer all of the entries from the Assigned AFD Lists list to the Unassigned AFD Lists list, click on the **Remove all** button.

4. After you make all of the desired changes, click on the **Save** button to save your changes. The Edit User window opens again with any new entries listed below the **Assign AFD Lists** button.

   If you make some changes, but then decide you do not want to save them, click on the **Cancel** button to cancel them.

Deleting a User Entry

To delete a user entry, select from an entry from the list of users in the Users window then click on the **Delete** button. After you do this, the entry is removed and the list of users is refreshed.

Adding, Editing, and Deleting Groups

This section describes how to add, edit, and delete groups that use AFD lists. These tasks are performed from the Groups window within the ODAS application.

A group entry in the UDB includes:

Users and groups belonging to the group

AFD lists that are assigned to the group (and the members of the group)

To open the Groups window:

1. Log on the ODAS administration application.
2. In the Pool Status window, click on the **Configure** button. The Server Configuration window opens.
3. Click on the **Groups** button. The Groups window opens.

This window displays a list of group entries currently in the database. Each group entry includes:

The group name

Comment text

The number of members in each group

The number of AFD lists to which the group is assigned

When a database is created, two system groups are automatically added: allusers and alldefined.

The allusers group includes all users as members, both defined users (which have explicit user entries in the database) and undefined users (which use the *defuser* user entry). Use the allusers group to assign AFD lists to all ODAS users.

The alldefined group includes all defined users as members. Use the alldefined group to assign AFD lists to all ODAS users that are explicitly defined in the database.

To assign AFD lists to all undefined users, assign those lists to the *defuser* user entry.

Adding a Group

To add a group entry to the user profile database:

1. In the Groups window, click on the **Add** button. The Add Group window opens.
2. In the **Name** field, enter a name that is not currently used in the database.

3. In the **Comment** field, you can enter a comment to describe the group. This step is optional.

   There is no predefined limit for the length of the name and comment text, but it is recommended the you restrict their lengths to about 40 characters.

4. After you enter the desired group profile information, click on the **Add** button to add the new group entry to the database.

   If the entry is successfully added, the Edit Group window opens.

5. In the Edit Group window, you can make additional changes, such as adding members (users and groups) to the group, or assigning AFD lists to the group.
6. Click on the **Save** button. The group entry is updated in the database.

Editing a Group

Typically, when you update a group entry, you can:

Modify the name or comment

Assign members to the group

Assign AFD lists to the group

To edit a group entry:

1. In the Groups window, select the desired group and click on the **Edit** button. The Edit Group window opens.

   When displayed in lists, groups are always enclosed by square brackets to distinguish them from users. System entries in the database, such as the predefined *defuser* (default user) entry, are denoted by an asterisk following the name.

2. Modify the name of the group and the comment (if applicable).

Assigning Members to Groups

Below the **Assign Members** button in the Edit Group window is a list of the members that are assigned to the group.

To add members, or remove members from existing groups

1. Click on the **Assign Members** button. The Assign Members window opens.

   In this window, the Assigned Members area of the window lists the group's assigned members. The Unassigned Members area of the window lists the members that can be added.

2. To add a member, or several members, to the group, select the entries from the Unassigned Members list, and click on the **Add** button to transfer them to the Assigned Members list.

   To transfer all of the entries from the Unassigned Members list to the Assigned Members list, click on the **Add all** button.

3. To remove a member, or members, from a group, select the entries from the Assigned Members list and click on the **Remove** button to transfer them to the Unassigned Members list.

   To transfer all of the entries from the Assigned Members list to the Unassigned Members list, click on the **Remove all** button.

4. After you make all of the desired changes, click on the **Save** button to save your changes.

   If you make some changes, but then decide you do not want to save them, click on the **Cancel** button to cancel them.

Assigning AFD Lists to Group Entries

Below the **Assign AFD Lists** button in the Edit Group window is a list of the AFD lists (if any) assigned to the group.

To assign AFD lists to a group, or to remove previous assignments:

1. Click on the **Assign AFD Lists** button. The Assign AFD Lists window opens.

   In this window, the Assigned AFD Lists area of the window lists the AFD lists to which the group is currently assigned. The Unassigned AFD Lists area of the window lists the AFD lists to which the group could be assigned.

2. To assign an AFD list, or several lists, to a group, select the desired entries from the Unassigned AFD Lists list, and click on the **Add** button to transfer them to the Assigned AFD Lists list.

   To transfer all of the entries from the Unassigned AFD Lists list to the Assigned AFD Lists list, click on the **Add all** button.

3. To prevent a group from using an AFD list, or several lists, select the entries from the Assigned AFD Lists list and click on the **Remove** button to transfer them to the Unassigned AFD Lists list.

   To transfer all of the entries from the Assigned AFD Lists list to the Unassigned AFD Lists list, click on the **Remove all** button.

4. After you make all of the desired changes, click on the **Save** button to save your changes.

   The Edit Group window shows any new entries listed below the **Assign AFD Lists** button.

   If you make some changes, but then decide you do not want to save them, click on the **Cancel** button to cancel them.

Deleting a Group

To delete a group entry, select from the Groups window the entry from the list of groups, then click on the **Delete** button. The entry is removed, and the list of groups is refreshed.

Adding, Editing, and Deleting AFD Lists

This section describes how to add, edit, and delete AFD lists. These tasks can be performed from the AFD Lists window within the ODAS application.

An AFD List entry in the UDB includes:

The list of AFD actions (which files to transfer between the server and client and the options that control that transfer)

Users and groups to which the AFD list is assigned

To open the AFD Lists window:

1. Start the ODAS administration application.
2. In the Pool Status window, click on the **Configure** button. The Server Configuration window opens.
3. Click on the **AFD Lists** button. The AFD Lists window opens.

This window displays the AFD lists that are currently in the database. Each AFD list entry includes:

The AFD list name

Comment text

The number of actions contained in the AFD list

The number of users and groups to which the AFD list is directly assigned

If an AFD list is assigned to a group, it is indirectly assigned to each member of the group and any subgroups that are members of the group. However, the group count as a single user in the Users column of the window.

Adding an AFD List

To add an AFD list to the User Profile Database:

1. In the AFD Lists window, click on the **Add** button. The Add AFD List window opens.
2. In the **Name** field, enter a name that is not currently used in the database.
3. In the **Comment** field, enter a comment to describe the AFD list. This step is optional.

   There is no predefined limit for the length of the name and comment text, but it is recommended the you restrict their lengths to about 40 characters.
4. Select the execution mode.

   Automatic lists are executed when an automatic AFD session is run; the user is configured for Automatic at Logon or Automatic at Logoff AFD mode. Book lists must be specifically requested by the user application.

5. After you enter the desired AFD list information, click on the **Add** button to add the new AFD List entry to the database.

   If the entry is successfully added, the Edit AFD List window opens.

   In this window, you can make additional changes, such as adding actions to the AFD list, and assigning the AFD list to existing users or groups.

6. Click on the **Save** button.

   The AFD List entry is updated in the database.

Editing an AFD List

Typically, when you update a AFD List entry, you can:

Modify the name or comment

Assign groups or users to the AFD list

Add an action to the AFD list

Add an AFD list to the list

Modify the path name of the file on the server

Modify the path name of the client's file

To edit an AFD List entry:

1. In the AFD Lists window, click on the **Edit** button. The Edit AFD List window opens.
2. Edit the name of the AFD list and the comment (if applicable).
3. Edit the execution mode, if necessary.

   Automatic lists are executed when an automatic AFD session is run; the user is configured for Automatic at Logon or Automatic at Logoff AFD mode. Book lists must be specifically requested by the user application.

4. Click on the **Save** button. The AFD Lists window shows the new list displayed.

Adding or Editing an AFD Action

Below the **Add**, **Delete**, and **Edit** buttons in the Edit AFD List window is a list of the actions that the AFD list currently contains. Each entry in the list includes:

A verb describing the action (such as Distribute, Collect, and Synchronize)

The server file path and file name

The client file path and file name

An action can apply to a single file on the server and client, or can apply to a number of matching files that are stored in a hierarchy of directories.

To add or edit an AFD action.

1. To add an AFD action, click on the **Add** button. The Add Action window opens.

Toward the top of this window, the name and comment text of the AFD list being edited is displayed in the **List** display field.

To edit an existing AFD action, click on the **Edit** button. The Edit Action window opens.

2. To add or edit an action or several actions to select or modify a descriptive verb associated with the action from the **Verb** field, which contains a pull-down menu listing the following choices:

Distribute	Sends a copy of the corresponding server file if any client file is missing or out of date. This verb is typically used to distribute software and data to the client.
Collect	Retrieves a copy of the corresponding client file if any server file is missing or out of date. This verb is typically used to collect data from the client.
Synchronize	Retrieves a copy of the corresponding client file if any server file is missing or out of date. It sends a copy of the corresponding server file if any client file is out of date so that the client and server have matching copies of the specified files. This verb is typically used to synchronize directories, or entire directory trees, between the server and client.
Replicate-to-client	Sends a copy of the server file if any server file does not match the date of the corresponding client file. It deletes a client file if the client has any files for which there are no corresponding server files. This verb is typically used to force the client to have a duplicate of the server files.
Replicate-from-client	Retrieves a copy of the client file if any server file does not match the date of the corresponding client file. It deletes the server file if the server has any files for which there is no corresponding client file. This verb is typically used to force the server to have a duplicate of the client files.
Custom	Determines the action to take based upon the Server file options and Client file options that are specified. This verb is used when the selected set of options does not match one of the predefined verbs.

When you select one of the action verbs (except for Custom), the Server file options and Client file options are selected and deselected (with a check mark) to match the operation described by the selected verb.

For example, when the verb Collect is selected, the following boxes contain check-marks:

Retrieve client file if it is newer

Create the file if it does not exist

When the verb Synchronize is selected, these boxes contain check-marks:

Retrieve client file if it is newer

Create the file if it does not exist

Send server file if it is newer

Create client file if it does not exist

You can select each verb to see the operations they perform.

3. In the **Server file specification** field, enter or modify the path and file names of the file on the server.

   You cannot enter the name of more than one file, but you can use the wild card character (*) to specify a name pattern, rather than a specific name.

   If the wild card character is used, the AFD action will apply to all the files whose names match the pattern. You can also include any qualifying path components (name of containers) in the specification.

   For example, the following server file specification matches all files in the PR Files drawer that begin with the characters August.

   \New Icons\ Public File Drawers\PR Files\August

   Alternatively, the server file specification, User Setup, applies to that specific file on the user's desktop.

   Both of the previous examples assume that the IDS Desktop (in the middle of the window) is selected.

4. In the **Location** field in the middle of the window, select either **IDS Desktop** or **Server file system**.

   If you select IDS Desktop, the AFD action is directed to your IDS file system.

   If you select Server file system, the AFD action is directed to an OS/2 file system, which is attached to the ODAS server. If the server is not a member of an ODAS service pool, the file system can be one of the server's hard disks. However, if the server is a member of a service pool, the file system must be accessible by all of the servers in the pool, and must be a mounted network drive (such as NFS, LAN Server, NetWare, and so on). Also, the file system must be mounted as the same drive letter on each server in the service pool.

5. In the **Client file specification** field, enter or modify the path and file names of the file on the client.

   You cannot enter the name of more than one file, but you can use the wild card character (*) to specify a name pattern, rather than a specific name.

   If a wild card character is used, the AFD action will apply to all of the files whose names match the pattern. You can also include any qualifying path components (name of containers) in the specification.

   If you specify a name pattern for the server files, you must specify the same name pattern for the client files, or you will get unpredictable results.

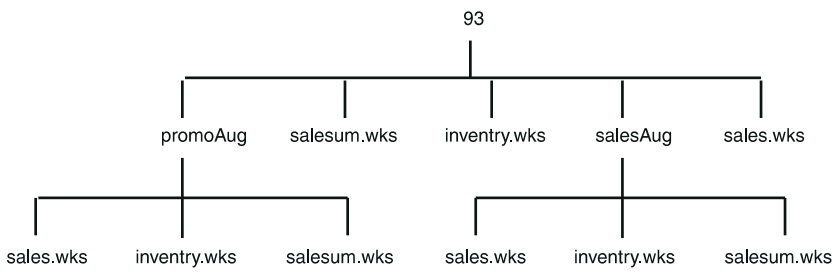
6. In the **Recursion mode:** field, select either **Off**, **Pattern-match files**, or **Pattern-match directories**. This option determines whether or not subdirectories are included when searching for files matching a name pattern.

If you select **Off**, only files in the specified directory are eligible to be matched.

If you select **Pattern-match files**, the files in all subdirectories are tested against the name pattern, and only matching files are selected.

If you select **Pattern-match directories**, only those subdirectories (not the files within them) that match the name pattern are searched. However, all files and subdirectories that are found in the matching subdirectories are selected.

For example, consider the following file hierarchy.



If the name pattern is \93\sale*, with the recursion mode set to Off, the following files will be selected:

\93\salesum.wks
\93\sales.wks

If the name pattern is \93\sale*, with the recursion mode set to Pattern-match files, the following files will be selected:

\93\salesum.wks
\93\sales.wks
\93\promoAug\sales.wks
\93\promoAug\salesum.wks
\93\salesAug\sales.wks
\93\salesAug\salesum.wks

If the name pattern is \93\sale*, with the recursion mode set to Pattern-match directories, the following files will be selected:

\93\salesum.wks
\93\sales.wks
\93\salesAug\sales.wks
\93\salesAug\inventry.wks
\93\salesAug\salesum.wks

7. Do not select any actions listed under the **Server file options** and **Client file options** fields, unless you want to create a custom AFD action.

   These fields provide the most control over the rules used to determine which operations (if any) to perform on the server and client files. When you select one of the predefined action verbs in the **Verb** field, the actions listed under these options are automatically set and selected.

If you modify the file options and the resulting combination of options corresponds to a predefined verb, that verb will appear in the **Verb** field. If the combination of options does not correspond to a predefined verb, Custom will appear in the **Verb** field.

For descriptions of each option, see "Adding or Editing an AFD Action" on page 265.

8. Click on the **Add** button to save your changes.

   If you make some changes, but then decide you do not want to save them, click on the **Cancel** button to cancel them.

Adding an AFD List to the List of Actions

To add an AFD list:

1. Click on the **Add List** button in the Add AFD List window.

   The Add List window opens, which contains a list of AFD lists that can be added to this list.

2. Click on the AFD list you want to add, then click on the **Add** button.

   The selected AFD list is added to your list.

Deleting an AFD Action or List

To delete an AFD action or list from its list, select from the Edit AFD Lists window the desired entry from the list of AFD actions, then click on the **Delete** button. After you do this, the entry is removed and the list of AFD actions is refreshed.

Deleting an AFD List

To delete an AFD action or from its list, in the AFD Lists window select the entry listed below the Name column, then click on the **Delete** button. The entry is removed, and the AFD lists are refreshed.

Assigning a User and Group to an AFD List

This section describes how to assign a user and a group to AFD lists. These tasks can be performed from the Assign Users window within the ODAS application.

To open the Assign Users window:

1. Log on to the ODAS Administration application.
2. In the Pool Status window, click on the **Configure** button. The Server Configuration window opens.
3. Click on the **AFD Lists** button. The AFD Lists window opens.
4. Select an AFD list to which you want a user or group assigned.
5. Click on the **Edit** button. The Edit AFD List window opens.

   Below the **Assign Users** button is a list of the users and groups (if any) to which the AFD list is assigned.

When displayed in lists, groups are always displayed enclosed in square brackets to distinguish them from AFD lists. System entries in the database are denoted by an asterisk following the name.

In this window, the Assigned Users area of the window lists the users and groups to which the AFD list is currently assigned. The Unassigned Users area of the window lists the groups and users to which the AFD list can be assigned.

6. To assign an AFD list to a user or group, select the entry from the Unassigned Users list, and click on the **Add** button to transfer them to the Assigned Users list.

   To transfer all of the entries from the Unassigned Users list to the Assigned Users list, click on the **Add all** button.

7. To remove an AFD list from a user or group, select the entries from the Assigned Users list, and click on the **Remove** button to transfer them to the Unassigned Users list.

   To transfer all of the entries from the Assigned Users list to the Unassigned Users list, click on the **Remove all** button.

8. Click on the **Save** button to save your changes. The Edit AFD List window shows any new entries.

   If you make some changes, but then decide you do not want to save them, click on the **Cancel** button to cancel them.

AFD Processing Phases

The AFD facility does not create file directories. You must ensure that any file directories referenced by an AFD list are created on both the server and client before attempting any AFD processing using that AFD list.

When AFD processing is initiated, whether automatically or because of a request by the ODAS client application, the following sequence of events occurs:

1. The database is searched for a user entry corresponding to the user that is logged in. If no matching entry is found, the service's default user entry, *defuser*, is selected.
2. Any AFD lists that are assigned to the user are added to the processing queue.
3. Any AFD lists assigned to groups of which the user is a member are added to the processing queue. This includes AFD lists assigned to groups to which the user belongs indirectly (because one or more of the user's groups are members of other groups).
4. Duplicate AFD lists are removed from the processing queue.
5. For each AFD list on the processing queue, the server examines each AFD action and collects file information (such as size and last-write date) for all of the files selected using the server file specification and recursion mode of the action.
6. The server file information is sent to the client.

7. The client examines all of the server file information, collecting client file information as needed to compare with the server file information. It then determines the required file operations (send, receive, or delete) needed to satisfy the distribution criteria specified in the original AFD action. This concludes the AFD initialization phase.

If AFD processing was automatically initiated, or the ODAS client application called the DisAFD function, processing continues with the execution phase. If the ODAS client application used the DisInitAFD function to invoke the AFD initialization phase, the DisExecuteAFD function must be used to start the execution phase.

During the AFD execution phase, files are transferred between the server and client, or are deleted, using the list of file operations created during the AFD initialization phase. If an error occurs during the processing of any file operation, the AFD execution phase is immediately terminated.

The AFD termination phase begins immediately after the execution phase, if AFD processing is initiated automatically, or by an ODAS client application call to the DisAFD function. If the ODAS client application uses the DisInitAFD function to invoke the AFD initialization phase, it must call the DisTermAFD function to start the termination phase.

During the AFD termination phase, processing queues on the client and the server are deleted, releasing their resources to the system.

Naming Files

The AFD facility does not use any special name mapping between the server and client file systems. Any files on the IDS file system that are used with AFD must have names that are compatible with the client's file system. For example, if you are using AFD with Windows-based clients, all files must conform to the DOS restrictions of no more than eight characters for the file name with a three-character extension. You should also use file extensions to denote file types. For example, you can use TXT for text files, and WKS for Lotus worksheets, and so on.

File Conversion

The AFD facility uses the current ODAS session's conversion table to determine any required conversions that are needed when sending or receiving files. Therefore, it is possible to use AFD between files that are stored in a IDS format on the server and a PC format on your Windows-based client. However, there are at least two reasons to avoid this type of conversion:

If you have any AFD actions that might result in transferring a file from the client to the server, your ODAS client application will have to modify the client sessions's conversion table to have the client file converted to a IDS format during the transfer. This conversion is not possible when used with automatic-at-login AFD processing, and is difficult in other cases.

Because the conversion occurs each time a particular file is transferred to a client, additional elapsed time is required for the AFD execution phase to complete. In most cases, it will be more efficient to convert the server files to the desired client

format after, as the files are placed in the target server location; the transfers to the clients are then simple copy operations and will complete much faster. This case is especially true if a IDS file is to be distributed to a large number of users.

Debugging AFD Lists

If AFD processing for a client is not completing successfully, the best way to determine the cause of the problem is to view the Session nn History Detail window for the failing client session using the ODAS Administration application. The error code for the failing request and the parameters of that request can be viewed from that window.

Preparing the Server and Client Workstation for AFD

If a required directory does not exist on the client, it will be created before an AFD file is sent to the client. However, AFD cannot create the required directory structure on the server.

For example, if the file c:\A\B\XYZ.ODAS is sent to a client, the A and B directories will be created if they do not already exist. If the file \Reports\January\Sales is to be retrieved from the client, the Reports and January folders must already exist on the desktop.

Appendix D. ODAS Error Messages

This appendix provides the Open Data Access Service error messages. The table in this appendix consists of:

Error messages

Descriptions

Actions

The Error Message column contains the actual error message (in numerical order) for each possible problem within the product. The Description column contains detailed descriptions of each error message. The Action column contains the action that should be taken for each problem.

When an error message appears, it will have a title at the top of the window followed by text similar to what follows:

The following Open Data Access error:
MET 215: Network error occurred while enumerating
the database entries.

At the bottom of the message window are two command buttons, **OK** and **Help**. If you click on the **OK** button, the message window is dismissed. If you click on the **Help** button, an Open Data Access Service Error Codes window opens, which provides additional help information.

Table 36 (Page 1 of 27). ODAS Error Messages

Error Message	Description	Remedy
MET0001: Memory allocation error (storage exhausted or corrupt)	The Open Data Access software is unable to allocate required storage because there is not enough free storage remaining or the storage pool has become corrupted.	Reduce other memory demands on the system by closing other programs and/or increase the system disk space available for swapping.
MET0002: Unknown service problem	An unexpected problem has occurred in the Open Data Access service.	Repeat the operation, and if the error recurs, contact the IBM Support Center for further assistance.
MET0003: Unable to expand the filespec	Open Data Access is unable to construct a fully-qualified file name from the name specified.	Verify that the specified file or path exists.
MET0004: File not found	The specified file or desktop object does not exist.	Verify that the specified file or object exists and retry the request, if desired.
MET0005: No more files	There are no more files matching the specified name pattern.	Discontinue querying objects as there are no more to be returned.

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Error Message	Description	Remedy
MET0006: File transfer error (I/O operation failed)	Open Data Access is unable to transfer a required file to or from the service due to an error in input/output.	Verify that sufficient free disk space is available on the client and server.
MET0007: Invalid mode specified	The value specified for the function mode is incorrect.	Verify that the value specified on the function call is one of those listed as valid for the function.
MET0008: IDS infrastructure has not been initialized	The operation cannot be completed because the required initialization has not been completed.	This is an internal service problem. Contact the IBM Support Center for assistance.
MET0009: Script key not found	The key specified on the script call cannot be found in the script file.	This is an internal service problem. Contact the IBM Support Center for assistance.
MET0010: String too long	The length of the parameter string exceeds the maximum allowed.	Shorten the string to within the documented limits.
MET0011: Invalid path specified	The file or desktop path specified is incorrect. You have attempted to reference the parent of the desktop, specified an object identifier that does not exist in the container, or attempted to use a non-container object as a container.	Correct the problem, and retry the request.
MET0012: Path not found	The path specified does not exist.	Verify that the files or objects specified in the path exist.
MET0013: The buffer supplied is too small	More information is available than could be returned in the supplied buffer.	Increase the size of the buffer, and retry the request. For requests that can be completed sequentially, process the current information and then call the function again to obtain the next buffer of information.
MET0014: Invalid command specified	The current script command is invalid.	This is an internal service error. Record the circumstances surrounding the error and contact the IBM Support Center for assistance.
MET0015: Invalid command switch specified	The switches specified on the current script command are invalid.	This is an internal service error. Record the circumstances surrounding the error and contact the IBM Support Center for assistance.

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Error Message	Description	Remedy
MET0016: Invalid command arguments specified	The arguments specified on the current script command are invalid.	This is an internal service error. Record the circumstances surrounding the error and contact the IBM Support Center for assistance.
MET0017: Variable not found	The substitution variable could not be replaced because the variable has no value in the current service environment.	This is an internal service error. Record the circumstances surrounding the error and contact the IBM Support Center for assistance.
MET0018: A script is not being processed	The script command has been specified outside an active script.	This is an internal service error. Record the circumstances surrounding the error and contact the IBM Support Center for assistance.
MET0019: The source and destination object types do not match	One object is a directory; the other is not.	This is an internal service error. Record the circumstances surrounding the error and contact the IBM Support Center for assistance.
MET0020: Environment is too large	The service is unable to execute the program because the program environment has grown too large.	Reduce the size of the program environment by eliminating or shortening variables.
MET0021: The program arguments are too large	The service is unable to execute the program because the program arguments are too large.	Verify that the service installation instructions were followed closely. Contact the IBM Support Center for assistance, if needed.
MET0022: Invalid substitution variable format	The command string has an unmatched variable substitution character ('%').	This is an internal service error. Record the circumstances surrounding the error and contact the IBM Support Center for assistance.
MET0023: The program ended abnormally	The program did not exit normally because a fatal exception occurred, the program was terminated by an external signal, or a hard error was aborted.	The service should restart automatically. If possible, note any error messages that were displayed and report the problem to IBM.
MET0024: The program ended with a non-zero return code	The program exit code was non-zero.	The service should restart automatically. If possible, note any error messages that were displayed and report the problem to IBM.

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Error Message	Description	Remedy
MET0025: Command string is too long	The service cannot process the command because it was long.	This is an internal service error. Record the circumstances surrounding the error and contact the IBM Support Center for assistance.
MET0026: I/O error on request file	An input/output error occurred reading or writing the client request file. The disk drive may be full.	Verify that sufficient free disk space is available on the disk drive containing the \NODESYS directory. Also verify that there is not a file in the \NODESYS directory corresponding to the client's node name (there should be a directory of that name).
MET0027: I/O error on result file	An input/output error occurred reading the server response file. A communications error may have corrupted the file, or the disk drive may be full.	Verify that sufficient free disk space is available on the disk drive containing the \NODESYS directory, then retry the request.
MET0028: Unable to read client communications profile	The client communications profile (\NODESYS\NODEINIT.DAT) cannot be read. The file is missing or the current (default) drive is not the same as the one containing the \NODESYS directory.	Verify that the profile exists and that the current (default) drive is set to that containing the \NODESYS directory. If necessary, reinstall the client software.
MET0029: Server connection was interrupted	The communications connection to the server was interrupted. The server may have disconnected the session because of a service problem or administrator action, the modems may have been unable to continue communications, or the session may have exceeded its maximum connection or idle time.	Call DisDisconnect to free the system resources allocated by the client before attempting a new connection to the server.
MET0030: Server connection timed out	No service response was received in the required time period. The service may be having a problem or may be shut down.	Attempt a new connection. If the same error occurs, contact the system administrator for assistance.
MET0031: Server connection was dropped	The communications connection to the server was interrupted. This indicates a possible service problem.	Attempt a new connection. If unable to complete a connection, contact the system administrator for assistance.

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Error Message	Description	Remedy
MET0032: Server rejected the connection due to security violation	The client password or security key is invalid. The client password must match the password specified in the node's profile on the Open Data Access Service. A single node configuration cannot be used on more than one computer.	Contact the system administrator and verify that the client password is correct. Also verify that no one is attempting to use the same node configuration on another computer. The system administrator should reset the security for the node using the Node Profile panel.
MET0033: Connection attempt was cancelled	The connection attempt was cancelled as requested by the user.	Attempt a new connection after resolving the reason for cancelling the previous connection attempt.
MET0034: Connection failed because no modem carrier was detected	The modem did not detect a modem carrier from the server modem. The server may not have answered, or the modem that answered may not be compatible with the modem being used by the client.	Verify that the correct server phone number is being used and that the modem is compatible with the server modem answering that phone line. Retry the connection or contact the system administrator if assistance is needed.
MET0035: An error occurred configuring the modem	The client communications manager was unable to configure the modem before initiating a phone call to the server. The client may be configured with the incorrect modem type, the modem configuration may be incorrect, or the modem may be stuck in an unresponsive state.	Attempt to reset the modem by placing it in voice mode or turning it off and then back on. Also verify that the system administrator has configured the correct modem type.
MET0036: The modem detected no dial tone	The modem cannot detect a dial tone. The modem is not connected properly to the phone line or there is a problem with the phone line.	Verify that the phone line is connected properly to the modem.
MET0037: The server phone line is busy	The modem detected a busy signal. This may indicate that the server phone line is being used. It may also indicate a problem dialing or other telephone network problem.	Verify that the correct dial string is being used (including any local or long-distance dialing access codes), and attempt a new connection.
MET0038: The server did not answer	The server did not answer the phone call. The server may not be accepting calls, may be shut down, or may be experiencing a problem.	Verify that the correct dial string is being used (including any local or long-distance dialing access codes), and attempt a new connection.

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Error Message	Description	Remedy
MET0039: An unknown communications problem occurred	The communications connection failed, but the client communications manager does not indicate the cause of the failure.	Attempt a new connection using a slower baud rate.
MET0040: The specified alias name is invalid	The specified alias name is not available in the Capsule Service.	Verify that the alias name corresponds to an alias that has been created by the system administrator.
MET0041: The specified job priority is invalid	The priority does not fall within the valid range.	Specify an allowable value for job priority.
MET0042: Invalid parameter	A function call or command string parameter is incorrect.	Verify that the parameter formats and values are correct for the function.
MET0043: Invalid structure size	The size specified in the structure is incorrect.	Verify that size field of the structure is being set correctly.
MET0044: Invalid communications type	The specified type of communications is invalid or unsupported in the current environment.	Verify that the communications type specified is valid for the current client environment.
MET0045: Invalid communications speed (baud rate)	The specified communications speed is not supported.	Verify that the correct value is being supplied.
MET0046: Invalid communications dial string	The specified dial string is too long.	Modify the dial string so that it does not exceed 49 characters.
MET0047: The client communications manager is not loaded	The client communications manager has not been loaded or has been loaded incorrectly.	Verify that the communications manager has been loaded as described in the Open Data Access installation documentation.
MET0048: The specified date/time value is invalid	The specified date/time value does not fall within the valid range of values.	Specify a different date/time value that falls within the valid range.
MET0049: The connection was not completed in the allotted time	The connection to the server was not established in the required time. This may indicate a problem with the client such as an incorrect modem configuration. It may also indicate that the server is not accepting connections or is shut down, or that the server is having a problem.	Attempt a new connection to the server. Contact the system administrator if further assistance is required.

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Error Message	Description	Remedy
MET0050: The network support cannot be properly initialized	The network communications protocols are not running properly. This may indicate a configuration problem, a hardware problem with the network or network adapter, or a file server problem.	Verify that the network is operating properly and that the network protocol support has been installed and configured correctly.
MET0051: The object cannot be renamed	File drawer, printer, mail, and Capsule Services icons cannot be renamed.	Do not attempt to rename one of these object types.
MET0052: The request has not been completed	The client request has not been processed by the server because a preceding batch request encountered an error.	Correct the problem that caused the original error, or specify the DIS_IGNORE_ERROR flag on the failing request or DisSubmitBatch call.
MET0053: A request is being processed	The request has not completed processing. The server may not have completed its processing, or the results of the request may be in transit from the server to the client.	Delay for a time and then call DisQueryResult again. DIS_WAIT may be specified to cause DisQueryResult to wait until the request completes.
MET0054: No requests are queued for batch processing	DisSubmitBatch has been called, but no function calls have been made since DisInitBatch was called.	Make at least one Dis function call between calls to DisInitBatch and DisSubmitBatch.
MET0055: Invalid index specified	The requested information cannot be returned because the specified index does not exist or is not supported.	Verify that the index supplied is a supported value or that the request it references exists.
MET0056: The requested service was not found	The connection could not be completed because the specified service name does not exist.	This is an internal service error. Record the circumstances surrounding the error and contact the IBM Support Center for assistance.
MET0057: Invalid address	The specified address does not have the correct format.	This is an internal service error. Record the circumstances surrounding the error and contact the IBM Support Center for assistance.
MET0058: The message destination does not exist	The received message specifies a nonexistent connection id.	This is an internal service error. Record the circumstances surrounding the error and contact the IBM Support Center for assistance.

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Error Message	Description	Remedy
MET0059: The message is invalid	The received message has invalid delivery options or message code.	This is an internal service error. Record the circumstances surrounding the error and contact the IBM Support Center for assistance.
MET0060: The message is incomplete	The received message has been truncated during transmission.	This is an internal service error. Record the circumstances surrounding the error and contact the IBM Support Center for assistance.
MET0061: The call was interrupted	The call was interrupted by another task before it completed.	This is an internal service error. Record the circumstances surrounding the error and contact the IBM Support Center for assistance.
MET0062: The connection has been closed	The connection has been closed, probably due to server or client termination.	This is an internal service error. Record the circumstances surrounding the error and contact the IBM Support Center for assistance.
MET0063: An expected network response was not received	The response to a file server request was not received in the allotted time. This probably indicates a network or file server problem.	Contact the system administrator for assistance.
MET0064: The connection has been dropped	The connection could not be maintained due to a network communications error. There may be a problem with the network or with one of the required services or service components.	Contact the system administrator for assistance.
MET0065: The connection has timed out	A local communications connection has been dropped because one end is not responding to messages. This probably indicates a problem with one of the service components.	The service should automatically correct the problem. If the service does not appear to be operating properly, shut down and restart the service.
MET0066: The server disconnected this client	The connection was terminated because the server end was closed, probably due to a pending service shutdown.	If this error occurs when the service is not being shut down, it may indicate a service problem.

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Error Message	Description	Remedy
MET0067: The target client is not found	The received message was addressed to a nonexistent client. This error may appear if the service subtask has been deleted by another task.	If the error persists or the service appears to be operating improperly, contact the IBM Support Center for assistance.
MET0068: Unknown configuration parameter	The service configuration file contains an unrecognized configuration parameter.	This probably indicates an internal service error. Contact the IBM Support Center for assistance in verifying that the format and contents of the service configuration file are correct.
MET0069: Invalid configuration value	The specified value for the configuration parameter is incorrect.	Verify that the format and value are correct.
MET0070: Invalid format for configuration value	The specified value for the configuration parameter is incorrect.	Verify that format is valid for the configuration parameter value.
MET0071: The configuration values do not match	The values for the configuration parameter do not match.	This is an internal service error. Record the circumstances surrounding the error and contact the IBM Support Center for assistance.
MET0072: Capsule Service is not available	There is no Capsule Service available to process the request. A Capsule Service has not been configured or the service is off line or having trouble.	Contact the system administrator for assistance.
MET0073: The service is unable to contact the Capsule Service	A network communications error prevents contact with the Capsule Service.	Contact the system administrator for assistance.
MET0074: System logon is disabled	The service is configured to disallow logons to the system desktop.	The system administrator can configure the service to allow system logons.
MET0075: The desktop password expires soon	The logon has completed successfully, but the desktop password will expire soon. The age of the password has almost exceeded the network maximum.	Change the desktop password before it expires. After the password has expired, the system administrator will have to set a new password for the desktop before it can be used.
MET0076: The desktop password has expired	The age of the desktop password has exceeded the network maximum.	Contact the system administrator to have a new password set for the desktop.
MET0077: Desktop options are missing	There is a problem with the options for the desktop.	Contact the system administrator to have the desktop options corrected.

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Error Message	Description	Remedy
MET0078: The password length is invalid	The specified password exceeds the maximum 16-character limit or does not meet the required minimum password length for the network.	Specify a new password that falls within the allowable limits.
MET0079: The new password is the same as the old password	The new password must be different from the current password.	Specify a new password.
MET0080: The file server volume is off line.	Access to a required file server volume is not available because the volume has been placed off line by the system administrator.	Contact the system administrator for assistance.
MET0081: The conversion did not complete	The conversion was discontinued before all the data was processed. This may be due to a format error in the data or may be due to a system error in the service.	If the data is being transferred from the client file system, verify that the correct source data format is being specified. Verify that the format of the source data is correct. If the problem persists, contact the system administrator for assistance.
MET0082: The specified name is invalid	An invalid name was specified for an object or file.	Check and correct the invalid name.
MET0083: Client has shutdown	Conversion Services has been shutdown.	If this error occurs when the Open Data Access service has not been shut down, it may indicate an internal service problem. Contact the IBM Support Center if assistance is required.
MET0084: Client has disconnected	The client being serviced by the current conversion engine has been disconnected.	The service should automatically correct the problem.
MET0085: Conversion engine has disconnected	The conversion was not completed because the assigned conversion engine disconnected from the Open Data Access service. This may indicate a network communications problem exists or that the conversion engine has abnormally terminated.	Retry the failing conversion. If the error persists, contact the system administrator for assistance. If the network appears to be operating properly, Conversion Services should be examined to determine whether the conversion engine is terminating abnormally.

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Error Message	Description	Remedy
MET0086: No conversions are pending	The conversion client is attempting to wait for completion of its queued conversions, but no conversions have been submitted.	This is an internal service error. Record the circumstances surrounding the error and contact the IBM Support Center for assistance.
MET0087: The specified conversion does not exist	The conversion client is attempting to wait for a specific conversion request to complete, but no such request exists.	This is an internal service error. Record the circumstances surrounding the error and contact the IBM Support Center for assistance.
MET0088: A client is already waiting for conversion completion	The conversion client is attempting to wait for completion of its queued conversions, but a wait request is already pending.	This is an internal service error. Record the circumstances surrounding the error and contact the IBM Support Center for assistance.
MET0089: An unexpected error code was received from the file server	The response to a file server request indicated a problem which Open Data Access cannot identify.	Retry the operation. If the error persists, contact the IBM Support Center for assistance.
MET0090: Invalid argument	An incorrect command argument was specified.	This is an internal service error. Record the circumstances surrounding the error and contact the IBM Support Center for assistance.
MET0091: Invalid connect parameters	The client type is invalid.	This is an internal service error. Record the circumstances surrounding the error and contact the IBM Support Center for assistance.
MET0092: Invalid command	The specified command is not recognized by the server.	This is an internal service error. Record the circumstances surrounding the error and contact the IBM Support Center for assistance.
MET0093: No request is being processed	A task is attempting to set or retrieve a request result, but no request is currently being processed.	This is an internal service error. Record the circumstances surrounding the error and contact the IBM Support Center for assistance.
MET0094: The specified session was not found	A task has requested an operation upon a session that does not exist.	This is an internal service error. Record the circumstances surrounding the error and contact the IBM Support Center for assistance.

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Error Message	Description	Remedy
MET0095: Unable to create the file	The service is unable to create the specified file. This may indicate a number of problems including insufficient free disk space, lack of change privileges, network or file server problem, or possible service error.	Verify that sufficient free disk space is available in the specified location and that change privileges are allowed for the target directory or container. Also verify that the network and file server are operating correctly.
MET0096: The specified flags are invalid	One or more of the flag values supplied on the function call are not valid for that function.	Check the function arguments to ensure that a valid combination of flags is being passed to the function.
MET0097: This client is not a monitor	Events can only be retrieved by event monitors.	This is an internal service error. Record the circumstances surrounding the error and contact the IBM Support Center for assistance.
MET0098: The request was cancelled	The specified request has been cancelled.	This is an internal service error. Record the circumstances surrounding the error and contact the IBM Support Center for assistance.
MET0099: The session has been terminated	The specified session ended normally.	This is an internal service error. Record the circumstances surrounding the error and contact the IBM Support Center for assistance.
MET0100: Job was not submitted by this service	The requested operation can only be performed on Capsule jobs that were submitted by the service on which the session is active.	Perform the operation on a job that was submitted by this service.
MET0101: File is not open	The file transfer request specifies a non-zero offset, but the specified file is not currently open.	This is an internal service error. Record the circumstances surrounding the error and contact the IBM Support Center for assistance.
MET0102: Sequence error in file transfer	The file transfer request specifies an offset that does match the current file location.	This is an internal service error. Record the circumstances surrounding the error and contact the IBM Support Center for assistance.
MET0103: File end has been reached	All data from the file has been returned.	This is an internal service error. Record the circumstances surrounding the error and contact the IBM Support Center for assistance.

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Error Message	Description	Remedy
MET0104: The configuration is invalid	The system directory variable is missing from the program environment.	Verify that the service has been installed correctly. If this is the only error that occurs during service startup, it may indicate an internal service problem.
MET0105: Invalid information level	The specified level of information is invalid.	Specify one of the valid values for the information level.
MET0106: The administrator disconnected the client	The system administrator forced the client to disconnect from the server.	Contact the system administrator to determine why the session was terminated.
MET0107: The log file is corrupt	The logging service has detected an error while reading the log file.	Delete the corrupted log file from the service LOGS directory. A corrupt session log file will eventually be deleted depending on the maximum number of session logs configured for the service. If the service log has been corrupted, delete the 00000000.RAS file from the LOGS directory. The service will lose all session history when this occurs.
MET0108: The server has shut down	The session or connection was terminated because the server was shut down by the system administrator.	Contact the system administrator to determine when the service will become available.
MET0109: Unable to rename the object	The object cannot be renamed. This probably indicates a network, file server, or service error.	Retry the operation. Contact the system administrator if the error persists.
MET0110: The specified job was not found	The specified job does not exist in the Capsule Services job queue. The job may have already completed. If returned by DisWaitCapsuleStatus, the specified job has not been submitted by the current session.	Specify the identifier of a job that exists in the Capsule Services queue or that was submitted by this session.
MET0111: Operation timed out	The specified timeout period expired before the operation completed.	Retry the request to continue waiting and/or specify a longer timeout period.
MET0112: Session timed out due to inactivity	The session was terminated because no requests were issued for at least the time specified by the session timeout parameter configured by the system administrator.	Attempt a new connection to the server. Contact the system administrator to determine the current maximum idle connect time.

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Error Message	Description	Remedy
MET0113: Session exceeded maximum connect time	The session was terminated because it exceeded the maximum session length time configured by the system administrator.	Attempt a new connection. Contact the system administrator to determine the current maximum connect time.
MET0114: The object is not a Capsule object	The operation can only be performed on a Capsule object.	Specify the name of a Capsule object.
MET0115: Not logged on to a desktop	The operation cannot be performed unless logged on to a desktop.	Log on to a desktop, then retry the operation.
MET0116: The request is invalid	The specified request code is not in the valid range of codes.	This is an internal service error. Record the circumstances surrounding the error and contact the IBM Support Center for assistance.
MET0117: Insufficient software capabilities are assigned.	The operation cannot be performed because sufficient software capabilities have not been assigned in the network configuration.	Consult the installation and administration documentation for information about assigning the required software capabilities.
MET0118: The buffer is too large	The size of the buffer is too large to complete the operation. In some cases, this error indicates an internal service problem.	Reduce the buffer size and retry the operation. Contact the IBM Support Center if an internal service problem is suspected.
MET0119: Unable to locate a master icon	The service is unable to create a new icon because the master icon cannot be located. This probably indicates a network or file server problem.	Contact the system administrator for assistance.
MET0120: Unable to copy a master icon	The service is unable to create a new icon because it cannot copy the master icon. This probably indicates a network or file server problem.	Contact the system administrator for assistance.
MET0121: The envelope has an invalid format	There is an error in the internal format of the envelope.	Create a new envelope.
MET0122: The print object has an invalid format	There is an error in the internal format of the object.	This is an internal service error. Record the circumstances surrounding the error and contact the IBM Support Center for assistance.

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Error Message	Description	Remedy
MET0123: The object is not an envelope	Only envelopes can be placed in the Mail Tray.	Verify the object that is being placed in the Mail Tray is an envelope. If the object is being transferred from the client, verify that it is being converted to envelope format.
MET0124: Access is denied	The operation cannot be performed because you do not have the correct privileges.	Perform the operation on objects for which you have the correct privileges, or contact the system administrator to obtain the necessary privileges.
MET0125: The object has an invalid icon type	The specified icon type is not valid.	This is an internal service error. Record the circumstances surrounding the error and contact the IBM Support Center for assistance.
MET0126: Insufficient free disk space	The operation cannot be completed because there is not sufficient free disk space available. This error can indicate a lack of disk space on the client, the server, or the file server.	Verify that sufficient disk space is available, deleting unneeded files and/or icons if necessary.
MET0127: The object is not a container	The operation can only be performed upon a container.	Specify the name of a container object (folder, file drawer, or file directory).
MET0128: No conversion is available between the object types	Conversion services does not support conversion between the source and destination formats.	If the source or destination is a file on the Open Data Access client, verify that the correct client file type is specified; the default file type may not be correct.
MET0129: Error querying the icon options	The service is unable to query the icon options of the object. This probably indicates a network or file server problem.	If you suspect network or file server trouble, retry the operation after waiting a time, or contact the system administrator for assistance.
MET0130: Error setting the icon options	The service is unable to set the icon options of the object. This probably indicates a network or file server problem.	If you suspect network or file server trouble, retry the operation after waiting a time, or contact the system administrator for assistance.
MET0131: Error locating the Post Office	The service is unable to locate the network Post Office. This indicates a network or file server problem.	Contact the system administrator for assistance.

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Error Message	Description	Remedy
MET0132: Error moving the file/object	The file or object cannot be moved. This error probably indicates a network or file server problem.	If you suspect network or file server trouble, retry the operation after waiting a time, or contact the system administrator for assistance.
MET0133: Error querying the icon info	The service is unable to query the icon information of the object. This may indicate a network or file server problem.	If you suspect network or file server trouble, retry the operation after waiting a time, or contact the system administrator for assistance.
MET0134: Error setting the icon info	The service is unable to set the icon information of the object. This may indicate a network or file server problem.	If you suspect network or file server trouble, retry the operation after waiting a time, or contact the system administrator for assistance.
MET0135: Error deleting the file/object	The file or object cannot be deleted. This error probably indicates a network or file server problem. It may also indicate a problem on the server's local file system.	If you suspect network or file server trouble, retry the operation after waiting a time, or contact the system administrator for assistance.
MET0136: Error locating the file/object	The file or object cannot be located. This error probably indicates a network or file server problem.	If you suspect network or file server trouble, retry the operation after waiting a time, or contact the system administrator for assistance.
MET0137: Error querying the object information	The object status information cannot be obtained. This error probably indicates a network or file server problem.	If you suspect network or file server trouble, retry the operation after waiting a time, or contact the system administrator for assistance.
MET0138: Error dereferencing the object pointer	The service was unable to follow the indirect object reference. The original file drawer may have been deleted or moved by the system administrator. This may also indicate a network or file server problem.	Contact the system administrator to find out whether the file drawer still exists in its expected location. If you suspect network or file server trouble, retry the operation after waiting a time, or contact the system administrator for assistance.
MET0139: Error replacing the file/object	The file or object cannot be replaced. This error probably indicates a network or file server problem.	If you suspect network or file server trouble, retry the operation after waiting a time, or contact the system administrator for assistance.

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Error Message	Description	Remedy
MET0140: Error opening the file/object	The file or object cannot be opened. This error probably indicates a network or file server problem. It may also indicate a problem with the server's local file system, probably lack of sufficient free disk space or incorrect file permissions.	If you suspect network or file server trouble, retry the operation after waiting a time, or contact the system administrator for assistance.
MET0141: Error closing the file/object	The file or object cannot be opened. This error probably indicates a network or file server problem. It may also indicate a problem with the server's local file system, probably lack of sufficient free disk space.	If you suspect network or file server trouble, retry the operation after waiting a time, or contact the system administrator for assistance.
MET0142: Error reading from the file/object	The file or object cannot be read. This error probably indicates a network or file server problem. It may also indicate a problem with the server's local file system.	If you suspect network or file server trouble, retry the operation after waiting a time, or contact the system administrator for assistance.
MET0143: Error writing to the file/object	The file or object cannot be written. This error probably indicates a network or file server problem. It may also indicate a problem with the server's local file system, probably lack of sufficient free disk space.	If you suspect network or file server trouble, retry the operation after waiting a time, or contact the system administrator for assistance.
MET0144: Error copying the file/object	The file or object cannot be copied. This error probably indicates a network or file server problem. It may also indicate a problem with the server's local file system, probably lack of sufficient free disk space.	If you suspect network or file server trouble, retry the operation after waiting a time, or contact the system administrator for assistance.
MET0145: Error reading the object directory	The file or object directory cannot be read. This error probably indicates a network or file server problem. It may also indicate a problem with the server's local file system.	If you suspect network or file server trouble, retry the operation after waiting a time, or contact the system administrator for assistance.
MET0146: Error initializing the file/object copy task	The service cannot start the file-copy subtask because the server has exhausted its system resources.	Contact the system administrator for assistance. The resource demands on the server should be reduced by closing unneeded applications.

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Error Message	Description	Remedy
MET0147: Error setting the file/object info	The service is unable to set the file or object status information. This may indicate a network or file server problem. It may also indicate a problem with the server's local file system.	If you suspect network or file server trouble, retry the operation after waiting a time, or contact the system administrator for assistance. The administrator should verify that the server has sufficient free disk space.
MET0148: Error setting the current directory	The service is unable to set the default disk and directory. This indicates a problem on the server's local file system. The server file system may be damaged, or a required service directory may have been accidentally deleted.	Verify that no service directories have been deleted and that the server file system has not been damaged. Use the OS/2 CHKDSK command to analyze and repair the disk drive.
MET0149: Error creating the directory/container	The directory or container cannot be created. This may indicate a network or file server problem. It may also indicate a problem with the server's local file system.	If you suspect network or file server trouble, retry the operation after waiting a time, or contact the system administrator for assistance. The system administrator should verify that the server has sufficient free disk space.
MET0150: Error deleting the directory/container	The directory or container cannot be deleted. This may indicate a network or file server problem. It may also indicate a problem with the server's local file system.	If you suspect network or file server trouble, retry the operation after waiting a time, or contact the system administrator for assistance.
MET0151: Failed to connect to conversion server	The session manager is unable to establish a connection to the Open Data Access conversion manager.	This is an internal service error. Record the circumstances surrounding the error and contact the IBM Support Center for assistance.
MET0152: The object conversion failed	The object conversion did not complete successfully. This probably indicates an error in the format of the data you are attempting to convert. It might also indicate a problem in Conversion Services.	Verify that the data format is correct in the source file or object. Retry the operation, or attempt conversion of different data. If the error persists, contact the system administrator for assistance.
MET0153: Error locating the Capsule object	The specified Capsule object cannot be located. This may indicate a network or file server problem.	Verify that the correct Capsule name is specified. If you suspect network or file server trouble, retry the operation after waiting a time, or contact the system administrator for assistance.

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Error Message	Description	Remedy
MET0154: Error locating the output container	The specified output container for the Capsule cannot be located. This may indicate a network or file server problem.	Verify that the correct output container name is specified. If you suspect network or file server trouble, retry the operation after waiting a time, or contact the system administrator for assistance.
MET0155: The software has been installed incorrectly	A required software component is missing or installed in an incorrect location. This probably indicates that the client node software has not been installed on the disk drive that the node was configured for on the Open Data Access Service.	Verify that the software has been installed as instructed by the documentation in the location for which it was configured.
MET0156: Error submitting the job to Capsule Services	The Capsule Services job could not be submitted to the Capsule server. This may indicate a network or file server problem, or may indicate that Capsule Services is shut down or having trouble.	Retry the operation after waiting a time, or contact the system administrator for assistance.
MET0157: Error setting the initial job status	The initial Capsule job status could not be set in the service manager. The Capsule job will execute normally, but you will be unable to wait for it to finish.	This is an internal service error. Record the circumstances surrounding the error and contact the IBM Support Center for assistance.
MET0158: Error querying the Capsule Services job queue	The service was unable to query the Capsule Services job queue. This may indicate that Capsule Services is shut down or having trouble, or may indicate a network or file server problem.	Retry the operation after waiting a time, or contact the system administrator for assistance.
MET0159: Error canceling the Capsule Services job	The service was unable to cancel the specified Capsule Services job. This may occur if the job has already completed and has been removed from the job queue. It may also indicate that Capsule Services is shut down or having a problem, or may indicate a network or file server problem.	Retry the operation after waiting a time, or contact the system administrator for assistance.

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Error Message	Description	Remedy
MET0160: Error modifying the Capsule Services job	The service was unable to modify the specified Capsule Services job. This may occur if the job has already completed and has been removed from the job queue. It may also indicate that Capsule Services is shut down or having a problem, or may indicate a network or file server problem.	Retry the operation after waiting a time, or contact the system administrator for assistance.
MET0161: Error waiting for the Capsule Services job	The service was unable to wait for the Capsule Services job to complete.	This is an internal service error. Record the circumstances surrounding the error and contact the IBM Support Center for assistance.
MET0162: The Capsule application data does not exist	The internal format of the Capsule is incorrect.	Specify the name of another Capsule object, or contact the system administrator for assistance in repairing the Capsule object.
MET0163: Error opening the Capsule application data	The application data for the Capsule object cannot be opened. This may indicate a network or file server problem.	If you suspect a network or file server problem, retry the operation after waiting a time, or contact the system administrator for assistance.
MET0164: Error reading the Capsule application data.	The application data for the Capsule object cannot be read. This may indicate an internal format error in the application data. This may also indicate a network or file server problem.	If you suspect a network or file server problem, retry the operation after waiting a time, or contact the system administrator for assistance.
MET0165: The Capsule @-variable name is invalid.	The specified Capsule @-variable name does not fall in the range of 'A' to 'GZ'.	Specify a valid Capsule @-variable name. Also ensure that the name is terminated by a null (0) character.
MET0166: Error writing the Capsule application data	The application data for the Capsule object cannot be written. This may indicate a network or file server problem.	If you suspect a network or file server problem, retry the operation after waiting a time, or contact the system administrator for assistance.

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Error Message	Description	Remedy
MET0167: Error processing object conversion	An error occurred while the conversion was being processed by Open Data Access or Conversion Services. This might indicate an problem in either of those services, or it might indicate a network or file server problem.	Retry the operation after waiting a short time. You might also want to attempt a different type of conversion to determine whether the problem is with the specific data you are attempting to convert. Contact the system administrator for assistance if the error persists.
MET0168: The destination is not valid	The operation is not allowed for the specified destination.	Specify a different destination.
MET0169: Error querying the Mail Tray contents	The service is unable to examine the contents of the desktop Mail Tray. The Mail Tray object may be missing or inaccessible, or there may be a network or file server problem.	Verify that a single valid Mail Tray object exists on the desktop. If you suspect a network or file server problem, retry the operation after waiting a time, or contact the system administrator for assistance.
MET0170: Error querying the current session status	The service is unable to determine the status of the current session.	This is an internal service error. Record the circumstances surrounding the error and contact the IBM Support Center for assistance.
MET0171: Error transferring the object to the desktop	The object could not be transferred to the desktop, probably because of a network or file server problem. This may also indicate a service problem.	If you suspect a network or file server problem, retry the operation after waiting a time, or contact the system administrator for assistance.
MET0172: Error transferring the object from the desktop	The object could not be transferred from the desktop, probably because of a network or file server problem. This may also indicate a service problem.	If you suspect a network or file server problem, retry the operation after waiting a time, or contact the system administrator for assistance. Verify that sufficient free disk space is available on the server's local file system.
MET0173: Unable to locate the original object	The service is unable to locate the object to be overwritten. This probably indicates a network or file server problem.	If you suspect a network or file server problem, retry the operation after waiting a time, or contact the system administrator for assistance.
MET0174: Unable to locate the source object(s)	The service is unable to locate the specified object(s). The object(s) may not exists, or there may be a network or file server problem.	Verify that the specified object(s) exist. If you suspect a network or file server problem, retry the operation after waiting a time, or contact the system administrator for assistance.

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Error Message	Description	Remedy
MET0175: Codepage is not set	The request requires that a codepage be set for the session.	Use the DisSetSessionInfo function to set the session codepage.
MET0176: Unable to create a destination object	The service is unable to create one of the specified destination objects. This may indicate a network or file server problem.	If you suspect a network or file server problem, retry the operation after waiting a time, or contact the system administrator for assistance.
MET0177: Error moving the object into the destination	The destination object has been successfully created but cannot be moved into the specified destination container (Printer or Mail Tray). This may indicate that the destination is unavailable or that there is a network or file server problem.	If you suspect a network or file server problem, retry the operation after waiting a time, or contact the system administrator for assistance.
MET0178: Error while expunging the discarded object(s)	The service is unable to expunge the object(s) from the desktop Discard folder. This may indicate that another service or user is currently accessing this desktop. The accuracy or irretrievability of the Discard folder's contents cannot be guaranteed.	This error may, in general, be ignored.
MET0179: Failed to discard the object	The service is unable to discard the specified object by moving it into the desktop Discard folder. This may indicate a network or file server problem.	If you suspect a network or file server problem, retry the operation after waiting a time, or contact the system administrator for assistance.
MET0180: Failed to expunge the object	The service is unable to expunge the specified object. This may indicate a network or file server problem.	If you suspect a network or file server problem, retry the operation after waiting a time, or contact the system administrator for assistance.
MET0181: Error querying the user options	The logon cannot be completed because the desktop user options cannot be read. This may indicate that the internal format of the desktop is incorrect, or it may indicate a network or file server problem.	Contact the system administrator for assistance.

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Error Message	Description	Remedy
MET0182: Error setting the user options	The logon cannot be completed because the desktop user options cannot be written. This may indicate that the internal format of the desktop is incorrect, or it may indicate a network or file server problem.	Contact the system administrator for assistance.
MET0183: Invalid desktop name	The specified desktop name does not exist, or the required file server disk is not available.	Verify that a valid desktop name is specified. Contact the system administrator for further assistance.
MET0184: Invalid password	The specified password does not match the current desktop password.	Verify that the correct password is specified. If necessary, contact the system administrator to have the password changed.
MET0185: Desktop verification failed	The service is unable to verify the specified desktop name. This probably indicates a network or file server problem.	Verify that the correct desktop name and password are specified. Contact the system administrator for assistance.
MET0186: Error initializing the file subsystem	The service is unable to allocate required resources for this session. This may indicate that the server does not have enough free storage, or it may indicate a network or file server problem.	Contact the system administrator for assistance.
MET0187: Too many active sessions	The maximum number of configured sessions has been exceeded.	Try again later. If this error occurs often, the service may need to be reconfigured to support a greater number of concurrent sessions.
MET0188: The resident client data is invalid	The client global data area is invalid.	Unload the resident client module (MRES) and reload it. If the problem persists, restart the computer and try again.
MET0189: Storage has been corrupted	The client global data area has been corrupted.	Attempt to terminate the current connection, then begin a new connection. If the problem occurs again, please note the circumstances and report the problem to IBM.
MET0190: Target already exists	You have attempted to add something that already exists.	Specify a different name, or use the overwrite option, if available.

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Error Message	Description	Remedy
MET0191: Conversion service is not available	There are no conversion engines available to process the requested conversion. A Conversion Services host has not been configured or the service is off line or having trouble.	Contact the system administrator for assistance.
MET0192: The object is locked	The specified object is locked and cannot be accessed.	If access is required, contact the Capsule owner to have the object unlocked.
MET0193: Unable to connect to the service	The configured service could not be contacted. This may indicate that the target service is shut down or having trouble, or it may indicate a network or file server problem.	Verify that the correct service name (Capsule Services or Object Conversion Services) is specified and that the service has been started.
MET0194: Invalid handle	The specified handle is invalid.	Verify that the handle has the same value that was returned from the function that allocated the handle.
MET0195: The software versions do not match	Two software components have different software versions.	Verify that all the software components are from the same software release.
MET0196: The resource is not owned by you	You cannot perform that operation unless you own the resource.	Specify the identifier for a resource that you own.
MET0197: The request does not exist	The specified request does not exist. If this error occurs in the server, it indicates an internal service problem.	Specify zero or the index of a request that was executed between DisInitBatch and DisSubmitBatch.
MET0198: The request did not complete in the allotted time	The server has not accepted the current request. This probably indicates a problem in the client or server communications managers or with the communications line.	Terminate the current connection and attempt a new connection. Contact the system administrator if the problem persists.
MET0199: An error occurred in a batch subrequest	One or more of the batch subrequests completed in error.	Correct the problems that caused the errors, or specify the DIS_IGNORE_ERROR flag on the failing requests or DisSubmitBatch call.
MET0200: An unexpected server response was received	A server result has been received, but there is no client request with which to match it.	This is an internal service error. Record the circumstances surrounding the error and contact the IBM Support Center for assistance.

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Error Message	Description	Remedy
MET0201: The client software has not been initialized	DisInitClient must be called before making any other calls to the Open Data Access application program interface (API).	Correct the programming error.
MET0202: Capsule Services encountered an error processing the Capsule.	A processing error occurred in Capsule Services. The Capsule application may or may not have been executed correctly.	Resubmit the Capsule application, and if the problem reoccurs, contact the system administrator for assistance.
MET0203: An error occurred during Capsule execution	The Capsule application did not execute correctly.	Examine the Capsule Run Log to determine the source of the error.
MET0204: A system error occurred in Capsule Services	A system error occurred in Capsule Services. The Capsule application may or may not have been executed correctly. This may indicate a problem in the Capsule service or may indicate a network or file server problem.	Contact the system administrator for assistance.
MET0205: The system administrator reset the network	A network reset has been issued by the system administrator.	Wait for the Open Data Access service to reset.
MET0206: Version not supported	The version is not supported.	If this error occurs, contact the IBM Support Center for assistance.
MET0207: Network failure	A failure has occurred in the network communications.	Check your network hardware and software. Attempt a new connection. Contact the system administrator if the problem persists.
MET0208: Network unreachable	The specified remote network cannot be reached through any of the attached networks.	Verify that you have specified the correct network address and that the required network routing infrastructure is operating between you and the remote network.
MET0209: Host is down	The specified network host is not operating.	Attempt a connection later. Contact the system administrator to determine when the host will return to service.
MET0210: Host is unreachable	The specified remote host cannot be reached through any of the attached networks.	Verify that you have specified the correct network address and that the required network routing infrastructure is operating between you and the remote host.

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Error Message	Description	Remedy
MET0211: Network buffers exhausted	Buffer space was not available to perform the network operation.	Try the operation again. Check your network hardware and software.
MET0212: Host not found	The specified hostname does not exist in the network name service.	Check that you have specified the correct host name. Ask your network administrator to add the host to the name service.
MET0213: Host not found (non-authoritative)	The name service does not recognize the hostname you specified, but another name service may recognize the name.	Try the operation again. If the error persists, verify that you have specified the correct hostname, or ask your network administrator to add the host to the name service.
MET0214: Unable to contact the name service	The service was unable to contact the name service to obtain the host's network address.	Try the operation again. If the error persists, check your network hardware and software, or contact your network administrator to determine whether the name service is running.
MET0215: Network error	An unknown error occurred in a network operation.	Try the operation again. If the error persists, check your network hardware and software.
MET0216: Incorrect network software version	The installed network software does not support the required interface version.	Verify that you have installed the correct software version and that it is configured correctly.
MET0217: Resource in use	The resource cannot be accessed because it is being used by another task or user.	Try the operation again later.
MET0218: The administrator has reset the service	The system administrator has shut down the Open Data Access Service.	Contact your system administrator to determine how long the service will be unavailable. If your Open Data Access Service is provided by a pool of servers, you may attempt a new connection as there may still be servers available in the pool.
MET0219: The service is not accepting new sessions	The system administrator has placed the service in suspend mode. It will not accept any new ODAS sessions until the administrator resumes service.	Contact your system administrator to determine how long the service will be unavailable.

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Error Message	Description	Remedy
MET0220: The service is down	The service is not on line and cannot accept new sessions. This may mean the service, the host the service is running on, or the network is having problems.	Contact your system administrator to determine how long the service will be down.
MET0221: Database entry not found	The requested database entry could not be located. This indicates an internal service problem. The user profile database may be damaged.	Retry the operation. If trouble persists, contact the IBM Support Center for assistance.
MET0222: Database is corrupted	An error was detected in the saved database file. The database may be damaged.	If trouble persists, contact the IBM Support Center for assistance.
MET0223: No database name has been specified	The database cannot be loaded or saved because a database name has not been configured.	Specify a database name in the server configuration.
MET0224: AFD processing was terminated due to an error	During Automated File Distribution processing, an error was detected which caused further processing to cease.	Check the actions specified in the AFD lists assigned to the user and the user's groups. Verify that server and client file specifications are correct. Also verify that the required IDS file servers and/or other network file systems are on line and that there is sufficient disk space on the server and client file systems.
MET0225: The database has not been changed	The database was not saved because no changes have been made since the last save.	None required.
MET0226: The member cannot be added because it creates a membership loop.	You are attempting to make an entry a member of itself or one of its members.	Revise your memberships so that the membership loop will not exist.
MET0227: AFD list not found	No AFD lists matching the specified name can be located in the User Profile Database. The lists may exist but are not accessible to the current user.	Verify with the system administrator that the requested list (or lists) exist and are assigned properly. Retry the request, if desired.

Glossary

access key. A code number, assigned by the system administrator to a user or a group of users, that can be used to restrict access to an IDS icon.

asset. An IDS service or tool. An asset can be for a set of desktop tools; a service, such as a mail service or database gateway service; or a database-access session.

asset management. Identification and distribution of purchased IDS features, services, and tools licensed for use.

@-variable. A control variable used to represent a value in any tool that can be run inside a Capsule application. These values are frequently used as constraints and variable titles in the Query, Plot, Spreadsheet, Layout, and other IDS tools.

auxiliary file service. Any file service other than the primary file service. Each auxiliary file service is associated with a primary file service.

backup. (1) The act of saving data and files from a disk onto a tape or diskette for safeguarding in the event of a malfunction or loss of data. (2) Pertaining to a backup.

back up. To copy information, usually onto diskette or tape, for safekeeping.

batch. An accumulation of data to be processed.

binary file. A file that contains machine-readable data that is unintelligible to humans.

bitmap. An image stored as an arrangement of bits on a grid.

block. A fixed number of consecutive bytes that are read, written, or transmitted as a group. An IDS disk block is 1024 bytes.

broadcast. Simultaneous transmission of data to more than one destination.

button. An object, in a window or window header, that contains graphics or text and is used to open other windows, open a menu, perform an action, or set a condition.

byte. A standard unit of measure for computer information. In IDS, a text character uses two bytes.

Capsule. A tool for building an automated processing sequence using icons that represent IDS tools and PC applications.

Capsule Service. A tool that allows scheduled, batch execution of Capsule applications as an alternative to running the application directly on the desktop.

cluster. A set of execution engines. A service such as Capsule Services can have several clusters in different computers, but each cluster is in a single computer.

cluster manager. A process used by certain services, such as Capsule Services, to control one cluster, under direction from a service manager; the service manager can control several cluster managers in different computers.

container. An icon, such as the Folder and File Drawer icons, that can hold other icons.

cross-server backup. A backup from a disk on an IDS file server to a tape drive on another file server.

database administrator. The person who issues administrative instructions to a database service. The DBA defines the data tables used by data access tools, monitors database performance, and assigns user access.

DBA. Database administrator.

desktop. The screen space occupied by IDS.

DLL. Dynamic link library.

dynamic link library. Program code that is loaded from the file service to the desktop only when needed. Each DLL is a component of one or several tools or services.

Envelope. A tool used to create messages and to send messages and icons to other users.

Ethernet. A type of local area network used for IDS connections. An Ethernet network uses a bus topology (that is, all devices are connected to a single cable). An Ethernet network can include any of several kinds of physical transmission media.

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exception condition. An abnormal situation or illegal action that might arise during program execution and cause a deviation from the normal execution sequence. The 911 error reporting facility documents exception conditions detected by the Intelligent Decision Server and the OS/2 operating system.

exception handler. A programming language facility that exists to recognize, define, and deal with exception conditions.

execution engine. A process used by certain services, such as Capsule Services, to execute specific actions under the control of a service manager through a cluster manager.

field. (1) A specified area used for a particular class of data. (2) In a window, an identifiable area where the user can enter information (entry field), select a choice (field of choices), or view information.

file descriptors. The space used to represent the number of icons on a disk. Every icon that is copied accounts for a file descriptor.

file drawer. A container, created or renamed by the system administrator, that can be shared among desktops. A file drawer typically contains folders.

file-name extension. Three letters at the end of a file name. A file-name extension is preceded by a period and usually identifies the kind of information in the file. For example, in the file name AUTOEXEC.BAT, the extension is BAT, which indicates that the file is a batch file.

file server. The computer on which the file service runs.

file service. In IDS, a software process that manages disk storage of the system software and user data.

file-service interface. The software interface used for administering and managing a file service.

folder. An organizing container that resides on a single desktop and is used to store icons and other folders. Folders are represented on the IDS desktop by the Folder icon, on which a file folder is depicted.

Icon Options. A window in which the user can reset values or view information about an icon. Each icon has its own Icon Options window. The content of this window varies depending on the icon.

Important Message. A window that displays a message that requires an acknowledgment from the user. An Important Message can be generated by a tool or service, or by the system administrator.

internet. An internetwork.

internetwork. Two or more local area networks (LANs) interconnected for exchange of data.

irrecoverable error. An error that causes further execution to be meaningless, impractical, or possibly damaging to data.

LAN. Local area network.

local area network. A data communications network, spanning a limited geographical area, in which serial transmission is used for direct communication among computers or other devices.

local network. The network to which a specified user or resource is directly connected.

log. A collection of messages or other information that is stored for data collection or troubleshooting purposes.

mail service. A service that controls the exchange of Envelopes within IDS.

Mail Tray. An IDS container icon that sends and receives mail by relaying it through the mail service.

MakeSecure. A transformer that allows the system administrator to set the security of all data-access icons in a specified container.

MakeUnSecure. A transformer that allows the system administrator to reset the security of all data-access icons in a specified container.

MB. Megabyte.

megabyte. A unit of measurement, often applied to memory or disks. One megabyte is 2^{16}, or 1,048,576 bytes.

message bar. The rectangular area along the bottom of the desktop, where advisory or error messages are displayed.

network. A set of desktops, servers, and other devices connected together for the interchange of information.

Network Diagnostics tool. A tool that allows you to find and diagnose problems on the network.

911. The IDS error reporting facility that documents irrecoverable errors.

911 log file. A file containing error reports generated by the 911 error-reporting facility. The active 911 log file is always the system error log file. An inactive 911 log file is incapable of receiving new error reports.

node. (1) A computer that has been registered to the asset manager and, therefore, can have assets assigned to it. (2) In communications, an end point of a communications link or a junction common to two or more links in a network. Nodes can be processors, workstations, or other devices. Nodes can vary in routing and other functional capabilities.

option. A selectable item within a window, by which you can choose a format or operating parameter for a document, plot, or other desktop item.

options window. Any window that the user can open by using the Options key or the options function on the pop-up function pad. Options windows enable the user to view and modify the properties of the selected object.

OS/2. Operating System/2. A single-user, mulitasking, IBM operating system that runs on microcomputers with an Intel 80286 or later microprocessor.

OS/2 desktop. In the OS/2 operating system, a work area that fills the entire screen and holds all of the objects that enable users to interact with and perform operations on the system.

parameter. Data passed by a user to a program to direct or limit processing in some way.

password. A unique string of characters known to a computer system and to a user, who must specify the character string to gain access to a desktop, gateway, database, system, or service within a system.

primary disk. The file-server disk that contains the system software.

primary file service. The file service containing the System disk.

print formatter. A process within the printing service that translates an icon into a formatted file.

printer icon. A representation of a printing queue on the user's desktop. You can use it to set printing options, such as range of pages to print, whether or not to print a banner page, and so on.

printer host. A computer on the LAN that has a printer attached to it.

printing queue. A request queue for a printer. It is a directory where icons are copied to await the attention of the printing service.

printing service. A service that controls the formatting, queuing, and printing of printable objects.

queue. A list of items or jobs waiting to be processed.

reference icons. Copies of an original icon that serve as a pointer to the original.

remote network. A network other than the local network, but which is accessible to the local network by some means.

satellite network. An IDS LAN that does not include a gateway. Such a system must connect to a fully configured LAN and use that LAN's gateways to have access to relational databases and other host services.

scroll. To move the image in a window up, down, left, or right to view information that is not otherwise visible within the boundaries of the window.

secondary disk. Any file-server disk other than the primary disk.

secure. To restrict access to.

server. The computer in which a service runs.

service manager. A process used by certain services, such as Capsule Service, to control one or more sets of execution engines through one or more cluster managers.

SetQuota. A transformer that allows the system administrator to set quota thresholds for desktops on the system, to control use of disk space.

stack dump. A printed record of the area in memory that stores temporary register information, parameters, and return addresses of subroutines.

streamer tape. A type of magnetic tape used for storage and transportation of data and program code.

system administrator. In IDS, the person who is responsible for maintaining and configuring IDS, including its desktops, servers, and network.

system error log. The central location in the IDS file system for storing 911 error reports.

thread. The smallest unit of execution within a process that is not identifiable outside its parent process.

token. In a local area network, the symbol of authority passed successively from one data station to another to indicate the station temporarily in control of the transmission medium. Each data station has an opportunity to acquire and use the token to control the medium. A token is a particular message or bit pattern that signifies permission to transmit.

token-ring network. A network that uses a ring topology, in which tokens are passed in a circuit from node to node. A node that is ready to send can capture the token and insert data for transmission.

tool set. A set of tools that are bundled together as a single asset that can be assigned to a user or a node. The end-user tool sets are named Executive, Explorer Plus, and Expert Plus.

transformer. A tool that can be used to perform various types of data manipulation either interactively or in a Capsule application.

UpdateQuotaStatus. A transformer that allows the system administrator to update the thresholds assigned to desktops using the SetQuota transformer.

Update Quota Status. The choice in the desktop Special menu that updates the record of how much storage space the desktop is currently using. This information, along with the storage quota assigned to the desktop, is then sent to the message bar.

user ID. The identifier you use to access a desktop, system, gateway, or database service.

window. A rectangle that displays a window header and display area, the contents of which vary depending on the type of window. For example, a tool window displays a view of the tool and the data associated with it.

workstation. A computer at which the user can use IDS to perform work.

IDS Publications

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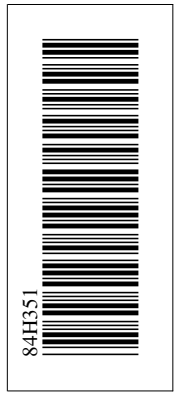
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