CA Ideal™ CA Datacom®

Working in the Environment Reference Guide

Version 14.02

ca technologies

CA Technologies Product References

This document references the following CA products:

- CA Datacom®/DB
- CA Ideal™ for Datacom® (CA Ideal)
- CA Ideal™ for DB2
- CA Ideal™ for VSAM
- CA Librarian®

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Chapter 1: Preliminary Concepts

CA Ideal is a comprehensive software system that provides a fourth-generation language and fill-in definition screens to use in developing applications. It is also a complete environment for the development, maintenance, and execution of business applications. The CA Ideal environment is the same in any operating system. Therefore, you can work in a familiar environment regardless of the operating system or platform on which CA Ideal is running.

As an introduction to the CA Ideal environment, this guide explains how to accomplish all the peripheral functions that go along with creating CA Ideal applications. After you read this guide, you will be able to conduct a session, change options that control your environment, maintain the environment, control output destinations, and transport applications from one environment to another. All the information about the CA Ideal environment in an instructional organization can be found in this guide. Although some command syntax is included here, the *Command Reference Guide* contains complete syntax for all commands and is referenced where appropriate.

Contained in this chapter is basic information that is necessary for an understanding of what CA Ideal is and how to use it. Read this section before you begin to use this guide.

What Is CA Ideal?

CA Ideal applications consist of the resources needed to perform a wide variety of online database and business applications.

You develop CA Ideal applications by defining a series of components using:

- Special-purpose, fill-in-the-blank panels that display online and are processed interactively for program, dataview, report, and panel definitions, and for DB2 plan definitions.

- Structured, high-level language for the application procedure.

CA Ideal runs in both batch and online environments, under the z/OS or VSE operating systems.

CA Ideal can access data stored in either a CA Datacom/DB database or a DB2 database. Your CA Ideal environment can include CA Datacom/DB, DB2, or both (a dual database environment). The CA Ideal application model is stored and maintained in Datadictionary.

Components of a CA Ideal Application

The components of a CA Ideal application are explained in the following sections.

Dataview Definition

A dataview is a logical view of data that lets requests be made of the data independently of the storage structure. Dataview definitions for accessing CA Datacom/DB tables using native command access are created and maintained in Datadictionary.

CA Ideal maintains dataview definitions for SQL access, both for CA Datacom/DB objects and DB2 objects, in the dictionary facility. The CA Datacom/DB tables, views, and synonyms are created and maintained in Datadictionary. The DB2 tables and views are created and maintained in the DB2 catalog.

There are two types of dataview definitions for sequential files:

- Modeled sequential file dataviews are created and maintained in Datadictionary by CA Datacom/DB sites.

- Unmodeled sequential file dataview definitions are created and maintained in the Virtual Library System (VLS) and the dictionary facility. CA Datacom/DB and DB2 sites can use them.

CA Ideal treats modeled and unmodeled dataview definitions for sequential files identically once they are cataloged.

Like dataview definitions for unmodeled sequential files, dataview definitions for VSAM files are created and maintained in the Virtual Library System (VLS) and the dictionary facility.

For more information about how dataviews are used in CA Ideal applications, see the *Creating Programs Guide*. For more information about creating and maintaining dataviews, see the *Creating Dataviews Guide*.

Program Definition

Several facilities are provided for defining a CA Ideal program:

Program Identification Panel

Lets the application developer initiate the creation of a program and provide descriptive commentary about the program.

Program Resources Panel

Specifies the authorized resources a program uses.

Program Environment Panel

Specifies the plan (SQL precompile) options for a program using CA Datacom SQL access.

Parameter Definition Panel

Describes and names data used as input parameters to a program. Parameters are only defined if the program requires them.

Working Data Definition Panel

Names and describes data items that are local to each program. This facility is used only when working data items must be defined for the program.

Procedure Definition Language (PDL)

Defines procedures using a high-level language. It includes an integrated database sublanguage, facilities for modularization, structured design and development, arithmetic capability, report production, transaction and panel processing, built-in functions, and error handling.

Procedure Definition Panel

Specifies the PDL statements. The Procedure Definition Panel provides a powerful editor that lets the programmer work in the same editing environment across all operating systems and provides templates that help to ensure structured code. All other panels used in CA Ideal provide some subset of these editing capabilities.

Program definitions are maintained using the Program Definition Facility. For complete information on the program definition panels, see the *Creating Programs Guide*. For more information about descriptions of PDL statements and functions, see the *Programming Reference Guide*.

Panel Definition

The CA Ideal Panel Definition Facility (PDF) provides the facilities for creating and maintaining panel definitions that transmit data between the user and the application program. After they are created, you can print, test, and edit online panel layouts and definitions for immediate use. For more information about defining panels, see the Creating *Panel Definitions Guide*.

Report Definition

The CA Ideal Report Definition Facility (RDF) provides a means for creating, maintaining, and testing report definitions. RDF enables the CA Ideal user to define online each report's layout, parameters, fields, column headings, and other options. For more information about defining report layouts, see the *Generating Reports Guide*.

Plan or Package Definition (DB2 Only)

CA Ideal provides a means for creating, maintaining, and binding plans and packages for DB2 applications. For more information about creating, maintaining, and binding plans and packages, see the *Administration Guide*.

Entities and Version Management

CA Ideal uses a number of special terms to describe the organization of the data the application developer uses during the creation of an application. The following paragraphs explain these terms and their relationship to CA Ideal.

Entity

An entity is a set of rules that govern the data structures CA Ideal uses. Specific entities are described as follows:

Entity type-An entity type is the classification of an entity according to its function. CA Ideal uses six entity types: system entities, user entities, dataview entities, program entities, panel entities, and report entities.

Entity occurrence-An entity occurrence is a uniquely identified instance of a particular entity type.

Definition

In CA Ideal, each entity occurrence has a corresponding definition. There are six types of definitions that correspond to the six entity types:

- System

- User

- Dataview

- Program

- Panel

- Report

Note: In the remainder of this document, the CA Ideal term *definition* is used in place of the term *entity occurrence*.

Name

Each definition must have a name to distinguish it from other definitions of the same type. The application developer assigns a name to a definition when the definition is created. For more information about naming conventions, see the section on language concepts and elements in the *Programming Reference Guide*.

Version

For all entity types except modeled and SQL dataviews

Each named definition of a given type can exist in one or more forms, called versions. A number assigned by CA Ideal identifies each named definition. There can be as many as 999 versions with the same name. CA Ideal assigns numbers to versions sequentially as they are created, starting with number 1. The application developer cannot modify version numbers.

For CA Datacom/DB dataviews and sequential file dataviews modeled in the dictionary

CA Ideal assigns numbers to test versions separately from production and history versions. Test versions are identified as T1 through T999. Production and history versions are identified as 1 through 999.

For SQL dataviews

Only one version is assigned; version 1 in production status. CA Ideal generally does not display this version number or status or require that you specify it.

Editing a definition has no effect on the version number. No matter how many changes you make, the version number remains the same. You can only create new versions with the same name by using the DUPLICATE...NEXT VERSION command. This command makes a copy of an existing version. CA Ideal assigns each new version of a definition the next higher number than the highest previously assigned number.

Each definition is uniquely identified by the combination of its type, name, and version number. You can always reference it by this combination.

There are two cases when you can reference a particular definition without using the version number:

- You can reference the production status version of a definition by replacing the version number with the term PROD (since there can be only one production version at a time).

  For any type of definition except for an SQL dataview definition, you can reference the most recently created version of a definition by replacing the version number with the term LAST.

- The version clause is optional when specifying PROD or LAST. For example, if the production version of a report definition named SALARIES is version 5, you can reference it as REPORT SALARIES VERSION 5 or as REPORT SALARIES VERSION PROD. If there are seven versions of a program named UPDATE (numbered 1 through 7), you can reference the most recently created version as PROGRAM UPDATE VERSION 7 or as PROGRAM UPDATE VERSION LAST.

Status

Each version is assigned to a category that is based on the stage it reached in the production process. This category is called the *status* of the version. A version can be in test status, production status, or history status. Except for SQL and modeled dataview entity types, you can change the status of a version with the MARK STATUS command.

The following sections explain the rules that apply to each type of status.

Test

For all entity types except modeled and SQL dataview

When a version is created in CA Ideal by either the CREATE or DUPLICATE command, the version is in test status. You can modify a version as long as it remains in test status. There can be many versions in test status at one time. If a dataview is edited, you must recatalog it before you can use it in a compilation.

For CA Datacom dataviews and sequential file dataviews modeled in the dictionary

Test versions are created and maintained in the dictionary. There can be up to 999 test versions at one time.

For SQL

Only one version is assigned; version 1 in production status.

Production

When a version is created, edited, and tested, and is ready to use in an application, it is marked to production and becomes the production version. Only one version of a definition can be in production status at a time.

A production application must consist of components that are also in production status. This protects its integrity. Production applications run faster because CA Ideal does not need to verify at run time that all program components exist and are compiled. To convert programs to load module format, the application must be in production status.

For all entity types except modeled and SQL dataviews

You cannot edit or delete the production version. If a production version of a program is compiled, a compilation listing is produced; a new program object is not created.

For SQL dataviews

There can be only one version of a definition at a time -- version 1 in production status. The CA Ideal CATALOG command creates SQL dataviews. You cannot delete them if they are resources of production programs. You cannot edit them.

History

History versions of a definition are former production versions of that definition.

For all entity types except modeled and SQL dataviews

Marking a test version to production automatically retires the existing production version, if any, to history status.

For CA Datacom CBS dataviews and modeled sequential file dataviews

The maximum number of history status versions that can be saved is recorded in the dictionary (as the ENTY-HIST-VER attribute of the FILE entity in the DATA-DICT database). When this number is exceeded, the oldest history versions are automatically deleted. You can modify the installed default of three history versions.

MARK STATUS Considerations

The MARK STATUS command changes the status of a definition from test to production or from production to history. The effects of these changes are entirely different.

A definition is marked from test to production when no further testing is necessary and the definition is ready for use in a production application. Production and History versions are subject to the following rules:

- For all definitions except for SQL dataviews: There can be only one production version of a definition at a time. You cannot edit or delete that version.

- You cannot delete definitions for SQL dataviews if they are resources of production programs.

- You cannot mark a production version of a definition that is named as a resource of a production program to history without first replacing it with a new production version.

- You can mark the production version of a definition that is not named as a resource of a production program directly to history.

- Marking another test version to production automatically retires any existing production version to history status. For example, if in the following list of versions, the fifth version's status is marked to production, the status of the fourth version automatically changes to history:

Version	Status
1	History
2	Test
3	History
4	Production
5	Test

Note: Marking version 2 to production also marks version 4 to history.

If a subprogram or unmodeled dataview in production status is listed in the resource fill-in of a program in production status and a new version of the subprogram or dataview becomes the production version, the resource fill-in of the calling program is automatically changed to reflect the new production version. However, to provide an audit trail, the history version of the subprogram is still included in the program-to-program relationship for the calling program. You should consider this relationship when you execute the source transport utility. If you do not want to transport history versions, include the command SET EXPORT RESOURCE HISTORY NO in the transport command member.

How to Modify or Delete a Production Version

Because you cannot modify or delete a version that is in production status directly, you must use the following procedures to modify or delete the production version of a definition.

Note: You can delete SQL dataviews and unmodeled sequential file dataviews directly, even though they are in production status. You cannot duplicate them using the NEXT VERSION option.

To Modify a Production Version

To modify a product version

1. Make a duplicate copy of the production version by entering the command:

   ```
   DUPLICATE definition-type definition-name [NEXT VER]
   ```

   This next version of the definition is in test status.

2. Make the changes to the new version using the EDIT command.

3. Make the new version the current production version as follows:

   ```
   MARK STATUS definition-type definition-name TO PROD
   ```

   This statement also marks the current production version to history.

To Delete a Production Version

To delete a production version:

1. Retire the production version to history as follows:

   ```
   MARK STATUS definition-type definition-name TO HIST
   ```

2. Delete the history version using the DELETE command:

   ```
   DELETE definition-type definition-name version nnn
   ```

The status of a version usually is marked from production to history just before it is deleted. If you replace a production occurrence with a new production version, it is not necessary to first mark the current production version to history.

How to Set a Default Version

The version of a program, panel, or report that is used when you do not specify a version clause in a command or when the version entry is omitted in a prompter is determined as follows:

- The CA Ideal Administrator might have a default established for the site for which version is selected, either by using the SET SITE VERSION command or by accepting the installed default version of 001.

- You can use the SET VERSION command to override the site default to establish which version is selected for your commands and prompters during the session. This command affects only your current session. No other users and no subsequent sessions are affected. To establish a default version that lasts across sessions, you can enter the SET VERSION command in a SIGNON member.

Note: Some commands (such as DELETE) require a version clause.

For CA Datacom native access dataviews and sequential and VSAM file dataviews

A SET [SITE] DATAVIEW VERSION command, which usually sets PROD as the default, determines the default version of a dataview used as a program resource. The SET [SITE] VERSION command, which usually sets LAST as the default, specifies the default version of a dataview specified by commands such as EDIT, DISPLAY, and PRINT.

For SQL dataviews

Only one version is assigned; version 1 in production status. You cannot set the default version.

CA Ideal Users and Systems

The different kinds of users and associated systems of a CA Ideal application are explained in the following sections.

Users

There are many kinds of CA Ideal users. Anyone who uses CA Ideal, from the Administrator who defines CA Ideal systems and users to the data-entry person who runs the production version of a completed application, is a CA Ideal user. Each type of user has a different set of needs and responsibilities in CA Ideal. Each user is defined on the basis of these needs and responsibilities.

The CA Ideal Administrator or a user with authorization must define a user in CA Ideal. Part of defining a user is establishing the user's privileges. User privileges define the general type of privileges a user has to perform activities, which affect the global environment where CA Ideal functions. Each user must have at least one privilege defined.

Some privileges imply other privileges. The following chart illustrates how a privilege implies lesser privileges.

	Implied Privileges			
Specified Privilege	**CA Ideal Admin**	**PRINT Admin**	**DVW Admin**	**CA Ideal User**
CA Ideal Administrator	X	X	X	X
PRINT Administrator		X		X

	Implied Privileges			
Specified Privilege	CA Ideal Admin	PRINT Admin	DVW Admin	CA Ideal User
DVW Administrator			X	X
CA Ideal User				X

CA Ideal Administrator

An Administrator is the highest authorization given to a CA Ideal user. An Administrator can perform any command or service, including all services governed by all other privileges. The commands are as follows:

PRINT Administrator

Authorizes control over the print environment. For example, it can allow the use of privileged commands that manage outputs.

DVW Administrator

Authorizes the use of functions such as executing the CATALOG dataview command.

CA Ideal User

Authorizes the user to sign on to CA Ideal and to use those commands that require the minimum privilege. Generally, a CA Ideal user can execute only those commands that affect the current session.

Systems

A system is a collection of applications with their associated developers and users, as defined by a CA Ideal Administrator. The system definition provides the name and description of the system, and identifies the files the system uses for storing definitions and object code.

The CA Ideal Administrator or a user with the proper authorization establishes a user's activity (authorization) in a system on the User Definition fill-in. System authorizations must be established for each system the user is allowed to access.

One system authorization may imply other authorizations. The following chart illustrates how the assignment of an authorization in a system extends to commands and services governed by a lesser authorization.

	Implied Authorizations					
Specified Authorization	CONTROL	UPDATE	UPD-PNL	UPD-RPT	READ	RUN-PROD
CONTROL	X	X	X	X	X	
UPDATE		X	X	X	X	
UPD-PNL			X		X	
UPD-RPT				X	X	
READ					X	
RUN-PROD						X

An Administrator defines specific functions that are included in each authorization, for each site. An Administrator can assign different authorizations to all CA Ideal commands and to all options in commands. You can display the authorization levels in effect with the DISPLAY AUTHORIZATION OPTIONS (D ATZ OPT) command. Commands definitions are as follows:

CONTROL

Authorizes the user to create, establish, and edit program resources; delete, mark status, and update identification fill-ins; and otherwise control all program, panel, and report definitions in a specific system.

UPDATE

Authorizes the user to update all the program, panel, and report definitions (except a program resource fill-in and any identification fill-ins) or display all the program, panel, and report definitions in a specific system.

READ

Authorizes the user to display and print the report, panel, and program definitions in a specific system.

UPDATE-PNL (UPDATE PANEL)

Authorizes the user to update panel definitions in a system.

UPDATE-RPT (UPDATE REPORT)

Authorizes to update report definitions in a system.

RUN-PROD (RUN PRODUCTION)

Authorizes the user to run production programs in a system.

Note: If you try to execute a command or option for which you are not authorized, you will receive an error message.

When sign on occurs, a user is automatically associated with a CA Ideal system. If the user is authorized to use more than one system, the first system (alphabetically by collating sequence) is selected as the current system at signon (unless the user established a different system as the default current system in signon procedure).

Users can only display, edit, run, and so on, programs, panels, and reports in the current system. Dataviews, users, and members do not belong to a system.

Naming Conventions in Systems

Names of programs, panels, and reports only need to be unique in a system. For each system, a name must only be unique in entity type. For example, there can be a report definition and a program definition, both of which are named EX1, but two different report definitions or two different program definitions in the same system cannot be named EX1.

Chapter 2: Getting Started

This chapter explains how to start a CA Ideal session, how to end a session, what you find on a CA Ideal panel, how to interact with CA Ideal, and how to get help. This chapter also describes the CA Ideal Main Menu and the Utility Functions menu.

CA Ideal operates online using any 327x-compatible emulator or web browser under CICS in a z/OS or VSE environment. CA Ideal in batch also operates under z/OS or VSE.

How to Sign on to CA Ideal

To sign on to CA Ideal using an online teleprocessing monitor, follow these steps:

1. Sign on to CICS using the appropriate ID and password.

2. When successfully signed on, type IDEA or IDLX and press the Enter key.

3. If you type IDEA, the CA Ideal signon panel displays, as follows. If you type IDLX, the signon panel is bypassed. The release number displays on the signon panel.

```
|||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
|||||||||||                                                     |||||||||
|||||||||||     Welcome to IDEAL 11.0. HELP NEW shows new features   ||||||||
|||||||||||                                                     |||||||||
|||||||||||     USER-ID     >               <     DATE    09/22/06   ||||||||
|||||||||||     PASSWORD    >               <     TIME    16.25.56   ||||||||
|||||||||||                                                     |||||||||
|||||||||||     ENTER: SIGN ON     PA2 OR CLEAR: OFF                 ||||||||
|||||||||||                                                     |||||||||
|||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
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|||||||||||          |||||      |||||||        |||||   |||||  |||||         | r11 ||
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        CA-Ideal (TM) is a product of CA, Inc. Copyright (C) 2006 CA.
        Use of this system by unauthorized persons is strictly prohibited.
```

If your site uses an external security system to control access to CA Ideal, the USER-ID and PASSWORD fields are protected on the signon panel. The USER-ID field contains the security ID you used to log onto the teleprocessing monitor.

4. If your site uses an external security system, press the Enter key to complete the signon process. (To abandon the sign on, press the PA2 key or the Clear key.)

   If your site uses only CA Ideal internal security facilities, take one of the following actions:

   ■ If the correct user identification (USER-ID) displays, type the correct password, if required, and press the Enter key.

   ■ If the displayed information is not correct, enter the correct CA Ideal user ID and password. If necessary, you can use the BackTab key to move the cursor to the USER-ID field.

   Note: To change your CA Ideal password for subsequent sign on, use the ALTER SIGNON PASSWORD command after you complete the signon process.

5. When you successfully complete the signon process, the CA Ideal Main Menu displays.

   Under CICS:

   The default user ID displayed on the signon panel is the OPID (operator ID) of your CICS account or the user ID an external security package provided.

Sign on Considerations

The system verifies the following credentials while the user is logged on:

User Verification and Authorization Profile

At signon, CA Ideal verifies that the user is defined. Privileges associated with a user in the user definition take effect immediately upon sign on. These privileges control the user's access to CA Ideal facilities. Authorizations with a user only with respect to a particular CA Ideal system. For more information about user authorization, see the *Administration Guide*.

Sign on Member

Often a user establishes the same environment at every sign on. Instead of issuing the same SET commands every session to create the environment, you can put these commands into a signon member that executes automatically upon sign on. Sign on members are described in the section, Using a Sign on Member, later in this chapter.

Current System

When a user signs onto CA Ideal, that user is automatically associated with a CA Ideal system as described in the following section, Selecting a System.

Selecting a System

A system is a collection of application programs and the developers and users associated with it (as the CA Ideal Administrator assigned). You can only display, edit, run, and so on, programs, panels, and reports in the current system.

If you are associated with only one system, that system becomes the active or current system upon sign on. If you are authorized to use more than one system, the first system (alphabetically) is selected as the current system at sign on. To select a different system at any time during the session, enter the SELECT SYSTEM command.

Note: You can only select a system that was assigned to you and for which you have at least one authorization. For more information about defining a user and assigning systems, see the *Administration Guide*.

You can also include the SELECT SYSTEM command as part of your signon procedure. For more information about SELECT SYSTEM command, see the *Command Reference Guide*.

Using a Sign on Member

To establish a set of CA Ideal commands to execute automatically when you sign onto CA Ideal (a signon procedure), you must first create a member called SIGNON. For a description of creating members, see the chapter "Data Members." The SIGNON member executes automatically at each sign on.

A common use for a SIGNON member is to contain commands that establish the appropriate environment, such as SET commands. Used this way, the options specified in the SET commands act as defaults across sessions. If you do not enter SET commands in the command lines or if no SET commands are included in the signon procedure, then the installation defaults are used.

An example of a SIGNON member used to form a profile with SET commands follows:

```
SELECT SYSTEM TST
SET OUTPUT DESTINATION SYSTEM PRN
SET REPORT WIDTH 80
SET COMMAND LINES 2
```

The SET commands in the SIGNON member establish the options in effect for the current and subsequent sessions. You can override these commands during the session by entering the same SET commands with different options. The SET commands are described in the "Setting Defaults" chapter.

Altering the Sign on Password

The ALTER SIGNON PASSWORD command changes the password required during sign on for subsequent CA Ideal sessions. You can also change this password on the User Definition fill-in. The ALTER SIGNON PASSWORD command lets you change your own password without editing the User Definition fill-in; however, the new password is reflected in the User Definition fill-in. You can use the ALTER SIGNON PASSWORD command to change a user definition in PROD status. For more information about ALTER SIGNON PASSWORD command, see the *Command Reference Guide*.

Note: If your site uses external security to control access to CA Ideal, the CA Ideal password is not verified during sign on.

How to Sign Off

To sign off from a CA Ideal session, enter the OFF command.

The sign-off panel appears as shown. The system supplies all information on this panel. It does not require user input. The release number is shown at the bottom right. Any user messages display in the blank line at the top of the panel.

```
||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
||||||||||                                                          ||||||||||
||||||||||              IDEAL HAS BEEN SIGNED OFF                    ||||||||||
||||||||||                                                          ||||||||||
||||||||||                                      DATE    09/22/06     ||||||||||
||||||||||                                      TIME    16.28.58     ||||||||||
||||||||||                                                          ||||||||||
||||||||||                                                          ||||||||||
||||||||||                                                          ||||||||||
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||| CA- ||||  ||||||||||  ||||  |||||    ||||||||||  |||   |||||| ||||||||||||
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||||||||||        |||||     |||||||       |||||  |||||  |||||                
||||||||||        |||||     |||||||       |||||  |||||  |||||          | r11 ||
||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
```
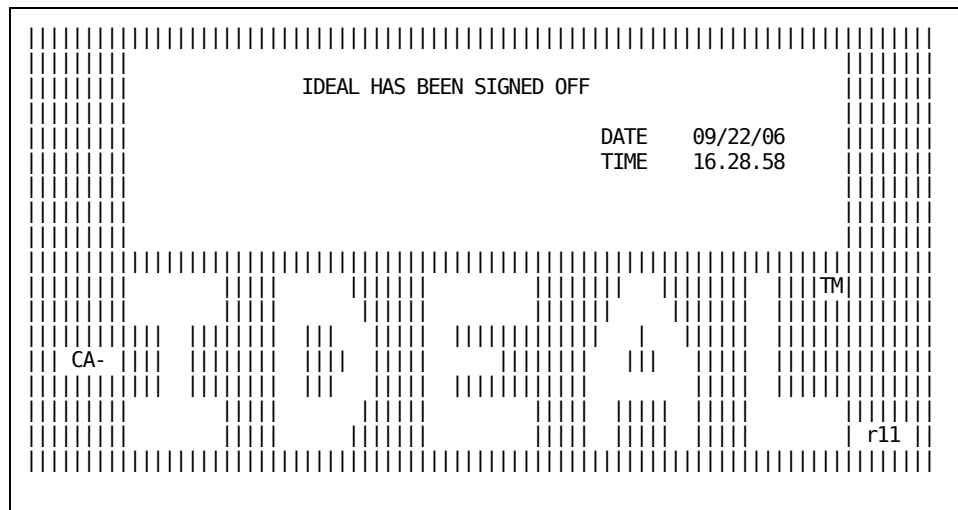
- In split panel mode, OFF eliminates the last region.

- Any asynchronous tasks, such as COMPILEs or PRINTs, started during the CA Ideal task must be completed before you can log off. If a subtask is still executing when you enter the CA Ideal OFF command, the OFF command redisplays with a message explaining that the subtask is still executing. To continue executing the subtask, erase the OFF command before selecting any other CA Ideal activities. To cancel the subtask and sign off, press the Enter key to reenter the OFF command. Canceling the subtask causes an abend.

To sign off from a CA Ideal session and to request a new CA Ideal sign on panel, enter OFFON.

For more information about the OFF and OFFON commands, see the *Command Reference Guide*.

What Is on a CA Ideal Screen

Once you successfully sign on to CA Ideal, all displayed panels follow the same basic organization. A typical CA Ideal panel layout is shown as follows. Screens in each of the following sections contain examples of actual CA Ideal panels.

```
=> command area
=>
=>
 message line
----------------------------------------------------------(separator)
IDEAL    aaaaaaa    bbb    ccccccc  nnn   dddd   SYS:  eee  ffff (status line)



                              display area
                                                            (region)
```

The areas on the CA Ideal panel include the following:

command area

Defines top lines of the panel, each of which begins with a command line indicator symbol (=>). You can use between 0 and 5 command lines. You can change this number with a SET command, as described in the section, How to Set Session Options, later in this chapter. The previous panel shows three command lines.

You can enter any valid CA Ideal command in the command area. You can issue multiple commands at one time either by entering one command on each command line, or by entering two or more commands on each command line separated by the command delimiter symbol.

For example, to delete a program definition called DEMO1, set a panel's new field symbol to a not sign (Ø) and display a panel definition called EMP1, enter:

```
=> DELETE PROGRAM DEMO1 VER 1
=> SET PANEL NEWSYM Ø
=> DISPLAY PANEL EMP1
```

You can enter these three commands one at a time or issue them together as shown. CA Ideal processes commands in their order of entry and stops if there is an error in the command or as a result of the command. In case of error, CA Ideal displays a message and continues to display the commands not yet processed. You need only to correct the command in question.

Use of Delimiters

Enter multiple commands on the same command line separated by a command delimiter. For example, you can enter the same commands shown above by using the semicolon (;) as the command delimiter:

```
DEL PROG DEMO1 VER 1;SET PAN NEWSYM Ø;DISP PAN EMP1
```

message line

Defines an area where messages and warnings display.

separator line (optional)

Separates the command and message area from the display area. It can be any special character, null, or a grid set by the SET COMMAND SEPARATOR command (see Setting Options later in this chapter). In the previous panel, a hyphen (-) is used.

status line

Describes the contents of the display area. This line consists of the following :

- **product identification** An area containing the product name. The above panel shows IDEAL as the product.

- **aaaaaa** The current activity. The current activity might be abbreviated.

- **bbb** An abbreviation of the last requested entity type. CA Ideal lets you work on or use various types of entities: programs, reports, panels, dataviews, or systems. Entity types are abbreviated in the status line as follows:

  - **DVW** Dataview definition

  - **MEM** Member

  - **MOD** Module

  - **PGM** Program definition

  - **PKG** Package definition (DB2 only)

  - **PLA** Plan definition (DB2 only)

  - **PNL** Panel definition

  - **RPT** Report definition

  - **SYS** System definition

  - **USR** User definition

- **ccccccc** The name of the last requested entity occurrence. An entity occurrence is a particular instance of an entity type, such as a particular program or a particular dataview.

- **nnn** The version number of the entity currently displayed, which is shown when applicable.

- **dddd** The status of the entity currently displayed:

  - **PROD** Production-status

  - **HIST** History-status

  - **TEST** Test-status

SYS: eee

Displays the current system abbreviation; for example, SYS: DOC in the following panel.

ffff

Defines the type of CA Ideal panel currently presented in the display area. The five panel types are listed as follows:

- **MENU** A panel that offers a series of options for user selection.

- **PROMPTER** A panel that requests information in the proper CA Ideal command syntax for a specific function. Prompters assist users unfamiliar with the CA Ideal command language or unsure of the proper syntax.

  The CA Ideal command syntax for a function that a prompter performs is identical to the presentation of the text on the prompter. The prompter panel familiarizes the user with the command language as well as prompting them.

- **FILL**-**IN** A panel that requires you to enter data. Fill-in panels have no command equivalents.

- **DISPLAY** A panel that provides user-requested or system information or any panel displayed with the DISPLAY command. Display panels require no response.

- **HELP** A panel that provides information to assist you in understanding the current panel.

d**isplay area**

Defines an area that displays all panels, applications, and data. The display area in the panel in the section titled Prompter Panels contains the display index prompter.

r**egion**

Defines an area that includes the status line and display area. A region is where a CA Ideal facility or service is performed. You can have more than one region on a panel.

Menu Panels

Menu panels display options that you can select by tabbing to the selection field and entering the number of the option you want. CA Ideal provides menus for frequently used facilities, such as report maintenance, edit, display, and administration. A sample menu panel follows.

```
=>
=>
=>
-------------------------------------------------------------------------
IDEAL: MAIN MENU                                      SYS: DOC      MENU

 Enter desired option number ===> 4     There are 11 options in this menu:

 1. PROGRAM             Define and maintain programs
 2. DATAVIEW            Display dataview definitions
 3. PANEL               Panel Definition Facility
 4. REPORT              Report Definition Facility
 5. PLAN                Application Plan Maintenance
 6. PROCESS             Compile, Run, Submit
 7. DISPLAY             Display Entities
 8. PRINT               Print Entities
 9. ADMINISTRATION      Administration functions
10. HELP                Overview of HELP facilities
11. OFF                 End IDEAL Session
```

You can select an option from a menu by tabbing to the selection field (indicated by the arrow ===>), typing the number of the option you want, and pressing the Enter key.

When you select an option from a menu, another menu or a prompter usually displays unless you can accomplish the function without further input. For example, selecting the option OFF from the Main Menu brings you out of CA Ideal directly. However, selecting option 4, REPORT, displays the Report Maintenance Menu.

Prompter Panels

A prompter panel displays when you enter a command without all the necessary information. This could occur when you select an item from a menu or when you enter a command without required operands. The prompter panel prompts you for the missing information.

The following panel shows a sample prompter panel.

```
=>
=>
=>

--------------------------------------------------------------------------------
IDEAL: MARK STATUS          RPT                              SYS: $ID  PROMPTER

MARK STATUS  RPT  _____     VERSION  ____   TO ____
             (1)        (2)                      (3)      (4)
--------------------------------------------------------------------------------
(1) PGM = Program    (2) Name    (3) nnn = Ver. #   (4) PROD = Production
    PNL = Panel                      PROD               HIST = History
    RPT = Report
    SYS = System
    USR = User
    DVW = Dataview (unmodelled)
```

Any data that was supplied in the command is inserted in the prompter. The fields are numbered as a key to the help information displayed in the lower half of the panel. When the fields are filled in, the command has the same syntax as if you entered the full syntax on the command line. In this way, you can start using CA Ideal without knowing the full syntax for commands, learning the syntax by using the prompters.

Use the Tab key to move from field to field. To execute the command when you complete the prompter, press the Enter key. To return to the menu without completing the prompter, press the PF2 (Return) key.

Fillin Panels

Fill-in panels are panels where you can enter data. The panel can look like a form, with fields to fill in (like the Panel Parameters panel) or it can look like a blank editing area (like the Procedure Definition panel, shown later in this section).

```
=>
=>
=>
---------------------------------------------------------PARTIALLY SHOWN

IDEAL: PANEL PARAMETERS       PNL TEST (001) TEST          SYS: DOC   FILL-IN

 Input  fill character  L         (S=space, L=lowval, Z=zeros, U=_,other=itself)
 Output fill character  U         (S=space, L=lowval, U=_, other=itself)
 Non-display character  ?         (S=space, other=as specified)
 Error fill character   *         (as specified)
 Case translation       U         (U=upper, M=mixed)
 Required               N         (Y=yes, N=no)
 Error handling         N         (N=none, *=fill w/errorfill, H=high intensity,)
                                  (B=both: H if illegal value & * if rqd missing)


 Edit-rule error proc   C         (C=clarify command, A=application)
 Process appl on scroll Y         (Y=yes, N=no)
 Hardware insert        N         (Y=yes, N=no)
 Allow eof              N         (Y=yes, N=no)
 Help panel name        _____   Version ___
 Prefix panel name      _____   Version ___
 Suffix panel name      _____   Version ___
```

```
=>

 IDEAL: PROCEDURE DEFINITION  PGM CATHTEST (001) TEST     SYS: $ID   FILL-IN

 Command........1........2........3........4........5........6........7..
 ===== ========================= T O P =========================
 ......
 ......
 ......
 ......
 ......
 ......
 ......
 ......
 ......
 ......
 ......
 ......
 ......
 ......
 ......
 ......
 ......
 ========================= B O T T O M =========================
```

When you display a fill-in panel, if you already entered any data on it in this or any other session, the information displays as it was last entered.

When you complete a fill-in, press the Enter key or a PF key to apply the modified data. Pressing the Enter key applies the data, but leaves the current fill-in displayed. To continue, enter the appropriate command or press the appropriate function key. Press the:

- **PF2 (RETURN)**

  Return the session to the CA Ideal Main Menu without applying the modified data (except in certain cases with RUN).

- **PA1 or PA2**

  Ignore modified data.

- **PA1**

  Redisplay the panel with all fields blanked out (RESHOW).

- **PA2**

  Display current function key assignments.

Display Panels

A display panel displays information only. Other than scrolling commands and execution line commands, you cannot enter data on a display panel. Some display panels look just like their equivalent fill-in panel, such as the DISPLAY DATAVIEW panel. Others, like the Display Index panel shown below, have no equivalent fill-in.

```
   =>

   IDEAL: DISPLAY INDEX         PNL                    SYS: $ID    DISPLAY

   Command Name    Ver S Run-Sta Description            Created   Updated
   ===== ========================= T O P ============================
   000001 CCFERR   001 T PRIVATE Common subpgm for errors  09/25/93 09/25/93
   000002 CDSPA01  001 T PRIVATE Site Path Definition    10/06/94 10/06/94
   000003 CDSPI01  001 T PRIVATE Site Path Index         10/06/94 10/06/94
   000004 CDSST01  001 T PRIVATE State Target Index       10/06/94 10/09/94
   000005 CDSTI01  001 T PRIVATE Site Target Index        10/06/94 10/09/94
   000006 CWWOD01  001 T PRIVATE Work Order Detail        09/29/94 09/29/94
   000007 MARILYN  001 T PRIVATE Test panel for marilyn   10/13/94 10/13/94
   000008 MAR2     001 T PRIVATE                          10/13/94 10/13/94
   000009 MASKA    001 T PRIVATE Help Template #1         05/05/94 07/09/94
   000010 MASKB    001 T PRIVATE Help Template #2         05/05/94 07/09/94
   000011 MASKC    001 T PRIVATE Help Template #3         05/05/94 07/09/94
   ===== ========================= B O T T O M ========================
```

You can scroll through a display panel using PF keys or line commands. You can also enter execution line commands in the Sequence number or Command field. For more information about execution of line commands, see the *Command Reference Guide.*

Main Menu

The Main Menu offers a selection of CA Ideal major facilities and functions. The Main Menu is the first panel to appear after sign on unless you established an alternative through the signon member described in the section Using a Sign on Member earlier in this chapter. To select a facility of function, tab to the selection field and enter the number of the option you want.

You can get to the same functions and facilities by specifying a command equivalent to the menu selection in the command area. The options listed in the menu are identical to the command syntax.

When you enter the option number, CA Ideal takes you to a menu, fill-in, or, in some cases, directly to the function (as when you select option 11 for OFF).

Note: The PLAN option is for DB2 sites only.

```
=>

IDEAL: MAIN MENU                                    SYS: $ID      MENU

Enter desired option number ===> 4    There are  11 options in this menu:

 1. PROGRAM            Define and maintain programs
 2. DATAVIEW           Display dataview definitions
 3. PANEL              Panel Definition Facility
 4. REPORT             Report Definition Facility
 5. PLAN               Application Plan Maintenance
 6. PROCESS            Compile, Run, Submit, Debug
 7. DISPLAY            Display Entities
 8. PRINT              Print Entities
 9. ADMINISTRATION     Administration functions
10. HELP               Overview of HELP facilities
11. OFF                End IDEAL Session
```

In this example, option 4 of the Main Menu was selected. This displays the Report Maintenance Menu.

```
=>
=>
=>
   --------------------------------------------------------------------------
    IDEAL: REPORT MAINTENANCE    RPT                      SYS: DOC       MENU

    Enter desired option number ===> 4     There are   8  options in this menu:

     1. EDIT/DISPLAY         - Display or edit a report definition
     2. CREATE               - Create a report definition
     3. PRINT                - Print a report definition
     4. DELETE               - Delete a report definition
     5. MARK STATUS          - Mark report status to production or history
     6. DUPLICATE            - Duplicate report to next version or new name
     7. DISPLAY INDEX        - Display index of report names in system
     8. PRODUCE              - Produce a report facsimile
```

You can select from eight choices. If you select option 5 of the Report Maintenance Menu, this prompter appears.

```
=>
=>
=>

-------------------------------------------------------------------------------
IDEAL: MARK STATUS          RPT                             SYS: $ID   PROMPTER

MARK STATUS  RPT  _____     VERSION  ____   TO ____
             (1)        (2)                  (3)     (4)
-------------------------------------------------------------------------------
(1) PGM = Program    (2) Name    (3) nnn = Ver. #   (4) PROD = Production
    PNL = Panel                      PROD               HIST = History
    RPT = Report
    SYS = System
    USR = User
    DVW = Dataview (unmodelled)
```

The Mark Status prompter contains the proper syntax for the MARK STATUS command. It shows you how to fill in variable information. The Return key (PF2/14) returns you to the Report Maintenance Menu. Pressing Return (PF2/14) again returns you to the Main Menu.

Note: The "RPT" has been filled in for you because you came from the Report Menu.

The same processes could occur by using commands in the command area instead of the menu-driven method.

The Clear key always takes you out of the current facility and back to the Main Menu. For more information about transactions in CA Ideal, see the section Transactions later in this chapter.

Interacting with CA Ideal

This section explains basic key assignments, the sequence in which CA Ideal processes information, panel size, how to display information, transactions in CA Ideal, and command abbreviations.

PF/PA, Clear, and Enter Keys

Program Function (PF) keys are equivalent to certain CA Ideal commands. Program Access (PA) keys are keys that perform display functions. The standard CA Ideal PF/PA layout (and other significant terminal keys that take effect after sign on is complete) follows. Commands shown in bold are assignments consistent throughout all facilities of CA Ideal.

This layout applies during the development of applications. While an application is running, the application can determine PF key assignment.

Using Commands or Menus

Commands entered in the command area let you reach all facilities and functions available through CA Ideal by menus and prompters.

The following graphic shows an example of the relationship between commands and menu-driven services. Using the menu-driven approach, the Main Menu and its associated menus and prompters provide the delete service. Following the route illustrated in the diagram, the Main Menu selection of option 1 takes you to the Program Maintenance Menu. Then option 4 of the Program Maintenance Menu takes you to the delete prompter, which, once completed and entered, provides the delete service.

Alternatively, you can reach the same service directly through an equivalent command, DELETE PROGRAM DEMO1. In addition, the command PROGRAM bypasses the Main Menu to display the Program Maintenance Menu. The DELETE command bypasses the Main Menu and the Program Maintenance Menu to display the delete prompter.

The options listed in the menus and prompters are identical to the command syntax. The relationship of menus, prompters and commands is shown next:

```
        ┌─────────────────────┐                                    DELETE
        │     MAIN MENU        │                                    PGM DEMO1
        ├─────────────────────┤                  DELETE
        │ 1. PROGRAM─┐        │
        │ 2.      .   │        │
        │ 3.      .   │        │
        │ 4.      .   │        │
        └─────────────┼────────┘
                      │
                      ▼
        ┌─────────────────────┐
        │  PGM MAINT MENU      │
        ├─────────────────────┤
        │ 1.      .            │
        │ 2.      .            │
        │ 3.      .            │
        │ 4. DELETE ─┐         │
        │ 5.      .   │        │
        │ 6.      .   │        │
        └─────────────┼────────┘
                      │
                      ▼             ▼                               ▼
        ┌─────────────────────┐
        │  DELETE PROMPTER     │
        ├─────────────────────┤
        │ DELETE PGM DEMO1 ─┐  │
        │        .          │  │
        │        .          │  │
        │        .          │  │
        └───────────────────┼──┘
                            ▼        ▼                              ▼

                          THE DELETE SERVICE
```
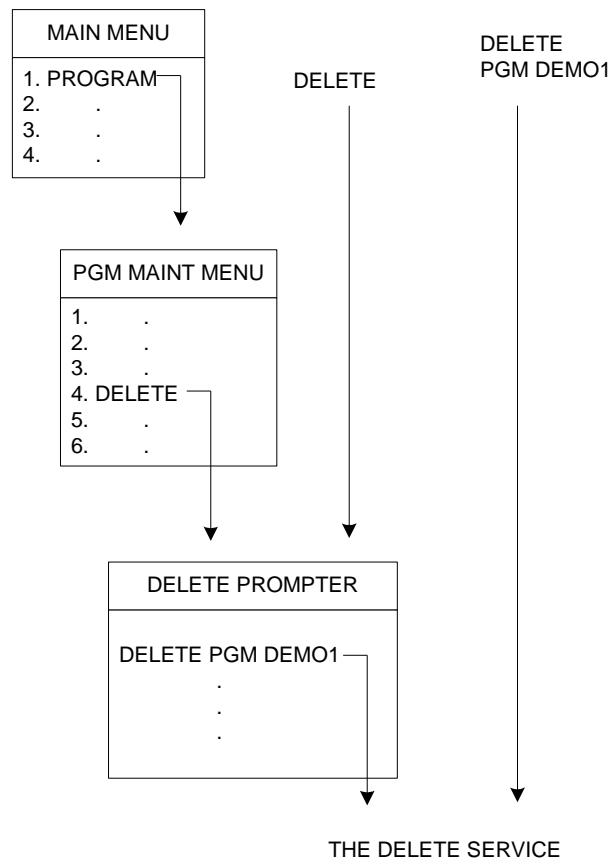
Sequence of Operation

CA Ideal processes information entered on a panel in the following order:

1. PF1/13 (Help) or PF3/15 (Print Panel) (Can be disabled for specific user panels.)

2. Entries in the display area

3. Commands in order of entry

4. Other PF keys or Enter key

For example, assume that you are in the program definition facility making entries on the working data fill-in and want to edit the end of the procedure component. The panel appears as follows with the new data displayed on the Working Data fill-in and the EDIT PGM command on the command line (the Enter key was not pressed).

```
EDIT PGM DEMO1 PROCEDURE
```

```
=>
=>
  -------------------------------------------------------------------------
  IDEAL: WORKING DATA DEFN.    PGM DEMO1 (001) TEST      SYS: $ID    DISPLAY
  Level Field Name        T I Ch/Dg Occur Value/Comments/Clauses   Command
  ----- ---------------   - - ----- ----- ----------------------- ------
  ==== ===== TOP =====  = = ==== ==== ==================== ======
  1     KOUNTER          N     5                                   000100
  1     EXIST            F           TRUE                          000200
  ==== ==== BOTTOM ====  = = ==== ==== ==================== ======
```

When you press the Scroll Bottom key (PF11/23) to scroll to the bottom of the component, this sequence of operation is followed:

1. Working data information is saved.

2. The procedure component of program DEMO1 displays for editing.

3. The PF key brings you to the bottom of the DEMO1 procedure component.

The result is as follows:

```
=>
=>
=>
  -------------------------------------------------------------------------------
IDEAL: PROCEDURE DEFINITION   PGM DEMO1  (001) TEST    SYS: $ID    DISPLAY
....+....1....+....2....+....3....+....4....+....5....+....6....+....7..Command
      MOVE EMPLOYEE.CITY-ADDRESS TO                               001609
                RLSDIS.CITY-ADDRESS(KOUNTER)                      001610
      MOVE EMPLOYEE.STATE-ADDRESS TO                              001611
                RLSDIS.STATE-ADDRESS(KOUNTER)                     001612
      MOVE EMPLOYEE.SOCIAL-SECURITY TO                            001613
                RLSDIS.SOCIAL-SECURITY(KOUNTER)                   001616
      SET EXIST EQ TRUE                                           001617
   WHEN NONE                                                      001618
      SET EXIST EQ FALSE                                          001619
      MOVE 'NUMBER DOES NOT EXIST, PLEASE TRY ANOTHER'            001620
          TO RLSASK.MSG                                           001621
   ENDFOR                                                         001622
   MOVE $COUNT(FOR5) TO RLSDIS.COUNT                              001623
   TRANSMIT RLSDIS                                                001624
   QUIT                                                           001625
 ENDPROC                                                          001626
  ========================B O T T O M=========================== ======
```

Viewing Oversized Panel

CA Ideal facilities use two different methods of displaying information.

Specific Size Panels

Some of the CA Ideal facilities, such as the report parameters fill-in, are panels of a specific number of lines. If such a panel does not fit completely in the current region size, a portion of the panel displays and the message PARTIALLY SHOWN appears in the separator line. You can display the remainder of the panel by scrolling forward (PF8/20). However, any entries made in the panel before scrolling are processed before the scroll. You can also redisplay the beginning information by scrolling backward (PF7/19).

```
=>
=>
=>
-----------------------------------------------------------PARTIALLY SHOWN

 IDEAL: RPT PARAMETERS        RPT SAMRPT (001) TEST       SYS: $ID   DISPLAY
      Lines per page on printout          060  (1 thru 250)
      Report width                        080  (40 thru 230)
      Spacing between lines               1    (1 thru 3)
      Spacing between columns             02   (0 thru 66 OR A=Automatic)
      Spacing after page and column hdgs  1    (0 thru 9)
      Summaries only                      N    (Y=Yes,N=No)
      Column headings desired             Y    (Y=Yes,N=No)
      Column headings indication          N    (U=Underscore,N=None,D=Dashes)
      Control break heading               N    (Y=Yes,N=No)
      Control break footing               Y    (Y=Yes,N=No)
      Group continuation at top of page   Y    (Y=Yes,N=No)
      Annotated count in control footings N    (Y=Yes,N=No)
      Report final summary title          N    (Y=Yes,N=No)
      Spacing before summary              2    (1 thru 9 = Lines,P=New Page)
```

Scrolling Information through a Window

Other facilities of CA Ideal, the editors for example, use CA Ideal panels that open a window to a file of data. These panels, such as the procedure component of a program definition or the report detail definition, have no specific size. These panels adjust to fill whatever size region they occupy by altering the size of the window (display area of the panel). You can see all the information in a file by moving the window forward (SCROLL FORWARD) or backward (SCROLL BACKWARD). Top and bottom indicators mark the beginning and end of the file of data.

For example, when a working data definition fill-in panel in the Panel Definition Facility (PDF) is first displayed, the panel expands to fill the available region size. When you press the Enter key, the panel redisplays showing only the number of lines you entered. For example, if you did not enter any data before pressing the Enter key, the panel is compressed to display no lines between the TOP and BOTTOM indicator lines.

In the following example, the panel is compressed to display six lines.

```
=>
=>
=>
-------------------------------------------------------------------------------
IDEAL:  WORKING DATA DEFN.     PGM SAMPGM (001) TEST     SYS:DOC    DISPLAY
Level FIELD NAME             T I Ch/Dg Occur Value/Comments/Dep on/Copy   Command
------------------------     - - ----- ------------------------------------  -------
===== =====  TOP   ===== = = ===== ================================ ======
1     SAVE-AREA                                                          000100
 2    NAME                  X    20                                      000200
 2    NUMBER                X     5                                      000300
 2    ADDRESS               X    20                                      000400
 2    CITY                  X    20                                      000500
 2    STATE                 X     2                                      000600
===== ===== BOTTOM ===== = = ================================ ======
```

Viewing Panels Wider Than the Region

CA Ideal also lets you view panels that are wider than the region size. You can display these panels, which can be outputs or wide panel layouts, by moving the window left (SCROLL LEFT) or right (SCROLL RIGHT). Off-panel data is indicated on the separator line by <<< on the left or >>> on the right. For example, in the following panel, the separator line ends with the characters >>>, indicating that more data is available off the right edge of the panel.

```
=>
=>
=>
------------------------------------------------------------------------------->>>
IDEAL: PANEL LAYOUT      PNL WIDEPNL   (001) TEST                         FILL-IN
Start: ^      End: ;      New:        Delete: *       Repeat: @
....+....1....+....2....+....3....+....4....+....5....+....6....+....7....+....
============================ T O P ================================
                             Employee Detail Panel
                   Enter complete data, including payroll inf
```

When the separator line on a panel is a scale line, the scale line on the panel is extended to include the entire panel width and is scrolled horizontally with the panel. For example, a panel 132 columns wide has a scale line showing 132 positions with 9, 10, 11, 12, and 13 representing columns 90, 100, 110, 120, and 130, respectively.

Note: The actual column position of a column represented by a two-digit number is under the right-most digit. For example, column 130 is represented on the scale line as column 13, and is actually the column under the 3 in the number 13.

Transactions

A transaction is the period of time between pressing Enter, Clear, PA or PF keys, and the system responding with another panel.

After you enter information in the display area, press a PF key or the Enter key to save that information. However, pressing Clear, PA1 (Reshow), or PA2 (Display PF/PA Key Assignments) does not save any information you entered on that panel.

For example, you just entered information in one of the fill-in panels of the Report Definition Facility and typed OFF in the command area pressing the Enter key automatically saves the information already typed in the fill-in-without the need for any special command -- before CA Ideal is terminated with the OFF command.

Use of Abbreviations in CA Ideal Commands

The standard abbreviation for a command is the first three characters of the word. CA Ideal also accepts alternate abbreviations and the standard three-character abbreviations. Abbreviations are *not* shown in the syntax illustrations in this guide.

There are a number of exceptions to the standard first three-character abbreviation. These exceptions are abbreviations for command words whose first three characters are not unique and, therefore, would conflict with an abbreviation for another command. Other abbreviations (or no abbreviation at all) are used.

For a complete list of non-standard abbreviations, see the *Command Reference Guide*.

Getting Help

To display help panels for CA Ideal commands, statements, fill-ins, and prompters, enter the HELP command or press the PF1/13 key. The HELP command with no options describes the current panel or fill-in. The command HELP displays a list of available commands and statements. HELP NEW describes the new features for the current release. For more information about syntax of the HELP command, see the *Command Reference Guide*.

CA Ideal also provides facilities for users to define their own help panels (described in the *Creating Panel Definitions Guide*).

The help facility described in this section applies to the display of both CA Ideal help panels and user-defined help panels.

Function Key Assignments for Help

The following table shows the Function key assignments in effect while using the help facility.

Assignment	PF Key
HELP	(PF1/13)
RETURN	(PF2/14)
PRINT PANEL	(PF3/15)
	(PF4/16)
	(PF5/17)
	(PF6/18)
SCROLL BACKWARD	(PF7/19)
SCROLL FORWARD	(PF8/20)
	(PF9/21)
HELP PREVIOUS	(PF10/22)
HELP NEXT	(PF11/23)
	(PF12/24)

PF1/13 - HELP

Displays a panel (which can be the first in a series of help panels) that provides information on how to complete the current function. (If more than one help panel exists, an indication of this is included as part of the help panel information.)

Note: If a help panel does not exist for the current panel or if the help panel was not properly defined or specified, messages result.

PF2/14 - RETURN

Returns to the original panel where you requested help and ends the help activity. You can issue this command from the first or subsequent help panels.

PF3/15 - PRINT PANEL

Generates a hardcopy printout of the current help panel.

PF7/19 - SCROLL BACKWARD

Used with truncated help panels (help panels that are too long to fit in the available region) to display the previous frame of the current help panel.

PF8/20 - SCROLL FORWARD

Used with truncated help panels (help panels that are too long to fit in the available region) to display the next frame of the current help panel.

PF10/22 - HELP PREVIOUS

Used when more than one help panel is defined. PF10/22 displays the preceding help panel. No associated CA Ideal command exists for PF10/22.

PF11/23 - HELP NEXT

Used when more than one help panel is defined. PF11/23 displays the next help panel. If another help panel does not exist, PF11/23 returns to the original panel. No associated CA Ideal command exists for PF11/23.

Split Panel

CA Ideal can divide the panel into multiple regions. This is called split panel mode. You can see and use up to three independent regions concurrently when in split panel. The SPLIT, REFORMAT, and COMBINE commands used during the split panel process are described in the following paragraphs.

SPLIT Command

Enter the SPLIT command in one of three ways:

- Cursor positioned in the command area,

- Cursor positioned in the display area,

- Line specification.

The SPLIT command without arguments divides the last or only region of the display area. Each region must contain a minimum of nine lines. The lines for all regions plus the command area must add up to your available panel size.

Cursor in Command Area

SPLIT with the cursor positioned in the command area divides the regions evenly. The minimum region size is nine lines. If there is not enough room on the panel for another region, the SPLIT is not applied and an error message is issued. The current contents of the display area appear in the first region. All current option settings for the first region are retained for the second region. If the content for the second region is not specified with a command, the Main Menu appears in the second region.

When there is more than one region, you can prefix commands with a region number and a space. The commands apply by default to region 1 if you do not specify a prefix. You can only execute the RUN command in the first (or only) region. You can also enter commands on multiple lines or delimited on a single line. For example:

```
SPLIT
2 EDIT PROGRAM SAMPGM; 1 DISPLAY DATAVIEW EMPLOYEE
```

To obtain a display of a dataview called EMPLOYEE in one region and to edit a program definition called SAMPGM in a second region when only one region exists, enter:

```
SPLIT
1 DISPLAY DATAVIEW EMPLOYEE
2 EDIT PROGRAM SAMPGM
```

Assuming that the cursor was left in the command area, the panel splits into two regions as follows:

```
=>
=>
=>
IDEAL: DISPLAY DATAVIEW       DVW EMPLOYEE (001) PROD    SYS: DOC   DISPLAY
Seq   Level Field name           T I Ch/Dg Occur K Value/Redef/Dep on Command
----- ----- ------------------- - - ----- ----- - ------------------- ------
===== ===== ======= T O P ==== = = ==== ==== = ================   ======
   1 1      EMPLOYEE                                                   000002
   2 2      NUMBER               U Z   5       K                       000003
   3 2      NAME                 X     24                              000004
   4 2      STREET-ADDRESS       X     24                              000005
===== ===== ====B O T T O M=== = = ==== ==== = ================   ======
------------------------------------------------------------------------------
  IDEAL: PROCEDURE DEFINITION  PGM SAMPGM (001) TEST     SYS: DOC   FILL-IN
  ....+....1....+....2....+....3....+....4....+....5....+....6....+....7..Command
  =========================== T O P =========================   ======
   <<PRGDEMO1>> PROCEDURE                                            000100
       FOR EACH EMPLOYEE                                             000200
           WHERE STATE-ADDRESS = 'TX'                                000300
           PRODUCE SAMRPT                                            000400
       ENDFOR                                                        000500
```

The following examples produce the same results. The only difference is on what line in the command area the commands are placed.

```
SPLIT
2 EDIT PROGRAM SAMPGM
1 DISPLAY DATAVIEW EMPLOYEE
```

```
SPLIT
1 DISPLAY DATAVIEW EMPLOYEE; 2 EDIT PROGRAM SAMPGM
```

```
SPLIT
2 EDIT PROGRAM SAMPGM ; 1 DISPLAY DATAVIEW EMPLOYEE
```

Cursor in Display Area

You can also use the cursor position to control where splitting occurs. For example, the cursor positioned at some point in the display area splits the panel into regions at that point.

```
SPLIT
1 DISPLAY DATAVIEW EMPLOYEE
2 EDIT PROGRAM SAMPGM
```

If you positioned the cursor on the twentieth line of the panel, the panel is divided into regions at line 20, assuming enough lines remain to accommodate a second region.

With Specified Line

You can also enter SPLIT with explicit control of region sizes.

For example, the following command formats 20 lines in the first region and the remainder in a second region.

```
SPLIT 20
```

The following command formats 20 lines in the first region and a minimum of 10 lines in the second region.

```
SPLIT 20 10
```

If the number of lines specified is greater than the number of lines available, the SPLIT command is ignored and a message is issued.

Splitting the Second Region

The SPLIT command always applies to the last region displayed. If there are already two regions, then the SPLIT applies to the second region. The cursor in the display area marks the point where splitting occurs. Specifying SPLIT with the cursor positioned in the command area divides the regions evenly. SPLIT with line numbers can divide the second region unevenly.

For example, assume that there are two regions and you entered the following commands to split the second region:

```
SPLIT
2 EDIT PROGRAM SAMPGM
3 EDIT PROGRAM SAMPGM PARAMETERS
```

Assuming you left the cursor in the command area, the second region is split and the following panel appears.

```
=>
=>
=>
--------------------------------------------------------------------------------
IDEAL: DISPLAY DATAVIEW        DVW EMPLOYEE (001) PROD    SYS: DOC    DISPLAY
Seq Level Field name          T I Ch/Dg Occur K Value/Redef/Dep on     Command
========================= T O P =========================== ======
CATALOGED 01/18/95 15:29      DATACOM/DB UPD=NO  DBID=001               000001
 1 1     EMPLOYEE                                                       000002
 2 2      NUMBER              U Z    5         K                        000003
 3 2      NAME                X     24                                  000004
 4 2      STREET-ADDRESS      X     24                                  000005
 5 2      CITY-ADDRESS        X     15                                  000006
 6 2      STATE-ADDRESS       X      2                                  000007
 7 2      ZIP-CODE-LOC        X      5         K                        000008
 8 2      SOCIAL-SECURITY     N P    9                                  000009
--------------------------------------------------------------------------------
IDEAL: PROCEDURE DEFINITION  PGM SAMPGM (001) TEST          SYS: DOC   FILL-IN
....+....1....+....2....+....3....+....4....+....5....+....6....+....7.Command
========================= T O P =========================== ======
<<PRGDEM01>> PROCEDURE                                                 000100
    FOR EACH EMPLOYEE                                                  000200
        WHERE STATE-ADDRESS = 'TX'                                     000300
        PRODUCE SAMRPT                                                 000400
    ENDFOR                                                             000500
--------------------------------------------------------------------------------
IDEAL: PARAMETER DEFINITION  PGM SAMPGM (001) TEST          SYS: DOC   FILL-IN
Level Field name           T I Ch/Dg Occur  U M   Comments/Dep on/Copy Command
----- ---------------      - - ----- -----  - -   ------------------    ------
===== ====== TOP ======    = = ==== ====    = =   ==================     ======
1     STATE-ADDRESS        X      2          I D   :STATE CODE           000100
===== ===== BOTTOM =====   = = ==== ====    = =   ==================     ======
```

You can also split a second region with the SPLIT command as follows:

SPLIT 15

This command splits the second region and leaves 15 lines in the second region and the remainder in the newly formed third region.

The following command splits the second region and leaves 10 lines in the second region and a minimum of 9 in the newly formed third region.

SPLIT 10 9

If the number of lines specified in a SPLIT command is greater than the number of lines available, the SPLIT command is ignored and a message is issued.

Application of Data and PF Keys

You can enter data in one, two, or three regions in the same transaction.

The commands the PF keys represent apply to the region that contains the cursor at the time you press the PF key. If the cursor is in the command area, the PF key applies to region 1.

Scrolling in Split Screen

If you leave the cursor in the command area and no region number precedes the command, scrolling commands entered in the command area apply to region 1. Scrolling by PF key applies to the region containing the cursor. You must prefix scrolling commands for regions 2 and 3 with a region number.

Reformatting Regions

The REFORMAT command changes the distribution of the current number of lines in each region affected by the reformat (regions 1, 2, and possibly 3).

For two regions, one amount is specified because the remainder of the panel appears for the second region. For example, the following command formats 15 lines in the first region and the remainder of the panel for the second region.

```
REFORMAT 15
```

For three regions, the first two amounts are specified. The third region occupies the remainder of the panel. For example, the following command formats 10 lines in each of the first and second regions. The third region occupies the remainder of the panel.

```
REFORMAT 10 10
```

Note: If the number of lines specified is greater than the number of lines available, reformatting is ignored and a message is issued.

Combining Regions

The COMBINE command eliminates the last region when in split panel.

This combines regions from the bottom up. If there are three regions, the second and third regions combine restoring region 2. Region 2 now occupies the space occupied by regions 2 and 3 before the COMBINE. (The size of region 1 remains unchanged.) If you issue another COMBINE command, the first and second regions combine, leaving the first region restored.

Each step requires a COMBINE command. For example, to combine three regions, specify two separate COMBINE commands.

The OFF command performs the same function.

Chapter 3: Setting Defaults

When this guide references defaults, in most cases no actual default value is mentioned. This is because defaults that CA Ideal uses are established in a number of ways and are often specific to the site or even to the individual session.

Types of Defaults

CA Ideal is delivered with default values for all options. You can change some of these defaults, others you cannot.

Defaults That You Cannot Change

Some defaults are for certain choices in CA Ideal commands and fill-ins and you cannot change them. This type of default is underlined in the command syntax examples in this guide. An example of this type of default is the command that defaults to the procedure component of the program definition.

```
                   {ENVIRONMENT }
                   {RESOURCES   }
EDIT PGM name      {PARAMETER   }
                   {WORK        }
                   {PROCEDURE   }
```

Defaults That You Can Change for the Entire Site

You can establish defaults for the entire site. You can change some site defaults only during installation and reset them later only by rerunning installation jobs. An example of a default in this category is a default library name.

You can reset other site defaults through the SET SITE commands or the fill-ins provided for setting certain session control and print options. Any default that is reset with either a SET SITE command or a site options fill-in becomes a new site default. It remains in effect unless it is reset with another SET SITE command or fill-in. For more information about the SET SITE commands, see the *Administration Guide*.

Defaults That You Can Set for an Individual Session

Finally, each CA Ideal user can set most of the defaults that can be set for a site for an individual session using SET commands or the session options fill-ins.

A default set with a SET command or the session options fill-in is changed only for the user who issued the command. It remains in effect only for the current session. You have the option of storing SET commands in a member called SIGNON. This executes the commands automatically each time you sign on. It works as if your default settings were changed permanently.

References to defaults in this guide refer to whatever default is currently in effect for any given option. The actual default for any given option, for any given user, in any given session, at any given site, depends on what choices for setting defaults were made.

You can display or print the default option settings for the current session through the following commands:

```
DISPLAY SESSION OPTIONS
PRINT SESSION OPTIONS
```

How to Set Session Options

You can issue the following session option fill-ins and SET commands at any time to change the values of various options during the current session. These commands are then in effect for the current session only. Future sessions return to the values that were set in the signon procedure or that apply for the site.

You can enter SET commands into a member called SIGNON. They are then automatically set whenever you sign on to CA Ideal; in effect, they are your defaults across sessions.

This section does not fully explain the effect of each option, but they are explained in those sections where the options are used. This section only describes how to set the various options and only summarizes their effects.

Note: The keywords YES/NO and ON/OFF are synonymous in all SET commands.

Setting Command Area Options

For more information about the following commands, see the *Command Reference Guide*.

Use the SET COMMAND SESSION OPTIONS command to display the fill-in that sets command area options. The SET commands you can use to set these options are described after the panel.

```
=>
--------------------------------------------------------------------------------
 IDEAL:      SCF option block        SCF#OPTIONS                      FILL-IN
                    Set SCF  "session" options
                    -------------------------

 Command "comment"   character:     :
 Command "delimiter" character:     ;
 Command "repeat"    character:     -
 Command "reshow"    character:     +
 Number of command lines:          3          (0-5)
 Decimal symbol:                    .          (. ,)
 Currency symbol:                   $
 Date format:                       A          (A, E, I)
 Region separator:                  -          (N=none, G=grid, other=itself)
 Asynchronous messages:             U          (U=User, N=None)
 Command reshow?                    N          (Y/N)
 UPPER CASE PANELS AND MESSAGES?    N          (Y/N)
```

Command "comment" character

Defines the character that sets off a comment from a command in the command area. You can also set this option using the following command:

SET COMMAND COMMENT x

Command "delimiter" character

Defines the character that separates commands entered on the same command line. You can also set this option using the following command:

SET COMMAND DELIMITER x

Command "repeat" character

Defines the character that you enter to re-execute the previous command. You can also set this option using the following command:

SET COMMAND REPEAT x

Command "reshow" character

Defines the character that you enter to redisplay the previous command. You can also set this option using the following command:

```
SET COMMAND RESHOW x
```

Number of command lines

Defines the number of lines in the command area. You can also set this option using the following command:

```
SET COMMAND LINE n
```

Decimal symbol

Defines the default character for the edit decimal symbol. The only valid characters are period (.) and comma (,). The edit digit separator character is assumed to be the opposite of this decimal symbol.

```
SET SITE ENVIRONMENT DECIMAL
```

Currency symbol

Defines a default character for the edit currency symbol (for example, $). You can specify any character.

```
SET SITE ENVIRONMENT CURRENCY
```

Date format

Establishes a default date format. You can also set this option using the following command:

```
SET COMMAND DATEFOR x
```

Possible formats are as follows:

A

American (mm/dd/yy)

E

European (dd/mm/yy)

I

International (yy/mm/dd)

Region separator

Defines the character that separates the command area from the display area. You can also set this option using the following command:

`SET COMMAND SEPARATOR x`

Asynchronous messages

Determines whether asynchronous messages (including compile and print completion messages) are displayed. Valid values are as follows:

U

All asynchronous messages for this user are displayed during the session. Undisplayed messages from a previous session are displayed at sign on. You can also set this option using the command SET ASYNCMSG USER.

N

No asynchronous messages are displayed. You can also set this option using the following command:

`SET ASYNCMSG NONE`

Depending on options set during installation, the user and the messages can be identified by either the user ID or the terminal ID for the terminal where you are signed on. If your site identifies users by the terminal ID, you might want to set this option to NONE to avoid receiving someone else's messages from a previous session on the same terminal.

Command reshow

Defines the command reshow status. You can also set this option using SET COMMAND RESHOW ON, which redisplays all subsequent commands after execution; or SET COMMAND RESHOW OFF, which disables the display of the last executed command, except when in error.

UPPERCASE PANELS AND MESSAGES

Displays all CA Ideal system panels and messages in uppercase. You can also set this option using the command:

`SET COMMAND UPPERCASE`

Customized Character Sets

In addition to setting session options using the Command Session Options fill-in, you can use the following command to specify the name of a translation table that interprets customized character sets for terminal panels:

`SET COMMAND TRANSTABLE table-name`

If your terminal supports or requires a customized character set, see your CA Ideal site administrator for the name of the required translation table.

Setting Scroll Options

The following SET command determines scrolling options.

SET SCROLL

Establishes the default means of scrolling forward and backward or left and right. Valid options are as follows:

FRAME

Scrolls the panel by the number of lines displayed in the frame, with no overlap.

CURSOR

Scrolls the panel to the cursor. For example, when you scroll forward, the line containing the cursor is positioned at the top of the panel. When you scroll backwards, the line containing the cursor is positioned at the bottom of the panel.

Setting Editor Options

The following SET commands specify editing options. For information about the description of the editing facilities available in CA Ideal, see the *Command Reference Guide*.

SET EDIT BOUNDS, SET EDIT COLUMNS

Establishes the column boundaries used when searching for or changing a string.

SET EDIT CASE

Establishes whether entered text (literals and comments) is translated into all uppercase (UPPER) or as entered (MIXED).

SET EDIT CONTEXT

Establishes the number of context lines appearing above and below an input window.

SET EDIT HIGHLIGHT

Establishes that lines in the procedure of a program that had errors during program compilation are highlighted for emphasis.

SET EDIT MARGIN

Establishes the position where the sequence number (line command) portion of an EDIT or DISPLAY panel displays, either on the right side or left side of the data area. This SET command is in effect for all subsequent panels edited or displayed until it is reset or the session ends.

SET EDIT MULTIPLIER

Establishes where to place the number that acts as a multiplier or replication factor for a line command, to the right or to the left of the command. This setting is in effect for all subsequent panels edited or displayed until it is reset or the session ends.

SET EDIT TRUNC

Establishes whether truncation of lines is permitted during CHANGE and SHIFT command execution.

Setting Version Options

The following SET commands determine the default version of the entity used in subsequent commands where you omit a VERSION clause.

SET DATAVIEW VERSION

Establishes the default version used in the CATALOG command as a one- to three-digit version number in the form nnn or Tnnn (assigned by CA Ideal when the version was created) or PROD (the production-status version). This version also establishes the version for dataviews specified without an explicit version in program resources when the program is compiled.

SET VERSION

Establishes the default version for subsequent commands as a one- to three-digit version number in the form *nnn* (assigned by CA Ideal when the version was created), LAST (the version with the highest number), or PROD (the production-status version).

Setting Panel Definition Options

The Panel Definition Facility (PDF) uses the following SET commands to create the initial values of the PANEL PARAMETER session. These values control LAYOUT editing and establish FIELD default attributes as fields are created in the panel. You can also set the session defaults created by the SET PANEL commands for the session on the Panel Session Option fill-in and for individual panels in the panel parameter definition. All of the following commands are explained in detail in the *Command Reference Guide*. For information on defining panels, see the *Creating Panel Definitions Guide*

SET PANEL xxxSYM

Establishes the default characters used as delimiters and symbols on the panel layout.

STARTSYM

Sets the start-field symbol.

ENDSYM

Sets the end-field symbol.

DELSYM

Sets the delete-field symbol.

NEWSYM

Sets the new-field symbol.

REPSYM

Sets the repeating-group symbol.

COPYSYM

Sets the copy-field symbol.

MOVESYM

Sets the move-field symbol.

DESTSYM

Sets the destination symbol.

SET PANEL CASE

Establishes whether the text entered in the field at runtime is converted to uppercase (UPPER) or remains as typed (MIXED).

SET PANEL COPY

Establishes the format and position of dataview fields copied to a panel layout. You can designate the position as TOP or BOTTOM of the layout placed HORIZONTALLY or VERTICALLY. The format can specify NO HEADINGS or include headings to the left of each field, SIDEVIEW, or directly above each field, COLVIEW.

SET PANEL SCROLL (CURSOR)

Establishes the default scroll increment for the layout and field summary table when you enter the SCROLL command without any modifiers.

SET PANEL INFILL

Establishes the default character used to pad the unused portion of an alphanumeric field on input. (Always zero for numeric field.)

SET PANEL OUTFILL

Establishes the default character used to fill blank fields when the panel is initially displayed.

SET PANEL LAYOUT

Establishes whether the panel layout fill-mode is blank-fill or null-fill.

SET PANEL LAYOUTCASE

Establishes how alphanumeric input is capitalized when defining a panel layout (for example, in text fields). In UPPER case, input data is capitalized before CA Ideal processes it. In MIXED case, data is left unchanged.

SET PANEL DECIMAL

Establishes the symbol used to represent a decimal point.

SET PANEL PF13

Establishes default CA Ideal panel key assignments for PF1/13 and PF3/15.

SET PANEL PF781011

Establishes default key assignments for PF7/19, PF8/20, PF10/22, and PF11/23.

SET PANEL ERRORFILL

Establishes the default character that marks a field that is redisplayed after an erroneous entry.

SET PANEL ERRORHANDLING

Establishes the default of how an erroneous field entry displays. Valid entries for x are as follows:

N

No highlighting.

*

Returns the panel with the erroneous field filled with the error fill character.

H

Returns the panel with the erroneous entry intensified.

B

Both * and H. B indicates the same as H if the field has an illegal value, but the same as * if a required field is missing.

SET PANEL REQUIRED

Establishes whether field values must be supplied or can be omitted.

SET PANEL SESSION OPTIONS

Accesses the Panel Session Option fill-in that specifies default session values and, optionally, stores those values in a member.

SET PANEL WIDEOPTION

Enables or disables wide panel support for the session.

SET PANEL WIDTH

Sets the default width for panels created and displayed during the session.

Panels created after this command is issued contain the number of columns specified. The command does not affect the width of existing panels. You must change the width of existing panels on the panel parameters fill-in.

SET PANEL IFATTRIBUTE

Establishes the default panel attributes for panel fields defined for input. The installed default is UAL. The attributes that you can specify control the protection, type, highlight, and color of the field.

SET PANEL TFATTRIBUTE

Establishes the default panel attributes for panel fields defined with text. The installed default is PSL. The attributes that you can specify control the protection, type, highlight, and color of the field.

SET PANEL NONDISPLAY

Defines the character sent to the panel when the application sends a non-displayable character. You can specify SPACES or a non-numeric character.

SET PANEL ALLOWEOF

Sets the default value of the Allow-EOF parameter. For more information, see the Creating Panel Definitions Guide.

SET PANEL ALLOWDIGSEP

Establishes whether a digit separator is allowed on input.

SET PANEL ALLOWMINSIGN

Establishes whether a minus sign is allowed on input.

SET PANEL ALLOWCURRSIGN

Establishes whether a currency symbol is allowed on input.

Setting Report Definition Options

The following SET commands refer to the Report Definition Facility (RDF). All of the following commands are explained in detail in the Command Reference Guide. For more information about defining reports, see the Generating Reports Guide.

SET REPORT LINES

Sets the total number of lines for each printed page of the report.

SET REPORT WIDTH

Sets the number of characters per line of the report.

SET REPORT SPACING

Specifies the default number of blank lines between printed detail lines.

SET REPORT GAP

Specifies the default number of blank characters left between defined columns of detail lines.

SET REPORT CONTHEAD

Specifies the default value of whether headings print when a control break occurs. A control break is a change in the value of a control field.

SET REPORT CONTFOOT

Specifies the default value of whether footings print when a control break occurs.

SET REPORT NULLSYM

Specifies the default value for null values. For more information, see the Command Reference Guide.

SET REPORT PAGEFMT

Specifies the default page number format.

SET REPORT PAGEPOS

Specifies the default position of how the page number displays in the heading or footing.

SET REPORT DATEPOS

Specifies the default position of how the date displays in the heading or footing.

SET REPORT DATEFOR 'date-pattern'

Specifies the default format of the date printed on reports. Any logical combination of the following date components can specify a date format.

The specifications in the following chart give the corresponding results when a report is produced, assuming that at the time of production, the date is January 12, 1993.

Component Notation	Meaning	Example assuming (January 12, 1993)
YEAR	Year in full	1993
YY	Year without century	93
	Year without decade	6
MONTH	Month spelled out (uppercase)	JANUARY
LCMONTH	Month spelled out (initial letter uppercase)	January
MON	Month abbreviation (uppercase)	JAN
LCMON	Month abbreviation (initial letter uppercase)	Jan
MM	Month number, with leading zero if necessary	01

Component Notation	Meaning	Example assuming (January 12, 1993)
M	Month number, with no leading zero	1
DD	Day with leading zero if necessary	12
D	Day with no leading zero	12
DDD	Julian day, numeric day of the year (1-366)	012
WEEKDAY	Day spelled out (uppercase)	SUNDAY
LCWEEKDAY	Day spelled out (initial letter uppercase)	Sunday
DAY	Day abbreviation	SUN
LCDAY	Day abbreviation (initial letter uppercase)	Sun

Any characters except uppercase alphabetics in the date pattern remain unchanged.

The site administrator defines the actual text indicated by the keywords MONTH, LCMONTH, MON, LCMON, WEEKDAY, LCWEEKDAY, DAY, and LCDAY for each site in the PMS table PMSTBLS.

Setting Output Options

The session option fill-in and SET commands determine default print options when you omit the destination clause from PRINT, COMPILE, or RUN commands. For more information about output services, see the chapter "Output Services." Use the SET OUTPUT SESSION command to call up the fill-in for output options.

The following fill-in contains all output options that you can set during a session. You can also use SET commands as described with each option.

All of the following commands are explained in detail in the *Command Reference Guide*.

```
=>

                                                              -----PARTIALLY SHOWN
 IDEAL:      SET OUT OPT (PSS)        PSS#OPTIONS                      FILL-IN

                          Set PSS  "session" options
                          --------------------------

 Maximum number of lines:            64000      (1-64k)
 Default retention period:           02         (1-99)
 Default number of copies:           01         (1-99)
 Default print status:               RELEASE    (Release/Hold/Keep)
 Default output width:               240        (1-240)
 Default network printer width:      000        (0-240)
 Post successful msg:                Y          (y/n)
 Name of the batch JCL proc:         DIDDVPSS
 Default destination
        Type:    LIBRARY                         (LIBrary/NETwork/SYStem/MAIl)
        Name:    _____
```

Maximum number of lines

The maximum lines for one output. Specify a number between 1 and 64000. This maximum is checked only for DEST LIB outputs.

    SET OUTPUT MAX[LINES]

■   Default retention period

The default number of days an output can reside in the output library before being deleted. Specify a value from 1 to 99, but not greater than the maximum value allowed for the site. You can also set this value using the following command:

    SET OUTPUT RETENTION

■   Default number of copies

The default number of copies to print if you do not specify COPIES= in the DESTINATION clause of a PRINT command. The number cannot exceed the site maximum. You can also set this value using the following command:

    SET OUTPUT COPIES

Default print status

The default status assigned to all outputs generated during the current session. The status can be HOLD, RELEASE, or KEEP. You can also set this option using the following command:

```
SET OUTPUT DISPOSITION
```

Default output width

The default output line width. Specify a value up to 240. Individual reports defined in RDF can have line widths up to and including this value. You can also set this value with the following command:

```
SET OUTPUT WIDTH
```

Default network printer width

The default width for all outputs generated for network printers. Specify a number from 0 to 240. If you specify 0, the TCT determines the width. If you specify a width in the destination definition, the defined width overrides this width.

Post successful msg

Specifies whether the CA Ideal message that indicates successful completion of a command is suppressed. You can also set this value with the following command:

```
SET OUT POSTMSG
```

Name of the batch JCL proc

The name of the cataloged procedure executed to print an output at a SYSTEM printer. Specify any valid cataloged procedure name. If you change this parameter, be sure to rename or copy the installed cataloged procedure PSSUTIL to the same name. You can also set this value using the following command:

```
SET OUTPUT PROCEDURE
```

Default destination

The type and name of the default destination used when you do not specify a DESTINATION clause for a command.

Type

Establishes the default printout destination as a system printer (SYSTEM), a network printer (NETWORK), the output library (LIBRARY), or a CA Email+ recipient (MAIL).

Name

Specifies the system or network printer name or CA Email+ ID that is the default destination for any output printed during the current session with no destination clause specified.

You can also set the destination type and name using the following command:

```
SET OUTPUT DESTINATION
```

Setting Compile Options

The following SET commands determine default compilation options affecting the types of compilation listings produced and highlighting errors on the procedure definition. Compilation is described fully in the Creating Programs Guide.

For more information about the following commands, see the Command Reference Guide.

SET COMPILE DBCS

Establishes whether compile processing is sensitive to double-byte character sets. For more information, see the Administration Guide.

SET COMPILE LSQL

Establishes whether SQL statements generated for FOR statements appear in the compilation listing.

SET COMPILE IDE

Establishes whether identification information appears in the compilation listing.

SET COMPILE EXD

Establishes whether the external data definitions (dataviews, panels, and reports) will appear in the compilation listing.

SET COMPILE BOD

Establishes whether the body of the program appears in the compilation listing.

SET COMPILE ADV

Establishes whether advisory messages appear in the compilation listing.

SET COMPILE MEL

Establishes whether the lines of the procedure in error are highlighted.

SET COMPILE REF

Establishes whether a cross reference listing appears in the compilation listing. You can specify this option for online compiles and for any batch compiles. No cross reference listing is generated in CICS.

Options are FULL, SHORT, and NO. FULL generates a complete cross reference listing. SHORT suppresses those symbol names that are defined but not referenced. NO produces no listing.

SET COMPILE PANEL

Establishes whether panel components appear in the compilation listing. Settings are: F (Full) to provide all panel components.; S (Short) to provide only the Identification Window; and N (No) to provide no panel components.

Note: This option applies only if External Data (SET COMPILE EXD) is set to Y. If External Data is set to N, then this option is ignored.

Setting Run Options

The following SET commands affect the running of a CA Ideal application. For more information about the following commands, see the *Command Reference Guide*.

SET RUN UPDATE

This command indicates whether the database or file (sequential or VSAM) can be updated during the run.

Note: The SET RUN UPDATE NO command is intended for debugging and testing a program without actually updating the data. It only suppresses data access commands that request the addition, update, or deletion of a record. All other processes, including such processes as allocation of sequential files, are still executed. Programs function as if the update was successful, including display of any program messages indicating that the update was successful.

SET RUN $RETURN-CODE

This command sets the value of the return code at the beginning of the run. $RETURN-CODE can be specified as $RC.

SET RUN {URT|FILETABLE}

CA Ideal programs running in batch that access CA Datacom/DB databases require the name of the DB user requirements table (URT) that describes various characteristics of CA Datacom/DB tables (see CA Datacom/DB documentation for more information regarding the URTs). A default URT name is supplied as part of the CA Ideal installation process. You can also set the default URT name through a SET SITE command. However, if on a particular run, you want to use an alternate URT, you can use this command before the run to select the alternate URT.

For CICS programs, this is not necessary because another technique automatically selects URTs (see the CA Datacom/DB documentation).

During a session, you can reissue this command any number of times to specify a different URT for each RUN if necessary. You can include this command in a sign on member executed at the beginning of your CA Ideal session.

For more information about SET RUN URT command, see the section Using a Sign on Member in the chapter "Getting Started." For more information about SET RUN URT command, see the *Command Reference Guide*.

SET RUN PLAN

This command establishes the default application plan name used for all static DB2 statements executed during the session.

SET RUN SQL

This command determines which files and statements are used and whether dynamic SQL is permitted at runtime. Specify MIXED to permit dynamic SQL, STATIC to prevent dynamic SQL.

SET RUN CBSTRACE

You can use this command from your own ID to turn on or turn off a CBS trace of CA Ideal programs invoked through the RUN command. The site default for the SET RUN CBSTRACE command is OFF.

SET RUN LOOPLIMIT

Use this command in a test environment to establish a session maximum for the number of times a test-status program loops through a PDL FOR or LOOP construct. This prevents excessive looping.

SET RUN QUITIDEAL

This command allows sign off to take place automatically at the completion of the next application.

SET RUN QUITMSG

Determines whether the following message prints at the end of a run:

```
IDADRUNP01I: Run Completed, RC=0
```

SET RUN ERROR-PNL

This command specifies an informative panel to display in case a fatal system error occurs during a RUN. These errors are internal to CA Ideal and cannot invoke the program's ERROR procedure. This command is only in effect when SET RUN QUITIDEAL is YES.

SET RUN CLEAR

This command determines the action to take if you press the Clear key while an application is running. Valid options are:

QUITRUN

When you press the Clear key, the run terminates.

RESHOW

When you press the Clear key, the panel redisplays.

This command is only in effect while a CA Ideal application is running. During CA Ideal activities other than RUN, the Clear key continues to return the Main Menu.

SET RUN STRNO nnn (VSAM only)

This command specifies how many VSAM strings are required to access a VSAM data set through nested FOR constructs.

nnn

The number of VSAM strings required. This value can be any integer number from 1 to 255. Set it to the maximum level of nesting in any FOR construct in the applications run while this command is in effect. If this command is not issued, the default value is 1.

This command is required only for batch VSE applications that contain nested FOR constructs for the same VSAM data set.

This command is not required for batch z/OS environments (OS batch) since z/OS allocates strings dynamically. However, if an application contains nested FOR constructs, setting the STRNO to a number greater than 1 can improve performance. Increasing the value of STRNO increases storage requirements, therefore, do not set STRNO any higher than is required for the applications being run.

SET RUN XA For an z/OS/XA or VSE/ESA capable system, this command tells CA Ideal to use XA, either for the site or for the current session. CA Ideal then uses 31-bit addressing and storage above the line while running programs. The default is OFF until SET RUN XA ON is issued.

Setting Environment Options

The following SET commands affect the running of a CA Ideal application.

Transaction Accounting

CA Ideal provides the ability to chart development activities or production activities under specific CICS transactions. This allows performance analysis packages or transaction accounting packages to isolate transactions for chargeback and resource consumption analysis.

SET ENVIRONMENT ACCOUNT-ID

This command establishes the transaction identification under which statistics are logged.

SET ENVIRONMENT COMPILE-ID, SET ENVIRONMENT PRINT-ID

These commands identify a transaction identifier to which asynchronous tasks are charged. Do not specify the same transaction identifier for both the COMPILE-ID and the PRINT-ID.

SET ENVIRONMENT FINAL-ID

This command can vary how CA Ideal handles the OFF command. If you do not specify this command, the CA Ideal sign-off logo is shown.

Controlling Formats

The following commands control the formats the compiler and print commands use.

SET ENVIRONMENT DATEFOR 'pattern'

Establishes the date format the compiler and PRINT commands use for the current session.

SET ENVIRONMENT LINES nn

Specifies the maximum number of lines per print page the compiler and PRINT commands use for the current session. SET ENVIRONMENT LINES applies to print requests to network and system printers when printing entities, session options, and indexes. This command also applies to compile listings and displays in batch (displays in batch are processed as prints by CA Ideal). This command does not affect the PRINT PANEL command or reports. This setting is in effect until it is reset or the session ends.

SET ENVIRONMENT CURRENCY value

Allows an alternate currency symbol to display in panels and print in reports generated by an application during the current session. This command does not affect the currency symbol as it is specified in the edit pattern of a report definition or panel field definition or in a $EDIT function in the procedure of CA Ideal program.

SET ENVIRONMENT DECIMAL value

Lets you specify an alternate convention for the digit separator and decimal point when displayed in panels or printed in reports generated by an application running during the current session. Allowable values are as follows:

- . (period) The decimal symbol is a period and the digit separator is a comma.

- , (comma) The decimal symbol is a comma and the digit separator is a period.

You cannot specify any other symbols.

This command does not affect the decimal symbol as it is specified in the edit pattern of a report definition or panel field definition or in a $EDIT function in the procedure of a CA Ideal program. For example, when you enter the following command:

```
SET ENVIRONMENT DECIMAL ,
```

The edit pattern is defined as to produce the following result at runtime:

```
SET X = $EDIT(N, PIC='ZZZ,ZZZ.99')
```

```
2.345,00
```

Miscellaneous Environment Settings

The following commands control plan-exit for DB2 and what happens after an error is encountered when processing a member.

SET ENVIRONMENT DB2PLAN-EXIT program-name

Enables or disables CA Ideal plan name exit program for the site or for the current session. This exit program can select or modify the name of the plan CA Ideal provides to DB2.

If the plan name exit is enabled, CA Ideal calls it before the first SQL statement in a logical unit of work. That is, it is called before the first SQL statement at the beginning of each CICS transaction and before the first SQL statement following each database Commit.

The first SQL statement can be embedded SQL, SQL generated by a FOR construct for a DB2 dataview, or SQL in a non-ideal subprogram. A Commit can be a PDL TRANSMIT, CHECKPOINT, BACKOUT statement, or an SQL COMMIT or ROLLBACK statement.

SET ENVIRONMENT EXECERROR option

Specifies whether to quit or continue after an error resulting from the execution of commands in a member. Including this command in a member affects all commands that follow it in the member until the next SET ENVIRONMENT EXECERROR command or until the end of the member. Valid options are:

QUIT

Stop executing the member when any of the following statements causes an error.

CONTINUE

Continue executing the member when any of the following statements causes an error.

SET ASYNCMSG

Determines whether to display asynchronous messages on the terminal. This includes all messages indicating the completion of prints and compiles for the user. Valid options are:

USER

Displays all asynchronous messages whose short IDs match the user's short ID.

NONE

Does not display asynchronous messages.

Setting SQL Options for CA Datacom SQL Access

The following commands set the default plan options for CA Datacom SQL access. DBSQL options control the default values that appear in the program Environment fill-in when a program that uses CA Datacom SQL access is created or transported in source format.

SET DBSQL AUTH auth-id

Sets the default one- to eight-character authorization ID for the access plan.

SET DBSQL CBSIO nnn

Sets the default I/O limit interrupt value for SQL statements that creates a set. Specify a value from 0-524287.

SET DBSQL CSRCOMIT x

Sets the default behavior of cursors at a COMMIT/CHECKPOINT. Valid values are:

C Close

D Delete

P Preserve

SET DBSQL CSRROLLB x

Sets the default behavior of cursors at a ROLLBACK/BACKOUT. Valid values are:

C Close

D Delete

P Preserve

SET DBSQL DECPOINT x

Sets the default character used as the decimal point when data is displayed. This has no effect on how the data is stored. Valid values are:

P Period (.)

Used as the decimal point and comma is used as the digit separator. This is the default.

C Comma (,)

Used as the decimal point and period (.) is used as the digit separator.

SET DBSQL DATE date-format

Sets the default display format for SQL date type items.

- DB CA Datacom/DB installed default, one of the following:

  - ISO International Standards Organization: yyyy-mm-dd

  - USA U.S. standard: mm/dd/yyyy

  - EUR European standard: dd.mm.yyyy

  - JIS Japanese Industrial Standard: yyyy-mm-dd

SET DBSQL ISOLATION-LEVEL level

Sets the default isolation level that separates one unit of recovery from the updating operations of other units of recovery. You can abbreviate the keyword ISOLATION-LEVEL to ISO. Valid values are as follows:

U

No locks are acquired

CS

Cursor stability; required for updates, deletes, or inserts

R

Repeatable read.

SET DBSQL MODE sqlmode

Sets the default mode in which CA Datacom/DB processes the program. Allowable values are as follows:

- ANSI86

- Datacom

- FIPS

SET DBSQL OPTMODE optmode

Sets the default mode in which CA Datacom/DB optimizes the plan by ordering joins. Specify one of the following:

- PREP Order joins during bind processing.

- MAN Order joins as specified in FROM clauses.

- EXEC Order joins at execution time.

Note: For more information about these settings, see the *CA Datacom/DB Database SQL User Guide*.

SET DBSQL OPTMSGS PREP, SET DBSQL OPTMSGS EXEC

Sets the default type of optimization messages CA Datacom/DB produces during bind processing (PREP) or during execution (EXEC). Specify one of the following:

– NON None (default)

– DET Detail

– SUM Summary

SET DBSQL PRIORITY nn

Sets the default priority of the SQL requests. Specify a value from 1 through 15, where the lowest priority is 1 and the highest priority is 15.

SET DBSQL STRDELIM x

Sets the default character that delimits string values in all SQL statements.

– A Apostrophes (') delimit string values. This is the default.

– Q Quotation marks (") delimit string values.

SET DBSQL TIME time-format

Sets the default display format for SQL time type items.

■ DB CA Datacom/DB installed default, one of the following:

– ISO International Standards Organization: hh.mm.ss

– USA U.S. standard: hh:mm AM or PM

– EUR European standard: hh.mm.ss

– JIS Japanese Industrial Standard: hh:mm:ss

SET DBSQL WAIT nnn

Sets the default for the exclusive control wait limit. Specify a value from 1 to 120, followed by SEC for seconds or MIN for minutes. For example, for a ten-second wait, enter the following command:

```
SET DBSQL WAIT 10 SE
```

Displaying Session Options

The following command displays session options.

```
DISPLAY SESSION OPTIONS
```

This command displays the current value of every option or a specified type of option. The display includes every option that is defined in a signon member, set with SET commands during the current session, and the installation defaults.

Note: CA Ideal processes displays in batch as prints.

Printing Session Options

The following command prints session options.

```
PRINT SESSION OPTIONS
```

Prints the current values for currently set session options. This command prints the current value of every option or a specified type of option. The output includes every option that is defined in the signon member, set with SET commands during the current session, and the installation defaults. For information on the syntax, see the Command *Reference Guide*.

All output services, including the DESTINATION-clause, are described in the chapter "Output Services."

See the next section for a list of all session options.

Session Options

This section contains a list of all session options provided with CA Ideal. Each option is initially provided with a default (see STATUS column). You can change a few options during installation only, whereas the CA Ideal Administrator can set most options with a SET SITE command anytime after installation.

Option	Version	Status
$RC	EQ	0
ASYNCMSG		USER
CATALOG	VALIDATION	NO
COMMAND	LINE	3
	SEPARATOR	N
	REPEAT	-
	DELIMITER	;
	COMMENT	:
	RESHOW	+
	RESHOW	OFF
	DATEFOR	A
	TRANSTABLE	

Option	Version	Status
COMPILE	IDE	YES
	EXD	YES
	BOD	YES
	ADV	YES
	MEL	YES
	DBCS	NO
	REF	NO
	PNL	FULL
	LINELIMIT	1-999999
	LSQL	NO
DATAVIEW	VERSION	1
DBSQL	AUTH	SYSUSR
	CBSID	524826
	DATEFORM	DB
	DECPOINT	PERIOD
	ISOLATION LEVEL	CURSOR STATBILITY
	MODE	Datacom
	OPTMODE	PREP
	OPTMSGS	NONE
	PRIORITY	15
	STRDELIM	APOSTROPHE
	TIMEFORM	DB
	WAITTIME	030 SEC
EDIT	CASE	UPPER
	CONTEXT	000001
	HIGHLIGHT	OFF
	MULTIPLIER	LEFT
	MARGIN	RIGHT
	COLUMNS	001 MAX
	TRUNC	NO
ENV	CURRENCY	$
	DECIMAL	.
	DATEFOR	LCMONTH D, YEAR
	LINES	55
	GLOBAL-POOL	0
OUTPUT	DESTINATION	LIBRARY
	DISPOSITION	RELEASE
	COPIES	000001

Option	Version	Status
PANEL	STARTSYM	^
	ENDSYM	;
	DELSYM	*
	NEWSYM	+
	REPSYM	@
	WIDTH	080
	WIDEOPTION	OFF
	INFILL	SPACES
	OUTFILL	UNDERSCORE
PANEL (continued)	LAYOUTCASE	MIXED
	CASE	UPPER
	DECIMAL	.
	NONDISPLAY	SPACES
	TFATTRIBUTE	PSL
	IFATTRIBUTE	UAL
	PF13	YES
	PF781011	NO
	ERRORFILL	*
	REQUIRED	NO
	ALLOWNULL	NO
PLAN	MAXSQL	100
REPORT	WIDTH	132
	LINES	0605
	SPACING	1
	GAP	02
	CONTHEAD	NO
	CONTFOOT	YES
	NULLSYM	?
	DATEFOR	MM/DD/YY
	DATEPOS	NO
	PAGEFMT	H
	PAGEPOS	TR
RUN	CBSTRACE	YES
	UPDATE	YES
	FILETABLE	DBTLT000
	QUITIDEAL	NO
	CLEAR	QUITRUN
	LOOPLIMIT	000010000
	ERROR-PNL	TESTPNL VER 001 SYS
	XA	YES
	SQL	MIXED
	STRNO	1
	$RETURN-CODE	ZERO
	VERSION	001

Option	Version	Status
SCROLL	FRAME	
VERSION		1

Chapter 4: Running in a Batch Environment

This chapter describes how to run a CA Ideal in a batch environment, including:

■   The capabilities of CA Ideal in batch

■   The required job control language (JCL) records necessary to run CA Ideal in batch

■   The results (output) of a batch run

■   Submitting a batch job

Capabilities of CA Ideal in Batch

You can use batch CA Ideal to perform any CA Ideal service that is initiated by a command and that does not require interaction with the user. These include the following:

■   Setting options (SET commands are described in the section, How to set Setting Defaults, in the chapter "Setting Defaults").

■   Running utilities (see the chapter "Utility Programs" in the *Programming Reference Guide*).

■   Managing entities, such as deleting, marking status, printing, and so on.

■   Cataloging dataviews (see the *Creating Dataviews Guide*).

■   Compiling programs (described in the *Creating Programs Guide*).

■   Running batch programs (described in this section).

■   Creating sorted reports (see the *Generating Reports Guide*).

You cannot run services that require interaction with a user in batch. For example, the following command has insufficient syntax to complete the DUPLICATE command and returns a prompter:

DUPLICATE

In batch, the DUPLICATE command is terminated at this point since you cannot enter information into the prompter, and the next CA Ideal command in the job stream is executed. However, the following command works successfully in any environment, provided the entity exists.

DUPLICATE PANEL ORDFRM VERSION 2 NEXT VERSION

In addition, a program with any panel-processing PDL statements, such as TRANSMIT, cannot run in batch and terminates the run. If you use a DISPLAY command for index, session, or dataview option display, the command is treated like a PRINT command.

Note: Printing to a network printer (DESTINATION NET) is not allowed in batch.

Components of a Batch Job Stream

You can use CA Ideal members to build and store job streams (JCL records and CA Ideal commands) online and to submit job streams. You can also use any other means suitable for batch job submission to submit JCL for batch CA Ideal. Members are described fully in the section titled Data Members in the chapter "Data Members."

Batch Job Stream in z/OS

An example in z/OS of a job stream to compile and run a program follows:

```
//COMP1 JOB . . .
//BATCH EXEC IDLBATCH,PARM.IDEAL='NOPRINT'
//IDEAL.SYSPRINT DD SYSOUT=(W,,SMAL)
//IDEAL.COMPLIST DD SYSOUT=A
//IDEAL.RUNLIST DD SYSOUT=A
//IDEAL.SYSIN DD *
SIGNON PERSON userid PASSWORD password PRODUCT IDEAL

SELECT SYSTEM DOC
COMPILE COMP1 VERSION 1 DESTINATION SYS name
RUN COMP1 VERSION 1 DESTINATION SYS name
OFF
//
```

In this example, the DESTINATION clause of the RUN command is shown as a system printer. This example also shows a DD record for a report where the ddname (COMPLIST) corresponds to the name of the compile report produced in this run.

You can monitor the status of a report directed to the output library by displaying the output library. As soon as the program starts to execute, the report's status in the library is CRTIN. When the status is READY, the report is released from the batch process.

The following standard JCL statements are used in the z/OS environment to execute CA Ideal in batch.

// JOB

Identifies a standard JOB statement containing information about the job for the operating system.

If your site uses an external security system to control access to a CA Ideal, the USER= parameter on this statement must specify a security ID that is authorized to access a CA Ideal. Do not include the CA Ideal SIGNON statement when external security is used.

// EXEC IDLBATCH,PARM.IDEAL='NOPRINT'

Identifies a JCL PROC containing the CA Ideal batch JCL for a batch session. These statements are described in the following paragraphs. IDLBATCH is the default name of the PROC as installed. See your CA Ideal Administrator for the correct name for your site.

The parameter PARM.IDEAL='NOPRINT' is optional. If you leave out this parameter or assign a null value ('') to it, the SYSPRINT file contains a simulated CA Ideal panel as a response to each command in the batch job stream. Including the parameter with the value NOPRINT suppresses the simulated panels and prints only the commands entered and the messages produced.

You can use the COND parameter with an EXEC statement to check the value associated with a batch job step. You can use condition codes to ensure that no step runs unless the previous steps executed successfully.

For example, you can define the following steps in a batch job:

```
//STEP1 EXEC IDLBATCH
  ...
  RUN ABC PROD              :May set $RC to 12.
  OFF


//STEP2 EXEC,COND=(12,LE)
  ...                       :Bypass if 12 is
  RUN XYZ PROD              :less than or equal to the
  OFF                       :return code from any
                            :prior step.
//STEP3 EXEC,COND=(12,LE)
  ...
  RUN PQR PROD
  OFF
```

```
//
```

If program ABC encounters an error that sets the $RETURN-CODE to 12, then programs XYZ and PQR do not run. If the $RETURN-CODE is set to 12 in program XYZ, program PQR does not run in STEP 3. For a list of condition codes, see Terminating a Run later in this chapter. For further information regarding $RETURN-CODE and default or defined error procedures, see the *Programming Reference Guide*.

//SYSIN DD

Identifies a data set containing CA Ideal commands executed (normally //SYSIN DD *, which means immediately following). The CA Ideal commands are entered in a sequence that simulates an online session. For example, a SIGNON command is the initial command that simulates the signon panel and OFF is the final command.

//SYSPRINT DD (optional)

Identifies a data set (normally SYSOUT) meant to receive the listing of the CA Ideal batch session. This output includes an image of each command and resulting panel with one page per transaction. This statement is provided in the IDLBATCH PROC, but you can override it.

//report DD (optional)

You are required to write a DD statement for each report generated by a program run in batch. The ddname must be the unique one- to eight-character report name. These DD statements are not provided in the procedure named in the EXEC record. If no DD statement is provided for the report, then the DD statement //AUXPRINT DD SYSOUT=A, which is supplied in the IDBATCH PROC, is used for all reports.

If you do not supply DD records for reports and a RUN produces several reports in parallel, the reports can be intermingled in the AUXPRINT listing.

//COMPLIST DD (optional)

Identifies a data set (normally SYSOUT) meant to receive the compilation listing of all programs compiled in the batch sequence of commands. This statement is provided in the IDLBATCH PROC, but you can modify it.

//RUNLIST DD (optional)

Identifies a data set (normally SYSOUT) meant to receive data generated by a LIST statement in the procedure of a CA Ideal program. This JCL record is provided in IDLBATCH, but you can override it.

//PRTLIST DD (optional)

Identifies a default data set (normally SYSOUT) to receive any data printed using CA Ideal PRINT commands. This JCL record is provided in IDLBATCH, but you can override it. If you use the NAME parameter in a PRINT command, the parameter specified indicates the alternate DD record name.

//seqfilename DD

Identifies the one- to eight-character name for a sequential file used by an application. CA Ideal provides the ddname as the FILENAME in the dataview comment when the dataview is displayed.

According to the rules of z/OS JCL, overriding DD statements must appear in the same order as the DD statements in IDLBATCH.

Components of a VSE Batch Job Stream

You can use CA Ideal members to build and store job streams (JCL records and CA Ideal commands) online and to submit job streams. You can submit JCL for batch CA Ideal through any other means suitable for batch job submission. See Data Members for a complete description of the CA Ideal member.

The following standard JCL records are used in a VSE environment to execute CA Ideal in batch.

```
* $$ JOB JNM=IDBATCH,PRI=n,USER='username',DISP=D
* $$ LST DISP=D,CLASS=L,LST=cuu...
* $$ LST DISP=D,CLASS=L,LST=cuu...
* $$ LST DISP=D,CLASS=L,LST=cuu...
* $$ LST DISP=D,CLASS=L
// JOB IDBATCH
// OPTION LOG,NODUMP
// EXEC PROC=IDLPROC
****************************
* Assignments for sequential file dataviews and work areas
* for sorted reports.
****************************
// ASSGN SYS...,cuu
// ASSGN SYS...,cuu
// ASSGN SYS...,cuu
// EXEC IDBATCH,SIZE=80K,PARM='NOPRINT'
SIGNON PERSON username PSW psword
COMPILE pgmname
RUN pgmname
OFF
/*
// EXEC LISTLOG
/*
/&
* $$ EOJ
```

There are three types of instructions in this job stream: operating system commands, spooling system commands, and CA Ideal commands.

VSE JOB control instructions all begin with the characters // . VSE JOB control interprets the commands beginning with an asterisk and followed immediately by a space (*) as comments. POWER is the VSE JOB Input/Output spooling system. JOB Entry Control Language (JECL) commands all begin with the * $$ character string.

$$ JOB JNM=IDBATCH, PRI=n, USER='username', CLASS=c,DISP=D

This statement identifies the job to POWER.

JNM=IDBATCH

This job stream is identified to POWER as IDBATCH.

PRI=n

Dispatching priority of this job is n.

USER='username'

> Used for accounting purposes. If your site uses external security to control access to CA Ideal, this parameter provides a security ID for the job stream.

CLASS=c

> Defines which VSE partition this job stream can execute in.

DISP=D

> Defines the disposition in the reader spool for the job stream. D submits the job stream for execution immediately and does not retain it in the reader queue (spool) after execution.

$$ LST DISP=D,CLASS=L

This statement defines the output parameters for the VSE system log file.

DISP=D

> This parameter defines the disposition of the output in the POWER list queue. As in the DISP option for the JOB command, D releases the job stream immediately and does not retain it in the queue.

CLASS=L

> This parameter organizes the LIST queue. Use it with subsequent * $$ LST statements to logically separate the various CA Ideal outputs.

// JOB IDBATCH

This is the first VSE job control command of the job stream. The job stream is identified as IDBATCH. All references to the JOB on the operator's console are to IDBATCH (not the POWER jobname).

// OPTION LOG,NODUMP

The OPTION command sets execution options for this jobstep and all following jobsteps until a contrary option command is issued. LOG sets the request for all job control statements to list with the output; NODUMP suppresses the DUMP option.

// EXEC PROC=IDLPROC

This statement copies a JCL procedure into the job stream. IDLPROC is an installed procedure to define all CA Ideal and user system files for batch.

* \$\$ LST DISP=D, CLASS=L,LST=cuu...

These POWER statements keep CA Ideal outputs logically separated. An execution of batch CA Ideal has two or more outputs:

- CA Ideal session output. This file shows a simulated session of CA Ideal commands and the resulting panels and messages.

- CA Ideal error log

- If a RUN command is issued in the batch run, then you must make additional * \$\$ LST entries for LIST statement output and for each application report.

- **DISP=D** This parameter defines the disposition of the output in the POWER list queue. As in the DISP option for the JOB command, D releases the job stream immediately and does not retain it in the queue.

- **CLASS=L** This parameter organizes the LIST queue. These statements are used with other * \$\$ LST statements to logically separate the various CA Ideal outputs.

- **LST=cuu...** Indicates the logical printer defined for the various output files. See your systems programmer for the actual logical unit assignments for these files.

  ```
  ***************************
  *Assignments for sequential file dataviews and work areas
  *for sorted reports
  ***************************
  ```

These comments show where sequential dataview files and sorted report work files go. Since they are not needed on every batch CA Ideal run, they are not included in the IDLPROC procedure.

// EXEC IDBATCH, SIZE=80K,PARM='NOPRINT'

IDBATCH is the CA Ideal batch processing program. The size parameter sets the amount of storage allocated to the program for execution. The rest of the partition is used for processing other CA Ideal routines.

The parameter PARM='NOPRINT' is optional. If you omit this parameter or specify it with a null value (''), a simulated CA Ideal session is printed. Specifying the parameter with the value NOPRINT suppresses all SYSPRINT output except the commands entered and the messages produced. The simulated CICS session is not printed.

The statements that follow the EXECUTE command are CA Ideal commands.

```
SIGNON PERSON username PSW password PRODUCT IDEAL
COMPILE pgmname
RUN pgmname
OFF
```

The statements follow the same format as an online session.

- **/*** This is a JOB step delimiter.

- **// EXEC LISTLOG** LISTLOG is a VSE utility that adds all operator console messages associated with the job stream to the end of the output for the job stream.

- **/&** **VSE** job delimiter.

- **$$ EOJ** POWER job delimiter.

Batch Report JCL Considerations for VSE

The following only applies to batch jobs that route reports to the system printer.

The run of CA Ideal program can produce 15 reports and a LIST statement output. Actually, you can generate more than 15 reports if they are not sorted reports and one report is released before the next one starts (see RELEASE statement). There is a maximum of four concurrent reports and a total of four sorted reports.

Report output and LIST statement output are arbitrarily assigned to the logical units defined in the PSSPRT01 through PSSPRT15 file table entries. Check with the CA Ideal Administrator for the logical unit assignments defined for these entries in the file table.

If no special forms are required, there is no need to be concerned with which logical unit assignment is used. You can use POWER logical printers and $$ LST statements to keep the outputs logically separated. An example of this follows.

If a special form is required, then the programmer needs to know which logical unit assignment corresponds to the report. In this case, you can do the following:

1. For each report in the run, assign the report to a specific logical unit using the ASSIGN command before the RUN command or the ASSIGN statement in the program before the first PRODUCE statement for that report.

   Note: Sorted reports that share the same forms and copies can share VSE assignments. Unsorted reports that share the same forms and copies can share VSE logical assignments only if the first report is released before the second is produced.

2. Do the same with report RUNLIST, which is the name of the print output associated with LIST statement output.

3. Add the POWER JCL records to control the logical output and its forms.

For example, in the following run REPORT1 is assigned to special form FRM1, REPORT2 to FRM2, and REPORT3 and LIST statement output to standard forms. The $$ LST statements are always required to keep the outputs logically separated even if special forms are not required.

```
* $$ JOB JNM=IDBATCH,PRI=n,USER='username',DISP=D
* $$ LST DISP=D,CLASS=L,LST=SYS102
* $$ LST DISP=D,CLASS=L,LST=SYS103,FNO=FRM1
* $$ LST DISP=D,CLASS=L,LST=SYS104,FNO=FRM2
* $$ LST DISP=D,CLASS=L,LST=SYS105
* $$ LST DISP=D,CLASS=L,LST=SYS106
* $$ LST DISP=D,CLASS=L
// JOB IDBATCH
// OPTION LOG,NODUMP
// EXEC PROC=IDLPROC
// EXEC IDBATCH,SIZE=15K
SIGNON PERSON userid PASSWORD password
ASSIGN REPORT RUNLIST TO SYS102
ASSIGN REPORT REPORT1 TO SYS103
ASSIGN REPORT REPORT2 TO SYS104
ASSIGN REPORT REPORT3 TO SYS105
ASSIGN REPORT REPORT4 TO SYS106
SET RUN URT DBURT010
RUN RPTPGM
OFF
/*
// EXEC LISTLOG
/*
/&
* $$ EOJ
```

Note: Session command output and the system error log go to SYSLST (by default). To separate them, add two $$ LST statements and modify the IDSYSFT entries for SYSPRINT and ADRL.

SYS102-**SYS106** Logical units defined in the batch file table for PSS outputs. These units are user-defined.

Sorted reports have special JCL requirements. You must provide SORT work files. The report writer needs one internal work file for each sorted report. The report work files are defined in the file table. For more information, see the *Administration Guide*. The JCL for the work file for each sorted report looks like this:

```
// ASSGN SYSnnn,DISK,VOL=volser,SHR
// DLBL IDRWK01,'IDEAL.report.work01',0,SD
// EXTENT SYSnnn,volser,,,trks,numtrks
```

You must specify JCL for each sorted report work file. The requirements for each are the same except for the DLBL names of IDRWK01 through IDRWK04, respectively.

The size of the report work file depends on the size of the report. One logical record is written every time a PRODUCE statement is executed. The size of the record depends on the number and sizes of the data fields defined in the detail and heading sections of the report. A block size of approximately 3KB is used.

The following example shows the JCL needed to run a CA Ideal program that has two sorted reports. No special forms are used. The same SORT work files are shared for each report. An adequate number of SORT work files with sufficient space are needed to sort the data in one report work file for the largest report in a RUN.

```
* $$ JOB JNM=IDBATCH,PRI=n,USER='username',DISP=D
* $$ LST DISP=D,CLASS=L,LST=SYS100
* $$ LST DISP=D,CLASS=L,LST=SYS101
* $$ LST DISP=D,CLASS=L,LST=SYS102
* $$ LST DISP=D,CLASS=L,LST=SYS103
* $$ LST DISP=D,CLASS=L,LST=SYS104
* $$ LST DISP=D,CLASS=L
// JOB IDBATCH
// OPTION LOG,NODUMP
// EXEC PROC=IDLPROC
*
```

```
* Assign for report and SORT work files
*
// ASSGN SYS050,DISK,VOL=SYSWK1,SHR
*
* Report work files
// DLBL IDRWK01,'IDEAL.REPORT.WORK01',0,SD
// EXTENT SYS050,volser,,,9000,50
// DLBL IDRWK02,'IDEAL.REPORT.WORK02',0,SD
// EXTENT SYS050,volser,,,9050,50
// DLBL IDRWK03,'IDEAL.REPORT.WORK03',0,SD
// EXTENT SYS050,volser,,,9100,50
// DLBL IDRWK04,'IDEAL.REPORT.WORK04',0,SD
// EXTENT SYS050,volser,,,9150,50
*
* SORT work files
*
// DLBL SORTWK1,'DOS.WORKFILE.SORT01',0,SD
// EXTENT SYS050,volser,,,9100,50
// DLBL SORTWK2,'DOS.WORKFILE.SORT02',0,SD
// EXTENT SYS050,volser,,,9150,50
// DLBL SORTWK3,'DOS.WORKFILE.SORT03',0,SD
// EXTENT SYS050,volser,,,9200,50
*
// EXEC IDBATCH,SIZE=nnK
PERSON username PSW psword PRODUCT IDEAL
RUN SORTRPT2
OFF
/*
// EXEC LISTLOG
/*
/&
* $$ EOJ
```

The size parameter on the // EXEC IDBATCH statement must be 15K for CA Ideal, plus the amount of partition storage (not GETVIS storage) required by the SORT (80K should be sufficient for a sorted report or cross reference on a compilation). For more information, see the *IBM DOS SORT Manual*.

Sequential File Considerations for VSE

Five types of sequential file dataviews are supported under VSE-disk, standard label tape, non-labeled tape, printer, and punch. Each type has its own set of one or more entries in the CA Ideal File Table. (See the *Administration Guide* for more details on file table entries IDSYSFT).

Before a program using a sequential dataview can be successfully compiled, you must enter the definition for the dataview, either in Datadictionary (a modeled dataview) or in CA Ideal (an unmodeled dataview) and then cataloged in CA Ideal. The catalog step puts the device type, record size, block size, file name and whether the file is labeled into the dataview object code used at compile time.

The display of the cataloged dataview shows the information needed to code the batch JCL. You can override some of this information with the ALTER PROGRAM and ASSIGN DATAVIEW commands. For dataview definition and for ALTER and ASSIGN commands, see the *Administration Guide*. With the file table entry, this provides the information needed to access the file.

- **Device type**

   Information as to whether a sequential dataview is disk, standard label tape, non-labeled tape, printer, or punch. You can override this option with an ALTER PROGRAM or ASSIGN DATAVIEW command before the run. At run time, the device type specifies to CA Ideal what type of file table entry to use-DISK, SLTAPE, NLTAPE, PRT, or PUNCH.

- **Filename**

   The DLBL for disk files and TLBL for standard labeled tape files.

- **Logical Unit Assignment**

   For standard label tape, non-labeled tape, printer, and punch files, the default assignment comes from the file table entry. You can override it with an ASSIGN DATAVIEW command before the RUN command or an ASSIGN statement executed before the first FOR construct referencing the dataview. The logical assignments for disk files are made completely through the JCL.

   Under VSE, two additional dataview status codes are used for error conditions. I7 is used if the block size specified for the file is larger than the maximum defined in the VPE File Table entry. I8 is used if multiple sequential files of the same type are referenced in the same run and there are not enough file table entries defined for that type. For more information about how to define the file table to handle these conditions, see the *Administration Guide*.

If multiple tape, print, or punch files are referenced from the same run, there can be some ambiguity as to the logical unit assignment that is used. This is because multiple file table entries of the same type are allocated on a first come, first serve basis. That is, the first dataview of a type is allocated the first file table entry for that type; the second file of the same type gets the second, and so on. You can override the logical unit assignment defined in the file table with an ASSIGN COMMAND or ASSIGN statement.

Consequently, for runs that access multiple dataviews of the same type, assign the logical unit of each dataview with either an ASSIGN command before the run or an ASSIGN statement as the first thing done in the program. This prevents any JCL mix-ups.

This is not required for dataviews where there is only one of its type in the run; the logical unit used is the one for the first file table entry of that type. This is not required for disk dataviews since logical unit assignments are completely handled in the JCL.

For logical unit assignments defined in the file table, see the CA Ideal *Administrator Guide*.

You must add the following to batch run JCL to reference a sequential file dataview.

For DISK

```
// ASSGN SYSnnn,DISK,VOL=volser,SHR
// DLBL dlblnam,'IDEAL.report.work01',0,SD
// EXTENT SYSnnn,volser,,,trks,numtrks
```

dlblnam

Displays the filename on the dataview Parameter Definition panel. The assign is completely defined in the JCL.

For Standard Labeled Tape

```
// PAUSE PLEASE MOUNT TAPE volser ON 180
// TLBL file-id,'IDEAL.XPRT.TAPE',,volser
// ASSGN SYSnnn,180
```

file-id

Displays the filename on the dataview Parameter Definition panel.

SYSnnn

Defines the logical unit in the CA Ideal batch file table or the override value specified in an ASSIGN command or ASSIGN statement.

For Nonlabeled Tape

`// ASSGN SYSnnn,180`

SYSnnn

Defines the logical unit in the VPE Batch File Table or the override value specified in an ASSIGN command or ASSIGN statement.

For Print Files

`// ASSGN SYSnnn,printer`

SYSnnn

Defines the logical unit in the VPE Batch File Table, or the override value specified in an ASSIGN command or ASSIGN statement.

printer

Identifies a logical unit defined to POWER as a printer.

For punch files

`// ASSGN SYSPCH,punch`

punch

Identifies a logical unit defined to POWER as a punch.

By default, when a tape DTF is generated, it has the parameter REWIND=UNLOAD specified. This causes a rewind when the file is opened and a rewind and unload when the file is closed. You can alter this in the CA Ideal batch file table definition.

Terminating a RUN

The RUN command, issued online or in batch, terminates upon successful completion of the executed program, upon encountering abnormal conditions, or by encountering online interruptions.

Successful Completion of a Run

A run terminates when program execution is successfully completed (when a QUIT RUN statement in any program or subprogram or a QUIT PROGRAM statement in the main program is encountered, or when the main program falls through to the end without an explicit QUIT RUN).

Abnormal Termination of a Run

A run terminates when CA Ideal does not give control to the ERROR PROCEDURE, such as when an environmental or system error occurs (for example, MAXLINES are exceeded). An error message is issued.

A run terminates when an execution error occurs and there is no ERROR PROCEDURE in the program. A default ERROR PROCEDURE is used that lists the error, performs a BACKOUT, issues a message, and quits the program. (See ERROR PROCEDURE in the *Programming Reference Guide*.)

Online Interruption of a Run

A run terminates when a panel is on the panel and a command or function key initiates a new activity, such as CLEAR, RETURN, EDIT, DISPLAY, or DELETE.

At the end of a run, the message *RUN completed, RC=nn* appears. The RC=*nn* is the value of the return code at the end of the run. Each system message has a message level with an associated return code. The program can also explicitly set the return code to any value.

When an internal system error is detected in the run, $RC is set to 12. See also the $RC function in the *Programming Reference Guide*.

Submitting a Batch Job Stream

Use the SUBMIT command to submit a CA Ideal data member containing a batch job stream or a series of data members that contain portions of a job stream. Access the SUBMIT prompter by selecting option 4 on the Process Program Menu or issuing the SUBMIT command.

Note: Some external security systems can assign a user's security ID to jobs that user submitted. If your site uses one of these security systems to control access to CA Ideal and you omit the JOB statement, your security ID is assigned to the submitted job.

For more information about SUBMIT command, see the *Command Reference Guide.*

Using CA Ideal Commands in Batch

The first CA Ideal command required in any job stream is the SIGNON command. If your site uses an external security system to control access to CA Ideal, do not include this command.

This command is followed by any sequence of CA Ideal commands. If an error is encountered while executing one of the commands, the transaction containing the error is ended and the next command is executed.

Note: If the SET OUTPUT DESTINATION statement is included in either the signon member or the batch input statements, the destination specified in the SET OUTPUT command overrides the usual batch output destination of AUXPRINT.

The command OFF must be the last command entered. You can use the following set of IF, ELSE, ENDIF commands in the job stream to execute subsets of commands in the job stream based on the value of the return code.

The commands appear in the following syntax:

```
                  {GE}
                  {GT}
                  {LE}
IF [$RETURN-CODE] {LT}    nnn
   [$RC         ] {EQ}
                  {NE}


   CA Ideal commands

ELSE

   [CA Ideal commands  ]

ENDIF
```

The value *nnn* is tested against the current return code using the specified relational operator. The relational operator must be in the form shown above and is required.

The ELSE clause is optional. If the condition evaluates True, all commands are executed until the ELSE or ENDIF command is encountered, and all commands after ELSE are bypassed. If the condition is False, no commands are executed until either an ELSE or an ENDIF is encountered.

You cannot nest the IF-ELSE-ENDIF command series in other sets of IF-ELSE-ENDIF commands.

You can use the SET $RETURN-CODE command in the job stream to override the condition codes set by previous commands in the session.

For commands other than RUN (which can set *any* value for $RC), the following table shows how $RC values are associated with warning or error messages.

Message Level	Return Code
I - Information	0
A - Advisory	4
W - Warning	4
E - Error	8
F - Fatal Error	12 or greater
C - Conditional	16
D - Disaster	16
T - Terminal	16

Batch Job Stream in an z/OS Environment

The following is a sample CA Ideal batch job stream in the z/OS environment:

```
//DEMO1 JOB . . .
//BATCH EXEC IDLBATCH
//IDEAL.EMPRPT DD SYSOUT=A
//IDEAL.SYSIN DD *
SIGNON PERSON userid PASSWORD password
.
.
.
SELECT SYSTEM CTL
EXEC USRPROF
SET OUTPUT COPIES 2
.
.
.
COMPILE PROGRAM DEMO1 VERSION 2
CATALOG DATAVIEW EMPY VERSION 1
RUN DEMO1 VERSION 2
.
.
.
OFF
/*
```

In this example:

- A user's profile (a series of SET commands) is stored in a member named USRPROF. This member is executed using the EXEC USRPROF command.

- A program runs that generates a report (the report name is EMPRPT) and, therefore, requires the EMPRPT DD record.

- The value of $RETURN-CODE is passed back to the operating system when OFF is executed.

The following job stream uses the IF, ELSE, ENDIF, and SET commands.

```
//DEMO2 JOB ...
...
SIGNON PERSON xxx PASSWORD
SET RUN $RC KEEP
RUN PGM1 PROD
IF $RETURN-CODE EQ 0
   RUN PGM2 PROD
ELSE
   RUN ERRPGM PROD
   SET $RETURN-CODE EQ 8
ENDIF
SEL SYS ABC
IF $RETURN-CODE EQ 0
   RUN MAINTABC PROD
ELSE
   SET $RETURN-CODE EQ 0
   SEL SYS XYZ
   RUN MAINTXYZ PROD
ENDIF
SET RUN $RC ZERO
RUN RPT1 PROD
RUN RPT2 PROD
OFF
...
```

In the above example, the SET RUN $RC KEEP is entered in the job stream before the first batch run. All subsequent programs that are run receive the return code value that was previously set. The value of the return code that was in effect before the RUN is therefore available for testing or changing in the RUN. Whenever you enter SET $RETURN-CODE EQ 0, the return code is set back to zero. The SET RUN $RC ZERO option sets the return code back to zero at the start of each following RUN, which ensures that the RPT2 program executes regardless of the success or failure of any of the previous RUN commands.

Note: $RC is an abbreviation for $RETURN-CODE. You can use either name. For more information, see the *Programming Reference Guide.*

Chapter 5: Output Services

Output members from CA Ideal are generated as a result of a COMPILE, RUN, PRODUCE, or PRINT command.

- A COMPILE command that is issued by an application developer to compile an application program, results in a compile listing as output.

- A RUN command, issued by an end user executing a production application or by an application developer during testing, results in zero, one, or many application reports as output. Each report of the application is a separate output. In addition, a program can also have the PDL statement LIST, which results in output.

- A PRODUCE command issued by an application developer during testing results in a single application report facsimile as output.

- A PRINT command, issued by an application developer or administrator, is a request for a listing of specific information or an entity, such as a panel definition, program definition, report definition, dataview definition, system definition, user definition, or member as output.

These commands can be issued online or in batch CA Ideal.

Each output has the following characteristics (either as a result of site defaults, SET commands, or clauses added to the COMPILE, RUN, PRODUCE, or PRINT commands):

NUMBER

Identifies a unique one- to four-digit number that identifies the output.

NAME

Defines a one- to eight-character tag that identifies the output. The first character must be alphabetic, number sign (#), dollar sign ($), or commercial at sign (@).

DESTINATION TYPE

Identifies one of the following destinations:

LIBRARY

Designates the output library as the destination.

SYSTEM

Designates the system printer as the destination.

NETWORK

Designates a network printer as the destination (online under CICS).

MAIL

Designates a CA Email+ recipient.

DESTINATION NAME

Defines the name of the system printer, network printer, or CA Email+ ID where the output is directed.

RETENTION PERIOD

Identifies the number of days an output is retained on the output library.

DESCRIPTION

Identifies a short description of the output.

DISPOSITION

Identifies the status of the output. See Output Disposition later in this chapter for complete information.

Note:

- The output library consists of output members, each containing an output that was directed there. You can browse output stored in the output library online or print it on a system or network printer at a later time.

- For outputs whose destination is the output library or a network printer or for any outputs initiated from an online session, there is a limit to the number of lines per output. The limit is set at installation. However, outputs issued as a result of a batch request going to the system printer have only the line limit you establish through standard batch JCL.

- In z/OS and VSE batch, the destination clause cannot specify a destination type of NETWORK.

Output Disposition

Output disposition determines the state of the output and how it is handled under requests issued either online or in batch. The disposition options consist of RELEASE, HOLD, and KEEP, which are described in the following figure.

```
--------------------------------------------------------------------------------
              Print Request Issued - Online        Print Request Issued - Batch
--------------------------------------------------------------------------------
              Destination                          Destination
--------------------------------------------------------------------------------
Output        Output         Sys/Net Printer       Output Library   System
Disposition   Library          or MAIL                              Printer
--------------------------------------------------------------------------------
Release       Output is      Output is placed in output  Output is placed   Output is
              placed in      library and batch job is    in output library  printed on
              output library printed on a system or       for browsing at     the system
              for browsing at network printer             the terminal       printer in
              the terminal                                                   batch

              Output is      No copy is retained in      Output is placed   No copy is
              placed in      output library              in output library  placed in
              output library                             for browsing at     the output
              for browsing at                            the terminal       library
              the terminal
--------------------------------------------------------------------------------
Hold          Output is      Output is placed in output  Output is placed   Not
              placed in      library and held until      in output library  applicable
              output library released (using ALTER OUT    for browsing at
              for browsing at and PRINT OUT)              the terminal
              the terminal
--------------------------------------------------------------------------------
Keep          .              Output is placed in output .                   Not
              .              library and batch job is    .                   applicable
              .              printed on a system or
              .              network printer             .
              .                                          .
              .              Copy is retained in         .
              .              output library              .
--------------------------------------------------------------------------------
```

Note:

- An output is retained in the output library until it is deleted in one of the following ways:

    – With the DELETE OUTPUT command.

    – When the retention period expires. The default retention period is established using a SET OUTPUT fill-in. You can modify the retention period of a user's output through the ALTER OUTPUT RETENTION command.

    – When the disposition is RELEASE and the output is printed. You can change the disposition through the ALTER OUTPUT DISPOSITION command.

    – When the disposition is RELEASE and the output is viewed with a DISPLAY OUTPUT command (and a KEEP OUTPUT command is not issued).

- The disposition parameter of an output in the output library is significant when the output is requested to print or after displaying an output online.

- You can modify the disposition of the output on the display output status panel. The actions available on that display include the following:

    – **D-**Display output member. S can also be entered to display output.

    – **Z-**Delete output member.

    – **P-**Print output member. Valid only after ALTER OUT has modified the disposition of the member.

    – **R-**Alter the disposition to ready.

    – **H-**Alter the disposition to hold.

    – **K/L-**Alter the disposition to keep.

Specifying Output Destinations

You can specify the output destination, name, and disposition for a COMPILE, RUN, PRODUCE, or PRINT command by appending a destination clause to the command.

You can also establish the destination by executing one of the following tasks:

- Including a SET OUTPUT command with a destination clause in a signon member to affect the defaults for subsequent sessions, including batch CA Ideal jobs.

- Executing a SET OUTPUT command with a destination clause during the current session or batch input stream to affect subsequent COMPILE, RUN, PRODUCE, and PRINT commands only during the current session or batch job.

- Executing a SET OUTPUT SITE OPTIONS command to establish a site default.

- Executing an ALTER OUTPUT command to modify the destination clause.

Example

Assuming that the following SET OUTPUT commands are in the user's signon procedure:

```
SET OUTPUT DESTINATION LIBRARY
SET OUTPUT DISPOSITION HOLD
```

The shortened syntax is equivalent to,

```
COMPILE X
```

```
COMPILE X DESTINATION LIBRARY DISPOSITION HOLD
```

Output Commands

Use the following CA Ideal commands for output services. For more information, see the *Command Reference Guide*.

DISPLAY OUTPUT STATUS

Displays name and status of each output member for the current user.

PRINT OUTPUT STATUS

Prints the name and status of each output member for the current user.

DISPLAY OUTPUT

Displays an output that resides in the output library. Once this command displays the top of an output, you can scroll and view the output using the browsing commands SCROLL, FIND, and POSITION, and the PF keys described in the following section. After you end the browsing activity by initiating another activity, the output is deleted (if the disposition is RELEASE). You can retain the output using the KEEP OUTPUT command.

PRINT OUTPUT

Prints an output that resides in the output library.

KEEP OUTPUT

Valid only while an output is displayed. This command leaves the output in the output library after browsing. (When the output disposition is RELEASE, it is deleted upon termination of the browsing activity.)

DELETE OUTPUT

Removes an output from the output library.

ALTER

Changes the disposition, the number of copies, or the retention period for outputs residing in the output library.

DISPLAY OUT DESTINATION

Produces a display of all valid output destinations as established by the Print Administrator.

PRINT OUT DESTINATION

Prints all valid output destinations as established by the Print Administrator.

DISPLAY INDEX OUTPUT

Displays the name and status of each output member for the current user. Equivalent to DISPLAY OUTPUT STATUS.

PRINT INDEX OUTPUT

Prints the name and status of each output member for the current user. Equivalent to PRINT OUTPUT STATUS.

PF/PA Key Assignments When Displaying Output

This section contains PF/PA key assignments when output is displayed. Commands in bold are assignments consistent throughout all facilities of CA Ideal.

Assignment	PF Key
RESHOW	(PA1)
DISPLAY PF/PA KEYS	(PA2)
HELP	(PF1/13)
RETURN	(PF2/14)
PRINT PANEL	(PF3/15)
SCROLL LEFT	(PF4/16)
SCROLL RIGHT	(PF5/17)
	(PF6/18)
SCROLL BACKWARD	(PF7/19)
SCROLL FORWARD	(PF8/20)
	(PF9/21)
SCROLL TOP	(PF10/22)
SCROLL BOTTOM	(PF11/23)
	(PF12/24)

PA1 - RESHOW

Refreshes a panel with the data as it originally appeared before data was entered for the current transaction. Changes made to the data on the panel during the current transaction are not applied.

PA2 - DISPLAY PF/PA KEY ASSIGNMENTS

Lists PF/PA key assignments. Any data entered on the last transaction is not applied. Before signon is completed, you can use PA2 to end a CA Ideal session.

PF1/13 - HELP

Presents help information associated with displaying outputs. Help services are described in the section Getting Help in the chapter "Setting Defaults."

PF2/14 - RETURN

When in the help facility, returns to the original panel.

PF3/15 - PRINT PANEL

Generates an output of the current panel contents.

PF4/16 - SCROLL LEFT

Scrolls the window to the left by frame or cursor according to the current default.

PF5/17 - SCROLL RIGHT

Scrolls the window to the right by frame or cursor according to the current default.

PF6/18

Ignored.

PF7/19 - SCROLL BACKWARD

Scrolls backward by frame or cursor position according to the current default.

PF8/20 - SCROLL FORWARD

Scrolls forward by frame or cursor position according to the current default.

PF9/21 - FIND

Searches for the next occurrence of a string previously specified in a FIND command.

PF10/22 - SCROLL TOP

Positions to the first line of the output.

PF11/23 - SCROLL BOTTOM

Positions to the last line of the output.

PF12/24

Ignored.

Print Menu

The Print Menu offers a selection of the major print facilities and functions available in CA Ideal. There are four options available on the Print Menu.

- Options 1 and 4, PRINT OCCURRENCE and PRINT INDEX, display prompters.

- Options 2 and 3, PRINT OPTIONS and PRINT DESTINATIONS, perform the command immediately upon selection and do not display a prompter.

You can perform the same functions by entering the command in the command area as it is shown on the menu. For example, entering the command PRINT INDEX in the command area provides the same prompter as selecting option 4 from the menu.

You access the Print Menu by selecting option 7 of the Main Menu or issuing the PRINT command.

```
=>
=>
=>
-------------------------------------------------------------------------
IDEAL: PRINT MENU                                      SYS: DOC      MENU

Enter desired option number ===>      There are  4 options in this menu:

1. PRINT OCCURRENCE      Print specific entity occurrences
2. PRINT OPTIONS         Print current session options
3. PRINT DESTINATIONS    Print current print destinations
4. PRINT INDEX           Print specific entity occurrences
```

Print Commands

Use the following CA Ideal commands for printing. For more information, see the *Command Reference Guide*.

PRINT

Prints a specific program, panel, dataview, report, system, user, plan, member definition, or output, or the current entity.

PRINT SESSION OPTIONS

Prints the current value of every option, including those options defined in the signon procedure. (See the chapter "Setting Options," for a complete description of session options.)

PRINT OUT DESTINATION

Prints a copy of all valid output destinations.

PRINT INDEX

Lists the name and status of each occurrence of the specified entity-type. Optionally, the index can include occurrences of entity-types that are related to a given entity-type or occurrence (for example, each panel related to a given program). This display is based on Datadictionary relationships. In relating dataviews to systems or relating programs to systems, proper authorization is required.

PRINT PANEL

Generates an output of the current panel contents.

JOBCARD for System Prints from CICS

Under z/OS and VSE, system prints are performed by submitting a batch job. Maintain the jobcard used for system prints using:

DISPLAY/EDIT JOBCARD

The first time you issue the EDIT JOBCARD command, a default jobcard is duplicated to become the PSS jobcard, which you can modify.

For more information, see DISPLAY/EDIT JOBCARD in the *Command Reference Guide*.

Chapter 6: Data Members

This chapter describes the CA Ideal commands that define and manipulate members.

Data members are named collections of lines of text. Use them to prepare JCL, store information, as EXECUTE members (for example, members containing CA Ideal commands), or as Signon members.

For more information about EXECUTE and SUBMIT commands, see the *Command Reference Guide*.

Commands Used with Members

Use the following CA Ideal commands with data members. For more information, see the *Command Reference Guide*.

CREATE MEMBER

Initiates creation of a member.

DISPLAY/EDIT MEMBER

Displays/edits a member.

SUBMIT

Submits a data member containing a batch job stream or a series of data members that contain portions of a job stream.

PRINT MEMBER

Generates an output of a member.

DELETE MEMBER

Deletes a member.

DUPLICATE MEMBER

Copies an entire existing member to a new member.

After successful completion of DUPLICATE, the new member is now the current member and you see the EDIT/DISPLAY member fill-in. You can modify the new member at subsequent sessions.

EXECUTE MEMBER

Initiates the processing of CA Ideal commands in a member. See the following section titled Executing a Member for more information.

Executing a Member

The EXECUTE command initiates the processing of CA Ideal commands in a member. Each command stored in the member is successively executed until either of the following conditions:

- The last line is processed, or

- A command causes an error. Subsequent commands in the member are not processed.

Storing commands in a member is useful when you use the same sequence of commands repetitively. For example, you can store the following commands in a member and execute it to select the system PAY, set the runtime environment to suppress the Run Completed message and signoff automatically at the end of the application, and execute the PAYROLL application.

```
SELECT SYSTEM PAY
SET RUN QUITMSG NO
SET RUN QUITIDEAL YES
RUN PAYROLL
```

You can place a series of change commands in a member and reuse it in the PROCEDURE, WORKING DATA, and PARAMETER definitions. For example,

```
CHANGE /ABC/DEF/
CHANGE /DVW-A/DVW-B/
```

Chapter 7: Transporting Applications in Source Form

You can transport applications or individual parts of CA Ideal applications in source form or object form. This chapter describes how to transport applications in source form using the Source Transport Utility. For information on transporting applications in object form, see the chapter "Transporting Applications in Object Form."

Source Transport Utility

The Source Transport Utility (IDUTSTRN) lets you import and export CA Ideal source code for the following entities:

- Programs

- Panels

- Reports

- Sequential file dataviews that are not modeled in Datadictionary

- VSAM file dataviews

- Members

It also lets you import HELP members.

The Source Transport Utility is a batch utility that you can use to:

- Extract source code from one installation and load it to another

- Unload source code to archive for backup and auditing purposes

- Restore source selectively from external source format

- Load source generated externally to CA Ideal

The Source Transport Utility cannot import or export user definitions, system definitions, and dataviews for CA Datacom/DB or DB2, or modeled sequential file dataviews.

Using the Source Transport Utility

The Source Transport Utility uses EXPORT commands to export the source code of an existing CA Ideal definition and IMPORT commands to import the source code into a CA Ideal system.

The PRODUCE IMPORT COMMANDS command produces a machine-readable file of import commands corresponding to a source file. The command also prints the directory for the source. You can use this command to check an exported file before any IMPORT commands are executed to see what information the source contains. You can edit the output file this command generates to delete any IMPORT commands that you do not want or to add SET commands.

A single batch run can perform either import or export operations, but not both. The first IMPORT, EXPORT, or PRODUCE command in the job stream determines what the run does.

- Importing an entity always renumbers the sequence numbers, creates a Test status version, clears the time compiled, and updates the time modified.

- Signon members are not executed for Source Transport runs.

Signing On

The first CA Ideal command required in any batch job stream is the SIGNON command. Therefore, a SIGNON statement is required in the JCL for any Source Transport Utility job stream in any operating system. The JCL examples later in this chapter each contain a SIGNON statement.

Setting Defaults

SET IMPORT or SET EXPORT commands set default values for the IMPORT or EXPORT commands that follow them. You can use them several times in a command stream. SET IMPORT commands in an EXPORT run, or conversely, are effectively ignored as there are no valid commands for them to affect.

The other SET commands, such as SET SOURCE LISTING, affect the whole run. You can only specify them once.

SET EXPORT Example

SET EXPORT or SET IMPORT commands apply until another SET command of the same type replaces the value with a new one. In this example, the SET EXPORT SYSTEM command sets $ID as the default system for all entities. The command SET EXPORT VERSION 002 specifies the version of the entities to export until the SET EXPORT VERSION 001 command changes that default. The summary report that follows shows the result.

```
SET EXPORT SYSTEM $ID    }
SET EXPORT VERSION 002   }
EXPORT PGM WHO           }
EXPORT PNL WHOPNL        }  select entities with ver 2  }
EXPORT PNL WHOPGM        }                              }
SET EXPORT VERSION 001   }                              } select entities
EXPORT PGM @I$INQU1      }                              } with $ID
EXPORT PGM @I$INQU2      }  select entities with ver 1  }

Summary of EXPORT operations:

PROGRAM     WHO          SYSTEM $ID VERSION 002    Successfully EXPORTed
PANEL       WHOPNL       SYSTEM $ID VERSION 002    Successfully EXPORTed
PANEL       WHOPGM       SYSTEM $ID VERSION 002    Successfully EXPORTed
PROGRAM @I$INQU1         SYSTEM $ID VERSION 001    Successfully EXPORTed
PROGRAM @I$INQU2         SYSTEM $ID VERSION 001    Successfully EXPORTed
```

SET IMPORT Example

This example imports the entities exported in the previous example. The SET IMPORT DUPLICATE command specifies what action to take if a duplicate exists. SET IMPORT DUPLICATE NEXT applies to the three imports that follow. SET IMPORT DUPLICATE REPLACE applies to the remaining imports. The summary report that follows the commands shows the result.

```
SET IMPORT SYSTEM $ID
SET IMPORT VERSION ASIS
SET IMPORT NEW SYSTEM WWW
SET IMPORT NEW VERSION 001
SET IMPORT DUPLICATE NEXT     }
IMPORT PGM @I$INQU1           }                        }
IMPORT PGM @I$INQU2           } assign next version  }
IMPORT PGM WHO                } if duplicate         } select entities
SET IMPORT DUPLICATE REPLACE  } with $ID and
IMPORT PGM WHOPGM             }                        } any version
IMPORT PGM WHOPNL             } replace duplicates   }
                             }
Summary of IMPORT operations:

PROGRAM @I$INQU1 SYSTEM $ID  VERSION 001   Imported as the next version.
NEW SYSTEM WWW NEW VERSION 002
PROGRAM @I$INQU2 SYSTEM $ID  VERSION 001   Imported as the next version.
NEW SYSTEM WWW NEW VERSION 002
PROGRAM WHO SYSTEM $ID VERSION 002         Imported as the next version.
NEW SYSTEM WWW NEW VERSION 002
PANEL WHOPGM SYSTEM $ID  VERSION 002       Imported new.
NEW SYSTEM WWW NEW VERSION 001
PANEL WHOPNL SYSTEM $ID VERSION 002        Replaced an existing entity.
NEW SYSTEM WWW NEW VERSION 001
```

Note:

■ The operand SYSTEM or VERSION with a command specifies default selection criteria for entities on the source file. In this example, the command SET IMPORT SYSTEM specifies a selection criterion of system $ID as the default for all IMPORT commands. The command SET IMPORT VERSION ASIS specifies to import entities using any version. It normally overrides the effect of a previous SET command. In this case, it is unnecessary since ASIS is the default.

■ The operand NEW SYSTEM or NEW VERSION with a command specifies defaults to use when source transport creates imported entities. The SET IMPORT NEW commands specify as defaults system WWW and version 1 to assign to all imported entities.

Overriding Source File Attributes

The SET SOURCE commands lets you dynamically specify attributes for the source file. In the following examples, they are the ddname of the z/OS file and the device, block size, and logical unit of a VSE file. If you specify more than one attribute, only the last one encountered is used for the run.

SET SOURCE Example (z/OS)

```
SET SOURCE DDNAME EXTSRC
```

SET SOURCE Example (VSE)

```
SET SOURCE DEVICE DISK
SET SOURCE BLKSIZE 80
SET SOURCE TO SYS007
```

Source Transport Process

The Source Transport Utility operates in two phases:

1. Read and validate control statements.

   This phase enters the valid commands into a table for use in the second phase of execution. Generic version numbers (such as LAST and PROD) in the EXPORT commands are resolved to specific version numbers at this stage by looking up the entity occurrence in the dictionary. If two EXPORT commands refer to the same entity, as can happen when a generic version and an explicit version number are both used, only entry is made in the table. IMPORT commands are resolved in the second phase from the information in the external file.

2. Read or write the external source file.

   The second phase of operation begins when the OFF command is processed. If one is not present in the input stream, it is assumed at end-of-file.

   For an EXPORT run, the entities (programs, panels, members, and so on) are processed in the same order as the EXPORT commands were entered.

   For an IMPORT or PRODUCE run, the external source determines the order of processing. Each entity found on the source file is matched against the table built in the first phase to determine if it is to process. PRODUCE matches everything, but IMPORT operations can specify a particular version, system, or user. If the entity is processed, this is recorded in the table to avoid duplicate processing. Unmatched entities are counted for the final summary report.

The process affects both the reports, described later, and the trace facility, described next.

Running Traces

You can use the CA Ideal Trace Facility with the Source Transport Utility. Its use is affected by Source Transport's two-phase processing. The @I$TRACE ON command turns on the trace. The SET @I$DIALMASK command specifies the Dial codes to show in a Dial trace. For more information, see the *Problem Determination* Guide.

■ To turn on the trace before the processing of the commands in the source transport's first phase, put an @I$TRACE ON command before any source transport commands.

■ To turn on the trace before the second phase, when the commands are processed, put the command just before the OFF.

■ To turn off the trace after the first phase, put an @I$TRACE OFF command or an @I$TRACE PRINT command just before the OFF command.

■ To trace the second phase, a second step in the job must print the trace because the @I$TRACE PRINT command must be processed after the OFF command in the first step is executed.

Invoking the User Exit

The Source Transport Utility provides exit points to facilitate the handling of exported CA Ideal source code by external library management systems. You can insert or verify control statements (or any 80-column records) at these exit points.

The content of these added records does not affect an export or import. These records are placed before or after CA Ideal programs, panels, and reports on the external source file. You can use them for any purpose.

To activate these exit calls, enter one of the following commands anywhere in the command input stream:

```
SET EXIT LIBRARIAN
SET EXIT NAME load-module-name
```

SET EXIT LIBRARIAN

Calls the CA distributed load module @ISTEXIT. This module produces CA-Librarian control statements. It is also distributed in source form as member STEXIT. It is provided as a sample and you can modify it. Refer to the appropriate installation guide for details on how to locate source members from CA distribution tapes.

SET EXIT NAME load-module-name

Specifies the site-written exit called at the exit points. SET EXIT LIBRARIAN is equivalent to SET EXIT NAME @ISTEXIT. This exit must be linked Amode(31).

If you omit the command, no exit is called and no control statements are produced.

For the z/OS environment, the address of the JCL EXEC PARM= string is passed to the exit for its own use.

Export Exit

The export exit is called at the following times:

- First call of a run (for file headers)

- Beginning of each entity

- Ending of each entity

- Last call of a run (for file trailers)

Each is actually a series of calls under control of the exit, where each call can pass back an 80-byte statement image that the Utility writes out to the external source file. Zero or more records can be written on the external file as determined by the exit.

The data passed to the exit lets the exit map the CA Ideal entity names into a user-defined naming convention. This might be required when the same eight-character name is used for programs in different systems or is used for related programs, panels, or reports. This mapping is the exit's responsibility.

The EXPORT exit can instruct the utility to do the following:

- Place a record on the external source code file and call again.

- Proceed to export the entity.

- Skip the current entity without exporting it.

- Abort the remainder of the processing.

Import Exit

For IMPORT, the exit is called only when records are encountered between the end of one entity and the start of the next, or at the start of the IMPORT file before the first entity.

The utility does not interpret these records. They are assumed to be control statements for a source code library facility or site documentation. The exit is called to allow the utility to examine these records and return a message.

Each call can actually be a series of calls. The length of a series is determined by the number of records found between entities. Each call to the exit can pass back a message that CA Ideal lists to the SYSPRINT file and a return code requesting an action.

The IMPORT exit can instruct the utility to:

- Place a message on the report file.

- Ignore further exit-records and proceed with import.

- Skip the current entity without importing it.

- Abort the remainder of the processing.

Source Transport Commands

This section describes the commands accepted by the Source Transport Utility.

EXPORT Command

The EXPORT command writes the specified entity to an external source file in the format acceptable to IMPORT. Authorization is checked for each command. You can export only one copy of an entity in a run. Exporting the same entity more than once to an external file results in a warning message.

This command has the following format:

```
       {{{ DVW }                                   }}
       {{{ PGM }        [           { nnn  } ]      }}
EXPORT {{{ PNL } name [VERSION { PROD } ] [SYSTEM sss]  }}
       {{{ RPT }        [           { LAST } ]      }}

       MEM mem-name [USER uuu]
```

If not specified here, the version, system, and user are obtained from the appropriate SET EXPORT command. You must specify the version and system for programs, panels, or reports if they are not specified on a SET EXPORT command. When you do not specify a user on either command, the current user ID is used.

The entity statname

Defines the name of the unmodeled dataview, program, panel, or report to export.

VERSION

Identifies the version of the program, panel, dataview, or report.

nn

The one- to three-digit version number assigned to the entity.

PROD

The production status version.

LAST

The latest version of the entity created, which has the highest version number.

sys

> Identifies the name of the system from which the specified entity is exported. The SYSTEM is not specified for dataviews.

mem-name

> Identifies the name of the member to export.

uuu

> Identifies the user ID associated with the member.us, date compiled, date modified, and sequence numbers are written to the source file for documentation.

IMPORT Command

The IMPORT command creates the specified entity from the external source file.

All entities are created in TEST status and resequenced. When the entity already exists, the action specified by the SET IMPORT DUPLICATE commands is taken (refer to the SET IMPORT DUPLICATE command in this section).

Importing Program Resources

When an IMPORT command replaces an existing program, some relationships to other entity occurrences are affected. Relationships where the imported program is the subject of the relationships are replaced by those specified in the external source of the imported program.

That is, the resources shown by the DISPLAY PROGRAM RESOURCES command are completely replaced. Those relationships where the imported program is the object of the relationship are not affected.

This command has the following formats:

Format 1:

```
IMPORT ALL [type] [new-clause]
```

Format 2:

```
       { DVW name [VERSION ver]                      }
       { HELP name                                   }
       {                                             }
       { { { PGM }                      }            }
IMPORT { { { PNL } name-clause          } [new-clause] }
       { { { RPT }                      }            }
       { {           [      {ASIS   } ] }            }
       { { MEM name [  USER {old-user} ] }            }
```

type

The name of the entity to import. Valid types are as follows:

DVW PNL

HELP RPT

PGM MEM

new-clause

Specifies the new version, system, or user for the entities the IMPORT command creates. The new-clause can include any of the following phrases:

```
            {nnn }
NEW VERSION {ASIS}
            {NEXT}
```

The value of nnn specifies the new version number to assign to the dataview, report, panel, or program being created. ASIS specifies that the version number is the same for the new entity as it was for the source entity. NEXT specifies that the version number is the next sequential number after the highest currently active version number.

```
           {ASIS}
NEW SYSTEM {sys }
```

The value of sys specifies the new system name to which the report, panel, or program is assigned. ASIS specifies that the system name is the same for the new entity as it was for the source entity.

```
         {ASIS}
NEW USER {uuu }
```

The value of uuu specifies the new user name to which the member is assigned. ASIS specifies that the user name is the same for the new member as it was for the source member.

You can enter any of these phrases on the IMPORT command, but they only apply to those entities for which they have meaning. You can specify the phrases in any order. If not specified on the IMPORT command, the version, system, or user is obtained from the appropriate SET IMPORT command. If they are not specified with a SET IMPORT command, you must enter any applicable phrases on the IMPORT command.

DVW name [VERSION ver]

Specifies the unmodeled dataview to select from the source file. If you specify ver as nnn, only the version identified by the number nnn is selected. If you specify ver as ASIS, any version of the dataview is selected. If you do not specify the VERSION clause, the default version is selected.

HELP name

Specifies the HELP member to select from the source file.

{PGM|PNL|RPT} name clause

Specifies the programs, panels, or reports to select from the source file. The name-clause identifies the name, version, and system of the entity, in the following format:

```
     [        {nnn }] [        {ASIS    }]
name [VERSION {ASIS}] [SYSTEM {old-sys}]
```

name

The name of the program, panel, or report to select.

VERSION clause

With nnn, specify the version of the entity identified by the number nnn. With ASIS, specifies that any version of the entity is selected.

SYSTEM clause

With ASIS, the named entity is selected using any system name. With old-sys, the named entity is selected only from the system named old-sys.

MEM name

Identifies the member to select from the source file. You can further identify the member to select by specifying the user who owns it.

USER {ASIS|user}

With ASIS, specifies that the member to select can belong to any user. With user, selects only the member that belongs to the indicated user.

Note:

- You can select an entity in the input file only once. Therefore, IMPORT ALL allows no other IMPORT commands, and IMPORT ALL PGM allows no other IMPORT PGM commands.

- If more than one entity in the input file satisfies the selection criteria, the first is imported and warnings are issued on subsequent matches.

- The date-compiled field is cleared and the date-modified and time-imported fields are set to the current date and time. The time-created field contains the time you specified (if no time is specified, the current time is the default).

PRODUCE IMPORT COMMANDS Command

The PRODUCE IMPORT COMMANDS command produces a machine-readable file of import commands corresponding to a source file. The command also prints the directory for the source.

The output from the PRODUCE IMPORT COMMANDS will be directed to the SYSPUNCH file.

SET @I$DIALMASK Command

Turns on the DIAL debugging facility. For more information about @I$DIALMASK command, see the *Problem Determination Guide*.

This command has the following format:

```
                  {'string'}
SET @I$DIALMASK {ALL     }
```

@I$TRACE Command

Turns the tracing debugging facility on or off. For more information about @I$TRACE command, see the *Problem Determination Guide*.

This command has the following format:

```
          {ON }
@I$TRACE {OFF}
```

SET ERROR Command

Specifies the action to take when an error is detected. QUIT is the default.

This command has the following format:

```
          {CONTINUE}
SET ERROR {QUIT    }
```

SET EXIT Command

Specifies the exit used for the insertion of control statements in the source output.

This command has the following format:

```
         {NAME exit-name}
SET EXIT {LIBRARIAN      }
```

exit-name

Identifies the eight-character name of an exit module.

LIBRARIAN

The CA Librarian exit distributed with source transport.

SET EXPORT RESOURCE HISTORY Command

Specifies whether duplicate resources are exported when multiple occurrences of a resource with the same name but different version numbers are related to a program.

This command has the following format:

```
                                              {NO }
SET EXPORT [PROGRAM] RESOURCE [DUPLICATE] HISTORY {YES}
```

NO

Suppresses exporting of duplicate resources with different version numbers. Only the highest numbered resource is exported, regardless of its status. However, if the entity occurrence is in HISTORY status, a warning message is included in the source listing and in the SYSPRINT listing since CA Ideal cannot form a relationship with a resource in HISTORY status.

YES

Exports all resources of a program, including multiple occurrences with the same name but different version numbers. This provides an audit trail when storing the entities. However, you must edit the resource table of the program to remove the history resources before the program can be compiled.

SET EXPORT SYSTEM Command

Selects the default CA Ideal system from which the entities are exported. No signon member is executed for a Source Transport run. You cannot use the SELECT SYSTEM command.

This command has the following format:

```
SET EXPORT SYSTEM sys
```

SET EXPORT USER Command

Selects the default user for the members to export.

This command has the following format:

```
SET EXPORT USER uuu
```

SET EXPORT VERSION Command

Selects the default version for the entities to export.

This command has the following format:

```
                   {nnn  }
SET EXPORT VERSION {PROD }
                   {LAST }
```

SET IMPORT DUPLICATE Command

Specifies the action to take when an imported entity already exists. If you do not enter this command, processing stops when a duplicate entity is found (QUIT).

This command has the following format:

```
                     { REPLACE         }
                     { NEXT [VERSION]  }
SET IMPORT DUPLICATE { SKIP            }
                     { QUIT            }
```

REPLACE

Overwrites the existing entity when status is TEST.

NEXT

Create an entity at the next available version without changing the existing entity.

SKIP

Continue to process the source input without changing the existing entity or adding a new one.

QUIT

Quit processing the source input without changing the existing entity.

Note:

- For dataviews and HELP members, the NEXT option is treated as SKIP because these entities do not have version numbers.

- An import does not replace an existing dataview if a program in Production status is using it.

SET IMPORT RESOURCE Command

Specifies the version requirements for the relationships established in an imported program's resource table. If you do not specify this command, the resources are imported with the version set in the export file.

This command has the following format:

```
SET IMPORT [PGM] RESOURCE [entity] version clause
```

entity

Identifies the entity for which the version clause is specified. Valid values are DVW, PGM, PNL, and RPT. If you do not specify an entity, the version clause applies to all entity types.

version clause

Indicates the version of the specified entity that is related to the program in the program's resource table. The version clause has the following format:

```
        { ASIS }
        { PROD }
[VER] { nnn  }
        { Tnnn }
        { LAST }
```

ASIS

The imported program's resource table uses the version set in the export file.

PROD

The imported program's resource table uses the production version, regardless of the version shown in the export file. If no PROD version of the entity exists, the relationship is not added and a warning message is included on the source and SYSPRINT listings.

nnn

The imported program's resource table uses version number nnn, regardless of the version shown in the export file.

Tnnn

The imported program's resource table uses version number Tnnn for CA Datacom/DB native access dataviews, regardless of the version shown in the export file. This version can only be specified for CA Datacom/DB native access dataviews (DVW).

LAST

The imported program's resource table uses the most recently created version for the specified entity, regardless of the version shown in the export file. You can only specify this version for unmodeled dataviews, programs, panels, and reports (DVW, PGM, PNL, and RPT).

Note: Resources associated using this keyword must exist before the program is imported. If the resources are imported from the same tape as the program and they were not exported in the correct sequence (resources before program), you must import the application in two job steps: the first job imports the resources and the second imports the program.

SET IMPORT NEW SYSTEM Command

Specifies a default system for the entities being created from the input source file. ASIS directs IMPORT to use the system declared in the definition on the import source file. If this command is not issued, the default is ASIS.

This command has the following format:

```
                {sys }
SET IMPORT NEW SYSTEM {ASIS}
```

SET IMPORT NEW USER Command

Specifies a default user for the members being created from the input source file. If this command is not issued, the default is ASIS.

This command has the following format:

```
                       {uuu }
SET IMPORT NEW USER {ASIS}
```

SET IMPORT NEW VERSION Command

Specifies a default version for the entities being created from the input source file. If this command is not issued, the default is ASIS.

This command has the following format:

```
                          { nnn  }
SET IMPORT NEW VERSION { ASIS }
                          { NEXT }
```

nnn

> Specifies that the default version for imported entities is nnn.

ASIS

> Specifies that the default version for imported entities is the version specified on the export file.

NEXT

> Specifies that the default version for imported entities is the next sequential number after the highest currently active version number for the imported entity occurrence.

SET IMPORT SYSTEM Command

Selects the default system on the input file for an entity to import.

This command has the following format:

```
                    {sys }
SET IMPORT SYSTEM {ASIS}
```

SET IMPORT USER Command

Selects the default user on the input file for a member to import.

This command has the following format:

```
                 {uuu }
SET IMPORT USER {ASIS}
```

SET IMPORT VERSION Command

Selects the default version on the input file for an entity to import.

This command has the following format:

```
                    { nnn }
SET IMPORT VERSION { ASIS}
                    { LAST}
```

SET OUTPUT Commands

For a brief description of the SET OUTPUT commands for the Print Subsystem (PSS), see the section Setting Output Options in the chapter "Output Services." For more information about syntax of the SET OUTPUT commands, see the *Command Reference Guide*.

SET SOURCE BLKSIZE Command

Sets the source file block size for VSE and defaults to 4000. This block size must be a multiple of 80 and cannot exceed that in the ROSFD macro installed at the site.

This command has the following format:

SET SOURCE BLKSIZE *nnnn*

SET SOURCE DDNAME Command

Specifies the z/OS DDNAME to use for the source file. The default is EXTSRC.

This command has the following format:

SET SOURCE DDNAME *xxxxxxxx*

SET SOURCE DEVICE Command

Sets the source file DEVICE type for VSE. If you do not specify this command, the tape is assumed to have standard labels.

This command has the following format:

`SET SOURCE DEVICE "`*type*`"`

type

Indicates one of the following tapes:

SLTAPE

Indicates the tape with Standard label.

NLTAPE

Indicates the tape with no label.

DISK

Indicates the disk.

SET SOURCE LISTING Command

Turns off the listing of the entire source as it is imported. The last source record read is always listed before printing any error messages.

This command has the following format:

`SET SOURCE LISTING OFF`

SET SOURCE TO SYS Command

Sets the source file logical unit number for VSE. The default is the logical unit specified in the ROSFD macro installed at the site.

This command has the following format:

`SET SOURCE TO SYS`*nnn*

SET TERMINAL Command

Allows the use of DBCS characters in the source file.

This command has the following format:

`SET TERMINAL 5550`

External Source Format

This section describes the layout of the external form of a CA Ideal program, panel, report, unmodeled sequential file dataview, member, and HELP member. The EXPORT command automatically generates this format (except for HELP members, which cannot be exported).

Data is designed to fit in a 72-column format. The EXPORT command provides ascending sequence numbers in columns 73-80. Columns 74-79 contain the six-digit statement numbers used in compiler and runtime messages. You can use them for reference, but the IMPORT command ignores them. The IMPORT command always renumbers the sequence field of any source that is transported.

In each section, keywords are shown in uppercase, while variable operands are in lowercase. String operands are shown surrounded by apostrophes. When the operand is shown without apostrophes, apostrophes and double-quotes are taken as data. You can omit the optional keywords, but you must maintain the keyword order. Record breaks can occur only between keywords and operands, not in them.

The only keywords that you can abbreviate are VERSION and SYSTEM. You can abbreviate VERSION as V or VER. You can abbreviate SYSTEM as SYS. You must spell out all other keywords as they appear in the following sections. Keywords that are shown preceded by -> (hypen sign followed with right carat sign) must begin in column 3. Columns 1 and 2 must contain the hyphen and right carat characters (- and >). Data to transport must not have the characters, hyphen (-) and right carat (>), in columns 1 and 2.

Variable-length operand strings are handled in the following manner. All variable-length strings are represented by one or more delimited strings. Only apostrophes (') and double-quotes (") are used as delimiters. The next keyword signals the end of the delimited strings. No strings can cross record boundaries. All such strings are concatenated to become the source data string. For example:

```
1) DATA ' ABCDEFG'------> is ABCDEFG with one leading blank
2) DATA " ABCDEFG"------> also is ABCDEFG with one leading blank
3) DATA "A'B" '"C'------> is the 5 characters A'B"C
4) DATA "'" '"' "'"------> is the 3 characters '"'
```

DATAVIEW Format

An unmodeled (VSAM or sequential file) dataview, when exported or imported using the Source Transport Utility, has the following format. For a description of the lowercase values, refer to the sections on defining sequential and VSAM dataviews in the *Creating Dataviews Guide*.

```
->DATAVIEW dvw-name VERSION version STATUS stat
[IDEAL nn.nx]
             [MVS]
OPER-SYSTEM [VSE]
              {QSAM}
ACCESS-METHOD {VSAM}

[DATE-CREATED yymmdd CREATED-BY user-name]
[DATE-MODIFIED yymmdd TIME-MODIFIED hhmm MODIFIED-BY user-name]
[DATE-CATALOGED yymmdd TIME-CATALOGED hhmm]

[SHORT-DESC  'short-description']
[ TEXT1 '1st line of long-description' ]
[[TEXT2 '2nd line of long-description']]
[[TEXT3 '3rd line of long-description']]
[[TEXT4 '4th line of long-description']]
[[TEXT5 '5th line of long-description']]

[                  {KSDS} ]
[FILE-ORGANIZATION {ESDS} ]
[                  {RRDS} ]
```

```
UPDATE-INTENT {Y}
              {N}
[FILENAME filename]

[ [RECORD-LENGTH  nnn]        ]
[ [BLOCK-SIZE   nnn]          ]
[                            ]
[ [             {FBLK }]    ]
[ [RECORD-FORMAT {FUNB }]   ]
[ [             {      }]   ]
[ [DEVICE-TYPE  device]      ]
[                            ]
[ [            {YES} ]       ]
[ [TAPE-LABELS {NO } ]       ]

[ ->FIELD-DATA            ]
[[columnar format field data]]

[PRIMARY-KEY fieldname    ]
[ALTERNATE-KEYS          ]
[ columnar format key data]

->END-DATAVIEW
```

Field Data Column Format-The following are the column positions for the fields located in the dataview:

Column Position	Field
Col 2-6	Level number
Col 8-26	Field name
Col 28	Type
Col 30	Internal type
Col 32-36	CH/DG
Col 38-42	Occur
Col 44-72	Value/comments/and so on
Col 73	Fixed character '1'
Col 74-79	Sequence number
Col 80	Fixed character '0'

■ **Key Data Column Format-**The following are the column positions for the key data:

Column Position	Field
Col 3-10	Path name
Col 12-43	Key field name
Col 46	Unique key indicator (Y or N)
Col 48	Upgrade set indicator (Y or N)

Note:

■ For dataviews created before CA Ideal r 2.1, the ACCESS-METHOD can be QSAM or SAM.

■ FILE-ORGANIZATION is included only for VSAM files.

■ RECORD-LENGTH, BLOCK-SIZE, RECORD-FORMAT, DEVICE-TYPE, and TAPE-LABELS are included only for VSE files.

HELP Format

HELP member formatting using the Source Transport Utility is as follows:

```
->HELP mem-name

[IDEAL nn.nx]
[DESC 'up-to-24-characters']

[->HELP-DATA              ]
[[columnar format help data] ]

->END-HELP
```

The HELP data appears in columns 1 through 72.

MEMBER Format

a CA Ideal member, when imported or exported using the Source Transport Utility, has the following format. The column format is described as follows.

```
->MEMBER mem-name USER uuu

[DESC "up-to-24-characters"]

[->MEMBER-DATA                ]
[[columnar format member data] ]

->END-MEMBER
```

For a description of the lowercase values, see the chapter, "Data Members."

Column Format

The following are the column positions for the member data.

Column Position	Field
Col 1-72	Member source
Col 73	Fixed character '1'
Col 74-79	Sequence number
Col 80	Fixed character '0'

PANEL Format

a CA Ideal panel, when imported or exported using the Source Transport Utility, has the following format. The section from FIELD to COMMENTS is repeated for every field, including group entries, on the panel. The FIELD entries must be in the same order as they display on a PDF summary.

ROW and COLUMN options specify the respective value of the row or column on the *layout* panel, not the facsimile panel. (These can differ for repeating groups.) For information on the description of the lowercase values, see the *Creating Panel Definitions* guide.

```
->PANEL pnl-name VERSION version SYSTEM system
[STATUS stat] [IDEAL nn.nx]
[DATE-CREATED  yymmdd              CREATED-BY user-name]
[DATE-MODIFIED yymmdd   TIME-MODIFIED hhmm MODIFIED-BY user-name]
[RUN-STATUS run-status]

[SHORT-DESC  'short-description']

[ TEXT1 '1st line of long-description' ]
[[TEXT2 '2nd line of long-description']]
[[TEXT3 '3rd line of long-description']]
[[TEXT4 '4th line of long-description']]
[[TEXT5 '5th line of long-description']]

[TERMINAL xxxx]
[STARTSYM 'x'] [ENDSYM 'x'] [NEWSYM 'x'] [REPSYM 'x'] [DELSYM 'x']
[MOVESYM 'x'] [COPYSYM 'x'] [DESTSYM 'x'] [WIDTH  nnn]
[INFILL   x]  [OUTFILL x] [NONDISPL x]  [ERRORFILL x] [CASETRAN x]
[REQUIRED  x] [ERRHANDL x] [PF1PF3  x] [PF781011 x]   [ALLOW-EOF x]
[EDIT-RULE-PROCESS x] [PROCESS-ON-SCROLL x] [HARDWARE-INSERT x]

[HELP-PANEL    pnl-name [VERSION version]]
[PREFIX-PANEL pnl-name [VERSION version]]
[SUFFIX-PANEL pnl-name [VERSION version]]

->FIELD [NAME field-name]
TYPE x [LEVEL n] [ROW nnn] [COLUMN nnn] [LENGTH nnn]  [OCCUR xx]
[INITIAL-VALUE 'any-text']
[ATTRIBUTES xxxxxx]        [COLOR x]     [EXTENDED-HILITE x]
[INFILL x]    [OUTFILL x]   [CASETRAN x] [REQUIRED x]  [ERRHANDL x]
[JUSTIFY x] [MUSTFILL x] [NULLABLE x] [VAR-DELIM x] [NO-UC-TRAN x]
[MINIMUM-VALUE 'min-value']
[MAXIMUM-VALUE 'max-value']
[ALLOW-EOF x]  [HARDWARE-INSERT x]
[HELP-PANEL    pnl-name [VERSION version]]
```

```
[IN.DP  nn.nn] [MIN-REQ-DECIMALS nn] [EDIT-PATTERN 'edit-pattern']
[DIGIT-SEP x] [MINUS-SIGN x] [CURRENCY x] [CHECK-DIGIT x]

[COMMENTS 'any-comments']

->END-PANEL
```

Defaults for Optional Panel Entries

When the following entries are not specified for the panel, their values are taken from the site defaults for the SET PANEL command.

```
STARTSYM          OUTFILL
ENDSYM            CASETRAN
NEWSYM            NONDISPL
REPSYM            PF1PF3
DELSYM            PF781011
MOVESYM           ERRORFILL
COPYSYM           REQUIRED
DESTSYM           ALLOW-EOF
WIDTH             HARDWARE-INSERT
INFILL
```

If the site defaults are acceptable, you need not specify these keywords.

Defaults for Optional FIELD Entries

The following FIELD entries default to the panel values.

```
INFILL
OUTFILL
CASETRAN
ERRHANDL
REQUIRED
ALLOW-EOF
HARDWARE-INSERT
```

The following defaults apply to other FIELD entries:

LENGTH

> Defaults to the length of the INITIAL-VALUE. It is not necessary to specify the length of text data.

LEVEL

> Defaults to 2 for the first field, to 3 for the first field after a TYPE G field, and to the LEVEL of the previous field for all other fields. It is only necessary to specify LEVEL when a field follows a repeating group.

ROW

> Defaults to 1 for the first field. Otherwise, ROW defaults to the ROW of the previous field. If that would cause an error, the next ROW is used. Therefore, specifying COLUMN 1 and no ROW places the field on COLUMN 1 of the next ROW. Also, the default ROW automatically steps to the next ROW for the first field in a group and the first field after a group.

COLUMN

> Defaults to the COLUMN immediately following the previous field. If that causes an error and ROW is also not specified, COLUMN 1 on the next ROW is used. As long as the fields are on the ROW, it might be easiest to use PDF LAYOUT to adjust them to the appropriate column.

> When neither ROW nor COLUMN is specified, the field is placed in the first available location that does not cause an error. (If the FIELD LENGTH is greater than the panel WIDTH minus one, there is no location that avoids an error.)

ATTRIBUTES

> Defaults to the values specified in SET PANEL TFATTRIBUTE and IFATTRIBUTE commands. If neither ATTRIBUTES nor INITIAL-VALUE is specified, IFATTRIBUTE is used. If ATTRIBUTES is not specified for a field with an INITIAL-VALUE, TFATTRIBUTE is used.

Note: Some errors cannot be recognized until the next FIELD has begun. This is true for the error messages that begin with STPCB. Specifying only ->FIELD on the first statement for each field makes it easier to interpret these errors.

PROGRAM Format

a CA Ideal program, when exported or imported using the Source Transport Utility, has the following format. For more information about descriptions of the lowercase values, see the *Creating Programs Guide*.

```
->PROGRAM pgm-name VERSION version SYSTEM system
[STATUS stat] [IDEAL nn.nx]
[DATE-CREATED yymmdd CREATED-BY user-name]
[DATE-MODIFIED yymmdd TIME-MODIFIED hhmm MODIFIED-BY user-name]
[DATE-COMPILED yymmdd TIME-COMPILED hhmm]
[RUN-STATUS run-status]
[NEW-COPY-ON-CALL x] [UPDATE-DB x] [UPDATE-DB2 x]
[LANGUAGE lang] [TARGET-DATE yymmdd] [ACTUAL-DATE yymmdd]

[SHORT-DESC  'short-description']
[ TEXT1 '1st line of long-description' ]
[[TEXT2 '2nd line of long-description']]
[[TEXT3 '3rd line of long-description']]
[[TEXT4 '4th line of long-description']]
[[TEXT5 '5th line of long-description']]

[USES-DATAVIEW dvw-name [VERSION version]]
[USES-DATAVIEW authid.db2-dvw-name QUALIFIED x]
[USES-PANEL    pnl-name [VERSION version] [SYSTEM sss]]
[USES-REPORT   rpt-name [VERSION version] [SYSTEM sss]]
[USES-PROGRAM  pgm-name [VERSION version] [SYSTEM sss]]

[ENVIRONMENT                    ]
[ SQL dbtype                    ]
[ AUTHORIZATION authid          ]
[ MODE sqlmode                  ]
[ ISOLATION-LEVEL isolevel      ]
[ OPTMODE optmode               ]
[ OPTMSGS-PREP msgopt           ]
[ OPTMSGS-EXEC msgopt           ]
[ DATEFORM form                 ]
[ TIMEFORM form                 ]
[            {SEC}              ]
[ WAITTIME nn {MIN}             ]
```

```
[                              ]
[ PRIORITY nn                  ]
[ CBSIO nnnnnn                 ]
[ DECPOINT x                   ]
[ STRDELIM x                   ]
[ WORKSPACE nnnn               ]

[ ->WORKING-DATA               ]
[[columnar format working data]  ]

[ ->PARAMETER-DATA             ]
[[columnar format parameter data] ]

[ ->PROCEDURE-DATA             ]
[columnar format procedure data]  ]

->END-PROGRAM
```

Note:

■ The resource data (USES-xxxxxxx) is repeated for each dataview, panel, report, and subprogram.

■ The environment data is included only if the exported program includes SQL precompile and bind options.

When a program is imported, the environment section is ignored if the target CA Ideal is not capable of SQL access. If the target CA Ideal is capable of SQL access and the environment section is not present, default values are used.

Column Format

The following are the column positions for the fields located in each program section.

Working Data

Column Position	Field
Col 2-6	Level number
Col 8-26	Field name
Col 28	Type
Col 30	Internal type
Col 32-36	CH/DG
Col 38-42	Occur
Col 44-72	Value/comments/and so on

Column Position	Field
Col 73	Fixed character '1'
Col 74-79	Sequence number
Col 80	Fixed character '0'

Parameter Data

Column Position	Field
Col 2-6	Level number
Col 8-26	Field name
Col 28	Type
Col 30	Internal type
Col 32-36	CH/DG
Col 38-42	Occur
Col 44	Update
Col 46	Match
Col 48-70	Value/comments/and so on
Col 73	Fixed character '2'
Col 74-79	Sequence number
Col 80	Fixed character '0'

Procedure Data

Column Position	Field
Col 1-72	PDL source
Col 73	Fixed character '3'
Col 74-79	Sequence number
Col 80	Fixed character '0'

Default Values (Environment Section)

If the environment section is not present when a program is imported to an SQL-capable site, the session defaults create an environment section.

REPORT Format

a CA Ideal report, when imported or exported using the Source Transport Utility, has the following format. Any user-defined headings immediately follow their detail data in the column format report detail data. The column formats are described following the format layout.

```
->REPORT rpt-name VERSION version SYSTEM system

[STATUS stat] [IDEAL nn.nx]
[DATE-CREATED yymmdd CREATED-BY user-name]
[DATE-MODIFIED yymmdd TIME-MODIFIED hhmm MODIFIED-BY user-name]

[SHORT-DESC  'short-description']

[ TEXT1 '1st line of long-description' ]
[[TEXT2 '2nd line of long-description']]
[[TEXT3 '3rd line of long-description']]
[[TEXT4 '4th line of long-description']]
[[TEXT5 '5th line of long-description']]

[LINES nnn] [WIDTH nnn] [SPACING n] [GAP xx] [AFTER-HEAD n]
[SUMMARIES-ONLY x] [COLHEAD x] [COLHEAD-IND x] [CONTHEAD x]
[CONTFOOT x]
[AUTO-SUMMARIES x]
[GROUP-CONTINUATION x] [ANNOTATED-COUNT x]
[FINAL-SUMMARY x] [SUMMARY-SPACE x]
[SUMMARY-TITLE 'any-text up to 42 characters']
[DATEPOS xx] [DATEFOR 'up-to-15-chars']
[PAGEPOS xx] [PAGEFMT x] [PAGEWORD 'page-word-text']
[HEADPOS x] [PAGEHEAD 'any text up to 42 characters']

[ ->HEADING-DATA                   ]
[[columnar format heading/footing data]]

[ ->DETAIL-DATA                    ]
[[columnar format report detail data]]

->END-REPORT
```

Column Format

The following are the column positions for the fields located in each report section.

Heading/Footing Data

Column Position	Field
Col 2-49	Field name, literal, function, or arithmetic expression
Col 53-54	Column width
Col 56-58	Column tab
Col 60-72	Edit pattern
Col 73	Fixed character '1'
Col 74-79	Sequence number
Col 80	Fixed character '0'

Detail Data

Unless column 46 (column heading flag) of previous record = "U":

Column Position	Field
Col 2-26	Field name, literal, function, or arithmetic expression
Col 28	Sort level
Col 30	Sort ascending/descending
Col 32	Break level
Col 34	Break skip
Col 36	Break indication
Col 38	Total function
Col 40	Maximum function
Col 42	Minimum function
Col 44	Average function
Col 46	Column heading flag
Col 53-54	Column width
Col 56-58	Column tab
Col 60-72	Edit pattern
Col 73	Fixed character '2'

Column Position	Field
Col 74-79	Sequence number
Col 80	Fixed character '0'

If column 46 (column heading flag) of previous record = "U":

Column Position	Field
Col 1	Fixed character "H"
Col 3-38	Column heading
Col 73	Fixed character '2'
Col 74-79	Sequence number
Col 80	Fixed character '1'

Reports

The Source Transport Utility produces the IMPORT/EXPORT/PRODUCE Report and a Source Listing.

IMPORT/EXPORT/PRODUCE Report

Each execution for IMPORT, EXPORT, or PRODUCE commands generates a print file with a report showing:

- The commands entered in the first phase of the Source Transport process.
- The entities imported, exported, or produced for execution in the second phase of the Source Transport process.

For exports, the report is an audit trail that consists of a single line identifying each entity written to the source file. Any errors detected as the source file is generated are written in this print file.

For IMPORTs or PRODUCEs, the report contains a single line identifying each entity on the source file. This line indicates whether this entity was skipped or IMPORTed and whether errors were incurred. Errors for entities that were not found in the input stream are listed at the end of the audit trail.

It also includes a summary of the run and statistics showing the numbers of each entity type processed or left unprocessed.

Source Listing

In addition, each batch execution for an IMPORT or PRODUCE command generates a source listing showing each entity that was found on the source file. Any error messages detected in processing the external source are printed. The source listing is generated automatically. You can limit the report to the diagnostics only using the SET SOURCE LISTING OFF command anywhere in the batch stream.

Sample IMPORT Report

Sample reports for an IMPORT run follow. The sequence of the commands entered and summary sections differ from the detail section. The detail section lists the actions taken by the source transport in the sequence each entity is encountered on the source file. The commands entered and summary sections list the actions taken in the sequence each command is encountered.

```
Commands entered

        SET ERROR CONTINUE

        SET IMPORT SYSTEM $ID

        SET IMPORT VERSION ASIS

        SET IMPORT NEW SYSTEM WWW

        SET IMPORT NEW VERSION 001

        SET IMPORT DUPLICATE NEXT

        IMPORT PGM @I$INQU1

        IMPORT PGM @I$INQU2

        IMPORT PGM @I$INQU3

        IMPORT PGM WHO

        SET IMPORT DUPLICATE REPLACE

        IMPORT PNL WHOMAIN

        IMPORT PNL WHOPGM

        IMPORT PNL WHOPNL

        IMPORT PNL WHOUSR

        OFF
```

```
IMPORT operation detail report:

MEMBER   COMUSRIP USER    $ID

1-IDSTIMPD06I - Entity not requested for IMPORT

PROGRAM  WHO     SYSTEM $ID  VERSION 002   NEW SYSTEM WWW NEW VERSION 001

1-IDSTIMPD03I - IMPORT successful. Entity added as next version 002.

PANEL    WHOPNL   SYSTEM $ID VERSION 002   NEW SYSTEM WWW NEW VERSION 001

1-IDSTIMPD02I - IMPORT successful. Entity replaced.

PANEL    WHOUSR   SYSTEM $ID  VERSION 002  NEW SYSTEM WWW NEW VERSION 001

1-IDSTPNLI12E - Entity must be in test status to be REPLACED

1-IDSTIMPD10W - IMPORT failed

PANEL    WHOPGM   SYSTEM $ID VERSION 002  NEW SYSTEM WWW NEW VERSION 001

1-IDSTIMPD01I - IMPORT successful. New entity added.

PANEL    WHOMAIN  SYSTEM $ID  VERSION 002  NEW SYSTEM WWW NEW VERSION 001

1-IDSTIMPD01I - IMPORT successful. New entity added.

PROGRAM @I$INQU1 SYSTEM $ID  VERSION 001  NEW SYSTEM WWW NEW VERSION 001

1-IDSTIMPD03I - IMPORT successful. Entity added as next version 002.

PROGRAM @I$INQU2 SYSTEM $ID VERSION 001  NEW SYSTEM WWW NEW VERSION 001

1-IDSTIMPD03I - IMPORT successful. Entity added as next version 002.

PROGRAM @I$INQU3 SYSTEM $ID VERSION 001   NEW SYSTEM WWW NEW VERSION 001

1-IDSTIMPD01I - IMPORT successful. New entity added.

End of IMPORT dataset
```

```
Summary of IMPORT operations:

PROGRAM @I$INQU1 SYSTEM $ID VERSION 001  Imported as the next version.  NEW SYSTEM
WWW NEW VERSION 002

PROGRAM @I$INQU2 SYSTEM $ID VERSION 001  Imported as the next version.  NEW SYSTEM
WWW NEW VERSION 002

PROGRAM @$I$INQU3 SYSTEM $ID VERSION 001  Imported new.  NEW SYSTEM WWW NEW VERSION
001

PROGRAM WHO     SYSTEM $ID VERSION 002  Imported as the next version.  NEW SYSTEM
WWW NEW VERSION 002

PANEL   WHOMAIN  SYSTEM $ID VERSION 002  Imported new.  NEW SYSTEM WWW NEW VERSION
001

PANEL   WHOPGM   SYSTEM $ID VERSION 002  Imported new.  NEW SYSTEM WWW NEW VERSION
001

PANEL   WHOPNL   SYSTEM $ID VERSION 002  Replaced an existing entity.  NEW SYSTEM
WWW
NEW VERSION 001

PANEL   WHOUSR   SYSTEM $ID VERSION 002  Duplicates an existing entity.  NEW SYSTEM
WWW NEW VERSION 001

Import operation statistics:

1-IDSTIMPD12I - 00004 PROGRAMs have been IMPORTed
1-IDSTIMPD13I - 00003 PANELs have been IMPORTed
1-IDSTIMPD17I - 00007 entities in total have been IMPORTed
1-IDSTIMPD18I - 00001 entities were not requested for IMPORT
1-IDSTIMPD20W - 00001 entities duplicate already existing ones

Import operation completion message:

1-IDSTIMPD33W - IMPORT operation completed.  Error(s) were skipped

End of IMPORT report
```

Source Transport Files

The following section describes about the source transport files and import and export mechanism.

External Source File

This is the sequential, statement-image copy of the CA Ideal source being transported. You can use only one external source file in any run. It is not possible to IMPORT and EXPORT in the same job step.

z/OS

```
DDNAME is EXTSRC, unless overridden by SET SOURCE DDNAME
RECFM=FB,LRECL=80
BLKSIZE is set by JCL DCB override, or from the DSCB of an existing file.
```

You must code the following JCL for this file to be SYSOUT:

```
DCB=(BLKSIZE=80,LRECL=80)
```

VSE

There are three alternatives: disk, unlabeled tape, and labeled tape (the default). SET SOURCE DEVICE determines which is used. File names are EXTSRC, NLTAPE1, and SLTAPE1 respectively.

The block size defaults to 4,000 bytes, but you can override it with SET SOURCE BLKSIZE.

SET SOURCE TO SYSnnn overrides the number given in the ROSFD macro in IDSYSFT for EXTSRC, INLTAPE1, or ISLTAPE1.

Reports

Source Transport produces two reports. The first lists the input commands, the operations performed, and a summary of the entities processed.

IMPORT or PRODUCE runs produce a second listing of the external source. You can reduce this listing to diagnostics only with the SET SOURCE LISTING OFF command. It cannot be suppressed entirely.

z/OS

SYSPRINT contains the EXPORT/IMPORT/PRODUCE report. SRCLIST is the external source listing and diagnostics.

VSE

SYSLST contains the EXPORT/IMPORT/PRODUCE report. SYS102 (unless changed in the ROSFD macro for PSSPRT01) is the external source listing and diagnostics.

IMPORT Commands

The result of a PRODUCE IMPORT COMMANDS run is a statement-image file containing an IMPORT command for each entity found on the external source file.

z/OS

The statement-image import command file is written to SYSPUNCH as RECFM=FB,LRECL=80. The block size is taken from the JCL or the file label.

You must code the following JCL for this file to be SYSOUT:

```
DCB=(BLKSIZE=80,LRECL=80)
```

VSE

The statement-image import command file is written to PUNCH1 as 80-byte records. See the ROSFD entry for IPUNCH1 in IDSYSFT.

Sample JCL

The following sample JCL for z/OS and VSE are described here.

z/OS

The following sample JCL for z/OS requires control statements described previously. All libraries must be defined in the IDSYSFT.

```
//jobcard
//PROCLIB DD DSN=site.proclib,DISP=SHR
//step1name EXEC idlproc,PROG=IDUTSTRN
//SRCLIST DD SYSOUT=*          ... or DSN=...
//SYSPUNCH DD SYSOUT=*          ... or DSN=...
//SYSIN DD *
PERSON userid PASSWORD password
control statements
```

For IMPORT jobs, EXTSRC DD should be DISP=SHR. For EXPORT jobs, EXTSRC DD should be DISP=SHR (if it already exists), or DISP=(NEW,CATLG),UNIT=SYSDA, DCB=(RECFM=FB,LRECL=80,BLKSIZE=...),SPACE=(...).

VSE

The following sample JCL for VSE requires control statements described previously.

All source and panel libraries must be defined in the IDLPROC JCL procedure and in the IDSYSFT. IDUTSTRN uses IDSYSFT entries IDISK1, ISLTAPE1, INLTAPE1, and SYSPUNCH.

```
* $$ JOB JNM=IDUTSTRN,CLASS=x
* $$ LST CLASS=x
// JOB       IDUTSTRN
// OPTION    LOG
// EXEC      PROC=libproc
// EXEC      PROC=IDLPROC
// ASSGN     SYS007,DISK,VOL=vvvvvv,SHR
// DLBL      EXTSRC,'dataset.name',n,SD
// EXTENT    SYS007,vvvvvv,1,0,begtrk,ntrks
// EXEC      IDUTSTRN,SIZE=150K
SIGNON PERSON $IDEAL
SET SOURCE DEVICE DISK
control statements
/*
/&
* $$ EOJ
```

EXTSRC is the external source file.

Return Codes

The Source Transport Utility returns the following return codes to the operating system to indicate the status of the job.

■   No error or warning messages.

■   Warning messages, but no error messages.

■   Error messages, some entities not processed. You can use the source file for import, but some entities will be missing.

Serious error-messages; source file not completely processed.

Chapter 8: Transporting Applications in Object Form

You can transport applications or individual parts of CA Ideal applications in either source form or object form. This chapter describes how to transport applications in object form using the Object Transport Utility. For more information about transporting applications in source form, see the chapter "Transporting Applications in Source Form."

Object Transport Utility (IDUTOTRN)

The CA Ideal Object Transport Utility (IDUTOTRN) lets you move selected CA Ideal production applications from one site to other sites for execution only. It is a stand-alone batch job that unloads program and panel object modules from the sending site, and, in a separate step, loads them to the receiving site. All programs and panels must be in PRODUCTION status.

For sites with multiple environments (for example, test and production, each with its own MUF, Datadictionary, CICS, and VLS libraries) and with the same CA Ideal systems defined in each environment (for example, a PAYROLL system in both the test and production environments), enqueuing conflicts can occur. To avoid enqueuing problems, you can specify the QCODE parameter in the SCF options block which results in unique enqueue names between environments. See the appropriate *CA IPC Installation* Guide for cautions when using this option.

This section describes how to use the Object Transport Utility and transported programs, panels, and for DB2 sites, plans and packages; the control statements and JCL needed to run the utility; and sample output.

How to Use the Object Transport Utility (z/OS or VSE)

Control statements, described later, are available to perform the various transport functions at the sending and receiving sites.

At the sending site, use the SELECT SYSTEM control statement to select the CA Ideal system associated with the programs you are transporting. Then use UNLOAD statements to copy the program onto a tape. Each UNLOAD copies:

- Program including all of its panels

- Application including a program, all CA Ideal subprograms required to run it, and their respective panels

- DB2 application plan and associated packages

The panels include prefix, suffix, and help panels. The unload step reads the object module for each program and panel or the source module for each plan and package specified in the UNLOAD control statements from the selected system's VLS library and writes it to the transport file. You can issue more than one UNLOAD in a run. You must re-issue the SELECT SYSTEM only when the system changes.

At the receiving site, use the LOAD control statements to read the programs, panels, packages, and plans from the transport file. As with the unload step, you must SELECT the appropriate systems before programs are loaded. The systems at the sending and the receiving sites must be the same names. VLS library names are read from the Datadictionary. The object modules are written to the VLS libraries of the receiving system. You can load all of the programs, packages, or plans that were unloaded to the transport file with one LOAD ALL statement. Alternatively, you can load each application, program, package, or plan on the transport file individually.

During the load and unload steps, programs, packages, and plans are enqueued to protect against simultaneous update.

During the load step or in a separate step, you can use the PRINT INDEX control statement to print an index of the programs on the transport file. The listing includes a description that you can add during the unload step. Any non-ideal subprograms required are listed with the index.

The SYSPRINT output from the Object Transport Utility shows the Datadictionary version number and date and time of compile for CA Ideal programs involved in an UNLOAD or LOAD, and the date and time stamp identifying when an UNLOAD job was run. Non-ideal subprograms required by transported programs are listed as a reminder. You are responsible for transporting non-ideal subprograms to the receiving system.

Using Transported Programs

Transported programs and panels must be handled somewhat differently than other CA Ideal entities, as follows.

Before loading a program at the receiving site, a receiving system with the same short system ID as the sending system must exist or must be created. For example, a program transported from system ABC must be placed into a system with the same short ID: ABC. You cannot change this name. However, do not create programs or panels being transported on the receiving system.

The only valid CA Ideal commands for transported programs are RUN, DEQUEUE, ALTER PROGRAM, and ASSIGN DATAVIEW. Any attempt to EDIT, DISPLAY, DUPLICATE, MARK STATUS, DELETE, or PRINT transported programs or panels results in errors (program not found). Remember that to run a transported program, you must be authorized on the receiving system for RUN-PROD.

When running a transported program, you must specify the PROD version. You can either issue a command each time you run a transported program or you can issue other command as follows:

RUN *pgm-name* VER PROD

SET SITE VERSION PROD

This establishes PRODUCTION as the default version for the site. You need to specify only the program name with RUN. If you have a SET VERSION command in your Signon Member, you must remove it so that it does not override the SET SITE command. Specify the PROD version to bypass the normal Datadictionary check because transported programs are not on the Datadictionary of the receiving site.

To delete transported programs and panels from the receiving system, use the batch utility VLSUTIL. For more information, see the *CA IPC Implementation Guide*.

Only a program that was transported can transport panels.

Displaying Transported Programs

Transported programs and panels are not available to DISPLAY INDEX. This is because the index is built by displaying entries in the Datadictionary for these panels and programs. Since they were never created on the receiving system, there is nothing to display. DISPLAY INDEX is available for plans and packages.

You can list all programs and panels, including transported programs and panels, in the object libraries of the receiving site by using the CA IPC batch utility VLSUTIL with the LIBRARY control statement. Alternatively, you can use the following command online or in batch to list all programs and panels (including transported programs and panels) in the object libraries of the receiving site:

```
                        {@I$OBJ}
DISPLAY INDEX MEMBER USER {@I$PNL}
```

There might be discrepancies between the members found in the sending and receiving systems because only those pieces necessary to run the program (the program object module and the symbol table for that program) are transported.

Note:

■ If you are transporting programs with sequential dataviews from an z/OS to a VSE system, you cannot change the monitor name and label specification that are extracted from Datadictionary and incorporated into the object module. You can, however, use the ASSIGN DATAVIEW or the ALTER PROGRAM command to alter the block size specification, device type, or logical unit assignment on PROD programs.

■ You must apply solutions for the Object Transport Utility to both the sending and the receiving systems.

Control Statements

Use the following control statements with the Object Transport Utility either at the sending site to select systems, unload programs and panels, record descriptions, and print indexes; or at the receiving site to select systems, load programs, and print indexes.

You can use standard CA Ideal abbreviations.

DESCRIPTION text

You can specify a DESCRIPTION statement before an UNLOAD statement to record a description of what is unloaded. The specified text description is copied to the transport file. Whenever that transport file is used during LOAD or PRINT INDEX processing, the text description prints out. You cannot specify the text in a DESCRIPTION statement beyond column 72 and cannot extend it over more than one line.

```
          {PACKAGE    }
     {PLAN        }
LOAD {PROGRAM     } pgmname
          {APPLICATION}
          {ALL        }
```

The LOAD statement copies programs, panels, packages, and plans from the transport file to the appropriate program object, and panel VLS libraries, and plan source libraries. With PROGRAM, it loads the previously unloaded program and the associated panels. With APPLICATION, it loads the previously unloaded program and any associated subprograms and panels. With ALL, it loads all applications and programs that were UNLOADed to the Transport file; that is, it copies the entire transport file to the VLS libraries. Applications and programs can only be LOADed if explicitly specified in the UNLOAD statement. For example, assume that the following statements created the transport file:

```
SELECT SYSTEM $ID
UNLOAD APPLICATION PGM1
UNLOAD PROGRAM PGM3
```

Assume that PGM1 has a subprogram called PGM2. The only valid LOAD statements are as follows:

```
SELECT SYSTEM $ID
LOAD APPLICATION PGM1

or

SELECT SYSTEM $ID
LOAD PROGRAM PGM3

or

LOAD ALL
```

The statement LOAD PROGRAM PGM2 is invalid since PGM2 is not explicitly specified in the UNLOAD statement. Also, the statements LOAD PROGRAM PGM1 and LOAD APPLICATION PGM3 are invalid.

You can record a description with the unload step. See the DESCRIPTION statement earlier in this section for more information.

PRINT INDEX

The PRINT INDEX statement lists the applications, programs and plans on the transport file. No copying to VLS libraries is done. Each UNLOADed application and program is listed with its component programs and panels.

The listed entries for the CA Ideal programs include the date and time of the last compile and the Datadictionary version number of the program. If the program was last compiled with a release of CA Ideal earlier than 1.2, the version number appears as N/A. Non-Ideal programs that the applications and programs use are also listed.

■   No enqueues are done.

■   You can specify PRINT INDEX by itself or with LOAD statements.

SELECT SYSTEM sysid

The SELECT SYSTEM statement identifies the three-character short system ID for the CA Ideal system associated with programs and applications to UNLOAD or LOAD. In the case of an UNLOAD or LOAD PROGRAM, it identifies the system for that program. In the case of UNLOAD or LOAD APPLICATION, it identifies the system for the program specified in the statement. If that program uses subprograms in other systems, they are also unloaded or loaded.

The SELECT SYSTEM statement applies to all subsequent UNLOAD or LOAD statements until another SELECT SYSTEM identifies a new system.

```
       {PACKAGE    }
              {PLAN        }
UNLOAD {PROGRAM     } name
    {APPLICATION}
```

The UNLOAD statement copies programs, panels, packages, and plans from VLS program object libraries, panel libraries, and plan source libraries to the transport file. With PROGRAM, it copies the object module for the specified program and all of the panels (including main, prefix, suffix, and help panels) that program needs. With APPLICATION, it copies the object module for the specified program, all of the subprograms needed to RUN that program, and all of the panels used by all of the programs. With PLAN, it copies the source module for the specified DB2 application plan. With PACKAGE, it copies the source module for the specified DB2 package.

Sample JCL and EXEC Statements

This section shows sample execution JCL and EXEC statements needed for each run of IDUTOTRN.

Since IDUTOTRN uses the Datadictionary, the Datadictionary must be up. STEPLIB/LIBDEF must contain the necessary load libraries for the Datadictionary and CA Datacom/DB interface modules and the DD URT, DBURT002.

The JCL must also specify the VLS file for each program object, panel library, and plan source library. You might need to specify multiple libraries if programs or panels are on more than one system. The DD/DLBL names must be the same as those specified in their respective system definition fill-ins in CA Ideal.

z/OS

The following sample JCL for z/OS requires control statements described previously. All object and panel libraries must be in the IDSYSFT.

```
// JOB
// EXEC IDLOTRN
//SYSPRINT DD SYSOUT=A
//PGMOBJ DD DSN=... system pgm object library
//PNLLIB DD DSN=... system panel library
//XPRT DD DSN=XPRT,UNIT=TAPE,...
//SYSIN DD *
control statements
```

VSE

The following sample JCL for VSE requires control statements described previously. All object and panel libraries must be defined in the IDLPROC JCL procedure and in the IDSYSFT.

```
* $$ JOB JNM=name
* $$ LST DISP=D,CLASS=L
// JOB
// LIBDEF PHASE,SEARCH=(CAI.IDEAL22)
// OPTION LOG,NODUMP
// EXEC PROC=IDLPROC
*
// PAUSE PLEASE MOUNT TAPE volser ON 180
// TLBL xprt,'IDEAL.XPRT.TAPE',,volser
// ASSGN SYS107,180
*
// EXEC IDUTOTRN,SIZE=AUTO
control statements
/*
// EXEC LISTLOG
/*
/&
* $$ EOJ
```

'xprt' is the label assembled in your batch file table for the tape file used for importing/exporting programs and SYS107 is the DEVADDR parameter specified for same.

Sample Output

The following pages show the output produced by three executions of IDUTOTRN: An unload step, a print index step, and a load step.

Unload Step Output:

```
        IDEAL TRANSPORT UTILITY  11/21/94 10:40

IDUTXPRT26I - STARTING TO UNLOAD XPRTPGM1 IN SYSTEM
        PROGRAM XPRTPGM1 IN SYSTEM DAV SUCCESSFULLY UNLOADED
                PROGRAM XPRTPGM1 VER 001 WAS COMPILED ON 10/22/93 11:15:09
        PANEL XPRTPNL1 IN SYSTEM DAV SUCCESSFULLY UNLOADED
        PROGRAM XPRTPGM3 IN SYSTEM DAV SUCCESSFULLY UNLOADED
                PROGRAM XPRTPGM3 VER 001 WAS COMPILED ON 10/22/93 11:45:11
        PROGRAM XPRTPGM2 IN SYSTEM DFH SUCCESSFULLY UNLOADED
                PROGRAM XPRTPGM2 VER 001 WAS COMPILED ON 10/22/93 11:43:57
        PANEL XPRTPFX1 IN SYSTEM DAV SUCCESSFULLY UNLOADED
        PANEL XPRTSFX1 IN SYSTEM DAV SUCCESSFULLY UNLOADED
        PANEL XPRTHLP1 IN SYSTEM DAV SUCCESSFULLY UNLOADED
        PANEL XPRTPNL2 IN SYSTEM DAV SUCCESSFULLY UNLOADED
        PANEL XPRTPNL4 IN SYSTEM DAV SUCCESSFULLY UNLOADED
        PROGRAM XPRTPGM2 IN SYSTEM DAV SUCCESSFULLY UNLOADED
                PROGRAM XPRTPGM2 VER 001 WAS COMPILED ON 10/22/93 10:57:05
        PROGRAM XPRTPGM4 IN SYSTEM DAV SUCCESSFULLY UNLOADED
                PROGRAM XPRTPGM4 VER 001 WAS COMPILED ON 10/22/93 11:05:24
        PROGRAM XPRTPGM5 IN SYSTEM DAV SUCCESSFULLY UNLOADED
                PROGRAM XPRTPGM5 VER 001 WAS COMPILED ON 10/22/93 11:06:47
        PANEL XPRTPNL2 IN SYSTEM DFH SUCCESSFULLY UNLOADED
        PANEL XPRTPNL3 IN SYSTEM DFH SUCCESSFULLY UNLOADED
        PANEL XPRTHLP4 IN SYSTEM DAV SUCCESSFULLY UNLOADED
        PANEL XPRTSFX2 IN SYSTEM DFH SUCCESSFULLY UNLOADED
        PANEL XPRTPFX3 IN SYSTEM DFH SUCCESSFULLY UNLOADED
        PANEL XPRTPFX4 IN SYSTEM DAV SUCCESSFULLY UNLOADED
        PANEL XPRTSFX4 IN SYSTEM DAV SUCCESSFULLY UNLOADED
IDUTXPRT26I - STARTING TO UNLOAD PDLXMT01 IN SYSTEM
        PROGRAM PDLXMT01 IN SYSTEM QA0 SUCCESSFULLY UNLOADED
                PROGRAM PDLXMT01 VER N/A WAS COMPILED ON 7/21/93 13:54:13
        PANEL PDLXMIT1 IN SYSTEM QA0 SUCCESSFULLY UNLOADED
        PANEL PDLXMIT2 IN SYSTEM QA0 SUCCESSFULLY UNLOADED
        PANEL PDLXMIT3 IN SYSTEM QA0 SUCCESSFULLY UNLOADED
        PANEL PDLXMIT4 IN SYSTEM QA0 SUCCESSFULLY UNLOADED
IDUTXPRT26I - STARTING TO UNLOAD PDLXMT02 IN SYSTEM
        PROGRAM PDLXMT02 IN SYSTEM QA0 SUCCESSFULLY UNLOADED
                PROGRAM PDLXMT02 VER N/A WAS COMPILED ON 7/21/93 14:00:49
IDUTXPRT32I - NON-IDEAL PGM XPRTPGM4 IN SYSTEM DFH IS USED BY APPLICATION XPRTPGM1
IN SYSTEM DAV
IDUTXPRT32I - NON-IDEAL PGM XPRTPGM6 IN SYSTEM DAV IS USED BY APPLICATION XPRTPGM1
IN SYSTEM DAV
IDUTXPRT32I - NON-IDEAL PGM XPRTPGM6 IN SYSTEM DFH IS USED BY APPLICATION XPRTPGM1
IN SYSTEM DAV
*********** - NO ERRORS FOUND IN THIS RUN
```

Print Index Output

```
                    IDEAL TRANSPORT UTILITY  11/21/94 10:41
      *PRINT INDEX
IDUTXPRT39I - THE DATE AND TIME OF THE UNLOAD RUN WAS    11/21/93 10:40
IDUTXPRT30I - DESCRIPTION FROM THE UNLOAD RUN WAS:  THIS IS A TRIAL XPRT FILE
IDUTXPRT35I - THE FOLLOWING APPLICATIONS AND PROGRAMS ARE ON THE XPRT FILE
      APPLICATION XPRTPGM1 IN SYSTEM DAV INCLUDES THE FOLLOWING COMPONENTS
                  PROGRAM XPRTPGM1 IN SYSTEM DAV VER 001 WAS COMPILED ON 10/22/93
11/15/09
                        PANEL XPRTPNL1 IN SYSTEM DAV
                  PROGRAM XPRTPGM3 IN SYSTEM DAV VER 001 WAS COMPILED ON 10/22/93
11/45:11
                  PROGRAM XPRTPGM2 IN SYSTEM DFH VER 001 WAS COMPILED ON 10/22/93
11/45:57
      NON-IDEAL PGM XPRTPGM4 IN SYSTEM DFH IS NEEDED BY THIS PGM/APPL
                        PANEL XPRTPNL1 IN SYSTEM DAV
                        PANEL XPRTSFX1 IN SYSTEM DAV
                        PANEL XPRTHLP1 IN SYSTEM DAV
                        PANEL XPRTPNL2 IN SYSTEM DAV
                        PANEL XPRTPNL4 IN SYSTEM DAV
                  PROGRAM XPRTPGM2 IN SYSTEM DAV VER 001 WAS COMPILED ON 10/22/94
10:57:05
                  PROGRAM XPRTPGM4 IN SYSTEM DAV VER 001 WAS COMPILED ON 10/22/94
11:05:24
                  PROGRAM XPRTPGM5 IN SYSTEM DAV VER 001 WAS COMPILED ON 10/22/94
11:06:47
      NON-IDEAL PGM XPRTPGM6 IN SYSTEM DAV IS NEEDED BY THIS PGM/APPL
                        PANEL XPRTPNL2 IN SYSTEM DFH
                        PANEL XPRTPNL3 IN SYSTEM DFH
      NON-IDEAL PGM XPRTPGM6 IN SYSTEM DFH IS NEEDED BY THIS PGM/APPL
                        PANEL XPRTHLP4 IN SYSTEM DAV
                        PANEL XPRTSFX2 IN SYSTEM DFH
                        PANEL XPRTPFX3 IN SYSTEM DFH
                        PANEL XPRTPFX4 IN SYSTEM DAV
                        PANEL XPRTSFX4 IN SYSTEM DAV
      PROGRAM PDLXMT01 IN SYSTEM QA0 INCLUDES THE FOLLOWING COMPONENTS
                  PROGRAM PDLXMT01 IN SYSTEM QA0 VER N/A WAS COMPILED ON 07/21/94
13:54:13
                        PANEL PDLXMIT1 IN SYSTEM QA0
                        PANEL PDLXMIT2 IN SYSTEM QA0
                        PANEL PDLXMIT3 IN SYSTEM QA0
                        PANEL PDLXMIT4 IN SYSTEM QA0
      PROGRAM PDLXMT02 IN SYSTEM QA0 INCLUDES THE FOLLOWING COMPONENTS
                  PROGRAM PDLXMT02 IN SYSTEM QA0 VER N/A WAS COMPILED ON 07/21/94
14:00:29
                        PANEL PDLXMIT1 IN SYSTEM QA0
IDUTXPRT38I - END OF PRINT INDEX
*********** - NO ERRORS FOUND IN THIS RUN
```

Load Step Output

```
IDUTXPRT28I - STARTING TO LOAD APPLICATION XPRTPGM1 IN SYSTEM DAV
        PROGRAM XPRTPGM1 IN SYSTEM DAV DID NOT EXIST AND HAS BEEN ADDED TO THE LIBRARY
        PROGRAM XPRTPGM1 VER 001 WAS COMPILED ON 10/22/94 11:15:09
        PANEL XPRTPNL1 IN SYSTEM DAV DID NOT EXIST AND HAS BEEN ADDED TO THE LIBRARY
        PROGRAM XPRTPGM3 IN SYSTEM DAV DID NOT EXIST AND HAS BEEN ADDED TO THE LIBRARY
        PROGRAM XPRTPGM3 VER 001 WAS COMPILED ON 10/22/94 11:45:11
        PROGRAM XPRTPGM2 IN SYSTEM DAV DID NOT EXIST AND HAS BEEN ADDED TO THE LIBRARY
        PROGRAM XPRTPGM2 VER 001 WAS COMPILED ON 10/22/94 11:43:57
        PANEL XPRTPFX1 IN SYSTEM DAV DID NOT EXIST AND HAS BEEN ADDED TO THE LIBRARY
        PANEL XPRTSFX1 IN SYSTEM DAV DID NOT EXIST AND HAS BEEN ADDED TO THE LIBRARY
        PANEL XPRTHLP1 IN SYSTEM DAV DID NOT EXIST AND HAS BEEN ADDED TO THE LIBRARY
        PANEL XPRTPNL2 IN SYSTEM DAV DID NOT EXIST AND HAS BEEN ADDED TO THE LIBRARY
        PANEL XPRTPNL4 IN SYSTEM DAV DID NOT EXIST AND HAS BEEN ADDED TO THE LIBRARY
        PROGRAM XPRTPGM2 IN SYSTEM DAV DID NOT EXIST AND HAS BEEN ADDED TO THE LIBRARY
                PROGRAM XPRTPGM2 VER 001 WAS COMPILED ON 10/22/94 10:57:05
        PROGRAM XPRTPGM4 IN SYSTEM DAV DID NOT EXIST AND HAS BEEN ADDED TO THE LIBRARY
                PROGRAM XPRTPGM4 VER 001 WAS COMPILED ON 10/22/92 11:05:24
        PROGRAM XPRTPGM5 IN SYSTEM DAV DID NOT EXIST AND HAS BEEN ADDED TO THE LIBRARY
                PROGRAM XPRTPGM5 VER 001 WAS COMPILED ON 10/22/94 11:06:47
        PANEL XPRTPNL2 IN SYSTEM DFH DID NOT EXIST AND HAS BEEN ADDED TO THE LIBRARY
        PANEL XPRTPNL3 IN SYSTEM DFH DID NOT EXIST AND HAS BEEN ADDED TO THE LIBRARY
        PANEL XPRTHLP4 IN SYSTEM DAV DID NOT EXIST AND HAS BEEN ADDED TO THE LIBRARY
        PANEL XPRTSFX2 IN SYSTEM DFH DID NOT EXIST AND HAS BEEN ADDED TO THE LIBRARY
        PANEL XPRTPFX3 IN SYSTEM DFH DID NOT EXIST AND HAS BEEN ADDED TO THE LIBRARY
        PANEL XPRTPFX4 IN SYSTEM DAV DID NOT EXIST AND HAS BEEN ADDED TO THE LIBRARY
        PANEL XPRTSFX4 IN SYSTEM DAV DID NOT EXIST AND HAS BEEN ADDED TO THE LIBRARY
IDUTXPRT28I - STARTING TO LOAD PROGRAM     PDLXMT01 IN SYSTEM QA0
        PROGRAM PDLXMT01 IN SYSTEM QA0 DID NOT EXIST AND HAS BEEN ADDED TO THE LIBRARY
                PROGRAM PDLXMT01 VER N/A WAS COMPILED ON 07/21/94 13:54:13
        PANEL PDLXMIT1 IN SYSTEM QA0 DID NOT EXIST AND HAS BEEN ADDED TO THE LIBRARY
        PANEL PDLXMIT2 IN SYSTEM QA0 DID NOT EXIST AND HAS BEEN ADDED TO THE LIBRARY
        PANEL PDLXMIT3 IN SYSTEM QA0 DID NOT EXIST AND HAS BEEN ADDED TO THE LIBRARY
        PANEL PDLXMIT4 IN SYSTEM QA0 DID NOT EXIST AND HAS BEEN ADDED TO THE LIBRARY
IDUTXPRT28I - STARTING TO LOAD PROGRAM     PDLXMT02 IN SYSTEM QA0
        PROGRAM PDLXMT02 IN SYSTEM DAV DID NOT EXIST AND HAS BEEN ADDED TO THE LIBRARY
                PROGRAM PDLXMT02 VER N/A WAS COMPILED ON 07/21/94 14:00:49
        PANEL PDLXMIT1 IN SYSTEM QA0 ALREADY EXITED AND HAS BEEN REPLACED
IDUTXPRT32I - NON-IDEAL PGM XPRTPGM4 IN SYSTEM DFH IS USED BY APPLICATION XPRTPGM1
IN SYSTEM DAV
IDUTXPRT32I - NON-IDEAL PGM XPRTPGM6 IN SYSTEM DAV IS USED BY APPLICATION XPRTPGM1
IN SYSTEM DAV
IDUTXPRT32I - NON-IDEAL PGM XPRTPGM6 IN SYSTEM DFH IS USED BY APPLICATION XPRTPGM1
IN SYSTEM DAV
*********** - NO ERRORS FOUND IN THIS RUN
```

Appendix A: Internal Limits

CA Ideal is installed with absolute limits on some capabilities. The CA Ideal Administrator can tailor some other site-specific limits. This appendix contains descriptions of the absolute limits that are part of each installed CA Ideal. They are grouped into three broad categories:

- Limits on administrative services

- Limits on programs and their components

- Limits on reports

Limits on Administrative Services

This section contains descriptions of the absolute limits that are part of the Administrative Services.

Administrative Service	Limit
Active ASSIGNed dataviews an programs per session	1478
Active ASSIGNed DBIDs	100
Active ASSIGNed reports	100
Versions of each entity	999
Regions on a terminal panel **Note:** Programs can run only in the first (top) region.	3
Minimum lines in a CA Ideal Terminal region	9
Number of command lines on one panel	0-5
Maximum line commands on one panel	15
Systems per CA Ideal user who is not a CA Ideal Administrator.	99
Size of global pool. **Note:** You can also specify this as up to 8192KB or 8MB.	8,388,608 bytes

Program Limits

This section contains descriptions of the absolute limits that are part of the programs and their components.

Administrative Service	Limit
Dataviews and Working Data Level-1's length	32,000 bytes
Digits in a numeric field	31
Characters in a numeric edit pattern including non-digit positions (a total of 19 digits are allowed)	45
Significant digits maintained for an arithmetic expression	31
Parameters that can be passed to a non-ideal program	16
Active panels involved in a RUN **Note:** This includes any menus or prompters that invoke the RUN and any associated prefix or suffix panels.	64
Characters in the Result of a string expression	32,000
Sequential files open simultaneously	15
Resource entries for a CA Ideal subprogram **Note:** Entries are calculated as follows: 1. Entry per non-ideal subprogram 2. Entries per report 3. Entries per read-only dataview 4. Entry per level-01 parameter 5. Entries per updateable dataview 6. Entries per panel.	
Maximum of any one type of resource per program	99
Data items per data entity (Data entities include dataviews, working data, parameter data, panels, and compiler work fields.)	1600
Symbols per program (average eight characters each)	1284
Characters in the name of a field	32
Characters in the name of a label	15
Size of a single program procedure (object program)	32,000 bytes
Levels of expression nesting	12
Maximum CHRS value (for the CHRS/DGTS column)	32,000

Administrative Service	Limit
Maximum "Occur" value	32,000
Maximum intermediate string length	32,000
Maximum length of an alphanumeric literal	240 characters
Maximum digits in a numeric edit-pattern	30
Maximum characters in an alphanumeric edit-pattern	30

Report Limits

This section contains descriptions of the absolute limits that are part of the Report Definition Facility.

Administrative Service	Limit
Concurrent reports VSE	15
Concurrent reports OS	15
Lines per report page	250
Width of report page	230
Control break sort levels	9
Pages per report	9,999,999
Number of column heading lines including underscore or dash, for a single detail line	5
Total number of column headings for all detail lines	10
Functions per internal work area, the total is calculated as follows: 10 bytes per TOT, MIN, MAX, AVE, for numeric fields; n bytes per MIN or MAX for alphanumeric field (where n equals the size of the field)	1024 bytes
Functions for CTOT	1024 bytes
Total Length of all fields (excluding literals) in page heading and detail	32KB (for 1 group)