

CA Gen

Host Encyclopedia User Guide

Release 8.5



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Chapter 1: Introduction

A CA Gen encyclopedia is a central repository of objects that allows multiple users to work on multiple development projects at the same time. CA Gen offers two types of encyclopedias:

- The Host Encyclopedia that operates on z/OS using TSO
- The Client Server Encyclopedia (CSE) that operates on a network using one or more workstations.

This guide shows you how to perform Host Encyclopedia tasks.

Note: For more information about CSE basics, see the *Client Server Encyclopedia User Guide*.

This section contains the following topics:

[Host Encyclopedia](#) (see page 11)

[How to Access Host Encyclopedia](#) (see page 12)

[Ways to Select Menu Options](#) (see page 12)

[The Tasks](#) (see page 13)

[The Encyclopedia Users](#) (see page 14)

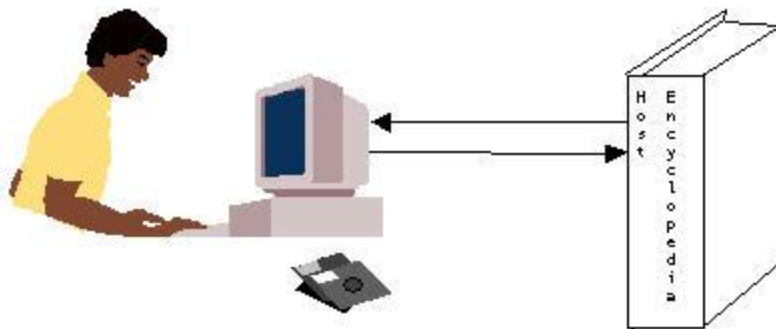
[The Tasks of Administrators](#) (see page 15)

[The Tasks of Modelers](#) (see page 16)

[How to Access Online Help](#) (see page 17)

Host Encyclopedia

The Host Encyclopedia is a DB2 database that stores information created by multiple workstations and by CA Gen Host components. As the illustration demonstrates, you can use the Host Encyclopedia to control critical tasks from a central location.



Use a workstation to communicate with the Host Encyclopedia to:

- Consolidate information from various sources.
- Control access to CA Gen.
- Coordinate and integrate separate projects.
- Report the contents of specific models.

How to Access Host Encyclopedia

Follow these steps:

1. Log on to TSO/ISPF.
2. From the TSO/ISPF Primary Option menu, enter the option number or letter that accesses CA Gen.
3. Press Enter. From the copyright panel (which shows product version and software release information), press Enter again.
4. From the Main Menu, select 1 to reach Host Encyclopedia functions. Select one of the options below, then press Enter.
 - Host encyclopedia functions
 - Public Interface functions
 - Host encyclopedia reports
 - Application system functions
 - Environment specification

Note: If your installation accesses the menu in some other way, contact your local coordinator for instructions.

Ways to Select Menu Options

The following are the different ways to select menu options:

- Position the cursor at the start of the command line. Enter the number corresponding to the option you want. Press Enter.
- Enter extended selection (combining commands, for example, 1.2.3) from the command line. To use extended selection, you must specify your default cursor position on menu panels as COMMAND.

Note: For more information, see the chapter [How to Navigate the Host Encyclopedia](#). (see page 151)

- Position the cursor at the choice entry field (the underscore next to the first entry on the list of menu options). You can set your default cursor position on menu panels to Menu for automatic positioning. Enter the number corresponding to the option you want. Press Enter.
- Use the Tab key to position the cursor next to the option you want to access. Press Enter.

The Tasks

The various encyclopedia tasks that can be performed follow:

| Task | Where to Find More Information |
|---|---|
| Assign user access | See the chapters How to Set Up Security (see page 19) and How to Control User Access (see page 33). |
| Check in and Check out models | See the chapter How to Check in and Check out Models and Subsets (see page 47). |
| Convert models from other applications | See the chapter How to Manage Models (see page 65). |
| Create and manage models | See the chapter How to Manage Models (see page 65). |
| Generate and print reports | See the chapter How to Generate Reports (see page 91). |
| Model administrative tasks, such as copy, rename, or override check out of models | See the chapter How to Manage Models (see page 65). |
| Construct and test applications | See the <i>Host Encyclopedia Construction User Guide</i> . |
| Define and work with subsets | See the <i>Host Encyclopedia Subsetting User Guide</i> . |
| Import and export models | See the <i>Host Encyclopedia Public Interface Reference Guide</i> . |

The range of tasks you can perform as a user depends on the access or authority granted you.

Information on performing Encyclopedia tasks is organized into these chapters:

| | |
|-------------------|--|
| Host Encyclopedia | For all users. Defines the Encyclopedia. It also shows you how to sign on to TSO, access the Main Menu, and reach the Host Encyclopedia. |
|-------------------|--|

| | |
|--|--|
| How to Set Up Security | Primarily for encyclopedia administrators and modelers assigning access to other users. Shows (through a table of authorizations) the levels of authority required to execute specific functions. |
| How to Control User Access | For encyclopedia administrators and model owners. Describes how to perform the Host Encyclopedia functions necessary to grant authorization to users, beginning with instructions on how to access CA Gen and the Host Encyclopedia. |
| How to Check in and Check out Models and Subsets | Describes the concept and flow of check in and check out, and shows you how to check in and check out models and subsets, using either the automatic or manual method. |
| How to Manage Models | Describes how to backup and restore models, perform consistency checks, copy and delete models, and how to perform other model management tasks. |
| How to Generate Reports | Details the reports you can generate on models and subsets (and users that you set up with the procedures in the chapter on controlling user access), and describes how you can print and store the reports. |
| How to Navigate the Host Encyclopedia | Describes key basic information about the Environment Specifications option available on the Main Menu (which allows you to do such things as customize function keys and change menu colors), as well as the Common User Access symbols and conventions used throughout the menu structure. |

The Encyclopedia Users

The two types of Host Encyclopedia users are:

- Encyclopedia administrators
- Encyclopedia modelers

Encyclopedia Administrator

The encyclopedia administrator at a site controls access to the Host Encyclopedia by granting authorities to the next level of users, encyclopedia modelers. Encyclopedia administrators have implicit authority to perform all Host Encyclopedia functions to all models within the Host Encyclopedia.

Encyclopedia Modeler

An encyclopedia modeler can perform many of the same functions that the administrator can, but a modeler's level of access is determined by the authorities granted by the administrator or a modeler. All modelers have basic access to CA Gen and can be granted additional authority.

Modelers can then perform authorized tasks, such as the following:

- Read model TEST001
- Generate code from model TEST001
- Update model TEST001
- Migrate objects between models TEST001 and TEST002
- Grant authorities equal to (but not greater than) their own to other modelers

The additional authority, granted explicitly when modelers are added to CA Gen, enables them to create models and add users. These privileges can be granted to any modeler in any combination. A modeler granted authority to create models becomes a model's owner by performing the first check in (upload) of the model.

A modeler can also be granted authority to add users to CA Gen. In most cases, a modeler can grant users authority equal to their own or less. However, a modeler can never grant other users the authority to add users.

In addition to receiving various levels of authorization as CA Gen users, modelers can be granted various levels of access to specific models and subsets. Specifically, they can be authorized to read models, update them, generate code from them, and migrate objects from one model to another.

If the person who grants authority is later removed from the list of authorized users, the users authorized are still authorized.

Note: For more information about authorizations, see the chapter [How to Set up Security](#) (see page 19).

The Tasks of Administrators

Each type of user has different functions. Encyclopedia administrators oversee the models and subsets in the Host Encyclopedia. They can use all CA Gen utilities and generate all reports for all models, subsets, or users.

An organization can have more than one encyclopedia administrator, but only one or two is customary. The same organization can have many model owners, but only one individual or group in charge of each model. The organization can also have many modelers, all of whom can work on one or more models or subsets.

In general, users can grant authority equal to or less than their own if they have Add User authority. For example, encyclopedia administrators can create other encyclopedia administrators, and those modelers with create model authority can grant that authority to users that they add. There is one exception to the equal to or less rule: *only* an encyclopedia administrator can grant add user authority. Modelers with add user authority can add users but cannot grant add user authority.

Encyclopedia administrators have the authority to perform all Host Encyclopedia functions to all models within the Host Encyclopedia. Among the tasks they can perform are:

- Define the access rights of users (modelers) to models and subsets.
- Create, read, update and delete models and subsets.
- Manage models and subsets (including different versions of each).
- Generate reports of model and subset data.
- Import and export models to the Public Interface.
- Generate databases.
- Construct host application systems.
- Convert models.
- Generate code from models.
- Migrate objects from one model to another.

Encyclopedia administrators can grant the authority to perform most of these (except granting add user authority) and other tasks to encyclopedia modelers (other encyclopedia administrators get full authority).

Note: For specifics about the authority required for Host Encyclopedia functions, see the chapter [How to Set up Security](#). (see page 19)

The Tasks of Modelers

Modelers with Create Model authority are said to own any model they create. Among the typical tasks modelers can do are the following:

- Create and manage one or more models.
- Read and update models and subsets that they do not manage but to which they have been granted access.

- Check in and check out models.
- Copy models.
- Convert models from one CA Gen version to another.
- Create models from subsets.
- Create subsets from models.
- Delete their own models.
- Import and export models using the Public Interface.

At the discretion of the encyclopedia administrator, a modeler can also be authorized to add users.

How to Access Online Help

Online help is available within TSO:

- To see additional information about an error message or to see an explanation of a panel, press F1 (Help) or enter HELP and press Enter.
- When an error occurs, a short message appears in the upper right corner of the screen, and the system alerts you by beeping.

Help is available for the Host Encyclopedia options (option F1 from the Main Menu).

```

COMMAND ==>                                Host Encyclopedia Utilities - Help

For more Help on specific encyclopedia utilities, select one of the following
topics, then press enter.

1   1.  User Access Control                  - has options to control access to Host
                                           Encyclopedia data and functions.

      2.  Version Control Management         - has options for model and family
                                           migration, adoption, and reports

      3.  Model Management                   - has options for model maintenance,
                                           model merge, conversion, history,
                                           backup, restore, and model reports.

      4.  Subset Management                  - creates and maintains subsets, logical
                                           subdivisions of models.

      5.  Aggregate Set Management           - creates and maintains aggregate set
                                           definitions for models or families.

To exit Help, press END.  To continue, press ENTER.
```

For example, to get more information on User Access Control, enter 1 and press Enter. A screen appears that contains more complete information.

```

                                User Access Functions - Help
COMMAND ==>

For more specific help, select one of the following topics:

  1. User Definitions      - allows addition, deletion and updating of user
                           access to Host Encyclopedia.

  2. Group Definitions     - add, update, delete definitions of groups of
                           users, add users to group definitions.

  3. Model Access         - grant, revoke or change access to a model, or
                           change model owner.

  4. Subset Access        - grant, revoke or change access to a specific
                           subset of a model in the Host Encyclopedia.

  5. Reports              - generate user access reports.

  6. History              - generate user access history.

  7. Selection Lists      - how to use selection lists.

To exit Help, press END.  To continue, press ENTER.
```

Chapter 2: How to Set Up Security

This chapter discusses how you can organize your security setup in CA Gen.

This section contains the following topics:

[Authorization and Access](#) (see page 19)

[Model Access Authority](#) (see page 19)

[Authorization Look-Up Tables](#) (see page 20)

Authorization and Access

CA Gen encyclopedia security depends on the type of authorization granted to users. Just as there are different types of users, there are different types of authorization required to perform the various Host Encyclopedia functions.

The two types of authorization are:

- User access
- Model access

Before you can access and use the Host Encyclopedia, you must be authorized as a CA Gen user and granted user access. Before you can use Host Encyclopedia utilities on models, you must also be granted access to specific models or subsets.

Model Access Authority

In addition to receiving authorization as a CA Gen user, you can be granted different levels of authorization for specific models, such as:

- Read-only or Update
- Codegen
- Migrate To

Read-only authorization and Update are mutually exclusive, but both are compatible with granting Codegen authority for a model. Migrate To, used in Migration and Adoption (in Version Control Management), can be granted only to a user with Update authority.

Authorization Look-Up Tables

Use the following tables to determine the minimum authorization required to perform Host Encyclopedia functions. For example, to check in (upload) a model the first time, you must be an encyclopedia administrator or have Create Model authority, a type of user access control authority. Subsequent check-ins require only Update authority on the specific model. Copying a model requires a combination of Read-only on the source model and Create Model authority.

- Check in (upload)
- Check out (download)
- Construction
- Import/Export (Public Interface)
- Model Management
- Version Control Management
- Subset Management
- User Access

Authorization for Aggregate Set Management

The following table lists the minimum authorization level for aggregate set management:

| Aggregate Set Management | Minimum Authorization | Notes |
|--------------------------|-----------------------|-------|
| Add aggregate set | Read-only on model | 1 |
| Copy aggregate set | Family authorization | 1 |
| Delete aggregate set | Family authorization | 1 |
| Modify aggregate set | Read-only on model | |
| Rename aggregate set | Family authorization | 1 |

Note: Family authorization is read-only authority on at least one model in the family.

The following table lists the minimum authorization level for aggregate set reports:

| Aggregate Set Reports | Minimum Authorization | Notes |
|------------------------------------|-----------------------|-------|
| Display aggregate sets in a family | Family authorization | 1 |

| Aggregate Set Reports | Minimum Authorization | Notes |
|---|-----------------------|-------|
| Display aggregate objects in an aggregate set | Family authorization | |
| (1) model | Read-only on model | |
| (2) family | Family authorization | 1 |

Note: Family authorization is read-only authority on at least one model in the family.

Authorization for Construction

The following table lists the minimum authorization level for application system construction:

| Application System Construction | Minimum Authorization | Notes |
|---|-----------------------|-------|
| Create/Read/Update/Delete report | Read-only on model | |
| Define load module packaging | Update on model | |
| Generate business system | Codegen | |
| Generate business system in background | Codegen | |
| Generate database definition | Codegen | |
| Generate/test application facility | Codegen | |
| Specify construction libraries and target environment | Codegen | |

The following table lists the minimum authorization level for application system regeneration:

| Application System Regeneration | Minimum Authorization |
|--|-----------------------|
| Construction change impact report | Read-only on model |
| Regeneration application system | Codegen |
| Regeneration impact analysis report | Read-only on model |
| Construction regeneration report | Read-only on model |
| Referential integrity trigger generation | Codegen |

Authorization for Reports Generated using Main Menu, Option 3

The following table lists the minimum authorization level for reports generated using main menu, option 3:

| Reports Generated using Main Menu, Option 3 | Minimum Authorization | Notes |
|--|----------------------------|-------|
| Add group history | Host encyclopedia access | |
| Add user history | Host encyclopedia access | |
| Add user to group history | Host encyclopedia access | |
| Aggregate object where exists | Read-only on model | |
| Change user authority history | Host encyclopedia access | |
| Contained - objects that contain selected objects | Read-only on model | |
| Contains - objects contained by selected objects | Read-only on model | |
| Delete group history | Host encyclopedia access | |
| Delete - objects preventing the delete of selected objects | Read-only on model | |
| Delete user from group history | Host encyclopedia access | |
| Delete user history | Host encyclopedia access | |
| Display aggregate objects in an aggregate set | Host encyclopedia access | |
| (1) model | Read-only on model | |
| (2) family | Family authorization | 1 |
| Display aggregate sets in a family | Family authorization | 1 |
| Encyclopedia duplicate objects | Encyclopedia administrator | |
| Encyclopedia model index by owner | Host encyclopedia access | 2 |
| Function point calculation | Read-only on model | |
| Group memberships of a user | Host encyclopedia access | 2 |
| Implemented - objects that implement selected objects | Read-only on model | |

| Reports Generated using Main Menu, Option 3 | Minimum Authorization | Notes |
|---|--------------------------|-------|
| Implements - objects implemented by selected objects | Read-only on model | |
| Matrices - matrices selected objects have cell values for | Read-only on model | |
| Model action diagram | Read-only on model | |
| Model activity history | Host encyclopedia access | 2 |
| Model and subset authorizations | Host encyclopedia access | 2 |

Note:

1. Family authorization is read-only authority on at least one model in the family.
2. The user must be defined to the Host Encyclopedia.

Authorization for Reports

The following table lists the minimum authorization level for reports:

| Reports | Minimum Authorization | Notes |
|--|--------------------------|-------|
| Model attribute definition | Read-only on model | |
| Model consistency check | Read-only on model | |
| Model attribute definition | Read-only on model | |
| Model consistency check | Read-only on model | |
| Model construction change impact | Read-only on model | |
| Model construction regeneration | Read-only on model | |
| Model contents | Read-only on model | |
| Model elementary process information view definition | Read-only on model | |
| Model entity definition | Read-only on model | |
| Model function definition | Read-only on model | |
| Model max object ID update history | Host encyclopedia access | |

| Reports | Minimum Authorization | Notes |
|---|--|-------|
| Model regeneration impact analysis | Read-only on model | |
| Model when changed | Read-only on model | |
| Public Interface KWIC index | Read-only on model | |
| Referenced/used - objects that reference/use selected objects | Read-only on model | |
| References/uses - objects referenced/used by selected objects | Read-only on model | |
| Scoping object where used | Read-only on model or subset authority | |
| Subset attribute definition | Read-only on model or subset authority | |
| Subset consistency check | Read-only on model or subset authority | |
| Subset contents | Read-only on model or subset authority | |
| Subset elementary process information view definition | Read-only on model or subset authority | |
| Subset entity definition | Read-only on model or subset authority | |
| Subset expansion conflict | Read-only on model or subset authority | |
| Subset function definition | Read-only on model or subset authority | |
| Trial adopt | Read-only on adoptee and related models | |
| Trial migrate | Read-only on source and destination models | |
| Users defined for a group | Host encyclopedia access | 1 |
| Users or groups authorized for a model | Host encyclopedia access | 1 |
| Users or groups authorized for a subset | Host encyclopedia access | 1 |
| Users or groups in encyclopedia | Host encyclopedia access | 1 |

Note: The user must be defined to the Host Encyclopedia.

Authorization for Check in

The following table lists the minimum authorization level for check in:

| Check in | Minimum Authorization | Notes |
|----------------------|-----------------------|-------|
| First check in | Create Model | 1 |
| Subsequent check-ins | Update on model | |
| To update | Update on model | |

Note: Only the user who checked out the model or subset, the model's owner, or an encyclopedia administrator can check in the model or subset or change the checkout user ID.

Authorization for Check out

The following table lists the minimum authorization level for check out:

| Check out | Minimum Authorization | Notes |
|-----------|-----------------------|-------|
| To view | Read-only on model | 1 |

Note: Users with read-only authority on a model or subset can check it out as Read-only. The workstation tool does not let the user change or upload the model.

Authorization for Public Interface

The following table lists the minimum authorization level for public interface:

| Public Interface | Minimum Authorization | Notes |
|-------------------------------------|-----------------------|-------|
| Delete model from PI tables | Read-only on model | |
| Export model to PI | Read-only on model | |
| Import model into Host Encyclopedia | Read-only on model | |
| KWIC Index report on exported model | Read-only on model | |

Authorization for Model Management

The following table lists the minimum authorization level for model management:

| Model Management | Minimum Authorization | Notes |
|---------------------------------------|---|-------|
| Backup and Restore | Model's owner | 2 |
| Change model checkout user ID | Model's owner or user who checked out the model | 2 |
| Check model for consistency | Read-only on model | |
| Copy model | Read-only on source model and Create Model | |
| Copy model across encyclopedias | Read-only on source model in source encyclopedia and Create Model in destination encyclopedia | |
| Create new model from existing subset | Read-only on source model or subset authority and Create Model | |
| Delete entire model | Model's owner | 2 |
| Delete or rename objects within model | Rename or delete - update on model Trial delete - read-only on model | |
| Display model statistics | Read-only on model | |
| Model conversion utilities | Model's owner | 2 |
| Model history | Model's owner | |
| Archive history data | Model's owner | |
| For a single model | Model's owner | |
| For all models | Encyclopedia administrator | |
| Model activity history | Host encyclopedia access | 1 |
| Maximum object ID update activity | Host encyclopedia access | 1 |
| Enable/disable model object history | Model's owner | |

Note:

1. The user must be defined to the Host Encyclopedia.
2. In each case, when a function requires a model's owner, the individual user must either be the model's owner or belong to the group that owns (administers) the model.

Authorization for Model Reports

The following table lists the minimum authorization level for model reports:

| Model Reports | Minimum Authorization | Notes |
|--|---|-------|
| Action diagram | Read-only on model | |
| Attribute definition | Read-only on model | |
| Construction change impact | Read-only on model | |
| Construction regeneration | Read-only on model | |
| Elementary process information view definition | Read-only on model | |
| Entity definition | Read-only on model | |
| Function definition | Read-only on model | |
| Function point calculation | Read-only on model | |
| Model contents | Read-only on model | |
| Regeneration impact analysis | Read-only on model | |
| When changed | Read-only on model | |
| Object cross-reference reports | Read-only on model | |
| Override checkout status for model | Model's owner or user who checked out the model | 1 |
| Rename model | Model's owner | |

Note: Only the user who checked out the model or subset, the model's owner, or an encyclopedia administrator can override the checkout status of the model or subset.

Authorization for Subset Management

The following table lists the minimum authorization level for subset management:

| Subset Management | Minimum Authorization | Notes |
|------------------------------------|------------------------------|-------|
| Add subset definition | Update on model | |
| Change checkout user ID for subset | Model's owner | 2 |
| Check subset for consistency | Read-only on model or subset | |
| Copy subset definition | Update on model | |

| Subset Management | Minimum Authorization | Notes |
|-------------------------------------|-----------------------|-------|
| Delete subset definition | Update on model | |
| Display subset definition summary | Update on model | 3 |
| Display subset statistics | Read-only on model | |
| Modify subset definition | Update on model | |
| Override checkout status for subset | Model's owner | 2 |
| Rename subset definition | Update on model | |

Note:

1. The user must be defined to the Host Encyclopedia.
2. Only the user who checked out the model or subset, the model's owner, or an encyclopedia administrator can check in the model or subset or change the checkout user ID.
3. Update is required because this panel permits changes to the subset definition.

Authorization for Subset Reports

The following table lists the minimum authorization level for subset reports:

| Subset Reports | Minimum Authorization | Notes |
|---|--|-------|
| Attribute definition | Read-only on model or subset authority | |
| Elementary process information view definition | Read-only on model or subset authority | |
| Entity definition | Read-only on model or subset authority | |
| Expansion conflict | Read-only on model or subset authority | |
| Function definition | Read-only on model or subset authority | |
| Scoping object where used | Read-only on model or subset authority | |
| Subset contents | Read-only on model or subset authority | |

Authorization for User Access Control

The following table lists the minimum authorization level for user access control:

| User Access Control | Minimum Authorization | Notes |
|--------------------------------|-----------------------|-------|
| Control model access and owner | Model's owner | |
| Change access to model | Model's owner | |
| Change owner of model | Model's owner | |
| Grant access to model | Model's owner | |
| Revoke access to model | Model's owner | |
| Control subset access | Model's owner | |
| Grant access to subset | Model's owner | |
| Revoke access to subset | Model's owner | |

The following table lists the minimum authorization level for maintaining CA Gen group definitions:

| Maintain CA Gen Group Definitions | Minimum Authorization | Notes |
|-----------------------------------|--------------------------------|-------|
| Add group definition | Host encyclopedia access | 1 |
| Add user to group definition | Group owner (creator of group) | |
| Change group definition | Group owner | |
| Copy group definition | Host encyclopedia access | 1 |
| Delete group definition | Group owner | |
| Delete user from group | Group owner | |
| Add user definition | Add User authority | |
| Change user information | The person who added the user | 2 |
| Delete user definition | The person who added the user | |

Note:

1. The user must be defined to the Host Encyclopedia.
2. If only the name is being changed, the user whose name is being changed can also make the change.

Authorization for User Access Reports

The following table lists the minimum authorization level for user-access reports:

| User Access Reports | Minimum Authorization | Notes |
|---|--------------------------|-------|
| Group memberships of a user | Host encyclopedia access | 1 |
| Model and subset authorizations | Host encyclopedia access | |
| Users defined for a group | Host encyclopedia access | |
| Users or groups authorized for a model | Host encyclopedia access | |
| Users or group in encyclopedia | Host encyclopedia access | |
| Users or groups authorized for a subset | Host encyclopedia access | 1 |
| Add user history | Host encyclopedia access | |
| Delete user history | Host encyclopedia access | |
| Change user authority history | Host encyclopedia access | |
| Add group history | Host encyclopedia access | |
| Delete group history | Host encyclopedia access | |
| Add user to group history | Host encyclopedia access | |
| Delete user from group history | Host encyclopedia access | |

Note: The user must be defined to the Host Encyclopedia.

Authorization for Version Control Management

The following table lists the minimum a authorization level for version control management:

| Version Control Management | Minimum Authorization | Notes |
|----------------------------|-----------------------|-------|
| Add aggregate set | Read-only on model | 1 |
| Copy aggregate set | Family authorization | 1 |
| Delete aggregate set | Family authorization | 1 |
| Modify aggregate set | Read-only on model | |
| Rename aggregate set | Family authorization | 1 |

| Version Control Management | Minimum Authorization | Notes |
|---|---|-------|
| Adopt aggregate objects using related model | Read-only on source model and Migrate To on destination model | |
| Aggregate object where exists report | Read-only on model | |
| Compare aggregate objects between two models | Read-only on both source and destination models | |
| Migrate aggregate objects to new model | Read-only on source model and Create Model | |
| Migrate aggregate objects to existing model | Read-only on source model and Migrate To on destination model | |
| Rename model family | Model's owner (owner must own at least one model in the family) | |
| Trial adopt aggregate objects using related model | Read-only on both source and destination models | |
| Trial migrate aggregate objects to existing model | Read-only on both source and destination models | |
| Unadopt model from existing family | Model's owner | |

Note: Family authorization is read-only authority on at least one model in the family.

Chapter 3: How to Control User Access

This chapter explains how to control user access to CA Gen functions.

This section contains the following topics:

[User Access Control Tasks](#) (see page 33)

[Maintain User Definitions](#) (see page 34)

[Maintain Group Definitions](#) (see page 37)

[Control Model Access and Owner Functions](#) (see page 40)

[Control Subset Access Functions](#) (see page 43)

[User Access History](#) (see page 44)

User Access Control Tasks

To control and maintain user access to the Encyclopedia, or to generate reports on user activity, you can use these options, available from the User Access Control menu.

Maintain User Definitions

Adds, changes, or deletes CA Gen users. When added as a user, you are authorized to access the Host Encyclopedia.

Maintain Group Definitions

Adds, changes, deletes, copies, or maintains CA Gen groups.

Control Model Access and Owner

Grants, revokes, or changes model access or changes model owner.

Control Subset Access

Grants or revokes access to a model subset.

User Access Reports

Generates CA Gen user access reports. These reports are discussed in the chapter on Reporting from the Host Encyclopedia.

User Access History

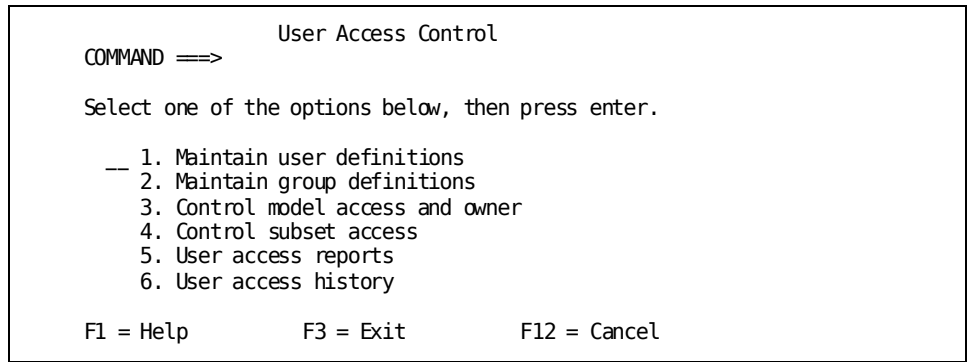
Lists activities pertaining to user access, including the date and time of the activity, and the user ID of the person who performed the activity.

To reach the User Access Control menu, you must first access the Host Encyclopedia. Use the following procedure:

Follow these steps:

1. From the Main menu, select option 1 for Host Encyclopedia functions and press Enter.
2. Select option 1 for User Access Control. Press Enter.

As shown in the following illustration, CA Gen has six User Access Control options:



Maintain User Definitions

Maintain CA Gen User Definitions (user access functions) consists of the following options:

- Add user to encyclopedia
- Delete user from encyclopedia
- Change user information

Add User to Encyclopedia

Add User to Encyclopedia authorizes a user to access the Host Encyclopedia.

The following rules govern Add User to Encyclopedia:

- To add a user, you must be an encyclopedia administrator or a modeler with Add User authority.
- The user to be added must not already exist in the CA Gen system.
- You must enter the new user's name and user ID.

- An encyclopedia administrator can designate the new user an encyclopedia administrator or, optionally, grant Create Model and Add User authority.
- Modelers can grant authority equal to or less than their own but can never grant Add User authority.
- To grant Add User authority, you must be an encyclopedia administrator.

Note: CA Gen requires that the user ID be the same as the TSO ID.

Follow these steps:

1. From the Main Menu, select options 1.1.1 and press Enter.
2. Select option 1 for Add User to Encyclopedia. Press Enter.
3. Enter the User ID (TSO ID) of the person to be added.
4. Enter the person's name.
5. Optionally, if you want to grant more than basic Host Encyclopedia access, enter Y beside one or more of the following options and press Enter:
 - Encyclopedia Administrator
 - Create model capability
 - Add user authority

Note: The Encyclopedia Administrator and the Add user authority fields appear as options only if you are an encyclopedia administrator.

Delete User from Encyclopedia

Delete User From Encyclopedia removes a user from the Host Encyclopedia.

The following rules govern Delete User from Encyclopedia:

- To delete a user, you must be an encyclopedia administrator or the person who created the user.
- The user being deleted must not be the owner of any models. See the Change Owner of Model section in this chapter.
- You cannot delete a user who has any models or subsets checked out.

Note: In most of these procedures, when you reach a step that lets you input a user ID, group ID, sourcegroup ID, or Encyclopedia name, instead of entering the ID or name, you can view a list of available choices by pressing F4 if the field ends with a plus (+) sign. To make a selection from the list, enter any character except the period (.) next to the item and press Enter

Follow these steps:

1. From the Main Menu, select options 1.1.1 and press Enter.
2. Select option 2 for Delete User from Encyclopedia. Press Enter.
3. Enter the User ID of the person you want to delete.
4. Press Enter. The person is no longer authorized to use Host Encyclopedia capabilities. All explicit access to models and subsets as well as any group memberships is revoked.

Change User Information

Change User Information changes the user ID, name, and authorization of a Host Encyclopedia user.

The following rules govern Change User Information:

- To change a user ID, you must be an encyclopedia administrator or the person who added the user.
- To change a user's name as listed in the Host Encyclopedia, you must be an encyclopedia administrator, the person who added the user, or the user whose name is being changed.
- To change a user's authorization, you must be an encyclopedia administrator or the person who added the user.
- You cannot demote encyclopedia administrators until all the models and subsets checked out to them are checked back in.
- If you are changing a user's authorization, you can grant authorization equal to or less than your own.

Note: A user will remain the owner of a group even if their authority has been demoted.

Follow these steps:

1. From the Main Menu, select options 1.1.1 and press Enter.
2. Select option 3 for Change User Information and press Enter.
3. Enter User ID of the user for whom you want to change information and press Enter.
4. At the second panel, enter the new user information and press Enter.

Maintain Group Definitions

Maintain CA Gen Group Definitions (group access functions) options are:

- Add Group Definition
- Delete Group Definition
- Change Group Definition
- Add User to Group Definition
- Delete User from Group Definition
- Copy Group Definition

Group definitions let model owners grant permissions to multiple users at the same time. Individual members of a group have the same authority level for a model as that defined for the group ID. Group authority levels are assigned for particular models, *not* for CA Gen as a whole. Groups can have different authority levels for different models and subsets.

Note: CA Gen grants the highest possible authority for a model. For example, if a group member's personal authority is higher than their group authority, CA Gen grants the personal authority. If the group member's group authority is higher, CA Gen grants the group's authority.

Add Group Definition

Add Group Definition establishes a CA Gen ID for a group of users. The following rules govern Add Group Definition:

- The user adding a group must have Host Encyclopedia access.
- The persons being included in the group must first be authorized as users of the Host Encyclopedia.
- The person who adds the group becomes the group owner.
- The group being added must not already exist in the Host Encyclopedia.
- You must supply both a group name and an ID.

Note: CA Gen identifies groups by their group ID, which you specify when adding the group.

Follow these steps:

1. From the Main Menu, select options 1.1.2 and press Enter.
2. Select option 1 for Add Group Definition and press Enter.
3. Enter the Group ID and the Group name you are adding and press Enter.

Delete Group Definition

Delete Group Definition removes a group of users from the Host Encyclopedia. It does not remove the individual users from the Host Encyclopedia.

The following rules govern Delete Group Definition:

- To delete a group, you must be an encyclopedia administrator or the person who created the group.
- The group being deleted must not be the owner of any models. Before you can delete a group, you must reassign or delete any models that it owns.
- The group cannot be deleted if any group members have subsets or models checked out and the user has access to the model or subset via the group.

Follow these steps:

1. From the Main Menu, select options 1.1.2 and press Enter.
2. Select option 2 for Delete Group Definition and press Enter.
3. Enter the Group ID you want to delete and press Enter.

The group is no longer authorized to use Host Encyclopedia capabilities. All group memberships for the group are deleted. All model and subset access for the group is removed. Individual users keep all other authorizations.

Change Group Definition

Change Group Definition changes the ID or name of a CA Gen group.

This rule governs Change Group Definition: To change the group's definition, you must be an encyclopedia administrator or the person who added the group.

Follow these steps:

1. From the Main Menu, select options 1.1.2 and press Enter.
2. Select option 3 for Change Group Definition and press Enter.
3. Enter the Group ID you want to change and press Enter.
4. At the next panel, enter the new group information and press Enter.

Add User to Group Definition

Add User to Group Definition adds an individual user to a group.

The following rules govern Add User to Group Definition:

- To add members to a group, you must be an encyclopedia administrator or the person who added the group.
- The user member to be added must exist in the Host Encyclopedia.

Follow these steps:

1. From the Main Menu, select options 1.1.2 and press Enter.
2. Select option 4 for Add User to Group Definition and press Enter.
3. Enter the Group ID and User ID and press Enter.

Delete User from Group Definition

Delete User from Group Definition removes an individual member from a group of users in the Host Encyclopedia. It does not remove the individual users.

The following rules govern Delete User from Group Definition:

- To delete a member from a group, you must be an encyclopedia administrator or the group's owner (creator).
- The member cannot be deleted from the group if the member has any models or subsets checked out and the user has access to the model or subset via the group.

Follow these steps:

1. From the Main Menu select options 1.1.2 and press Enter.
2. Select option 5 for Delete User from Group Definition and press Enter.
3. Enter the Group ID and the User ID of the user you want to delete and press Enter.

Copy Group Definition

Copy Group Definition copies an existing group. Copy a group definition to include the same members under a new group name and group ID.

This rule governs Copy Group Definition: To copy a group, you must have access to the Host Encyclopedia.

Follow these steps:

1. From the Main Menu select options 1.1.2 and press Enter.
2. Select option 6 for Copy Group Definition and press Enter.

3. Enter the Source group ID.
4. Enter the Copy to group ID and the Copy to group name and press Enter.

Change Owner of Group

Change Owner of Group changes the user ID of the owner of the group. This rule governs Change Owner of Group: To change the owner of the group, you must be an encyclopedia administrator or the person who owns the group.

Follow these steps:

1. From the Main Menu, select options 1.1.2 and press Enter.
2. Select option 7 for Change Owner of Group and press Enter.
3. Enter the Group Id you want to change and press Enter.
4. At the next panel, enter the new owner and press Enter.

Control Model Access and Owner Functions

Control Model Access and Owner Functions (model access functions) consist of the following options:

- Grant access to model
- Revoke access to model
- Change access to model
- Change owner of a model

Grant Access to Model

Grant Access to Model authorizes a user or group to read or update the entire model specified. Users or groups can optionally be granted authority to generate code for the model. If granted update authority, the user or group can also be granted authority to migrate objects to the specified model or merge other models into it.

If granted update access to a model, the user or group also has access to all subsets of the model. If you want to grant access to some subsets but not to the entire model, use the Grant Subset Access function instead.

The following rules govern Grant Access to Model:

- To grant access to a model, you must be an encyclopedia administrator, the model owner, or a member of the group that administers the model.

- A user must exist in the Host Encyclopedia before being granted model access.
- You can grant Read-only authority or Update authority.
- If you grant Read-only authority, you can also grant Codegen authority.
- If you grant Update authority, you can also grant any combination of Migrate To and Codegen authorities.

Follow these steps:

1. From the Main Menu select options 1.1.3 and press Enter.
2. Select option 1 for Grant Access to Model and press Enter.
3. Enter the Host Encyclopedia name of the model to which you want to grant access.
4. Enter the User ID to which you are granting access.
5. At the next panel, select either Read-only or Update by entering any character in the Protection area.

Note: Any non-blank value you enter (letter, number, period, and so forth) tells the system you have selected that particular option.

6. On the same line as the selected protection (Read-only or Update), enter any character under any valid activity authorization (for example, Codegen, Migrate To) that you want to grant and press Enter.

Note: For Read-only the only valid activity is Codegen. For Update, all activities are valid.

Revoke Access to Model

Revoke Access to Model withdraws a user's or group's explicit authorization to a model in the Host Encyclopedia and to the model's subsets.

The following rules govern Revoke Access to Model:

- To revoke access to a model, you must be an encyclopedia administrator, the model's owner, or a member of the group that administers the model or subset.
- If a model or subset is checked out to the user whose access you are revoking, that user can check in the model after access is revoked. However, the user cannot check out the model or subset again.

Follow these steps:

1. From the Main Menu, select options 1.1.3 and press Enter.
2. Select option 2 for Revoke Access to Model and press Enter.
3. Enter the Model name to which you are revoking access.

4. Enter the User ID of the person or group whose access you are revoking and press Enter.

Change Access to Model

Change Access to Model changes a user's or group's authorization for a specific model.

The options offered are the same as those offered in Grant Access:

- Read-only or Update
- Codegen
- Migrate To

The following rules govern Change Access to Model:

- To change access to a model, you must be an encyclopedia administrator, the model's owner, or a member of the group that administers the model.
- The person whose access is being changed must currently have access to the model.
- The person whose access is being changed must currently exist in the Host Encyclopedia.
- You can grant Read-only authority or Update authority.
- If you grant Read-only authority, you can also grant Codegen authority.
- If you grant Update authority, you can also grant any combination of Migrate To and Codegen authorities.

Follow these steps:

1. From the Main Menu select options 1.1.3 and press Enter.
2. Select option 3 for Change Access to Model and press Enter.
3. Enter the Model name for which you are changing access.
4. Enter the User ID of the person or group whose access you are changing and press Enter.

The next panel appears.

5. Enter any character by the access option you want to grant, or erase any old option that you want to revoke and press Enter.

Note: For Read-only the only valid activity is Codegen. For Update, all activities are valid.

Change Owner of Model

Change Owner of Model establishes a new owner for a model.

The following rules govern the Change Owner of Model function:

- To change a model's owner, you must be an encyclopedia administrator, the model's owner, or a member of the group that administers the model.
- The new owner must have been previously added as a CA Gen user.
- If the current owner has the model checked out, you cannot assign a new owner.
- If you change the owner of a model, the previous model owner's access to other models is not affected.

Follow these steps:

1. From the Main Menu select options 1.1.3 and press Enter.
2. Select option 4 for Change Owner of Model and press Enter.
3. Enter the Model name for which you are changing owner and press Enter.
4. At the next panel Enter the User ID of the new model owner and press Enter.

Control Subset Access Functions

Control Subset Access Functions includes the following options:

- Grant access to subset
- Revoke access to subset

Grant Access to Subset

Grant Access to Subset authorizes a user or group to check out/check in and update a specific subset in the Host Encyclopedia.

A modeler cannot create a new subset unless he has been granted update authorization for the entire model. See Grant Access to Model.

This rule governs the Grant Access to Subset function: To grant access to a subset, you must be an encyclopedia administrator, model owner, or member of the group that administers the model containing the subset.

Follow these steps:

1. From the Main Menu select options 1.1.4 and press Enter.
2. Select option 1 for Grant Access to Subset and press Enter.

3. Enter the Model name of the model that contains the subset to which you are granting access.
4. Enter the Subset name of the subset to which you are granting access.
5. Enter User ID of the user or group to whom you are granting access and press Enter.

Revoke Access to Subset

Revoke Access to Subset withdraws a user's or group's authorization to check out and update a specific subset of a model in the Host Encyclopedia.

The following rules govern the Revoke Access to Subset function:

- To revoke access to a subset, you must be an encyclopedia administrator, the owner of the model that contains the subset, or a member of the group that administers the model.
- If a subset is checked out by the user whose access is being revoked, you must have it checked back in to the Host Encyclopedia before you can revoke access to it.

Follow these steps:

1. From the Main Menu select options 1.1.4 and press Enter.
2. Select option 2 for Revoke Access to Subset and press Enter.
3. Enter the Model name of the model that contains the subset to which you are revoking access.
4. Enter the Subset name of the subset to which you are revoking access.
5. Enter the User ID of the user or group whose access you are revoking and press Enter.

User Access History

User Access History allows you to view online the activity display which shows the history of the particular user access function about which you are making an inquiry.

This function consists of the following options:

- Add user history
- Delete user history
- Change user authority history
- Add group history
- Delete group history

- Add user to group history
- Delete user from group history

A single rule governs all the User Access History functions. You must have Host Encyclopedia access.

Because the procedure for viewing all the user access history displays is the same, the following steps show how to view the display for Add user history as an example.

Follow these steps:

1. From the Main Menu, select options 1.1.6 and press Enter.
2. Select option 1 for Add user history. Press Enter.
You can select any of the following options instead:
 - Option 2 for Delete user history
 - Option 3 for Change user authority history
 - Option 4 for Add group history
 - Option 5 for Delete group history
 - Option 6 for Add user to group history
 - Option 7 for Delete user from group history and press Enter.
3. Enter a slash (/) by the activity paired with the User ID on which you want to see details. Press Enter.
4. The User Access History Activity Display will appear, containing values for the following:
 - Activity type
 - User ID
 - Date and time
 - Software version
 - Schema level
 - DB auth ID
 - User authorized
 - Authorization level (if any)

Note: The final two fields reflect Add user history only. If you choose options 2 through 7, different fields display.

Chapter 4: How to Check in and Check out Models and Subsets

A CA Gen encyclopedia is like a traditional encyclopedia in that it is a central repository of information. You can Check in (upload) models or subsets to the Host Encyclopedia or Check out (download) models and subsets to a workstation.

At the Toolset, you view the contents of the model or subset, the piece of the encyclopedia you have checked out, modify it (or leave it as is), and then check the changed (or unchanged) version back into the encyclopedia.

This section contains the following topics:

[Communications Between the Toolset and the Host Encyclopedia](#) (see page 48)

[How to Control Model Updates](#) (see page 49)

[How to Perform Automatic Check in and Check out](#) (see page 51)

[Manual Check in and Check out](#) (see page 56)

[Tips for Check in and Check out](#) (see page 61)

[How to Resolve Command Not Recognized](#) (see page 62)

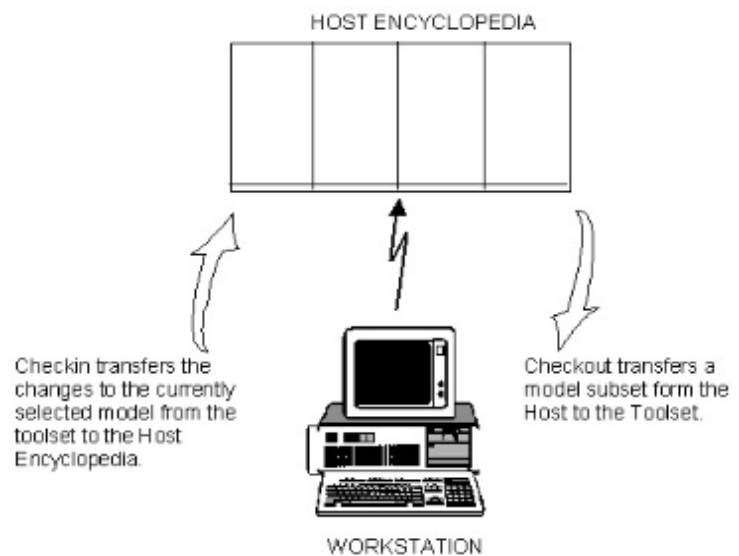
[How to Run Reports You Can Use as Diagnostic Tools](#) (see page 62)

[How to Place Unplaced Objects](#) (see page 62)

Communications Between the Toolset and the Host Encyclopedia

Check in and check out functions transfer models between the Toolset and the Host Encyclopedia. The following example of automatic check in and check out shows:

- Check in and check out begin at the Toolset with CA Gen commands
- The communication occurs through TSO.



How to Transfer to the Host Encyclopedia from the Toolset

Use check in to transfer a new model or a model or subset updates from the Toolset to the Host Encyclopedia. The initial check in transfers the entire model. Subsequent check-ins transfer only the changes made since the last check in. However, the term *check in* refers to both initial and subsequent transfers from a Toolset to the Host Encyclopedia. You can also send updates to the Host Encyclopedia without checking in the model or subset; the model or subset remains checked out to the Toolset.

How to Transfer to the Toolset from the Host Encyclopedia

Use check out to transfer a copy of an entire model or subset from the Host Encyclopedia to a Toolset. Check out makes it possible to check out a model or subset to any workstation, not just the one on which the model was created.

The checkout status of the model or subset can be overridden if the checked-out copy is deleted on the workstation. A new copy can then be checked out to the Toolset. For more information, see *When/How to Override Checkout Status*.

How to Control Model Updates

When you transfer models or subsets *from* the Toolset, you check in to the Host Encyclopedia. When you transfer models *to* the Toolset, you check out. Note that check out is to the user, not to the workstation.

Rules for Check in and Check out

The following rules apply to check ins and check outs:

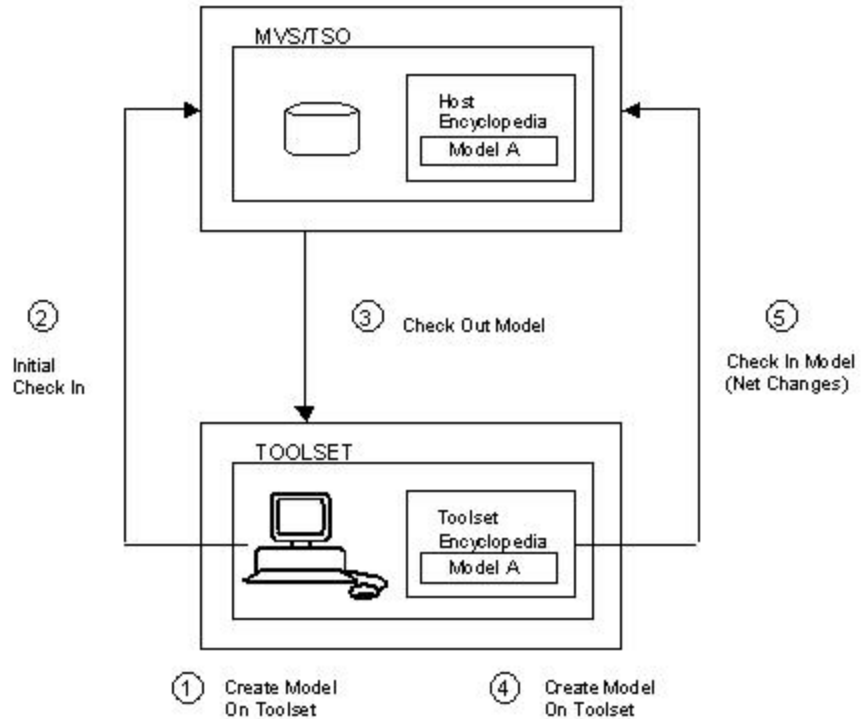
- Only one user can check out a model at a time.
- Only the user, model owner, or encyclopedia administrator that checked out the model can check it in.
- Except for the initial check in, a model must be checked out before each check in.
- When you choose the read-only option, CA Gen does not mark the model or subset as checked out.
- You cannot check in a model or a subset that is checked out as read-only. You can create a new model from a model or subset checked out as read-only.

You can check in and check out models in two ways:

- Automatically
- Manually

Example: Check in and Check out Flow

The following illustration shows the flow in check in and check out processing:



1. A new model is created on a Toolset and saved at that Toolset.
2. The entire model is checked in to the Host Encyclopedia. The check in adds the model to the list of models residing on the Host Encyclopedia. A read-only copy of the model remains on the Toolset.
3. The model in the Host Encyclopedia is checked out to the Toolset where it replaces the read-only copy that was left there in Step 2.

Note: The Host Encyclopedia records the user ID of the person who checks out the model. It does not record the workstation to which the model is checked out.

4. On the Toolset, changes are made to the model that was checked out. When the changes are saved on the Toolset, the complete model now resides only on the Toolset.

5. The user updates the model on the Host Encyclopedia by using Update and Check In Model or Update But Do Not Check In option.

Because this update is not the initial check in (Step 2), only the changes made to the model are sent to the Host Encyclopedia.

If the model is updated with check in, the model is checked into the Host Encyclopedia, and the Toolset again contains a read-only version of the model.

Note: If you skip the check out in Step 3, Step 5 fails because the model is not checked out to the user trying to do the check in. Only the user, model owner, or encyclopedia administrator who checked a model out can check the model back in.

How to Perform Automatic Check in and Check out

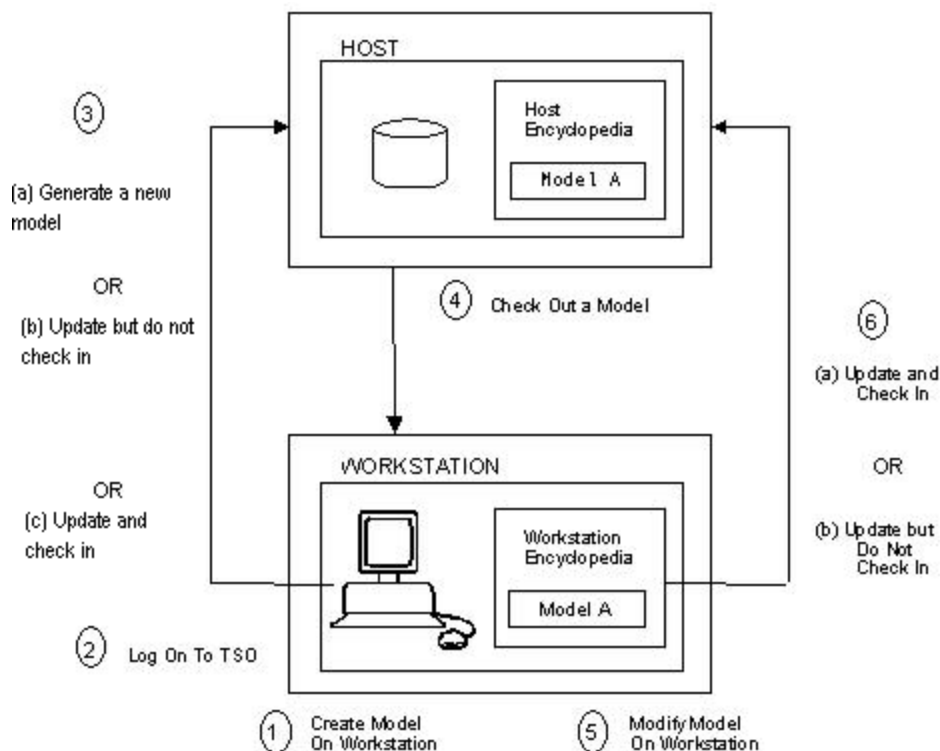
You can perform automatic check in and check out by using the Encyclopedia option under Model on the workstation main menu. The procedures for the six associated options appear in hypertext help on the workstation.

The six options are:

- **Check Out A Model**-Sends a copy of a model or subset from the Host Encyclopedia to an encyclopedia on a workstation.
- **Update And Check In Model**-Sends changes to a model or subset from a workstation encyclopedia to the Host Encyclopedia.
- **Update But Do Not Check In**-Sends changes to model or subset data from the encyclopedia on a workstation to the Host Encyclopedia, but leaves the active model or subset on the workstation checked out.
- **Resend Last Update**-Resends the last update of the transaction file.
- **Verify Last Update**-Checks to see whether the last update to the model or subset sent to the Host Encyclopedia was successful.
- **Generate New Model**-Uses a workstation copy to restore a model that no longer exists on the Host Encyclopedia or adds a new model to the Host Encyclopedia.

Example: How to Create and Update a Model

For the typical sequence of creating, storing, checking out and updating a model, see the following illustration. It shows the Encyclopedia commands for automatic check in and check out. The same sequence of checking in and out occurs during manual processing.



| After Step ... | Active (Modifiable) Copy of the Model Is on the . . . |
|----------------|---|
| 3a, 3c | Host Encyclopedia |
| 3b, 4 | Workstation Encyclopedia |
| 6a | Host Encyclopedia |
| 6b | Workstation Encyclopedia |

Step 1 Create a model

When you create a model at your workstation, it has two different names, one for the workstation (using the file naming conventions of the workstation operating system) and another for the Host Encyclopedia. If you do not specify a workstation name, CA Gen uses the first eight characters of the Host Encyclopedia name for the workstation name. Check with your encyclopedia administrator for any naming conventions that might apply.

When a model is checked out from the Host Encyclopedia, the resulting data files exist in a workstation subdirectory named for the checked out model. The software creates this subdirectory and gives it the workstation encyclopedia model name with the file extension .IEF. For example, the data files for the model MYMODEL would reside in the directory MYMODEL.IEF. This subdirectory is in the main CA Gen software directory or in the directory specified as the path for models during configuration.

Step 2 Log on to TSO on the Host Encyclopedia

All communications with the Host Encyclopedia for check in and check out require the users to be logged on to TSO at the Ready prompt.

Step 3 Perform initial check in

The initial check in sends the entire model to the Host Encyclopedia. For the initial check in, you can use Update and Check In Model, Update But Do Not Check In, or Generate New Model. Subsequent updates send only changes unless you use Generate New Model for the update. Generate New Model is discussed later.

To perform the initial check in, you must have created model authorization. (See the chapters “How to Set Up Security” and “How to Control User Access.”) The person performing the initial check in becomes the model's official owner. Any CA Gen user, who has access granted to the model or subset, can perform subsequent check-outs.

When you perform an Update and Check In Model, the copy of the model remaining on the workstation is placed in read-only status. You cannot work on it until you check it out again.

Step 4 Check out the model

After someone sends a model to the Host Encyclopedia, you can either subset it or check out the entire model to any workstation, using Check Out A Model -unless the model is very large. For authorization to check out a model, see the model's owner or an encyclopedia administrator.

Important! Before connecting to the Host Encyclopedia (or the Client Server) for check out, ensure that Perform file transfers for encyclopedia options is selected in the Check out Model dialog. If the check box is not selected, the workstation processes the check out without performing the encyclopedia portions of the process and as a result uses the existing tranfile in the directory. You can specify this default from the workstation Toolset by selecting Options, then Encyclopedia Communications.

Remember that models and subsets are checked out to a user ID, not a workstation. On the workstation, a model is simply a directory entry. The model can be copied to another workstation and either copy can be checked in by the person who checked out the model. Be careful when copying models this way because after one of the model copies is checked in, the other cannot be checked in. The second version of the model cannot be checked in because after check in of the first version, the Host Encyclopedia has the only active copy of the model.

Step 5 Modify the model on the workstation

Make the appropriate modifications to the model at the workstation.

Step 6 Update the encyclopedia

Send your changes from the workstation to the Host Encyclopedia often, especially if you have checked out a subset. Frequent updates without check in provide backup in case of a workstation failure. They also improve concurrence by helping avoid contention problems and make changes available to other project team members. When you perform an Update But Do Not Check In, you retain control of the subset or model you are using because it is still the active copy.

Note: To keep transmissions small, when you do an update, CA Gen sends only the changed portion of your model, not the entire model.

Updates with check in also provide backup in case of a workstation failure and make changes available to other project team members. When you update and check in a model, you relinquish control of the model or the objects in your subset. To work further on the model or subset, you must check it out again.

What Are Update Commits?

During a model update, commit points are places at which changes to the model are applied and stored in the database. Commits free DB2 table locks and reduce Host Encyclopedia contention. The UPDATE.TRN file communicates commit points to the Host Encyclopedia.

If a model update fails, database updates are rolled back to the last successful commit. If the unsuccessful model update is resent, commits for the resend begin after the last successful commit. If you have difficulty with the model upload or download, contact [Customer Support](#).

Libraries

Check in and check out functions (IEFUP and IEFDOWN) use the library specified in the CA Gen globals CLIST (TIUGLOB). The library specified at installation is usually the CA Gen base library.

Note: Check in and check out do not run from the standard libraries allocated in TSO. If you want to use check in and check out functions on a program that resides outside the CA Gen base library, move the program to the CA Gen base library or update the CLIST to pick up the programs from your user library.

How to Resend Your Last Update

Use Resend Last Update to retransmit the UPDATE.TRN file. Do this after an unsuccessful update, caused by factors such as a resource conflict or communications failure. If you try this option after a successful update, you receive a message that the model is already in the Host Encyclopedia. For more information, see What Are Update Commits in this chapter.

How to Verify Your Last Update

Use Verify Last Update to see whether the last update to a model or subset on the Host Encyclopedia was successful. Do this when you are unsure whether your last update was applied. This option checks the status flags on the workstation and the Host Encyclopedia without resending the data and reports the findings.

The VERIFY.TRN file, created by the update process, contains the verification that model updates have been applied to the Host Encyclopedia. Processing of the file by the workstation unlocks the model, which is locked at the beginning of the update process.

You might occasionally receive this message:

In trying to verify update for model [*model name*] update verification file VERIFY.TRN does not exist.

This message indicates that the VERIFY.TRN file has not been transferred from the host to the workstation.

How to Generate New Model

Use Generate New Model for recovery after a model in the Host Encyclopedia is inadvertently deleted, checked out, or overridden. Ordinarily, when you update a model, you send changes but do not send the entire model. However, the Generate New Model option lets you resend the entire model.

If the model already exists in the Host Encyclopedia, delete the model or rename it as you generate a new model.

Important! Use the **Generate New Model** option only if you have a complete copy of the model on a workstation. Do not use it with a subset. To avoid losing updates, consider whether the model can and should be updated on the host before overriding the checkout status.

What Other Model Information Can I Find in the Host Encyclopedia?

The Host Encyclopedia stores additional information about CA Gen users and models:

- The users who can check specific models in and out, generate reports, and manage CA Gen data.
- Subset definitions.
- The user to whom each model or subset is checked out.
- The checkout status of each model and subset (whether it is in the Host Encyclopedia or checked out to a user).
- The date and time of the most recent update of each model and subset.

Manual Check in and Check out

If your site communications are not compatible with CA Gen or automatic check in and check out are not cost-effective, you can check in and check out models and subsets manually.

What to do Before Check in or Check out

Turn off automatic file transfer each session before manual check in and check out.

Follow these steps:

1. Click **Options, Encyclopedia Communications** on the workstation Toolset.
2. Clear the selection of **Perform file transfers for encyclopedia options**.

This removes the checkmark.

3. Click **OK**.

This turns off the automatic file transfer.

To Perform Manual Check in

To manually check in a model to the Host Encyclopedia and check its status, you must:

- Create a transaction file on the Toolset.
- Transfer the update file to the Host Encyclopedia.
- Run the upload %IEFUP, or choose Upload Model option (1.3.16) from the Main Menu.
- Transfer the verify file to the Toolset.
- Verify the results of the check in.

Use the following procedures to manually check a model into the Host Encyclopedia and check its status.

Create a Transaction File on the Workstation

Follow these steps:

1. Access the CA Gen Toolset and select Model, Open Model.
2. Select the model you want to check in from the Open dialog and click Open.
3. Click Model, Encyclopedia, Update and Check In Model or Update But Do Not Check In. An alert appears notifying that the file transfer is off and asking whether you want to continue. Click Yes.

A dialog appears with the name you selected. The box shows the progress of preparing the model for transfer.

4. After the transaction file (UPDATE.TRN) is created, a warning message appears. The alert specifies that based on the communication configuration no file transfer should be attempted. Click Yes.
5. Another box appears notifying you that the VERIFY.TRN file does not exist. Press Enter.

Finally, you are notified that the transfer process did not complete. This message does not apply to manual processing.

Transfer the Update File to the Host Encyclopedia

Follow these steps:

1. Sign on to TSO and access ISPF.
2. File transfer UPDATE.TRN to a TSO data set entitled *mytsoid*.IEF.TRN, using any software product. Depending on the product you use, possible parameters are:
 - Host encyclopedia name: *mytsoid*.IEF.TRN
 - Workstation name: c:\ief\anyname.IEF\UPDATE.TRN

- Data type: binary or data (ensures that file is transferred without translation from EBCDIC to ASCII)
- Record format: VB
- Record length: 4092
- Block length: 4096

Run the Upload

When the file transfer is complete, `mytsoid.IEF.TRAN` can be uploaded to the Host Encyclopedia using either the Upload Model option or the Upload %IEFUP.

Run the Upload %IEFUP

When the file transfer is complete, exit ISPF to the READY prompt. (If you use LIBDEFS, or if DB2 is not in the Linklist, access the CA Gen host functions and, on a command line, type TSO %IEFISPF. This simulates a READY prompt from within CA Gen, so that the proper libraries are available.)

To update the Host Encyclopedia, type %IEFUP. When the update finishes, these messages appear:

```
IEF OK
TIEUP NORMAL END, RC=0
READY
```

Run the Upload using the Upload Model Option

Choose the Upload Model option (1.3.16) on the Main Menu.

More information:

[How to Manage Models](#) (see page 65)

Transfer the Verify File to the Workstation

At the READY prompt:

1. Enter END.
2. Return to ISPF and file transfer the message file to the workstation. Possible parameters are:
 - Host encyclopedia name: `mytsoid.IEF.MSGS`
 - Workstation name: `c:\ief\anyname.IEF\VERIFY.TRN`

- Data type: binary or data
(ensures that file is transferred without translation from EBCDIC to ASCII)
 - Record format: VB
 - Record length: 4092
 - Block length: 4096
3. Log off of TSO.

Verify the Results of the Check in

1. Access CA Gen Toolset on the workstation and click Model, Open Model.
2. Select the model you wanted to check in and click Open.
3. Click Model, Encyclopedia, Verify Last Update.

The check in results report is displayed. The model is ready for use.

How to Perform Manual Check out

Follow these steps:

1. Create a new model or open an existing model
2. Create a workstation subdirectory for the model
3. Create a checkout file on the Host Encyclopedia by running %IEFDOWN, or by using the Download Model option (1.3.15) on the Main Menu.
4. Transfer the checkout file to the proper workstation subdirectory.
5. Prepare the model for use on the workstation.

Use the following procedures to manually check a model out from the Host Encyclopedia and check its status.

Create a Workstation Subdirectory for the Model

Note: Skip this procedure if the file will be transferred to an existing model directory.

Follow these steps:

1. Access the CA Gen software and select Model, New.
2. Enter the model's full name under Model Name.
3. Enter the short form of the name under Local. CA Gen supplies .IEF as the last node.
4. Select OK. When the model's local name is displayed on the title bar, the new model has been created.

Create a Checkout File on the Host Encyclopedia using %IEFDOWN

Follow these steps:

1. Sign on to TSO to the READY prompt.
2. If you use LIBDEFS or, if DB2 is not in the Linklist, access CA Gen and on a command line enter: TSO %IEFISPF. This simulates a READY prompt from within CA Gen, so that the proper libraries are available.
3. Create the checkout file, mytsoid.IEF.TRAN, by entering the following:
%IEFDOWN MODEL(<'model name'>) SUB(ALL) SOFT(<model schema>) CPID(<destination code page>)

where:

model schema is 9.1.A5 or 9.2.A6. Use 9.1.A5 if downloading to AllFusion Gen 7 or 7.5. Destination code page is the active code page of the workstation on which the Toolset resides. You must specify this parameter unless you want to use the default code page.

Note: If you are checking out a subset, replace ALL with the correct subset name. If successful, you see only IEF OK and a READY prompt. For a listing of supported code pages, see *Client Server Encyclopedia User Guide*.

Create a Checkout file on the Host Encyclopedia via Download Model option

Use option 1.3.15 on the Main Menu to create a checkout file.

More information:

[How to Manage Models](#) (see page 65)

Transfer the Checkout File to the Proper Workstation

Follow these steps:

1. File transfer the checkout file to the workstation, using any software product.
2. Log off of TSO.

Depending on the product you use, possible parameters are:

| Parameter | Description |
|------------------------|---------------------------------|
| Host encyclopedia name | mytsoid.IEF.TRAN |
| Workstation name | c:\ief\anyname.IEF\CHECKOUT.TRN |
| Data type | binary or data |
| Record format | VB |

| Parameter | Description |
|---------------|-------------|
| Record length | 4092 |
| Block length | 4096 |

Prepare the Model for Use on the Workstation

Follow these steps:

1. Access CA Gen Toolset on the workstation and click Model, Open Model.
2. Select a model and click Open.
3. When the model's local name appears on the title bar, select Options, Encyclopedia Communications.
4. Verify that the box beside Perform file transfers for encyclopedia options contains no checkmark. This ensures that the automatic file transfer is turned off. Click OK.
5. Select Model, Encyclopedia, Check Out A Model.
6. Verify that the names are correct. If you are checking out a subset, enter the subset name. Click OK.
7. The Check Out A Model box appears. The message in the box says that the model is being prepared for use, and it shows the percentage currently completed.

When the model has been prepared, the Model Retrieval Status Report appears. The report shows the model and subset names, extraction date and time, and comments about the check out. Double-click the dash in the upper left corner when you are ready to close the report window. The model is now ready for use.

Tips for Check in and Check out

The following information can prevent or solve problems encountered when you check models in and out.

To Improve Performance

If your model is large or transactions have been frequent, update often. Periodically, check in your model to reduce the size of files and reduce fragmentation in storage.

Failure to check in periodically can eventually result in a fatal error when you try to check in a model. The error occurs when the IEF1200.DAT file exceeds its maximum record count. The accompanying message is:

Memory error: No more record structures available.

You can also improve performance by lessening contention. Do this by checking in changes on a regular, daily basis. You can designate times for check-ins, check-outs, and other maintenance. See the concurrence matrix for encyclopedia operations that can and cannot run concurrently.

Database Contention

Check-ins of models and subsets can fail because of database contention problems or contention with another model. If this happens, you must try again later. Locking mechanisms within CA Gen prevent model corruption by not allowing two users to perform write operations at the same time. DB2 also has measures that prevent simultaneous updating. If two users try to update records on the same page, one of the users will be unable to complete the task.

How to Resolve Command Not Recognized

When attempting to check in, you might receive a message that the check in command is not recognized by the Host Encyclopedia. This message probably indicates that the CA Gen libraries are not properly allocated. Check library allocations and verify that the appropriate CLIST or program exists in the CA Gen CLIST library.

How to Run Reports You Can Use as Diagnostic Tools

To pinpoint check in and check out problems, CA Gen produces two reports:

- **CA Gen Transaction File Report**-To generate, enter %DIAG on the TSO command line. This creates an ASCII form of the transaction file you are trying to run diagnostics on.
- **Model History Report**-The Model History Report helps by identifying the sequence of events and the time of the last successful check in, information that is often essential and frequently requested by CA Gen Support. This report is one of the model management options. For information on generating this report, see the chapter "How to Generate Reports."

How to Place Unplaced Objects

After a check out, you might fail to place unplaced objects permanently because of insufficient authority. To place an object permanently, you must have modify or delete authority over the object, as in subsetting. You can still move objects for which you have access or read-only authority to make a particular presentation, but these placement changes are not stored on check in.

Collisions can occur whenever an object with modify authority is placed in a position that conflicts with the coordinates stored on the Host Encyclopedia for another object. For example, while working in a subset you can change the placement of an object so that it collides with another object in the overall model. You are not informed of the collision at the time of check in.

If there are unplaced objects in a diagram after a check out, you are notified when you access the CA Gen Toolset. To place objects, select the Place Unplaced or Place All choices within the View command of the tool.

Note: The Place Unplaced or Place All options are available under the View menu only when Activity Dependency is selected.

When you have resolved the collision, the result can be checked in and the Host Encyclopedia stores the new placement data if you have modify or delete authority over the objects.

When or How to Override Checkout Status

Your encyclopedia administrator can override the checkout status of any model or subset to allow recovery. Note, however, that the override prevents you from checking in work currently being done on the workstation. After the override, the Host Encyclopedia has the active copy of the model, and the model on the workstation (and any work done on it since the last update) cannot be checked in.

When Both Automatic and Manual Procedures Fail

If you cannot check in or check out either automatically nor manually, it generally indicates that communication interfaces are not configured correctly. Confirm that the options shown on the Encyclopedia Communications panel under Options match the hardware and software installed on the workstation.

Chapter 5: How to Manage Models

This chapter explains how to manage model tasks using CA Gen.

This section contains the following topics:

[Use Utilities to Perform Model Management Tasks](#) (see page 65)

[Backup and Restore Model](#) (see page 68)

[Change Model Checkout User ID](#) (see page 70)

[Check Model](#) (see page 71)

[Copy Model](#) (see page 73)

[Copy Model across Encyclopedias](#) (see page 74)

[Create Model from Subset](#) (see page 75)

[Delete Model](#) (see page 76)

[Delete or Rename Objects](#) (see page 77)

[Display Model Statistics](#) (see page 79)

[Model History](#) (see page 80)

[Model Conversion](#) (see page 84)

[Override Checkout Status](#) (see page 87)

[Rename Model](#) (see page 87)

[Download Model](#) (see page 88)

[Upload Model](#) (see page 89)

[Encyclopedia Concurrency Matrix](#) (see page 89)

Use Utilities to Perform Model Management Tasks

CA Gen provides these utilities for model management tasks:

Backup and restore model

Allows the selection of individual models in an encyclopedia for sequential backup.

Change model checkout user ID

Allows a user other than the one who checked out the model to check it in.

Check model for consistency

Checks an existing model using CA Gen rules for consistency.

Copy model

Creates a model with the same objects, properties, relationships, and (optionally) subset definitions as the original model. You can perform copy model online or submit it as a batch job.

Copy model across encyclopedias

Copies a model from one encyclopedia to another.

Create new model from subset

Makes a new model from an existing subset of a model.

Delete entire model

Removes a model (and its subsets) from the Host Encyclopedia.

Delete or rename objects within a model

Lets you remove or assign new names to objects stored in the Host Encyclopedia without checking the objects out.

Display model statistics

Displays data about models and subsets. For models, it shows the number of objects, the date and time created, project coordinator, time of last update, and number of subsets.

Download Model

Check out model to Toolset or ClientServer Encyclopedia.

Model conversion

Upgrades models from earlier versions to the version for that encyclopedia.

Model history

Provides a record of changes made to models and subsets, users added and deleted, users whose user type or name has been changed, and users who have reset the Host Encyclopedia DMAX table. It also lets you write history data to a sequential file to free space on the database.

Model reports

Provide online and paper documentation of models. They include models on the Host Encyclopedia Reports menu.

Override checkout status for model

Changes a model's checkout status from checked out to checked in and makes another check out possible.

Rename model

Changes the name of a model on the Host Encyclopedia.

Upload model

Uploads a model to the Host Encyclopedia from Toolset or ClientServer Encyclopedia.

Important! To manage CA Gen models, always use CA Gen Toolsets on the Host Encyclopedia or workstation

Authorization

Encyclopedia administrators can perform all model management functions for all models. Modelers must be granted explicit authority to work on a certain model. In addition, certain functions require additional authorization.

To Execute Online or Batch

You can execute these model management procedures online or in batch:

- Check Model
- Copy Model
- Create Model from Subset
- Delete Model
- Delete Object
- Convert Model
- Download Model
- Upload Model

As you specify the parameters for these functions, select the execution mode you want:

- Online
- Batch

To Edit the JCL

If you choose Batch and you have created a JOB card:

Follow these steps:

1. Press Enter to see the update JCL panel.
2. Edit, if necessary, and accept the changes.

If you choose Batch and you have not created a job card:

1. Press Enter to see the JCL maintenance panel.
2. Fill out the job card and accept.

To Access Model Management Functions

Follow these steps:

1. Access the Main Menu.
2. Select option 1 for Host Encyclopedia functions. Press Enter. The Host Encyclopedia Functions menu displays.
3. Select option 3 for Model Management. Press Enter. The Model Management menu displays.

Backup and Restore Model

Backup and Restore copies a model to a sequential backup file and restores the copied model later.

Backup unloads the model from the Host Encyclopedia to a sequential data set. The unloaded model is an exact copy of the model at the time of the backup including any existing subsets and their checkout status.

Restore uses the data in a backup data set to update the model on the Host Encyclopedia. The model is restored exactly as it was at the moment it was backed up including checkout status.

You are not required to use this utility each time you backup a model. Instead, you can save the JCL and make a copy for each model you want to maintain. However, you must use the utility to restore a model so that you can select the preferred generation.

Rules for Backing up or Restoring a Model

The following rules are for backing up or restoring a model:

- Only an encyclopedia administrator can backup or restore a model.
- DB2 security must include IMAGE, START DB, STOP DB, and LOAD.

Important! While Restore runs, the encyclopedia is in a utility status, locking out all CA Gen functions. Consider the altered encyclopedia status before scheduling a restore.

To Back Up a Model

Follow these steps:

1. Access the Main Menu.
2. Select options 1.3.10.1. Press Enter. The Create Sequential Backup of Model panel displays.
3. Specify the name of the model you want to backup, as the name exists on the Host Encyclopedia.
4. Enter a fully qualified backup data set name. Use quotation marks.

Note: Quotation marks create the data set name as entered. Without quotation marks, the data set name created is the one entered plus a system prefix and system suffix.

5. Enter a cleanup value.

The cleanup value specifies the number of backup generations kept. Earlier generations are deleted.

For example, to keep the current backup and the one before it, specify 2. The Backup utility:

- Creates a new backup (the 0 generation)
- Keeps the previous backup (the -1 generation)
- Deletes the earliest backup (in this case, the -2 generation).

If the cleanup value is zero, the utility keeps all backups.

6. Press Enter. A panel to Update JCL displays. Specify or edit the job card if necessary. Online Help contains suggested parameters for memory size and time. Press Enter. The JCL for the archive program displays below the JOB card.
7. Enter submit or sub and press Enter.

To Restore a Model

Follow these steps:

1. Access the Main Menu.
2. Select options 1.3.10.2. Press Enter. The Restore Model from Sequential Backup panel displays.
3. Specify the name of the model you want to restore, as the name exists on the Host Encyclopedia.
4. Press Enter. A panel displays the backup entries from the Host Encyclopedia table.

5. Select option for image copy:
 - **Y**-CA Gen builds JCL for image copy and specifies LOG(NO)
 - **N**-No image copy is made and CA Gen specifies LOG(YES)

Note: Specifying Y improves load performance.
6. Select the preferred generation and press Enter.
7. Press Enter. A submittable JCL stream displays in edit mode.
8. Edit the JCL, if necessary.
9. Enter SUBMIT or SUB. Press Enter.

Change Model Checkout User ID

Change Model Checkout User ID changes the user ID to which a model is checked out. Model owners and encyclopedia administrators use this function when they want a model to be checked back in by someone other than the person who checked it out.

Rules for Changing Checkout User ID

The following rules govern changing the checkout user ID:

- Only an encyclopedia administrator or model owner can change a model's checkout user ID.
- The user ID substituted must have access to the model.

To Change Checkout User ID

Follow these steps:

1. Access the Main Menu.
2. Select options 1.3.14. Press Enter. The Change Model Checkout User ID panel displays.
3. Specify the name of the model you want to change, as it exists in the Host Encyclopedia.
4. Enter the new checkout user ID.
5. Press Enter. The user ID stored in the Host Encyclopedia as having the model checked out is changed to the new checkout user ID.

Check Model

Check Model checks the consistency of objects within a model. Both code generation and database generation require a consistent model. Check Model on the mainframe uses the same rule base as Consistency Check on the workstation. This rule base verifies that the model or subset satisfies over 400 rules. Both checks identify two types of problems, warnings and errors.

A data model error must be corrected before you can transform the data model to a Design data structure. Design errors must be corrected before you perform code generation.

A warning occurs when context is important. For example, if you must do X to implement Y, you might get a warning on X but still be able to perform transformation and code generation.

Rules for Checking a Model

Following are the rules for checking a model:

- To check a model, you must have at least Read-only authorization on the model.
- The model being checked must exist in the Host Encyclopedia.

To Check a Model

Follow these steps:

1. Access the Main Menu.
2. Select options 1.3.6. Press Enter. The Check Model for Consistency Request panel displays.
3. Specify the name of the model you want to check, as the name exists on the Host Encyclopedia.
4. Enter a slash (/) next to the range of objects you want checked.
 - All objects
 - Specific objects
5. Enter a slash (/) next to the execution option you want.
 - Online
 - Batch

6. Press Enter. The Consistency Check Report Options panel displays.
 - a. Select the amount of detail you want:
 - **N**-For standard report (default)
 - **D**-For more detail
 - **S**-For summary only
 - b. Specify whether you want to include both errors and warnings:
 - **W**-For warnings and errors (default)
 - **S**-For severe warnings
 - **E**-For errors only
 - **F**-For fatal errors, which only Support can fix
 - c. Specify the diagnostic threshold:

The number of messages at which you want consistency checking to stop. The default value is 100. The available range is 1 - 9999.
 - d. Select the diagnostic rule level. (The diagnostic rule level currently defaults to ALL.)
 - e. Select the DBMS specific rule level. The default value is All. Press Enter.
 - If you chose All objects, the Checking begins. When complete, the report displays for browsing.
 - If you chose Selected objects, then the Select Object Types for Model Consistency Check panel displays.
7. Enter a slash (/) by one or more object types to display a list of all occurrences of those types in the model.
 - a. Press Enter. The following message displays:

Input has been accepted, press "enter" or enter the "accept" command to proceed.
 - b. Press Enter. A selection list displays with all object types used in the model.
 - c. Select the expansion option by typing E next to individual occurrences of an object type. Press Enter. A selection list displays with all individual objects of the object type.
 - d. Select individual objects by entering S next to the objects you want checked. Press Enter. The Confirm Selected objects panel displays.

- e. Enter a slash (/) beside the object name to remove it from the list. Press Enter.
- f. Enter ACCEPT and press Enter to begin checking. The program checks the model for consistency.

If the consistency check reaches the number of warnings/errors you specified in Step 6c, another screen displays and asks whether you want to continue the consistency check. When complete, the report displays for browsing.

Copy Model

Copy Model creates a copy of a model in the Host Encyclopedia. The copy contains all the objects, properties, and associations of the original model. If you choose, it also includes all previously defined subset definitions.

The copied model is in the same family as the original, and each object in the original has a corresponding object in the copied model. Model families and object correspondence are used in Version Control.

Copy Model can be performed online or submitted as a batch job. Processing in a batch job frees the terminal for other uses and lets you specify (for example, through job class) an execution time when resources might be in less demand.

When copying models, encyclopedia administrators can lock the encyclopedia tables to improve performance. To avoid contention with other users, locking the encyclopedia tables should occur only when other encyclopedia activity is low.

Note: Be aware that copying large models requires considerable resources.

Rules for Copying a Model

Following are the rules for copying a model:

- To copy a model, you must have at least Read-only authority on the source model and Create Model authority.
- The model being copied must exist in the Host Encyclopedia.
- The new model name must be a valid Host Encyclopedia model name.
- An encyclopedia administrator can copy any model.
- Only an encyclopedia administrator can lock the encyclopedia tables when copying a model.

To Copy a Model

Follow these steps:

1. Access the Main Menu.
2. Select options 1.3.1. Press Enter. The Copy Model Request panel displays.
3. Specify the name of the model you want to copy, as it exists on the Host Encyclopedia.
4. Enter the new model name. The name must be unique within the encyclopedia.
5. Select the execution mode: Online or Batch.
6. Follow instructions.

Copy Model across Encyclopedias

Cross Copy copies a model from one encyclopedia to another. The copy has the same name and contains the same objects, properties, and associations as the original model. Use this option to move models in preparation for a conversion or simply to change ownership of a model from one encyclopedia to another.

To perform a cross-copy, you need the plan prefix and load library of both encyclopedias and their schema numbers. Encyclopedias are identified by DB2 plan prefixes. The DB2 plan prefix is the user-specified first four characters of the DB2 plan names for the CA Gen supplied software. Both encyclopedias must be in the same DB2 subsystem.

Rules for Cross Copying a Model

Following are the rules for cross copying a model:

- To cross copy a model, you must have at least Update authorization on the source model in the source encyclopedia and Create Model authorization in the destination encyclopedia.
- An encyclopedia administrator can cross copy any model.
- The model being cross copied must exist in the source Host Encyclopedia and must not exist in the target Host Encyclopedia.
- The destination encyclopedia must be at the same or higher schema as the encyclopedia being copied from.

To Cross Copy a Model

Follow these steps:

1. Access the Main Menu of the target encyclopedia.
2. Select options 1.3.2. Press Enter. The Cross Encyclopedia Model Copy Request panel displays.
3. Enter the name of the model you want to copy to another encyclopedia in the FROM encyclopedia.
4. Enter the schema number of the model being copied.
5. Enter the plan prefix of the FROM encyclopedia in which the model currently resides.
6. Enter the load library of the FROM encyclopedia.
7. Enter the plan prefix of the TO encyclopedia to which you want to copy the model.
8. Enter the load library of the TO encyclopedia.
9. Press Enter. The model is copied to the specified encyclopedia.

The following table lists the schema numbers:

| If copying from | Enter |
|--|--------|
| Advantage Gen 6.0 model or AllFusion Gen 6.5 model | 9.0.A2 |
| AllFusion Gen 7 model or AllFusion Gen 7.5 model | 9.1.A5 |
| CA Gen Release 8 model or CA Gen Release 8.5 model | 9.2.A6 |

Create Model from Subset

Create Model from Subset makes a subset a model. After the subset becomes a model, you can perform any model function on it.

Rules for Creating a Model from a Subset

Following are the rules for creating a model from a subset:

- To create a model from a subset, you must have at least Read-only authority on the source model and Create Model authority.
- An encyclopedia administrator can create a model from any subset.
- The subset being made a model must belong to a model in the Host Encyclopedia.

- The new model name must be unique within the Host Encyclopedia.
- You can create a model from a subset even if the subset is checked out. If you do, the objects in the new model are the objects at the time of the last update.
- A model created from a subset is in the same model family as the original model, and each object within the created model has correspondence with an object in the original. Model families and object correspondence are used in Version Control.

To Create a Model from a Subset

Follow these steps:

1. Access the Main Menu.
2. Select options 1.3.8. Press Enter. The Create Model from Subset Request Panel displays.
3. Specify the name of the model to which the subset belongs, as the name exists on the Host Encyclopedia.
4. Enter the subset name.
5. Enter the new model name.
6. Select the execution mode. Choose online or batch.
7. Follow the onscreen instructions.

Delete Model

Delete Model removes a model from the Host Encyclopedia. When a model has been deleted, you can restore it from a backed-up version. If you must save and reuse space within the Host Encyclopedia, you can back-up a model, then delete it. If you must use it again, you can restore it from the backed-up version.

Delete Model can be performed online or submitted as a batch job. Processing in a batch job frees the terminal for other uses and lets you specify (for example, through job class) an execution time when resources might be in less demand.

When deleting models, encyclopedia administrators can lock the encyclopedia tables to improve performance. To avoid contention with other users, lock the encyclopedia tables only when other encyclopedia activity is low.

Optionally, you can flag a model for future deletion instead of deleting it immediately. This means that the model is not deleted until the clean up program is run.

Rules for Deleting a Model

Following are the rules for deleting a model:

- Only encyclopedia administrators or the model owner can delete a model.
- An encyclopedia administrator can delete any model.
- The model being deleted must exist in the Host Encyclopedia.
- Only an encyclopedia administrator can lock the encyclopedia tables when deleting a model.

To Delete a Model

Follow these steps:

1. Access the Main Menu.
2. Select options 1.3.4. Press Enter. The Delete Model Request panel displays.
3. Enter the name of the model you want to delete, as it exists on the Host Encyclopedia.
4. Select the execution mode. Choose Online or Batch
5. Follow instructions.

Delete or Rename Objects

Delete or Rename Objects allows you to remove or assign new names to objects stored in the Host Encyclopedia without checking the objects out. If the object is checked out to a workstation with greater than Read protection, it cannot be deleted. If it is checked out with greater than Access protection, it cannot be renamed. Delete objects can be executed as a batch job. However, it is not possible to rename objects in batch.

Rules for Delete or Rename Objects

Following are the rules for deleting or renaming objects:

- To delete or rename objects, you must have Update authorization on the model.
- To trial delete objects, you must have at least Read-only authorization on the model.

If batch option is selected, then the authorization is checked when running the batch job.

To Delete or Rename Objects

Follow these steps:

1. Access the Main Menu.
2. Select options 1.3.3. Press Enter.
3. Enter the name of the model you want to work in, as it exists on the Host Encyclopedia.
4. Enter a slash (/) next to the execution option you want:
 - Online
 - Batch
5. Enter a slash (/) by an object type to display a list of all occurrences of those types in the model.
6. Press Enter. A message displays.

Input has been accepted, press “enter” or enter the “accept” command to proceed.
Press Enter.

A selection list displays with all individual objects of the object type.
7. Enter **one** of the action codes next to one or more of the objects:
 - **D** (Delete object)
 - **T** (Trial delete object)
 - **R** (Rename object)
 - **E** (Expand)

If you entered T and chose the online option, then a report displays for browsing. It contains a message describing the three possible results of the Delete action.

- The following objects were deleted: The deletion was successful.
- The selected object cannot be deleted because it is referenced by the following objects.

A listing of the objects referenced follows.
- The selected object cannot be deleted because it is checked out to a subset with update or delete or access capability.

If you chose the batch option to delete or trial delete objects, then a confirmation panel is displayed. It displays the list of selected objects. Objects can be deleted from this panel. When you press Enter, a batch JCL is displayed for submission. The results of the delete action are displayed in the batch job output.

If you entered R and chose the online option, continue by performing the following steps:

- a. The current name of the object displays. Enter the new name and press Enter.
- b. Press Enter. If you select multiple actions and multiple objects, the system does them in order starting from the top of the list.

A message displays on the New Name line reporting the outcome. The possible values are:

SUCCESSFUL - the object was renamed

or

NO INPUT - no new name was provided

or

DUPLICATE - the object was not renamed because the new name is used for another object of the same type within the model

or

Object is checked out for update or delete. Rename is not allowed.

If more object occurrences are in the queue to be processed, the next occurrence is presented. When the queue is empty, the Object Occurrence panel displays.

If more aggregate object occurrences are in the queue to be processed, the next Object Occurrence panel displays. When all the aggregates are processed, press CANCEL and the Aggregate Object Selection panel displays.

8. Press Enter to continue or End to exit. The Report Print Options panel displays.

Display Model Statistics

Statistics displays data about models. For models, it shows the number of objects, date and time created, model owner, time of last update, and number of subsets.

Rules for Generating Statistics

Following are the rules for generating statistics:

- To generate model statistics, you must have at least Read-only authorization on the model.
- An encyclopedia administrator can generate statistics for any model.

To Generate Statistics

Follow these steps:

1. Access the Main Menu.
2. Select options 1.3.5. Press Enter. The Model Statistics Request Panel displays.
3. Specify the name of the model, as it exists on the Host Encyclopedia.
4. Press Enter. The Model Statistics Report displays.

Model History

Model History consists of a log of significant activities related to models and user authorizations. Administrators and model owners can request that object history for specific models also be recorded. CA Gen also records changes to the maximum object ID value in the DMAX table.

Note: When a model is deleted or renamed, its model and object history is retained under the original model name and can be archived.

Model History options are:

- Model Activity History
- Update Maximum Object ID
- Archive History Data
- Enable/Disable Model Object History

The Model History options are discussed in the order they are listed on the Host Encyclopedia History menu.

Model Activity History

Model Activity History tracks changes made to a specific model or subset, the types of change that have occurred, the date and time of the change, and the user ID of the person making the change. At the detail level, it lists the version of the software used, the schema, DB2 authorization ID, and other relevant information.

Model Activity History records:

- Adoption
- Change owner
- Check out
- Copy

- Delete
- Grant access
- Import model
- Migration
- Model conversion
- Object history
- Override checkout status
- Rename
- Rename or delete object on the Host Encyclopedia
- Revoke access
- Trial migration
- Update (with and without check in)
- Application system construction
- Application system regeneration
- Referential integrity trigger construction

Note: Adoption activities appear in the history of the adoptee model (where changes are made). The related model is not changed, and its history is not affected.

Rule for Generating a Model Activity History

Anyone with access to the Host Encyclopedia can generate this report.

To Generate a Model Activity History

Follow these steps:

1. Access the Main Menu.
2. Select options 1.3.12.1. Press Enter. The Model Activity History Request panel displays.
3. Enter the name of the model for which you want to generate a history, as it exists in the Host Encyclopedia.
4. Enter a slash (/) by the preferred sort option.
5. Press Enter. A Model Activity Selection List panel displays for the model specified.

6. Enter a slash (/) by the activity you want to detail. (A subset of ALL indicates the entire model.)
7. Press Enter. The Detailed Activity for Model History panel displays for the activity chosen, with the option to display the Aggregate Object Change History Report.

Update Maximum Object ID

Update Maximum Object ID displays:

- CA Gen user IDs of all users who have reset the Encyclopedia DMAX table.
- Date and time the reset occurred.

Rule for Generating an Update Max Object ID

Anyone with access to the Host Encyclopedia can generate this report.

To Generate an Update Max Object ID

Follow these steps:

1. Access the Main Menu.
2. Select options 1.3.12.2. Press Enter. The Model Activity Selection List panel displays.
3. Enter next to the one activity to be detailed.
4. Press Enter. The Detailed Activity for Model History panel displays. To return to Step 3, press Enter.

Archive History Data

Archive History Data writes model history data to a sequential file and then deletes the data from the database, thus freeing up space. Archiving history data does not affect tool-created data.

Archiving can be done by age, by model, or both. Histories for deleted or renamed models are kept under the original model name and can be archived the same way as history for active models.

Note: History data is stored in the DHLOG table, a CA Gen table created at installation. When archived, it is written to a sequential file and cleared from DHLOG.

Rules for Archiving History Data

Following are the rules for archiving history data:

- Only an encyclopedia administrator or model owner can archive history data.

- An encyclopedia administrator can archive history data of any model. A model owner can archive data only for his or her models.

To Archive History Data

Follow these steps:

1. Access the Main Menu.
2. Select options 1.3.12.3. Press Enter. The Mainframe JCL Maintenance Panel for Archive History Data displays.
3. Enter job card information, if necessary. Press Enter. The Parameters for Archiving History Data panel displays.
4. Specify the number of days of history data to keep. This value means all data older than the number of days specified will be removed. Data equal to or less than the number of days specified will remain. If you use the default of 0 days that means all history data would be archived.
5. Specify the archive data set name.
6. Specify a model name to archive only a single model or leave blank to archive all models. Press Enter.
7. Specify or edit job card if necessary. Online Help contains suggested parameters for memory size and time. Press Enter. A message and paging prompt appear. The JCL for the archive program displays below the JOB card.
8. Enter submit or sub, and press Enter. A job status message displays at the bottom of the screen, for example:

```
JOB ABC(HOB02926) SUBMITTED  
***
```

Enable/Disable Model Object History

Enable/Disable allows you to capture more details relating to the history of changes to specific objects in DHOB if you enable the model object history. Logging can be enabled or disabled for object migration and object changes. The default for a new model is logging enabled.

Rule for Enable/Disable Model Object History

Only the model's owner or the encyclopedia administer can enable or disable a model's object history.

To Enable/Disable Model History

Follow these steps:

1. Access the Main Menu.
2. Select options 1.3.12.4. Press Enter. The Enable/Disable Model Object History panel displays.
3. Enter the name of the model for which you want to enable or disable history logging, as the name exists on the Host Encyclopedia. The Object History Logging Status panel displays.
4. Enter a / by the preferred logging option for Object Change.
5. Enter a / by the preferred logging option for Object Migration.
6. Press Enter. The following message displays:

All processing completed normally.

Model Conversion

Conversion updates the model schema and modifies model contents as required to conform to the new model structure definition. CA Gen evaluates the model in terms of the current definition and makes the required changes. With CA Gen 8.5, you can convert from the 9.0.A2 schema or 9.1.A5 schema to the 9.2.A6 schema.

To use the CA Gen 8.5 workstation, the model must be converted to the 9.2.A6 schema. If the model is a CA Gen 8.5 model then it is already 9.2.A6 schema and does not need to be converted. An unconverted 9.0.A2 cannot use any CA Gen 8.5 functionality, except for model conversion and model delete. An unconverted 9.1.A5 model or subset cannot be downloaded to a CA Gen 8.5 toolset. If you do not convert models to the 9.2.A6 schema, you will incur increased system overhead during download functions. See the Unconverted Models and 9.0.A2 Models sections in this chapter.

Options

Conversion options depend on where the model resides:

- If the model is already in the CA Gen 8.5 encyclopedia, you can convert it in place by selecting option 2 of the Model Conversion panel. If your model is already at 9.2.A6 schema (a CA Gen Release 8 model), you will not need to convert it.
- If the model is in the Release 7 encyclopedia, you can copy it to the CA Gen Release 8.5 encyclopedia and simultaneously convert it by selecting option 1 of the Model Conversion panel.

- If all models in the encyclopedia need to be converted to CA Gen Release 8.5, select option 3 of the Model Conversion panel. Use Option 3 with caution because it converts ALL models.

Source Encyclopedia for Cross Copy Model and Convert Option

The CA Gen installer defines the source encyclopedia at host installation time. You cannot change the source encyclopedia using the Model Conversion utility.

9.0.A2 Models

9.0.A2 models must be converted for use with the CA Gen 8.5 software and Toolset. No other options are available for 9.0.A2 models.

However, Option 1 of the Model Conversion panel can facilitate the conversion if TIEXCPY references the 9.0.A2 encyclopedia.

Note: Manual download and upload to the CA Gen 8.5 encyclopedia does not perform conversion. A model uploaded in this way must be converted using option 2 of the Model Conversion panel.

Unconverted Models

Only transitional support is provided for 9.0.A2 models (upload new model, model conversion, and delete model). 9.1.A5 models are fully supported.

Full Support

The CA Gen 8.5 version of the Host Encyclopedia provides full functional support for models at the 9.2.A6 and 9.1.A5 schema release levels. Full support means that all the functionality (upload, download, migration, adoption, subsetting, code generation, and so on) available to models at the 9.2.A6 schema release level is also available to models at the 9.1.A5 schema release level.

Note: Regardless of the schema level of the model, application generation from the CA Gen 8.5 Host Encyclopedia is performed using the CA Gen 8.5 generators only.

After Conversion

After a model is converted, it:

- Resides in a CA Gen 8.5 schema (9.2.A6) encyclopedia.

- Uses the CA Gen 8.5 code generator.
- Uses the CA Gen 8.5 Consistency Check rules.

Rules for Converting a Model

Following are the rules for converting a model:

- Only an encyclopedia administrator or the model's owner can convert a model.
- An encyclopedia administrator can convert any model.
- The model being converted must exist in the Host Encyclopedia.
- Only an encyclopedia administrator can convert all models in an encyclopedia.

To Convert a Model

Follow these steps:

1. Access the Main Menu.
2. Select options 1.3.11. Press Enter. The Model Conversion Request Panel displays.
3. Select the type of conversion to be performed. Press Enter.
 - Select Option 1 if the model resides on another encyclopedia and must be copied into a CA Gen encyclopedia before conversion.
 - Select Option 2 if the model already resides in the CA Gen encyclopedia.
4. For options 1 and 2, specify the name of the model you want to convert, as it exists on the Host Encyclopedia.
5. For option 2, choose online or batch execution mode.
6. Press Enter.
7. If the online option is selected, this message displays:

REL. X MODEL CONVERSION FOR (Version x encyclopedia ID).

CA Gen checks whether the model is checked out. If the model is checked out, this message displays:

The model is already checked out

If the model is checked out, you must press Enter and check it back in.

The Model Conversion Request Panel redisplay with the following message:

RETURN CODE = 0, Rx -> Ry MODEL CONVERSION COMPLETED

8. If the batch option is selected, a batch JCL is generated. Submit the JCL to convert the model in batch.

9. If the option for converting all models is selected, an informational panel is displayed with warnings. If you press Enter, a batch JCL is generated. Submit the JCL to convert all models in batch.
10. Press End.

Override Checkout Status

Override Checkout Status changes the checkout status of a model from checked out to checked in. After the override, a new copy of the model can be checked out.

Rules for Overriding Checkout Status

Following are the rules for overriding checkout status:

- Only the model's owner or the user who checked out the model can override its checkout status.
- An encyclopedia administrator can override the checkout status of any model.

To Override Checkout Status

Follow these steps:

1. Access the Main Menu.
2. Select options 1.3.9. Press Enter. The Override Checkout Status Request Panel displays.
3. Enter the user ID of the person to whom the model is checked out.
4. Enter the name of the model, as it exists on the Host Encyclopedia. Press Enter. The model's checkout status is changed to checked in.

Rename Model

Rename Model changes the name of a model on the Host Encyclopedia.

Rules for Renaming a Model

Following are the rules for renaming a model:

- Only an encyclopedia administrator or model owner can rename a model.
- An encyclopedia administrator can rename any model.

- The model being renamed must be checked in.
- The new model name must be unique on the Host Encyclopedia.

To Rename a Model

Follow these steps:

1. Access the Main Menu.
2. Select options 1.3.7. Press Enter.
3. Specify the current model name, as it exists on the Host Encyclopedia.
4. Enter the new model name. Press Enter. The model is renamed.

Download Model

Follow these steps:

1. Access the Main Menu.
2. Select options 1.3.15. Press Enter.
3. Specify the name of the model to be downloaded, or prompt for a list of models on the Host Encyclopedia.
4. Enter the model schema level, download transaction file name without the TSOID prefix.
5. Choose No for Upload option to download the model to the Toolset or to the Client Server Encyclopedia as a child model. The model is marked as 'checked out'.
6. Choose Yes for Upload option to download the model to another encyclopedia. The model will not be marked as 'checked out'.
7. Choose Yes for Extract option to download the model to a Client Server Encyclopedia as a child model. Otherwise, choose No for Extract option.
8. If Extract option is Yes, then enter Child encyclopedia id and the name of the child model, if the name is different than the parent model name.
9. Enter the code page. The code page should match the value of the platform where the model will be uploaded.
10. Choose Yes for Read-only option if the model will be downloaded for read-only. The model will not be marked as 'checked out' if read-only option is chosen.
11. Select the execution mode: Online or Batch.
12. Press Enter. If the online option is select, the download takes place immediately. If the batch option is selected, a batch JCL is generated for submission.

Upload Model

To upload a model

1. Access the Main Menu.
2. Select options 1.3.16. Press Enter.
3. Enter the update transaction file without the TSOID prefix.
4. Select the execution mode: Online or Batch.
5. Press Enter. If the online option is select, the upload takes place immediately. If the batch option is selected, a batch JCL is generated for submission.

Encyclopedia Concurrency Matrix

The Encyclopedia Concurrency Matrix displays Encyclopedia operations that:

- Can run concurrently
- Cannot run concurrently
- Can run concurrently under certain conditions.

Chapter 6: How to Generate Reports

CA Gen reports provide information about model and subset data stored on the Host Encyclopedia. You can access and produce 53 reports through a scrollable menu from the Main Menu. You can also find the reports on other menus, grouped with the topics to which they are most closely related.

This section contains the following topics:

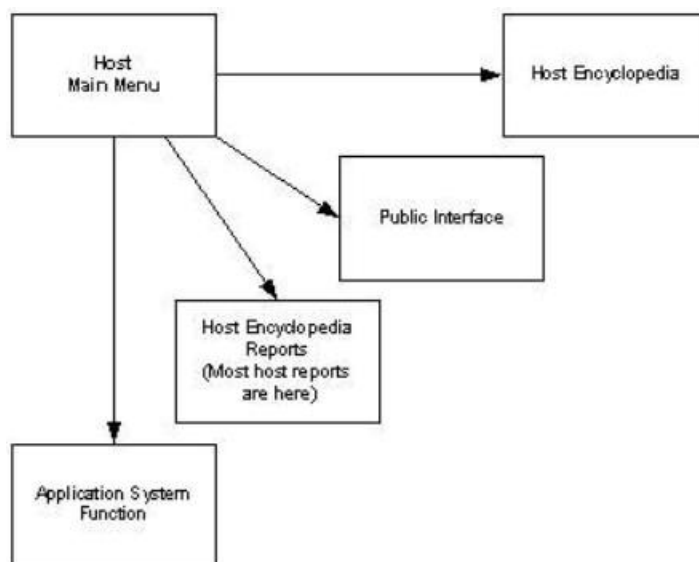
[Where to Find Host Reports within CA Gen](#) (see page 91)
[Host Encyclopedia Reports](#) (see page 96)
[User Access Reports](#) (see page 100)
[Encyclopedia Duplicate Objects Report](#) (see page 104)
[Encyclopedia Model Index Report](#) (see page 105)
[Model Reports](#) (see page 106)
[How to Reach Model Reports](#) (see page 108)
[Action Diagram Report](#) (see page 110)
[Attribute Definition Report](#) (see page 114)
[Elementary Process Information View Definition Report](#) (see page 118)
[Entity Definition Report](#) (see page 119)
[Function Definition Reports](#) (see page 123)
[Function Point Calculation Report](#) (see page 129)
[Model Contents Report](#) (see page 134)
[When Changed Report](#) (see page 135)
[Object Cross-Reference Reports](#) (see page 136)
[Contained Report](#) (see page 139)
[Contains Report](#) (see page 140)
[Delete Report](#) (see page 140)
[Implemented Report](#) (see page 141)
[Implements Report](#) (see page 142)
[Matrices Report](#) (see page 143)
[Referenced/Used Report](#) (see page 143)
[References/Uses Report](#) (see page 144)
[Model Action Block Use Report](#) (see page 145)
[Printing and Saving Host Encyclopedia Reports](#) (see page 148)

Where to Find Host Reports within CA Gen

After you establish communications with the Host, you can find the reports through the following options on the Main Menu (as shown in the following illustration):

- Host Encyclopedia functions
- Public Interface functions

- Host Encyclopedia Reports
- Application System Functions



The following table lists all Host Reports. It helps you navigate through menus to the reports you want to retrieve. The Host Report Index tells you:

- How to reach a report from the Host Main Menu using the Host Encyclopedia Reports Menu or through another menu.
- What other menu can be used to access the report.
- How to reach the other menu from the Host Main Menu. For example, to reach the Action Diagram Reports, enter 1.3.13 at the Command prompt.
- Where to find additional information on the report.

| Report Name | Options From Host Main Menu (Host Reports) | On Other Menu | Quick Path to Other Menu |
|-------------------------------|--|----------------------------|--------------------------|
| Action Diagram | 3 then 16 | Model Reports | 1.3.13 |
| Add Group History | 3 then 50 | User Access Reports | 1.1.5 |
| Add User History | 3 then 47 | User Access Reports | 1.1.5 |
| Add User to Group History | 3 then 52 | User Access Reports | 1.1.5 |
| Aggregate Object Where Exists | 3 then 1 | Version Control Management | 1.2 |

| Report Name | Options From Host Main Menu (Host Reports) | On Other Menu | Quick Path to Other Menu |
|--|---|---------------------------------|---------------------------------|
| Aggregate Object When Changed | | See When Changed Report | |
| Attribute Definition (Model) | 3 then 19 | Model Reports | 1.3.13 |
| Attribute Definition (Subset) | 3 then 33 | Subset Reports | 1.4.12 |
| Change User Authority History | 3 then 49 | User Access Reports | 1.1.5 |
| Check Model for Consistency | 3 then 20 | Model Management | 1.3 |
| Check Subset for Consistency | 3 then 34 | Subset Management | 1.4 |
| Compare Aggregate Objects Between Two Models | 3 then 2 | Version Control Management | 1.2 |
| Construction Change Impact | 3 then 21 | Model Reports | 1.3.13 |
| Construction Change Impact | 3 then 21 | Application System Regeneration | 4.2 |
| Construction Regeneration | 3 then 22 | Model Reports | 1.3.13 |
| Construction Regeneration | 3 then 22 | Application System Regeneration | 4.2 |
| Contained | 3 then 3 | Object Cross Reference Reports | 1.3.13.12 |
| Contains | 3 then 4 | Object Cross Reference Reports | 1.3.13.12 |
| Create, Read, Update and Delete | Not on same menu | Application System Construction | 4.1; Follow system prompts |
| Delete | 3 then 5 | Object Cross Reference Reports | 1.3.13.12 |
| Delete Group History | 3 then 51 | User Access Reports | 1.1.5 |

| Report Name | Options From Host Main Menu (Host Reports) | On Other Menu | Quick Path to Other Menu |
|--|--|---|--------------------------|
| Delete User from Group History | 3 then 52 | User Access Reports | 1.1.5 |
| Delete User History | 3 then 48 | User Access Reports | 1.1.5 |
| Display Aggregate Set Objects for all Models in a Family | 3 then 7 | Aggregate Set Reports | 1.5.6 |
| Display Aggregate Set Objects for One Model | 3 then 6 | Aggregate Set Reports | 1.5.6 |
| Display Aggregate Sets in a Family | 3 then 8 | Aggregate Set Reports | 1.5.6 |
| Elementary Process Information View Definition (Model) | 3 then 24 | Model Reports | 1.3.13 |
| Elementary Process Information View Definition (Subset) | 3 then 36 | Subset Reports | 1.4.12 |
| Encyclopedia Duplicate Objects | 3 then 9 | None | None |
| Encyclopedia Model Index by Owner | 3 then 10 | None | None |
| Entity Definition (Model) | 3 then 25 | Model Reports | 1.3.13 |
| Entity Definition (Subset) | 3 then 37 | Subset Reports | 1.4.12 |
| Expansion Conflict | | See Subset Expansion Conflict | |
| Function Definition (Model) | 3 then 26 | See individual Function Definition Report | |
| Function Definition (Subset) | 3 then 39 | See individual Function Definition Report | |
| Function Definitions in Alphabetical Order | Not on same menu | Function Definition Reports | (Model) 1.3.13.7 |

| Report Name | Options From Host Main Menu (Host Reports) | On Other Menu | Quick Path to Other Menu |
|--|---|---------------------------------|---------------------------------|
| Function Definitions in Alphabetical Order | Not on same menu | Function Definition Reports | (Subset) 1.4.12.5 |
| Function Definitions in Hierarchical Order | Not on same menu | Function Definition Reports | (Subset) 1.4.12.5 |
| Function Hierarchy | Not on same menu | Function Definition Reports | (Subset) 1.4.12.5 |
| Function Point Calculation | 3 then 11 | Model Reports | 1.3.13 |
| Group Memberships of a User | 3 then 12 | User Access Reports | 1.1.5 |
| Implemented | 3 then 13 | Object Cross Reference Reports | 1.3.13.12 |
| Implements | 3 then 14 | Object Cross Reference Reports | 1.3.13.12 |
| KWIC Report | 3 then 30 | Public Interface Reports | 2.5 |
| Matrices | 3 then 15 | Object Cross Reference Reports | 1.3.13.12 |
| Maximum Object ID Update Activity | 3 then 27 | Model History | 1.3.13 |
| Model Activity History | 3 then 18 | Model History | 1.3.13 |
| Model and Subset Authorizations | 3 then 17 | User Access Reports | 1.1.5 |
| Model Contents | 3 then 23 | Model Reports | 1.3.13 |
| Referenced/Used | 3 then 31 | Object Cross Reference Reports | 1.3.13.12 |
| References/Uses | 3 then 32 | Object Cross Reference Reports | 1.3.13.12 |
| Regeneration Impact Analysis | 3 then 28 | Application System Regeneration | 4.2 |

| Report Name | Options From Host Main Menu (Host Reports) | On Other Menu | Quick Path to Other Menu |
|---|--|----------------------------|--------------------------|
| Scoping Object Where Used | 3 then 40 | Subset Reports | 1.4.12 |
| Subset Contents | 3 then 35 | Subset Reports | 1.4.12 |
| Subset Expansion Conflict | 3 then 38 | Subset Reports | 1.4.12 |
| Trial Adopt Aggregate Objects Using Related Model | 3 then 41 | Version Control Management | 1.2 |
| Trial Migrate Aggregate Objects To Existing Model | 3 then 42 | Version Control Management | 1.2 |
| Users Defined for a Group | 3 then 43 | User Access Reports | 1.1.5 |
| Users or Groups Authorized for a Model | 3 then 44 | User Access Reports | 1.1.5 |
| Users or Groups Authorized for a Subset | 3 then 45 | User Access Reports | 1.1.5 |
| Users or Groups in Encyclopedia | 3 then 47 | User Access Reports | 1.1.5 |
| When Changed | 3 then 29 | Model Reports | 1.3.13 |

Host Encyclopedia Reports

You can find most host reports through Host Encyclopedia Reports (option 3) on the Host Main Menu as shown in the following table.

Note: On the Reports menu, options 33 through 40 are subset reports, and options 12, 43 through 53 are user access reports, and the others are model reports.

1. Choose Option 3 from the Host Main Menu.
2. Select the option to access the various reports.

| Choose | To Reach | From There |
|--|--|--|
| 1. Aggregate object where exists | The panels requesting model and aggregate set name information | Follow the system prompts to reach the report. |
| 2. Compare aggregate objects | The panel requesting model name | Follow the system prompts. |
| 3. Contained | Model Reports | Select 12, then 1. |
| 4. Contains | Model Reports | Select 12, then 2. |
| 5. Delete | Model Reports | Select 12, then 3. |
| 6. Display aggregate objects in set for one model | The panel requesting model and aggregate set names | Follow the system prompts to reach the report. |
| 7. Display aggregate objects in set for all models in family | The panel requesting model and aggregate set names | Follow the system prompts to reach the report. |
| 8. Display aggregate sets in a family | The panel requesting model and aggregate set names | Follow the system prompts to reach the report. |
| 9. Encyclopedia duplicate objects | Encyclopedia Reports | Select 1. |
| 10. Encyclopedia model index by owner | Encyclopedia Reports | Select 2. |
| 11. Function point calculation | Model Reports | Specify a model; then select 8. |
| 12. Group memberships of a user | User Access Reports | Select 1. |
| 13. Implemented | Model Reports | Specify a model; select 12, then 4. |
| 14. Implements | Model Reports | Specify a model; select 12, then 5. |
| 15. Matrices | Model Reports | Specify a model; select 12, then 6. |
| 16. Model action diagram | Model Reports | Specify a model; then select 1. |
| 17. Model and subset authorizations | User Access Reports | Specify a model; then select 2. |

| Choose | To Reach | From There |
|--|--|--|
| 18. Model activity history | The panel requesting model name and activity list sort option | Follow the system prompts to reach the report. |
| 19. Model attribute definition | Model Reports | Specify a model; then select 2. |
| 20. Model consistency check | The panel requesting model name and other report options | Follow the system prompts to reach the report. |
| 21. Model construction change impact | Model Reports | Specify a model; then select 3. |
| 22. Model construction regeneration | Model Reports | Specify a model; then select 4. |
| 23. Model contents | Model Reports to specify a model name | Select 9. |
| 24. Model elementary process information view definition | Model Reports to specify a model name | Select 5. |
| 25. Model entity definition | Model Reports to specify a model name | Select 6. |
| 26. Model function definition | Model Reports to specify a model name | Select 7; then select 1, 2, or 3. |
| 27. Model max object ID update history | Model Max update list | Select one activity from list to see details |
| 28. Model regeneration impact analysis | Model Reports to specify a model name | Select 10. |
| 29. Model when changed | Model Reports to specify a model name | Select 11. |
| 30. Public Interface KWIC index entity types, subtypes, attributes | Public Interface Reports | Select 1. |
| 31. Referenced/used | Model Reports | Select 12, then 7. |
| 32. References/uses | Model Reports | Select 12, then 8. |
| 33. Subset attribute definition | Subset Reports to specify names | Select 1. |
| 34. Subset consistency check | Panel requesting model and subset names and other report options | Follow the system prompts to see report. |

| Choose | To Reach | From There |
|---|---|--|
| 35. Subset contents | Subset Reports to specify a model and subset name | Select 7. |
| 36. Subset elementary process information view definition | Subset Reports to specify a model and subset name | Select 2. |
| 37. Subset entity definition | Subset Reports to specify a model and subset name | Select 3. |
| 38. Subset expansion conflict | Subset Reports to specify a model and subset name | Select 4. |
| 39. Subset function definition | Subset Reports to specify a model and subset name | Select 5. |
| 40. Subset scoping object where used | Subset Reports to specify a model and subset name | Select 6. |
| 41. Trial adopt | Panel requesting model names and other report options | Follow the system prompts to see report. |
| 42. Trial migrate | Panel requesting model names and other report options | Follow the system prompts to see report |
| 43. Users defined for a group | User Access Reports | Select 3. |
| 44. Users or groups authorized for a model | User Access Reports | Select 4. |
| 45. Users or groups authorized for a subset | User Access Reports | Select 5. |
| 46. Users or groups in encyclopedia | User Access Reports | Select 6. |
| 47. Add user history | User Activity Selection List | Select 1. |
| 48. Delete user history | User Activity Selection List | Select 2. |
| 49. Change user authority history | User Activity Selection List | Select 3. |
| 50. Add group history | User Activity Selection List | Select 4. |
| 51. Delete group history | User Activity Selection List | Select 5. |
| 52. Add user to group history | User Activity Selection List | Select 6. |

| Choose | To Reach | From There |
|------------------------------------|------------------------------|---|
| 53. Delete user from group history | User Activity Selection List | Select one update activity and press Enter for details. |

Note: When you choose a report, the name of the model for which you are currently requesting report information frequently displays. This makes it easy for you to verify the model you are working with. It also allows you to either keep using that same model, change models by entering a new model name if you know it, or prompting the system for a list of available models.

User Access Reports

User Access Control Functions include several reports. You must be authorized as a user of the Host Encyclopedia to generate them. They are:

- Group Memberships of a User Report
- Model and Subset Authorization Report
- Users Defined for a Group Report
- Users or Groups Authorized for a Model Report
- Users or Groups Authorized for a Subset Report
- Users or Groups in Encyclopedia Report

Note: When performing a procedure, sometimes you can input a user ID, group ID, model or subset name. Instead of typing the ID or name, you can view a list of available choices by pressing the prompt key (such as F4). To make a selection from the list, enter any character except the period (.) character next to the item and press Enter.

Group Memberships of a User Report

The Group Memberships of a User report lists all the groups to which a specific user belongs arranged alphabetically by group ID.

| | | |
|---|------------------------------|--------|
| 00/00/02 00:00 | GROUP A USER ISD A MEMBER OF | PAGE 1 |
| USER ID: DAACABC USER NAME: A. B. CARTER | | |
| GROUP ID ----- | GROUP NAME ----- | |
| GRP0001 | TEST GROUP 001 | |
| GRP0003 | TEST GROUP 003 | |

Follow these steps:

1. From the Main Menu, select options 1.1.5 and press Enter.
2. Select option 1 for Group Memberships of a User. Press Enter.
3. Enter the User ID of the person for whom you want to identify groups and press Enter.

Model and Subset Authorizations Report

The Model and Subset Authorizations report lists the models and subsets that users or groups are authorized to access.

| | | |
|--|----------------------------------|--------|
| 00/00/02 00:00 | USER/GROUP AUTHORIZATIONS REPORT | PAGE 1 |
| USER/GROUP NAME: JOHN DOE ID: DACGPLP | | |
| MODELS OWNED BY MODEL NAME ----- | | |
| AB12378 ALL CHARACTERS TEST FWD TICKET 33122 MODEL | | |

Follow these steps:

1. From the Main Menu, select options 1.1.5 and press Enter.
2. Select option 2 for Model and Subset Authorizations. Press Enter.
3. Enter the User ID of the user or group for which you want to list access authorizations and press Enter.

Users Defined for a Group Report

The Users Defined for a Group report lists all the members that belong to a specific group alphabetically by user ID.

| | | |
|-------------------|--------------------|--------|
| 00/00/02 00:00 | MEMBERS OF A GROUP | PAGE 1 |
| GROUP ID: | GRP00001 | |
| GROUP NAME: | TEST MODEL 001 | |
| MEMBER ID | MEMBER NAME | |
| ----- | ----- | |
| DAAGABC | JANE DOE | |
| DAAGLMN | JOHN DOE | |
| DAAGRST | JAMES DOE | |

Follow these steps:

1. From the Main Menu, select options 1.1.5 and press Enter.
2. Select option 3 for Members of a Group. Press Enter.
3. Enter the Group ID of the group for which you want to list members and press Enter.

Users or Groups Authorized for a Model Report

The Users or Groups Authorized for a Model Report lists the users or groups authorized to access a specific model. It also shows the model owner and each user's level of authorization. The list is alphabetical by user ID.

| | | | | | | |
|---------------------------------|----------------------------|------|------|------|------|--------|
| 00/00/02 | MODEL AUTHORIZATION REPORT | | | | | PAGE 1 |
| 00:00 | | | | | | |
| MODEL NAME: TEST MODEL 0003 | | | | | | |
| MODEL OWNER: DACCDKK DONALD KAY | | | | | | |
| USER ID | USER NAME | READ | UPDT | CGEN | MIGR | MERG |
| ----- | ----- | --- | --- | --- | --- | --- |
| DACCDKK | DONALD KAY | X | X | X | X | X |
| DACGPLP | PAM POOLE | X | X | | | |

Follow these steps:

1. From the Main Menu, select options 1.1.5 and press Enter.
2. Select option 4 for Users or Groups Authorized for a Model. Press Enter.

3. Enter the Model name of the model for which you want to list all authorized users and groups and press Enter.

Users or Groups Authorized for a Subset Report

The Users or Groups Authorized for a Subset Report lists users or groups authorized to access a specific subset. It also shows the model to which the subset belongs and the name of the model owner.

| | | |
|-------------------|-------------------------------|--------|
| 00/00/02 00:00 | SUBSET AUTHORIZATION REPORT | PAGE 1 |
| MODEL NAME: | TEST MODEL 0003 | |
| SUBSET NAME: | TEST ELEMENTARY PROCESS VIEWS | |
| MODEL OWNER: | DACCDKK DONALD KAY | |
| USER ID | USER NAME | |
| ----- | ----- | |
| DACCDKK | DONALD KAY | |

Follow these steps:

1. From the Main Menu, select options 1.1.5 and press Enter.
2. Select option 5 for Users or Groups Authorized for a Subset. Press Enter.
3. Enter the Model name of the model that contains the subset for which you want to list all authorized users and groups.
4. Enter the Subset name of the subset for which you want to list all authorized users and groups.
5. Press Enter.

Users or Groups in Encyclopedia Report

The Users or Groups in Encyclopedia Report lists all users and groups in the encyclopedia alphabetically by user or group ID. Each entry also includes user/group name and levels of authorization, whether the user is an encyclopedia administrator or a modeler. If the group name is shown, only the group ID will appear.

| 00/00/02 00:00 | USER ACCESS REPORT | | | PAGE 1 |
|-------------------|--------------------|---------------|-------------|------------------|
| USER ID | USER NAME | ENCY ADMIN | ADD AUTH | CREATE MODELS |
| ----- | ----- | ----- | ---- | ----- |
| DAACABC | John Doe | | Y | |
| DAAGLMN | John Doe, Sr. | | Y | |
| DAAGRST | John Doe, Jr. | | N | Y |
| DAACMBS | Jane Doe | | Y | |
| DAACNOT | Jean Doe | | Y | |
| DACCDKK | Joan Doe | | N | Y |
| DACGPLP | June Doe | Y | | |

Follow these steps:

1. From the Main Menu, select options 1.1.5 and press Enter.
2. Select option 6 for Users or Groups in Encyclopedia. Press Enter.

Encyclopedia Duplicate Objects Report

The Encyclopedia Duplicate Objects Report lists objects of the same name that appear in more than one model in the Host Encyclopedia. For each duplicate object found, the report gives its name, unique ID, and the name of the models containing that object.

| | | | |
|-----------------------------|--------------------------|----------------------|--------|
| 00/00/02 | DUPLICATE OBJECTS REPORT | | PAGE 1 |
| 00:00 | | | |
| ----- | | | |
| OBJECT TYPE: ENTITY SUBTYPE | | | |
| ----- | | | |
| OBJECT NAME | OBJECT ID | MODEL NAME | |
| ----- | ----- | ----- | |
| ADMINISTRATIVE_SUPPORT | 18596 | ENCY REPORT MODEL | |
| ADMINISTRATIVE_SUPPORT | 42993 | EG ACCOUNTING | |
| ASSEMBLY | 87529 | MATERIAL_MANAGEMENT1 | |
| ASSEMBLY | 87627 | MATERIAL_MANAGEMENT2 | |
| AUTOMOTIVE | 97920 | MATERIAL_MANAGEMENT1 | |
| AUTOMOTIVE | 97825 | MATERIAL_MANAGEMENT2 | |
| CATALOG | 97818 | MMCUST2 | |
| CATALOG | 97914 | MMCUST1 | |
| | 45320 | MMCUST2 | |

Follow these steps:

1. From the Host Main Menu, select option 3.
2. Select option 9.
3. Select option 1.
4. At the report request panel, follow the prompts.

The Encyclopedia Duplicate Object Report Request Panel lists the types of objects for which you can search. You can select as many objects as you want to include in the report.

OPTION ==>

Duplicate Object Name Report

Type / by desired object types, then press enter.

- | | |
|------------------------------|---------------------------|
| - Action Block (BAA) | - Entity View |
| - Action Block (BSD) | - Event |
| - Attribute (Composite) | - Exit |
| - Attribute (System-Defined) | - External Object |
| - Attribute (User-Defined) | - Function |
| - Business Area | - Group View |
| - Business System | - Procedure |
| - Command | - Procedure Step |
| - Command Synonym | - Process |
| - Condition | - Relationship Membership |
| - Default Edit Patterns | - Screen |
| - Dependency | - Screen Template |
| - Entity Subtype | - Subject Area |
| - Entity Type | |

Encyclopedia Model Index Report

The Model Index Report lists all models in the Host Encyclopedia alphabetically by the TSO IDs of their creators. The report includes the model's Host Encyclopedia name and creation date. The creation date (YYMMDD) is the date on which the model was first stored in the Host Encyclopedia. If the model includes subsets, the subsets are listed below the model and the creation date is given for them.

Follow these steps:

1. From the Host Main Menu, select option 3.
2. Select option 10.
3. Select option 2.
4. Press Enter.

Model Reports

Host Encyclopedia model reports provide online and hardcopy documentation for individual models in the Host Encyclopedia. The reports help you view information in the models, review or anticipate the impact of changes, and count function points.

Note: For more information about model reports, see the *Host Encyclopedia Construction User Guide*, *Host Encyclopedia Public Interface Reference Guide*, and *Host Encyclopedia Version Control User Guide*.

Many model reports also have a subset report of the same name. The difference between the two reports is that model reports detail information on the entire model while subset reports give information on one subset at a time.

Model Report Descriptions

This section describes each of the model reports.

Action Diagram Report

The Action Diagram Report displays the action diagrams in a model. The diagrams displayed include all BAA, BSD, procedure step, and elementary process action blocks. The diagrams also include all derivation algorithms, a list of all action diagrams in a model, and the contents of individual action diagrams.

Attribute Definition Report

The Attribute Definition Report contains information about the attributes of all entities within a specified model or subject area.

Construction Change Impact Report

The Construction Change Impact Report provides a “what if” capability before making changes. After you select the objects proposed for change, the report shows which application components would require regeneration if the change occurs. Because no actual changes are made at this point, no application components are actually marked for regeneration.

Note: For more information, see *Host Encyclopedia Construction User Guide*.

Construction Regeneration Report

The Construction Regeneration Report lets you preview the changes or proposed changes from regenerating one or more business systems. You can specify beginning and ending dates, TSO user ID, group ID, and rejection of the target environment changes. The report indicates components flagged for regeneration/installation.

Note: For more information, see *Host Encyclopedia Construction User Guide*.

Elementary Process Information View Definition Report

The Elementary Process Information View Definition Report contains the definitions of the information views (import and export data) of the model's elementary processes.

Entity Definition Report

The Entity Definition Report contains information about the entity types and entity subtypes of a specified model, subject area, partitioning, or entity subtype.

Function Definition Reports

The three Function Definition Reports contain information about the functions and processes of a specified model including the hierarchy in which the functions and processes occur.

The three reports are:

- Function Hierarchy Report
- Function Definition Report in Hierarchical Order
- Function Definition Report in Alphabetical Order

Function Point Calculation Report

The Function Point Calculation Report calculates the Function Points for the files or entity types in a model and for the screens or procedure steps in each of the model's business systems. The estimate can be useful in predicting the size of a system and the application development that will be required. By counting Function Points, you can make estimates before the Technical Design stage.

Model Contents Report

The Model Contents Report lists all objects owned by a given model, all their properties, their unique identifiers, and the model's associations (relationships between its entity types).

Regeneration Impact Analysis Report

The Regeneration Impact Analysis Report lets you preview the changes or proposed changes from regenerating one or more business systems. The report indicates components flagged for regeneration/installation.

Note: For more information, see *Host Encyclopedia Construction User Guide*.

When Changed Report

The When Changed Report lists objects changed along with the ID of the user who made the change. Options are available to limit the range of the report.

Object Cross-Reference Reports

The Object Cross-Reference Reports comprise a large subset of the Host model reports.

How to Reach Model Reports

The simplest way to reach most model reports is via the Host Encyclopedia Reports option on the Host Main Menu. Some model reports require a slightly different path.

1. Select Option 1 from the Host Main Menu
2. Select 3, Model Management to reach the Model Reports. There are 13 reports available. Option 12 is the Object Cross-Reference Reports.

To Generate Model Report

Follow these steps:

1. Enter or select a model name.
2. Select the option to generate the report online or in batch.
3. Follow system prompts to print or view.

Selecting a Model Name

Before you can choose a report (using this menu path) you must first enter the name of the Host Encyclopedia model you want to work with using one of these methods:

- Enter the name, if you know it.
- Press F4 to prompt for list of model names you can choose from.

Generating Reports Online or in Batch Mode

After you select a report, you can choose to generate it online or in batch mode.

The following model reports can only be generated online:

- Action Diagram
- Attribute Definition
- Elementary Process Information View Definition Diagram
- Entity Definition
- Function Definition
- Model Contents
- When Changed

The following model reports can be generated online or in batch mode:

- Construction Change Impact
- Construction Regeneration
- Regeneration Impact Analysis
- Function Point Calculation
- Object Cross-Reference reports

To Generate a Report Online or in Batch

After entering the Host Encyclopedia name and selecting a report option, reports which can be submitted in batch mode will display another panel which allows you to specify additional report parameters. This could be a submenu panel (such as the Object Cross-Reference reports use), or a data panel (such as the Construction reports use).

After you have specified any additional report parameters, select the Execution Mode you want:

- Online
- Batch

Editing the JCL for Batch Reports

If you choose Batch and you have created a job card:

1. Press Enter to see the update JCL panel.
2. Edit it, if necessary, and accept the changes.

If you choose Batch and you have not created a job card:

1. Press Enter to see the JCL maintenance panel.
2. Fill out the job card and accept.

Action Diagram Report

The Action Diagram report displays all action diagrams in a model:

- A single action diagram, as is shown in the Action Diagram illustration.
- A selectable list of all action diagrams for a model
- Sets of action diagrams
 - All BAA common action blocks
 - All BSD common action blocks
 - All procedure step action blocks (including the Procedure Step View Matching report)
 - All elementary process action blocks
 - All derivation algorithms

Note: After selecting the report you want to view, select one or more action diagram names from the Action Diagram List. Those diagrams are displayed in a named data set that you can browse or print.

To Generate Action Diagram Report

Following are the steps to generate an action diagram report:

Follow these steps:

1. From the Main Menu, select options 1.3.13.
2. From the Model Reports menu, select option 1.
3. On the Action Diagram Report menu, you have several choices:

| To Look at This Report | Select | Then |
|------------------------------|----------|--|
| All BAA Common Action Blocks | Option 1 | Follow the prompts to display or print the report. |
| All BSD Common Action Blocks | Option 2 | |

| To Look at This Report | Select | Then |
|--------------------------------------|----------|------|
| All Procedure Step Action Blocks | Option 3 | |
| All Elementary Process Action Blocks | Option 4 | |
| All Derivation Algorithms | Option 5 | |
| Entire Action Diagram List for Model | Option 6 | |
| One Action Diagram | Option 7 | |

The following sample shows the report generated from option 7, One Action Diagram:

```

                                BSD ACTION BLOCK:  ADD_EMPLOYEE
                                ADD_EMPLOYEE
                                MM/DD/YY
HH:MM

IMPORTS:
  Entity View import organization (Transient, Mandatory, Import only)
    division
    cost_center
  Entity View import employee (Transient, Mandatory, Import only)
    number
    name
    rate
    job_grade
EXPORTS:
  Entity View export employee (Transient, Export only)
    number
    name
    rate
    job_grade
ENTITY ACTIONS
  Entity View organization
    division
    cost_center
  Entity View employee
    number
    name
    rate
    job_grade

PROCEDURE STATEMENTS
READ organization
  WHERE DESIRED organization division = import organization
  AND DESIRED organization cost_center = import organization
WHEN successful
MOVE organization TO export organization
CREATE employee
ASSOCIATE WITH organization WHICH employs IT
SET number TO import employee number
SET name TO import employee name
SET rate TO import employee rate
SET job_grade TO import employee job_grade
  WHEN successful
  MOVE employee TO export employee
  WHEN already exists
  EXIT STATE IS employee_ae
  WHEN permitted value violation
  EXIT STATE IS employee_pv
WHEN not found
EXIT STATE IS organization_nf
```

Procedure Step View Matching Report

The Procedure Step View Matching report is a sub-report that appears at the end of the action diagram report for a procedure step.

It lists all dialog flows to and from the procedure step, as shown in the following sample.

```

Procedure Step View Matching Report

  Dialog Flows Originating From LIST_EMPLOYEES

    LIST_EMPLOYEES links to UPDATE_PAYROLL
    flows on: CALCULATE_OVERTIME
    setting command to CALCULATE
    sending EXPORT DEPARTMENT to IMPORT DEPARTMENT
    sending EXPORT_GROUP (300) to IMPORT_GROUP (300)
    sending EXPORT_NRG_TABLES to IMPORT_NRG_TABLES

    UPDATE_PAYROLL returns to LIST_EMPLOYEES
    returns on RETURN_TO_CALLER
    setting command to <PREVIOUS>
    returning EXPORT DEPARTMENT to IMPORT DEPARTMENT

  Dialog Flows Targeting LIST_EMPLOYEES

    MAIN_MENU links to LIST_EMPLOYEES
    flows on: LINK_TO_LIST_EMPLOYEES
    with autoflow on LIST
    setting command to LIST
    no views matched

End of Procedure Step View Matching Report

```

Dialog Flows

For each dialog flow, the Procedure Step View Matching Report displays:

- The source and destination procedure names and the type of flow
- The exit state that causes the flow (if any). If no exit state is defined, one of these error messages appears:
 - If the flow is a transfer or link:

*** Error: A dialog flow must have at least one “flows on” exit state.
 - If the flow is a return:

*** Error: A “link” type of dialog flow must have at least one “returns on” exit state.
- The autoflow command (if any).
- The command passed (if any) or one of three special literals:
 - <SPACES>
 - <CURRENT>

- <PREVIOUS>
- These literals correspond to choices you can make in the Dialog Flow Diagram when you detail the properties of a flow and select either the SET CMD or RTN CMD buttons.
- A list of the views matched (if any) or the message:
no views matched

Views

The Procedure Step View Matching Report displays entity views, group views and their cardinality, and non-repeating group views. Entity views show both the view name and the entity type name. Group views show only the group view name, followed by the cardinality in parentheses. Non-repeating group views do not show a cardinality but can be distinguished from an entity view by the absence of an entity name.

If the cardinalities of the group views do not match, this note appears below the view:

*** **Note:** Group view cardinalities are not the same.

If a repeating group is matched to a non-repeating group, this note appears below the view:

*** **Note:** Group view matched to non-repeating group view.

Error Messages and Notes

Errors and notes are flagged with three asterisks but do not necessarily indicate that action must be taken. Use Consistency Check to determine whether you must act on the error message or not.

Attribute Definition Report

The Attribute Definition Report defines attributes of entities in a specified model, subject area, or subset by providing the following information for each:

- Entity type/entity subtype to which the attribute belongs
- Object ID of entity and subtypes
- Attribute name (including an alias if one exists)
- Attribute object ID
- Description (if one exists)
- Classifying attribute (only if the attribute is a classifying value for a subtype)
- Source category (type)-basic, derived, designed, or a auto number

- Optionality-mandatory or optional
- Sensitivity-case sensitivity
- National Language Support (NLS)
- Domain-text, number, date, or time
- Number of characters
- Number of decimals (only if DOMAIN is NUMBER)
- Default value or algorithm (if one exists)
- Permitted values (if any exist)
- Description for permitted value (if one exists)

The attribute definition of an entity type consists of the fields listed above.

- If the attribute belongs to an entity subtype, an additional field lists the subtype below the entity type.
- If an alias exists for an attribute, it appears in parentheses below the attribute name.
- If the data model supports the double-byte character set, NLS is marked G. Otherwise, the value of NLS is blank.

Attribute Definition Report Examples

The following illustrates shows the definition of NUMBER, an attribute of the entity type EMPLOYEE. The attribute is designed by a simple algorithm. It is mandatory-each employee *must* have a number and it belongs to the number domain.

| | | | |
|-------------------|--|------------|---------|
| MM/DD/YY HH:MM | ATTRIBUTE DEFINITION REPORT | | Page 1 |
| MODEL NAME: | TRUST AND STOCKHOLDER MANAGEMENT | | |
| SUBSET NAME: | LSW2 | | |
| ENTITY TYPE: | EMPLOYEE | OBJECT ID: | 4980794 |
| ATTRIBUTE NAME: | NUMBER | | |
| ID: | 4981396 | | |
| DESCRIPTION: | AN EMPLOYEE NUMBER IS A 6 DIGIT NUMBER. THE ALGORITHM IS | | |
| ID: | ADD ONE TO THE PREVIOUSLY ASSIGNED NUMBER. WHEN | | |
| | EMPLOYEE TERMINATES THAT NUMBER IS NEVER USED AGAIN. | | |
| SOURCE | | | |
| CATEGORY: | DERIVED | | |
| OPTIONALITY: | MANDATORY | | |
| CASE | | | |
| SENSITIVITY: | NO | | |
| NLS OPTION: | | | |
| DOMAIN: | NUMBER | | |
| NUMBER OF | | | |
| CHARACTERS: | 6 | | |
| NUMBER OF | | | |
| DECIMALS: | 0 | | |

The Attribute Definition Report is arranged alphabetically by entity type and subtype, and then by attribute. The report also defines attributes belonging to entity subtypes. The report fields are the same as for entity types with the addition of a SUBTYPE field beneath ENTITY TYPE.

| | | |
|---------------|---|----------------------|
| ENTITY TYPE: | EMPLOYEE | OBJECT ID: 4980794 |
| SUBTYPE | EXEMPT STAFF | OBJECT ID: 987651166 |
| ATTRIBUTE | | |
| NAME: | JOB GRADE | |
| ID: | 13145621 | |
| DESCRIPTION: | A JOB GRADE IS A 2 DIGIT NUMBER BETWEEN 10 AND 50 | |
| SOURCE | | |
| CATEGORY: | BASIC | |
| OPTIONALITY: | MANDATORY | |
| CASE | | |
| SENSITIVITY: | NO | |
| NLS OPTION: | | |
| DOMAIN: | NUMBER | |
| NUMBER OF | | |
| CHARACTERS: | 2 | |
| NUMBER OF | | |
| DECIMALS | 0 | |
| DEFAULT VALUE | | |
| OR ALGORITHM: | 10 | |
| PERMITTED | | |
| VALUES: | 10-50 | |
| VALUE: | | |
| DESCRIPTION: | JOB GRADE RANGE FOR AN EXEMPT EMPLOYEE IS 10-50 | |

If the attribute belongs to an entity subtype, the subtype is listed below the entity type. If the attribute has a default value or algorithm, it will be listed. Also, if the attribute has any permitted values, they will be listed along with any descriptions for the permitted values.

If an entity type has more than one subtype, all attributes of the first subtype are listed first. Then the next subtype is listed with its attributes.

To Generate Attribute Definition Report

Follow these steps:

1. From the Main Menu, select options 1.3.13.
2. From the Model Reports menu, select option 2.
3. Select End to save, delete, or print.

Elementary Process Information View Definition Report

The Elementary Process Information View Definition Report contains the definitions of import and export data for elementary processes. The elementary processes are in alphabetical order. In addition to the elementary process name, the report shows the import and export views of the process and the event that causes the elementary process to occur.

| | |
|---------------|---|
| MM/DD/YY | ELEMENTARY PROCESS INFORMATION VIEW DEFINITION REPORT |
| HH:MM | |
| MODEL NAME: | TRUST AND STOCKHOLDER MANAGEMENT |
| PROCESS NAME: | PAY_EMPLOYEE |
| EVENT: | END_OF_MONTH |
| IMPORT VIEW | |
| ENTITY VIEW: | SPECIAL_PAYROLL_DEDUCTION_DETAIL |
| EXT OBJ: | PERSONNEL |
| ENT TYPE: | EMPLOYEE |
| ATTRIBUTE | NUMBER |
| (0) | SPECIAL_DEDUCTIONS |
| ATTRIBUTE: | |
| EXPORT VIEW: | |
| ENTITY VIEW: | PAYMENT_DETAILS |
| EXT OBJ: | EMPLOYEE |
| ENT TYPE: | PAYMENT |
| ATTRIBUTE | HOURS_WORKED |
| ATTRIBUTE: | PAY_PERIOD_GROSS |
| ATTRIBUTE: | PAY_PERIOD_NET |
| ATTRIBUTE: | TOTAL_DEDUCTIONS |
| ATTRIBUTE | YTD_SALARY |

The report indicates entity views within a group view, as shown in the following illustration. Views marked with an R represent repeating data. Attributes marked with an O are optional.

The entity view detail appears below the group view field. It includes the description (if any appears in the model or subset), external object, entity type supplying the attributes, and the attributes.

Follow these steps:

1. From the Main Menu, select options 1.3.13.
2. From the Model Reports menu, select option 5.
3. Select End to save, delete or print.

Entity Definition Report

The Entity Definition Report provides the following information for each entity type and entity subtype within a given model, subject area, partitioning, subtype, or subset:

- Name (Alias for entity, if any)
- Object ID
- Description
- Subject Area
- Properties
- Attributes (Alias for attribute, if any)
- Relationships and their properties
- Identifiers
- Partitionings, if any

All the terms used in the report originate in the Entity Relationship Diagram or Entity Hierarchy Diagram. If an alias exists for an entity type, subtype, or attribute, it appears in parentheses below the name.

Entity Type

The following illustration shows the contents of an Entity Definition Report for the entity type EMPLOYEE. The entity type name, description, properties and attributes appear as they do in the Entity Relationship Diagram (ERD).

| | | |
|-------------------|---|-------------|
| MM/DD/YY HH:MM | ENTITY DEFINITION REPORT | PAGE 13 |
| MODEL NAME: | TRUST AND STOCKHOLDER MANAGEMENT | |
| SUBSET NAME: | MQH2 | |
| NAME: | EMPLOYEE | |
| OBJECT ID: | 54903211 | |
| | (WORKER) | |
| | (STAFF) | |
| DESCRIPTION: | Individual who currently is or formerly was employed by company. This person may become a participant of the various plans and trusts | |
| SUBJ AREA: | ENCY REPORT MODEL | |
| PROPERTIES: | MINIMUM OCCURRENCE: | 60000 |
| | AVERAGE OCCURRENCE: | 85000 |
| | MAXIMUM OCCURRENCE: | 100000 |
| | GROWTH RATE: | 5% PER YEAR |
| ATTRIBUTES: | CALENDAR_SERVICE_YEARS | |
| | CITIZENSHIP | |
| | DIVISION | |
| | EMPLOYMENT_STATUS | |
| | EXTERNAL_ADDRESS | |
| | INTERNAL_ADDRESS | |
| | NAME | |
| | (EMPLOYEE_NAME) | |
| | NUMBER | |
| | ORIGINAL_EMPLOYMENT_DATE | |
| | (SERVICE_DATE) | |
| | (BEGIN_DATE) | |

RELATIONSHIPS:

| | |
|--------------------|-------------------------------|
| SOMETIMES OWNS | MANY PARTICIPANT_ACCOUNT |
| CAN TRANSFER (50%) | 1 MINIMUM 3 MAXIMUM 1 AVERAGE |
| ALWAYS APPLIES AS | ONE APPLICANT |
| CANNOT TRANSFER | |
| ALWAYS EMPLOYED BY | ONE DIVISION |
| CAN TRANSFER | |

IDENTIFIERS:

| | |
|-------------|----------|
| NUMBER | |
| NAME | |
| DIVISION | |
| EMPLOYED BY | DIVISION |

PARTITIONED
BY: TYPE

| | |
|-------------------|---------|
| CLASSIFYING VALUE | SUBTYPE |
| ----- | ----- |

| | |
|-----------|-----------------|
| EXEMPT | EXEMPT_STAFF |
| NONEXEMPT | NONEXEMPT_STAFF |

Relationships

The Entity Definition Report shows essential details about the entity type's relationships:

- Optionality (SOMETIMES or ALWAYS)
- Name of the relationship-as it reads from the entity type being detailed
- Cardinality (ONE or MANY)
- Entity type sharing the relationship
- Transferability with frequency percentage
- Minimum, maximum, and average occurrences

The entity type sharing a relationship appears on the same line to the right of the relationship. For example, DIVISION, the entity type sharing the relationship, is shown on the report opposite EMPLOYED_BY, a relationship of EMPLOYEE.

RELATIONSHIPS:

| | |
|--------------------|-------------------------------|
| SOMETIMES OWNS | MANY PARTICIPANT_ACCOUNT |
| CAN TRANSFER (50%) | 1 MINIMUM 3 MAXIMUM 1 AVERAGE |
| ALWAYS APPLIES AS | ONE APPLICANT |
| CANNOT TRANSFER | |
| ALWAYS EMPLOYED BY | ONE DIVISION |
| CAN TRANSFER | |

Identifiers

The report's information about identifiers originates in the Identifiers Panel in the ERD, but it appears in a different format in the report.

| |
|--|
| IDENTIFIERS: NUMBER NAME DIVISION EMPLOYED BY DIVISION |
|--|

In both the Identifiers section of the report and the ERD Identifiers Panel, attributes appear first and relationships last. Relationships used as parts of identifiers show the entity type at the end of the relationship. For example, in the illustration of Entity Definition Report: Identifiers, the relationship EMPLOYED_BY shows DIVISION.

Partitionings

Partitionings, if any, appear last on the report. The classifying attribute follows the words PARTITIONED BY. Under the classifying attribute, columns appear for its classifying values, if any, and for the entity subtypes that belong to the partitioning.

For example, in the following illustration the entity type EMPLOYEE is partitioned by the classifying attribute TYPE and includes two classifying values, EXEMPT and NONEXEMPT. The partitioning also includes two entity subtypes, EXEMPT_STAFF and NONEXEMPT_STAFF.

| | | |
|----------------------------|------------------|-----------------|
| PARTITIONED BY: TYPE | | |
| CLASSIFYING VALUE ----- | SUBTYPE ----- | |
| EXEMPT | EXEMPT_STAFF | NONEXEMPT_STAFF |

Entity Subtypes

The Entity Definition Report provides information about an entity subtype.

The changed objects selected can be saved in an aggregate set.

The report headings for entity subtypes are the same as those for entity types with the addition of two fields:

- SUBTYPE OF-Contains the parent of the entity subtype.
- INHERITED ATTRIBUTES-Attributes shared with the parent entity type.

The INHERITED ATTRIBUTES field lists attributes derived from entity types higher in the hierarchy. For example, the inherited attributes of a subtype can be the attributes of the parent entity type.

If the parent is also an entity subtype, the source of the inherited attributes might be above the parent. In fact, the source may be the parent's parent. Inherited attributes are grouped by source under the Inherited Attributes heading, beginning with the highest-level source.

To Generate Entity Definition Report

Follow these steps:

1. From the Main Menu, select options 1.3.13.
2. From the Model Reports menu, select option 6.
3. Select End to save, delete, or print.

Function Definition Reports

CA Gen has three Function Definition Reports:

- **Function Hierarchy Report**-Shows the classification of the model's or subset's activities according to type (function or process), level in the hierarchy, and groupings of parents and subordinates. This report serves as an index to the Function Definition Report in Hierarchical Order.
- **Function Definition Report in Hierarchical Order**-Shows the definitions of the model's or subset's functions, processes, and elementary processes in the same order as they appear in the Process Hierarchy Diagram (PHD).
- **Function Definition Report in Alphabetical Order**-Shows the same definitions as the previous report but arranged alphabetically.

The reports are listed on the Function Definition Reports Menu shown in the following illustration:

Function Definition Reports

Command ==>

Model name: TRUST AND STOCKHOLDER MANAGEMENT
 Select a report option, then press enter.
 display function numbers in reports 1 or 2 y (Y=Yes, N=No)

Report

— 1. Function Hierarchy
 — 2. Function Definitions in Hierarchical Order
 — 3. Function Definitions in Alphabetical Order

Function Hierarchy Report

The Function Hierarchy Report for a model lists the model's functions, processes, and elementary processes from the root function of the PHD to the bottom of that diagram.

| | | |
|-------------------|----------------------------------|-------------------------|
| MM/DD/YY HH:MM | FUNCTION HIERARCHY REPORT | PAGE 1 |
| MODEL NAME: | TRUST AND STOCKHOLDER MANAGEMENT | |
| SUBSET NAME: | TSM1 | |
| | LEGEND | |
| | F = FUNCTION | |
| | P = PROCESS | |
| | E = ELEMENTARY PROCESS | |
| | (R) = RECURSIVE | |
| F1 0.0 | TRUST_AND_STOCKHOLDER_MGMT | |
| F2 1.0 | ADMINISTRATION | |
| F3 1.1 | TRAINING | |
| F3 1.2 | SPECIAL_PROJECT_MANAGEMENT | |
| F3 1.3 | PLANNING AND FORECAST | |
| F2 2.0 | STOCK_OPTION_MANAGEMENT | |
| F3 2.1 | OPTION_MANAGEMENT | |
| P4 2.1.1 | TERMINATE_OPTION | |
| P4 2.1.2 | EXERCISE_OPTION | |
| P5 2.1.2.1 | DISTRIBUTE_REFUND | |
| P5 2.1.2.2 | TRACK_DISQUALIFYING_DISPOSITN | |
| P5 2.1.2.3 | ISSUE_CERTIFICATE | |
| E4 2.1.3 | ACCRUE_INTEREST | |
| P4 2.1.4 | PROCESS_MAKEUP | |
| F3 2.2 | DEDUCTION_MANAGEMENT | |
| P4 2.2.1 | PROCESS_TERMINATION | |
| E4 2.2.2 | ACCRUE_INTEREST | *** SEE ABOVE 2.1.3 *** |
| P4 2.2.3 | MAINTAIN_DEDUCTIONS | |

Report Columns

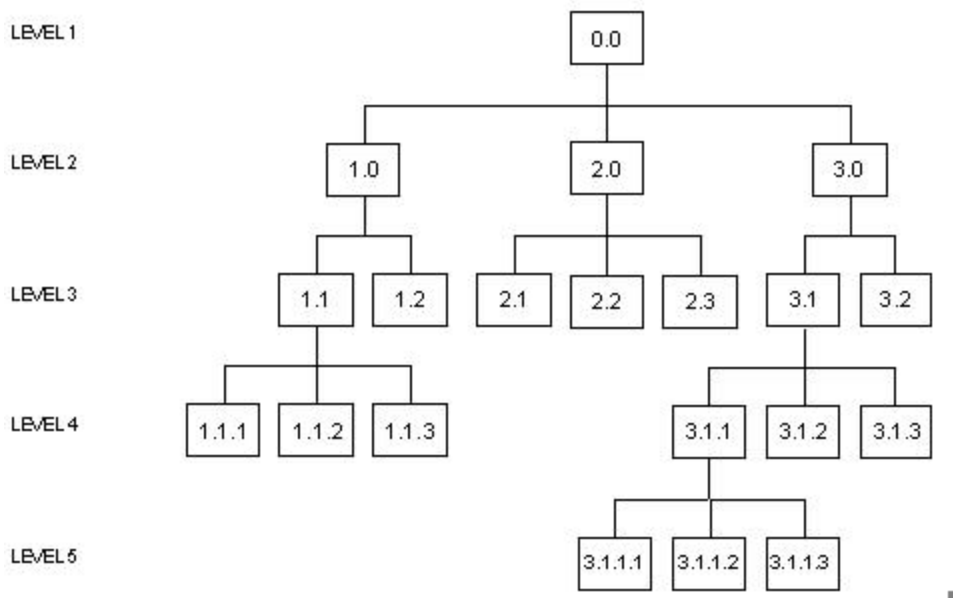
For a subset, the report lists the same objects from the root function to the lowest process within the subset.

The first column shows the type of activity: function (F), process (P), elementary process (E), or recursive (R).

The second column shows the hierarchical level of each activity: 1 for the Root Function, 2 for subordinates of the Root Function, 3 for subordinates of level 2 functions or processes. Each successive number-4, 5, 6, and so on.-represents another level, or vertical step down into the hierarchy.

The third column contains the function number that precedes each activity name. The following illustrates function numbers and hierarchical levels.

Levels of Root and Subordinate Functions



The key to function numbers is as follows:

- 0.0-Root Function
- 1.0, 2.0, 3.0, and so on-Subordinates of the Root Function
- 1.1, 1.2, 1.3, and so on-Subordinates of 1.0
- 1.1.1, 1.1.2, 1.1.3, and so on-Subordinates of 1.1
- 1.1.1.1, 1.1.1.2, and so on-Subordinates of 1.1.1
- 2.1, 2.2, 2.3, and so on-Subordinates of 2.0

The fourth column gives the activity name.

The report indicates reusable processes with three asterisks and a message referring to the first occurrence of the process.

In the Function Hierarchy Report the message with Process 2.2.2:

*** SEE ABOVE 2.1.3

refers to Process 2.1.3.

A comparison of the two processes, 2.2.2 and 2.1.3, shows that they are the same: ACCRUE_INTEREST.

If your model or subset contains reused processes, specify the numbering option when generating the report. Numbering enables you to check quickly for their occurrences.

You can generate the Function Hierarchy Report from either the Model Reports menu or the Subset Reports menu using one of the following procedures:

To Generate a Function Hierarchy Report

To generate a function hierarchy report from the Main Menu, select options 1.3.13.

1. Select option 7.
2. Select option 1.

From the Main Menu, select options 1.4.12.

1. Select option 5.
2. Select option 1.

Function Definition Report in Hierarchical Order

For each function and process in a model or subset, the Function Definition Report in Hierarchical Order gives the following information:

- Name
- Object ID
- Type
(Function or Process)
- Description
- Parent
- Subordinates
(If Any)
- Function Number

The function number identifies each process and function in the model.

The information in this report originates in the Process Hierarchy Diagram (PHD). Each page of the report contains a single function or process. By listing parents and subordinates, each entry indicates what the hierarchy contains one level above and one level below the function or process on the page.

The Function Definition Report in Hierarchical Order for a model shows all functions and processes in the model, including the root. For a subset, the report shows functions and processes, including the root, down to the lowest process within the subset.

For process definitions, the report adds two fields:

- EXPECTED EFFECTS
- PROPERTIES

Expected effects are the actions that the process is expected to produce on entity types and entity subtypes. The expected actions are:

- CREATE
- READ
- UPDATE
- DELETE

Or a combination of these.

The report organizes expected effects in two columns:

- **ENTITY TYPE**-The entity types and entity subtypes that the process acts on.
- **EXPECTED ACTION(S)**-Opposite each entity type or entity subtype, are the actions that the process is expected to produce on that entity type or entity subtype.

For example, in the following sample report, the process ACCUMULATE_EARNINGS expects to read and update the entity type Earnings. Expected actions appear in reverse order with the final action shown first.

| | | | | | |
|-------------------|--|---------------------|---------|--|--|
| MM/DD/YY HH:MM | FUNCTION DEFINITION REPORT | | PAGE 11 | | |
| MODEL NAME: | TRUST AND STOCKHOLDER MANAGEMENT | | | | |
| SUBSET NAME: | ACCUMULATE EARNINGS | | | | |
| NAME: | 4.2.1.4.1 | ACCUMULATE_EARNINGS | | | |
| OBJECT ID: | 32100921 | | | | |
| TYPE: | PROCESS | | | | |
| DESCRIPTION: | | | | | |
| SUBORDINATE OF: | 4.2.1.4 DET_PARTICIPATION_AND_EARNINGS | | | | |
| EXPECTED EFFECTS | ENTITY TYPE | EXPECTED ACTION(S) | | | |
| | EARNINGS | UPDATE | | | |
| | EMPLOYEE | READ | | | |
| | PARTICIPANT_CONTRIBUTION | UPDATE | | | |
| PROPERTIES | MIN EXEC: | 300 | | | |
| | AVG EXEC: | 310 PER YEAR | | | |
| | MAX EXEC: | 350 | | | |
| | GROWTH RATE: | 1% PER YEAR | | | |

Properties

Properties comprise the final part of a process:

- Minimum, maximum, and average number of occurrences
- Growth rate
- Time factor for each property (per week, per month, per year).

You can generate the Function Definition Report in Hierarchical Order from either the Model Reports menu or the Subset Reports menu using one of the following procedures:

To Generate Function Definition Report In Hierarchical Order

To Generate Function Definition Report In Hierarchical Order from Model Reports menu:

1. From the Main Menu, select options 1.3.13.
2. Select option 7.
3. Select option 2.

To Generate Function Definition Report In Hierarchical Order from Subet Reports menu:

1. From the Main Menu, select options 1.4.12.
2. Select option 5.
3. Select option 2.

Function Definition Report in Alphabetical Order

Use this report when checking definitions of functions and processes without regard to their position in the hierarchy.

You can generate the Function Definition Report in Alphabetical Order from either the Model Reports menu or the Subset Reports menu using one of the following procedures:

To Generate Function Definition Report in Alphabetical Order

| | |
|-----------------------------|--|
| From the Model Reports Menu | From the Main Menu, select options 1.3.13. Select option 7. Select option 3. |
|-----------------------------|--|

From Subset Reports From the Main Menu, select options 1.4.12.
Menu Select option 5.
 Select option 3.

Function Point Calculation Report

The Function Point Calculation Report calculates the function points for each business system in a model. Within each business system, the files/entity types and elementary processes/action blocks are used to calculate the number of function points. This can be useful for productivity measurement and for estimating the size of a system and thus application development time. By counting function points, you can make estimates at the completion of the Analysis or Design stage.

| | | | | | |
|---------------------------------|---|---------------------|--------------------|-----------------|-----------|
| 2002-01-02 HH:MM | Function Point Calculation Using Design Activity Definitions | | | | Page 1 |
| MODEL NAME: | CA GEN INSTALL MODEL | | | | |
| BUSINESS SYSTEM: | CORPORATE_MANAGEMENT | | | | |
| ACTION BLOCKS: | INPUTS S A C | OUTPUTS S A C | INQUIRIES S A C | TOTAL POINTS | |
| MAINTAIN_DEPARTMENT | | | 1 | 4 | |
| ADD_DEPARTMENT | | 1 | | | 6 |
| DELETE_DEPARTMENT | 1 | | | 3 | |
| MODIFY_DEPARTMENT | 1 | | | 4 | |
| MAINTAIN_DIVISION | | | 1 | 3 | |
| ADD_DIVISION | 1 | | | 4 | |
| DELETE_DIVISION | 1 | | | 3 | |
| MODIFY_DIVISION | 1 | | | 4 | |
| EMPLOYEE_DETAIL | | | 1 | 4 | |
| ADD_EMPLOYEE | | 1 | | 6 | |
| MODIFY_EMPLOYEE | | 1 | | 6 | |
| EMPLOYEE_LIST | | | 1 | 4 | |
| DELETE_EMPLOYEE | 1 | | | 3 | |
| MAINTAIN_PROJECT | | | | 0 | |
| MAINTAIN_TEAM | | | | 0 | |
| MENU | | | | | 0 |
| FILES/ENTITY TYPES: | FILES S A C | INTERFACES S A C | | TOTAL POINTS | |
| DEPARTMENT | 1 | | | 7 | |
| DIVISION | | | 1 | | 7 |
| EMPLOYEE | | | 1 | | 7 |
| BUSINESS SYSTEM FUNCTION POINTS | | | | 75 | |

CA Gen Implementation of Function Point Analysis

Function Point Analysis (FPA) is a means of measuring the work-product or relative size of an application based on the amount of functionality delivered to the user. This technique is used in application development and maintenance both for making project estimates and measuring productivity. In FPA, the work-product is measured in Function Points.

CA Gen Function Point Calculation is based on principles presented in A. J. Albrecht's article "AD/M Productivity Measurement and Estimate Validation."

Function Point Analysis has five major components which are identified by CA Gen as follows:

- **Inputs**-Elementary Process or Action Block with Update entity actions.
- **Outputs**-Read-Only Process with Batch implementation.
- **Inquiries**-Read-Only Process or Action Block with Online implementation.
- **Files**-Entity Type maintained by a Business System. CA Gen counts function points in terms of entity types rather than DSD objects so that you can count function points before Technical Design.
- **Interfaces**-Entity Type read by a Business System.

Inputs

The number of distinct user attributes represented in entity action views equals the Number of Data Elements in the table, Input Function Points. The number of distinct highest-level entity types referenced in the action block is the Number of File Types in the Input Function Points Table.

The table shows the number of function points for the input portion. For example, if an input has ten data elements and more than three file types, it is assigned six function points.

| Number of File Types | 1-4 Data Elements | 5-15 Data Elements | 16+ Data Elements |
|----------------------|-------------------|--------------------|-------------------|
| 0-1 | 3 | 3 | 4 |
| 2 | 3 | 4 | 6 |
| 3+ | 4 | 6 | 6 |

Outputs

The number of distinct user Text attributes represented in entity action views equals the Number of Data Elements in the following table:

| Number of File Types | 1-5 Data Elements | 6-19 Data Elements | 20+ Data Elements |
|----------------------|-------------------|--------------------|-------------------|
| 0 or 1 | 4 | 4 | 5 |
| 2 to 3 | 4 | 5 | 7 |
| 4 or more | 5 | 7 | 7 |

Inquiries

The number of distinct user attributes represented in the entity action views equals the Number of Data Elements (Table, Inquiry Function Points). The number of distinct highest-level entity types referenced in the action block equals the Number of File Types.

| Number of File Types | 1-5 Data Elements | 6-19 Data Elements | 20+ Data Elements |
|----------------------|-------------------|--------------------|-------------------|
| 0-1 | 3 | 3 | 4 |
| 2-3 | 3 | 4 | 6 |
| 4+ | 4 | 6 | 6 |

Files/Entity Types

The report counts entity types as files in each business system in which data is maintained. This includes Create, Update, Delete, Transfer, Disassociate and Associate actions.

The entity types maintained in the business system will be counted as files and those entity types which are read-only will be counted as interfaces.

In calculating the number of files, the report counts:

- Number of attributes in each entity type and all subtypes
- The number of relationships in which the entity type participates divided by 2, to avoid counting relationships twice.

The sum of the resulting numbers equals the Number of Data Elements for Function Point calculation in the following table. The Number of Record Types equals the number of subtypes of the entity type plus one for the parent entity type.

The table shows the number of Function Points for a file/entity type.

| Number of Record Types | 1-19 Data Elements | 20-50 Data Elements | 50+ Data Elements |
|------------------------|--------------------|---------------------|-------------------|
| 1 | 7 | 7 | 10 |
| 1 | 7 | 7 | 10 |
| 2-5 | 7 | 10 | 15 |
| 6+ | 10 | 15 | 15 |

Interfaces

Interfaces are entity types referenced in an action block that are read-only. See the following table.

| Number of Record Types | 1-19 Data Elements | 20-50 Data Elements | 50+ Data Elements |
|------------------------|--------------------|---------------------|-------------------|
| 1 | 5 | 5 | 7 |
| 2-5 | 5 | 7 | 10 |
| 6+ | 7 | 10 | 10 |

Report Format

An example of the format for the Function Point Calculation Report is provided in the Function Point Calculation Report illustration. For information about Function Point Calculation Report illustration, see *Function Point Calculation Report*. It is not necessary to export the model before running the report.

All cells are classified according to whether they are S (Simple), A (Average), or C (Complex) in degree of difficulty. The following shows the pattern assigned to determine SAC in each case regardless of the actual function points assigned. For example, a complex Output is assigned fewer function points (7) than a complex Interface (10).

| Number of Record Types or File Types | Number of Data Elements | | |
|--------------------------------------|-------------------------|---|---|
| X | S | S | A |
| X | S | A | C |

| Number of Record Types or File Types | Number of Data Elements | | |
|---|-------------------------|---|---|
| | A | C | C |
| X | | | |

Each detail line contains the number one (1) under the appropriate heading for the kind of function point found in the action block or entity type. The points for an action block can be Input, Output or Inquiry in nature. For an entity type, they are either Interface or File.

The Analysis option is organized by business system. If, some or all, elementary processes are not yet scoped, a system named "<Not Yet Scoped>" will contain these processes.

The Design option has a slightly different layout. Action blocks are listed alphabetically and indented within their parent procedure step. The procedure step will always print even if it does not contain any entity actions itself. This is identified by a zero (0) in the Total Points column. Note that multiple implementations of the same action block in different procedure steps are counted separately, as they represent additional functionality provided to the user. Multiple implementations within the same procedure step are only counted once.

The entity types are listed alphabetically in both the Analysis and Design options.

Spreadsheet Option

This option allows the report to be created in a file format that can be downloaded from the mainframe and imported into a spreadsheet program such as Lotus or Excel. The file format is standard .CSV where fields are placed in quotes and separated by commas. The TSO data set name for downloading may be viewed by running the report online with the spreadsheet option. Click Exit when the report appears to view the Report Print Options panel. You will see that the data set consists of your TSO ID plus the suffix .IEF.FUNCPT.

To Generate Function Point Calculation Report

Follow these steps:

1. From the Main Menu, select options 1.3.13.
2. From the Model Reports menu, select option 8.
3. Follow the screen prompts.
4. Select End to save, delete, or print.

Model Contents Report

The Model Contents Report lists all the objects in a model. The list shows each object's unique number, type code, description, and all properties. If one exists for that object, the name is also given. For each property of the object, its value is displayed; these values are frequently in the form of a one-character code. Since they come directly from the Encyclopedia Property table without having been interpreted, they do not look like the property values presented in other reports.

For example, the object in the following illustration has three codes:

- Type S is Designed
- Domain R is Number
- Optionality M is Mandatory

Note: For information about the values for all codes, see the *Host Encyclopedia Public Interface Reference Guide*.

| | | |
|---------------------------------|--|--------|
| MM/DD/YY HH:MM | MODEL CONTENTS REPORT | PAGE 5 |
| MODEL NAME: | MATERIAL MANAGEMENT1 | |
| OBJECT NUMBER: | 18514 | |
| OBJECT TYPE CODE: | 54 | |
| OBJECT TYPE: | User-defined attribute | |
| PROPERTIES OF THE OBJECT: | | |
| Name | NUMBER | |
| Type (Basic, Derived, Designed) | S | |
| Number of Decimal Places | 0 | |
| Description | AN EMPLOYEE NUMBER IS A 6 DIGIT NUMBER. THE ALGORITHM IS TO ADD ONE TO THE PREVIOUSLY ASSIGNED NUMBER. WHEN AN EMPLOYEE TERMINATES, THAT NUMBER IS NEVER USED AGAIN. | |
| Domain | R | |
| # of char | 6 | |
| Name | NUMBER | |
| Optionality | M | |

The following illustration lists the model's associations, or relationships, under the following headings:

- From Object
- Relationship
- To Object

The report identifies both the From Object and To Object by their unique object IDs.

ASSOCIATIONS OF THE MODEL

| FROM OBJECT | RELATIONSHIP | TO OBJECT |
|----------------|--------------|--------------|
| 18257 | sees | 18255 |
| 18258 | contains | 18581 |
| 18363 | inverse of | 18364 |
| 18361 | inverse of | 18362 |
| 18359 | inverse of | 18360 |
| 18349 | inverse of | 18350 |
| 18504 | seen by | 18545 |
| 18497 | seen by | 18547 |
| 18473 | seen by | 18552 |
| 18471 | seen by | 18554 |

Follow these steps:

1. From the Main Menu, select options 1.3.13.
2. From the Model Reports menu, select option 9.
3. Follow the screen prompts.
4. Select End to save, delete, or print.

When Changed Report

The When Changed Report lists changes to aggregate objects within a specified model in the Host Encyclopedia. The report gives the aggregate object type, object occurrence name, the date, time and TSO user ID for the last change made to the object.

The scope of the report can be limited to those objects changed by a specified user, objects changed within a range of dates, objects changed within a range of times (hours and minutes), or a combination of these. The defaults are all objects changed by all users since the creation of the model. In the example, the scope of the report is limited to objects changed between specific dates.

When using dates to limit the scope of the report, note that the dates are inclusive. That is, the Begin Date means all activity on or after the date entered. End Date means all activity on or before the date entered. Providing both dates limits the report to a certain time period.

A TSO user ID can be used to qualify your report. Entered by itself, the report shows only activity by that single user. The TSO user ID may be used in combination with the Begin and End Dates to further refine your report.

The changed objects selected can be saved in an aggregate set.

| | | | | |
|---|--------------------------------------|-------|---------|--------|
| MM/DD/YY HH:MM | AGGREGATE OBJECT WHEN CHANGED REPORT | | | PAGE 1 |
| MODEL NAME: PERSONNEL SYSTEM | | | | |
| OBJECTS CHANGED BETWEEN MM/DD/YY HH:DD AND MM/DD/YY HH:DD BY ANY USER REPORT SORTED BY LAST CHANGED TIME AND DATE | | | | |
| OBJECT TYPE AND NAME | DATE | TIME | USER ID | |
| ----- | ---- | ---- | ----- | |
| Action block Member for Common Action Block ADD_EMPLOYEE | MM/DD/YY | HH:MM | USERxx | |
| Action Block Member for Common Action Block CHANGE_EMPLOYEE | MM/DD/YY | HH:MM | USERxx | |
| Attribute EMPLOYEE JOB GRADE | MM/DD/YY | HH:MM | USERxx | |
| Attribute EMPLOYEE NAME | MM/DD/YY | HH:MM | USERxx | |
| Attribute EMPLOYEE NUMBER | MM/DD/YY | HH:MM | USERxx | |
| Attribute ORGANIZATION COST_CENTER | MM/DD/YY | HH:MM | USERxx | |
| Attribute ORGANIZATION NAME | MM/DD/YY | HH:MM | USERxx | |
| Business System PERSONNEL_SYSTEM | MM/DD/YY | HH:MM | USERxx | |

Follow these steps:

1. From the Main Menu, select options 1.3.13.
2. From the Model Reports menu, select option 11.
3. Follow the screen prompts.
4. Select End to save, delete, or print.

Object Cross-Reference Reports

Object Cross-Reference Reports indicate the interrelationships of objects within a CA Gen model. The information in these reports lets you work with models and subsets more effectively by showing how and where objects are related to each other. Such information is especially useful when you plan to change a model and want to understand or anticipate the implications of change.

Descriptions

The description of various object cross-reference reports follow:

- Contained Report-Lists objects that contain selected objects.
- Contains Report-Lists objects contained by selected objects.
- Delete Report-Lists objects that prevent the deletion of selected objects.

- Implemented Report-Lists objects that implement selected objects.
- Implements Report-Lists objects that are implemented by selected objects.
- Matrices Report-Lists matrices for which selected objects have cell values.
- Referenced/Used Report-Lists objects that reference or use selected objects.
- References/Uses Report-Lists objects that are used or referenced by selected objects.

Note: Both the Object Cross-Reference menu and the Host Encyclopedia Reports menu use abbreviated report titles.

The reports show the objects selected for cross-referencing first, followed by indented lists of cross-referenced objects. For examples of each report, see the samples that accompany each report description.

How to Reach Reports

Two paths take you from the Host Main Menu to the Object Cross-Reference Reports menu:

- One path uses options 1.3.13.12 (via Host Encyclopedia functions, model management, and model reports).
 1. Choose Option 1 from the Host Main Menu.
 2. Select Option 3, Model Management and access Option 13 Model Reports. Finally, select Option 12 for the 8 Object Cross Reference Reports.
- The second path uses option 3 on the Main menu, Host Encyclopedia Reports. Option 3 leads to a multi-screen menu on which Object Cross-Reference Reports are intermingled with many other reports.
 1. Choose Option 3 from the Host Main Menu.
 2. Select 3-5, 13-15, 31 or 32 to reach Model Reports.

Note: The procedures in this section use the first path, because it is easier to keep track of where you are. As you become familiar with the locations of the reports you use most, you may find that using option 3 on the Main menu works faster for you.

To Generate a Report

Follow these steps:

1. Enter or select a model name.
2. Choose to generate it online or in batch.

3. Follow system prompts to print or view.

Selecting a Model Name

Before you can choose a report (using this menu path) you must first enter the name of the Host Encyclopedia model you want to work with, using one of these options:

- Entering the name, if you know it
- Pressing F4 to prompt for list of model names you can choose from.

After you select a report, you can choose to generate it online or in batch mode.

Note: All Object Cross-Reference Reports can be generated either online or in batch mode.

Generating a Report Online

After entering the Host Encyclopedia name and selecting a report option, reports which can be submitted in batch mode will display another panel which allows you to specify additional report parameters. This could be a submenu panel (such as the Object Cross-Reference reports use), or a data panel (such as the Construction reports use).

After you have specified any additional report parameters, select the Execution Mode you want: online or batch.

Follow these steps:

1. Select Online option (the default) and press Enter.
2. Select the object types for which you want to see specific occurrences. Press Enter to accept.
3. Select any additional object types you want and accept the choices to confirm the input.
4. Enter an action code next to one or more objects:
 - S-To check individual objects.
 - E-To expand individual objects.
5. If you want to check or expand individual objects further, repeat step 4.

Generating a Report in Batch

Follow these steps:

1. Select Batch option and press Enter.
2. Repeat steps 2 through 5 in the Online procedure.

3. If you have created a job card, an editable JCL screen appears. Edit it if necessary and accept the changes.
4. If you have not created a job card, a JCL maintenance panel appears. Fill out the Job card and press Enter and accept.

Contained Report

The Contained Report lists objects that contain selected objects.

- Attribute EMPLOYEE_NUMBER is contained by the entity type EMPLOYEE and subject area SAMPLE_MODEL.
- Exit state EMPLOYEE_MTCE_TO_HELP001 is contained by the business system TEST.
- Procedure step EMPLOYEE_MTCE is contained by the business system TEST and its procedure EMPLOYEE_MTCE.
- Procedure step action block EMPLOYEE_MTCE is contained by the business system TEST, procedure EMPLOYEE_MTCE, and procedure step EMPLOYEE_MTCE.

| | | |
|-------------------------------------|---|--------|
| MM/DD/YY HH/MM | CONTAINED REPORT OBJECTS THAT CONTAIN THE SELECTED OBJECTS | PAGE 1 |
| MODEL NAME: SAMPLE_MODEL | | |
| Attribute EMPLOYEE_NUMBER | | |
| Entity Type EMPLOYEE | | |
| Subject Area (root) SAMPLE_MODEL | | |
| Exit State EMPLOYEE_MTCE_TO_HELP001 | | |
| Business System TEST | | |
| Procedure EMPLOYEE_MTCE | | |
| Procedure Step EMPLOYEE_MTCE | | |
| PStep Action Block EMPLOYEE_MTCE | | |
| Business System TEST | | |
| Procedure EMPLOYEE_MTCE | | |
| Procedure Step EMPLOYEE_MTCE | | |

Follow these steps:

1. From the Main Menu, select options 1.3.13.
2. From the Model Reports menu, select option 12.
3. Select 1.
4. Follow the screen prompts.

Contains Report

The Contains Report lists objects contained by selected objects. For example, in the following, the selected procedure EMPLOYEE_MTCE contains:

- Procedure step EMPLOYEE_MTCE
- Procedure step action block EMPLOYEE_MTCE
- Screen for procedure step EMPLOYEE_MTCE

| | | |
|---|--|--------|
| MM/DD/YY HH:MM | CONTAINS REPORT OBJECTS CONTAINED BY SELECTED OBJECTS | PAGE 1 |
| MODEL NAME: SAMPLE_MODEL | | |
| OBJECT TYPE AND NAME | | |
| Procedure EMPLOYEE_MTCE | | |
| Procedure Step EMPLOYEE_MTCE | | |
| Pstep Action Block EMPLOYEE_MTCE | | |
| Screen for Procedure Step EMPLOYEE_MTCE | | |

Follow these steps:

1. From the Main Menu, select options 1.3.13.
2. From the Model Reports menu, select option 12.
3. Select 2.
4. Follow the screen prompts.

Delete Report

The Delete Report lists objects that prevent the deletion of selected objects. This report is especially helpful when you are scoping a subset.

The following sample report shows that Attribute EMPLOYEE_NUMBER is referenced or used by the following:

- Four procedure step action blocks: ADD_EMPLOYEE, CHANGE_EMPLOYEE, DELETE_EMPLOYEE and DISPLAY_EMPLOYEE.
- Data field EMPLOYEE_NUMBER.

The following is a sample of the Delete Report:

| | | |
|-------------------------------------|--|--------|
| MM/DD/YY | DELETE REPORT | PAGE 1 |
| HH:MM | OBJECTS PREVENTING THE DELETE OF SELECTED OBJECTS | |
| | MODEL NAME: SAMPLE_MODEL | |
| OBJECT TYPE AND NAME | | |
| Attribute EMPLOYEE_NUMBER | | |
| Data Field EMPLOYEE_NUMBER | | |
| PStep Action Block ADD_EMPLOYEE | | |
| PStep Action Block CHANGE_EMPLOYEE | | |
| PStep Action Block DELETE_EMPLOYEE | | |
| PStep Action Block DISPLAY_EMPLOYEE | | |

Follow these steps:

1. From the Main Menu, select options 1.3.13.
2. From the Model Reports menu, select option 12.
3. Select 3.
4. Follow the screen prompts.

Implemented Report

The Implemented Report lists objects that implement selected objects. For example, in the sample report the selected attributes are implemented by data fields, and the selected entity types are implemented by records. Attribute EMPLOYEE_NUMBER is implemented by data field EMPLOYEE_NUMBER, attribute EMPLOYEE_FIRSTNAME is implemented by data field EMPLOYEE_FIRSTNAME, entity type EMPLOYEE is implemented by record EMPLOYEE, and so forth.

| | | |
|------------------------------|---|--------|
| MM/DD/YY HH:MM | IMPLEMENTED REPORT OBJECTS THAT IMPLEMENT SELECTED OBJECTS | PAGE 1 |
| MODEL NAME: SAMPLE_MODEL | | |
| OBJECT TYPE AND NAME | | |
| Attribute EMPLOYEE_NUMBER | | |
| Data Field EMPLOYEE_NUMBER | | |
| Attribute EMPLOYEE_FIRSTNME | | |
| Data Field EMPLOYEE_FIRSTNME | | |
| Attribute EMPLOYEE_LASTNME | | |
| Data Field EMPLOYEE_LASTNME | | |
| Attribute EMPLOYEE_JOBCODE | | |
| Data Field EMPLOYEE_JOBCODE | | |
| Entity Type EMPLOYEE | | |
| Record EMPLOYEE | | |
| Entity Type SKILLSET | | |
| Record SKILLSET | | |

Follow these steps:

1. From the Main Menu, select options 1.3.13.
2. From the Model Reports menu, select option 12.
3. Select 4.
4. Follow the screen prompts.

Implements Report

The Implements Report lists objects that are implemented by selected objects. For example, in the sample report, data field EMPLOYEE_NUMBER implements attribute EMPLOYEE_NUMBER and record EMPLOYEE implements entity type EMPLOYEE.

| | | |
|----------------------------|--|--------|
| MM/DD YY HH:MM | IMPLEMENTS REPORT OBJECTS IMPLEMENTED BY SELECTED OBJECTS | PAGE 2 |
| MODEL NAME: SAMPLE_MODEL | | |
| OBJECT TYPE AND NAME | | |
| Data Field EMPLOYEE_NUMBER | | |
| Attribute EMPLOYEE_NUMBER | | |
| Record EMPLOYEE | | |
| Entity Type EMPLOYEE | | |

Follow these steps:

1. From the Main Menu, select options 1.3.13.
2. From the Model Reports menu, select option 12.
3. Select 5.

- Follow the screen prompts.

Matrices Report

The Matrices Report lists matrices for which selected objects have cell values. For example, in the sample report, the selected current business system CIS1 has cell values in two different matrices: CUR_INFO_SYS./CUR_DATA_STORE and CUR_INFO_SYS./INFO_NEED. Selected information need CUSTOMER_ORDER has cell values in only one matrix, CUR_INFO_SYS./INFO_NEED.

| | | |
|-------------------------------------|--|--------|
| MM/DD/YY | MATRICES REPORT | PAGE 2 |
| HH:MM | MATRICES SELECTED OBJECTS HAVE CELL VALUES | |
| MODEL NAME: SAMPLE_MODEL | | |
| OBJECT TYPE AND NAME | | |
| Current Business System CIS1 | | |
| Matrix CUR_INFO_SYS./CUR_DATA_STORE | | |
| Matrix CUR>_INFO>_SYS>/INFO>_NEED | | |
| Information Need CUSTOMER_ORDER | | |
| Matrix CUR_INFO_SYS./INFO_NEED | | |

Follow these steps:

- From the Main Menu, select options 1.3.13.
- From the Model Reports menu, select option 12.
- Select 6.
- Follow the screen prompts.

Referenced/Used Report

The Referenced/Used Report lists objects that reference or use selected objects. For example, in the sample report, the attribute EMPLOYEE_NUMBER is referenced or used by two procedure steps, EMPLOYEE_MTCE and PAYROLL, and two procedure step action blocks, EMPLOYEE_MTCE and PAYROLL. Also, the procedure step HELP001 is referenced or used by the procedure step EMPLOYEE_MTCE.

| | | |
|----------------------------------|---|--------|
| MM/DD/YY | REFERENCED/USED REPORT | PAGE 2 |
| HH:MM | OBJECTS THAT REFERENCE/USE SELECTED OBJECTS | |
| MODEL NAME: SAMPLE_MODEL | | |
| OBJECT TYPE AND NAME | | |
| Attribute EMPLOYEE_NUMBER | | |
| Procedure Step EMPLOYEE_MTCE | | |
| Procedure Step PAYROLL | | |
| PStep Action Block EMPLOYEE_MTCE | | |
| PStep Action Block PAYROLL | | |
| Procedure Step HELP001 | | |
| Procedure Step EMPLOYEE_MTCE | | |

Follow these steps:

1. From the Main Menu, select options 1.3.13.
2. From the Model Reports menu, select option 12.
3. Select 7.
4. Follow the screen prompts.

References/Uses Report

The References/Uses Report lists objects that are referenced or used by selected objects. For example, in the sample report, the selected procedure step EMPLOYEE_MTCE references or uses five different types of objects: an attribute EMPLOYEE_NUMBER, an entity type EMPLOYEE, two procedure steps HELP001 and TESTDATE, a work attribute MISCWORK_WKNUM10, and a work attribute set MISCWORK.

| | | |
|---------------------------------|---|------------------------|
| MM/DD/YY | REFERENCES/USES REPORT | PAGE 2 |
| HH:MM | OBJECTS REFERENCED/USED BY SELECTED OBJECTS | |
| MODEL NAME: SAMPLE_MODEL | | |
| OBJECT TYPE AND NAME | | |
| Procedure Step EMPLOYEE_MTCE | | |
| Attribute EMPLOYEE_NUMBER | | (and other attributes) |
| Entity Type EMPLOYEE | | |
| Procedure Step HELP001 | | |
| Procedure Step TESTDATE | | |
| Work Attribute MISCWORK_WKNUM10 | | |
| Work Attribute Set MISCWORK | | |

Follow these steps:

1. From the Main Menu, select options 1.3.13.
2. From the Model Reports menu, select option 12.

3. Select 8.
4. Follow the screen prompts.

Model Action Block Use Report

The Model Action Block Use Report lists the calling hierarchy of components in a model. The report displays the Dynamic Link attribute associated with each module, No, Yes, Compatibility, or Default. For each Business System included as part of the report, the default values assigned to the Dynamic Link Defaults for Procedure Steps, Screens Managers, and Action Blocks are displayed. The report has three basic modes of operation, selected by the Object Range report option.

You can select one of the following options from the Object Range List:

- All business systems and load modules

This option lists every Business System in the model, every Load Module under its Business System, every Procedure Step in each Load Module, and recursively, every Action Block used by the Procedure Step. All Derivation Algorithms in the model are also listed at the end of the report.

- Selected objects

This option allows you to select Business Systems or Load Modules to include in the report. The selected objects and components used by those objects are listed. If you select a Business System, then all the load modules under the Business System are displayed. If you want to select a specific load module, you can select among Batch Job, Batch Job Step, Online Load Module, Operations Library, Server Manager, Window Load Module, Window Manager, and z/OS library. Note that the Derivation Algorithms do not appear in this report.

- Filter modules by Dynamically Link (z/OS) option

This report lists Procedure Steps, Screens, Action Blocks, and Derivation Algorithms that have their Dynamic Link (z/OS) property set to the value selected in the filter values field. The selection of the filter value is required for this option.

The permitted values that can appear in the Dynamic Link (z/OS) options for these components are:

- YES
- NO
- CMP (compatibility)
- DEF (default to business system defaults)

Each module displayed in report includes:

- Hierarchy nesting level
- Action Block name
- Action Block type:
 - Pstep (Procedure Step)
 - Common (Common Action Block)
 - Derivation (Derivation Algorithm)
 - External (External Action Block)
 - Foreign (Common Action Block owned by a Business System that is different from the Load Module's Business System)
 - Foreign Ext (External Action Block owned by a Business System that is different from the Load Module's Business System)
 - Pstep (For) (Procedure Step that is owned by a Business System that is different from the Load Module's Business System)
- Action Block source member name
- Dynamic link value for Procedure Step/Action Block: Yes, No, Compatibility, Default. For Default, the value defaulted to through the Business System dynamic link default for Procedure Step/Action Block is also displayed. For example Default (No) means the module is set to Default and the owning Business System dynamic link default for Procedure Step/ Action Block is set to No.
- Screen member name for screen (if exists)
- Dynamic link value for screen (if exists): Yes, No, Compatibility, Default. For Default, the value defaulted to through the Business System dynamic link default for Screen Managers is also displayed.
- Owning Business System name

If an action block is called more than once within the same level 1 hierarchy and it has calls to other action blocks, then the action block use expansion is only reported once. The action block name will have an asterisk (*) beside it denoting that it was previously expanded.

Model Action Block Use Report Example

The following illustration shows the contents of the Model Action Block Use Report:

| MODEL ACTION BLOCK USE REPORT | | | | | | |
|--|---------|---------------------|----------|--------------|------------------------|--|
| Model Name : GEN SAMPLE MODEL | | | | | | |
| Date: 2007-03-02 | | Time: 12:03 | | Page: 1 | | |
| Business System: CORPORATE_MANAGEMENT | | | | | | |
| Default dynamic link options for the business system | | | | | | |
| ----- | | | | | | |
| Dynamically link procedure steps: NO | | | | | | |
| Dynamically link action blocks : NO | | | | | | |
| Dynamically link screen managers: NO | | | | | | |
| Online Load Module MENU | | | | | | |
| Cal | | | | | | |
| Level | Type | Name | Src Name | Dynamic Link | Owning Business System | |
| ---- | ---- | ----- | ----- | ----- | ----- | |
| 1 | PStep | EMPLOYEE_DETAIL | EMPDET | Default (No) | CORPORATE_MANAGEMENT | |
| | Screen | EMPLOYEE_DETAIL | DETSRGN | Default (No) | | |
| 2 | Process | ADD_EMPLOYEE | ADDEMP | Default (No) | CORPORATE_MANAGEMENT | |
| 2 | Process | MODIFY_EMPLOYEE | MODEMP | Default (No) | CORPORATE_MANAGEMENT | |
| 1 | PStep | EMPLOYEE_LIST | EMPLIST | Default (No) | CORPORATE_MANAGEMENT | |
| | Screen | EMPLOYEE_LIST | LISTSRGN | Default (No) | | |
| 2 | Process | DELETE_EMPLOYEE | DELEMP | Default (No) | CORPORATE_MANAGEMENT | |
| 1 | PStep | MAINTAIN_DEPARTMENT | MAINTDEP | Default (No) | CORPORATE_MANAGEMENT | |
| | Screen | MAINTAIN_DEPARTMENT | DEPTSRGN | Default (No) | | |
| 2 | Process | ADD_DEPARTMENT | ADDDEPT | Default (No) | CORPORATE_MANAGEMENT | |
| 2 | Process | DELETE_DEPARTMENT | DELDEPT | Default (No) | CORPORATE_MANAGEMENT | |
| 2 | Process | MODIFY_DEPARTMENT | MODDEPT | Default (No) | CORPORATE_MANAGEMENT | |
| 1 | PStep | MAINTAIN_DIVISION | MAINTDIV | Default (No) | CORPORATE_MANAGEMENT | |
| | Screen | MAINTAIN_DIVISION | DIVSRGN | Default (No) | | |
| 2 | Process | ADD_DIVISION | ADDIV | Default (No) | CORPORATE_MANAGEMENT | |
| 2 | Process | DELETE_DIVISION | DELDIV | Default (No) | CORPORATE_MANAGEMENT | |
| 2 | Process | MODIFY_DIVISION | MODDIV | Default (No) | CORPORATE_MANAGEMENT | |
| 1 | PStep | MENU | MAINMENU | Default (No) | CORPORATE_MANAGEMENT | |
| | Screen | MENU | MENUSRGN | Default (No) | | |
| *** END OF REPORT ***) | | | | | | |

Follow these steps:

1. From the Main Menu, select options 1.3.13.
2. From the Model Reports menu, select option 13.

3. Follow the screen prompts for each field:

model name

object range

All, Selected, or Filter

dynamically link option

YES, NO, CMP, or DEF

Required when object range is set to filter

execution mode

Online or Batch

Printing and Saving Host Encyclopedia Reports

After viewing reports that you generate on the Host Encyclopedia, you can:

- Print and keep
- Print and delete
- Keep or delete without printing

Follow these steps:

1. At the panel displaying the report, press the End key. The panel which appears shows the report's data set name.
2. In the command field, enter a print option:
 - PK (print and keep)
 - PD (print and delete)
3. Enter a sysout class or printer ID.
4. If you are using the system printer, enter a Job Statement and any JES statements you want.

5. Press Enter.

```
Report Print Options
COMMAND ==>

To print, type desired print option on command line and press enter.
If PF3 is pressed, the report data is kept without printing.

PK - Print data set and keep           K - Keep data set (without printing)
PD - Print data set and delete         D - Delete data set (w/out printing)

Data set name: DAACHLH.IEF.RPT3

Print mode...  BATCH                   (BATCH or LOCAL
                                           ISPF V2R3 only)

Sysout class   A                       (for system printer)
Printer ID     (for 328x printer)

Job statement information:

//JOBNAME JOB (ACCT NO, ACCT INFO), 'YOUR NAME',
//          CLASS=JOBCLASS, REGION=2048K, PRT=N
//*FORMAT PR,DDNAME=,FLASH=NONE,CHARS=G812
```

Note: If you want to keep or delete a data set without printing it, enter K (to keep) or D (to delete) in step 2 above and press Enter. Note that if you press F3 instead of Enter, the report data is kept but not printed (option K).

Chapter 7: How to Navigate the Host Encyclopedia

You can customize aspects of the menu panels using the Environment Specification option on the Main Menu.

This section contains the following topics:

[Environment Specifications](#) (see page 151)

[Common User Access Standards](#) (see page 156)

Environment Specifications

Environment Specification on the Main Menu lets you customize aspects of CA Gen host panels and specify operational environment options, batch job JCL, and sort options for selection lists. You can also choose the colors for text, input, and output fields.

Main Menu

COMMAND ==>

Select one of the options below, then press enter.

- 1 1. Host encyclopedia functions
- 2. Public Interface functions
- 3. Host encyclopedia reports
- 4. Application system functions
- 5. Environment specification

F1 = Help F3 = Exit F12 = Cancel

To Access Environment Specifications

From the Main Menu, select 5 and press Enter.

The Environment Specifications menu appears.

```

                                Environment Specifications
COMMAND ==>

Select one of the options below, then press enter.

_ 1. Panel specifications
  2. Batch JCL maintenance
  3. Selection List sort options
  4. Display license information
  5. Display system and PTF information
  
```

Panel Specifications

Panel Specifications lets you choose the command line placement and cursor placement for application menus as well as the colors you want for text, input, and output fields on CA Gen host panels. You can choose colors for both normal and high intensity. The defaults for each type of field and the available colors are shown in the following sample screen.

```

                                Set Panel Specifications
COMMAND ==>

Type the information requested, then press enter.

Command line placement          TOP          (TOP, BOTTOM)
Cursor placement for menu      COMMAND       (COMMAND, MENU)

Type of Field                  Normal Intensity Color  High Intensity Color
Text fields                   TURQ                     WHITE
Input fields                  YELLOW                   RED
Output fields                 GREEN                    TURQ

Available colors:
RED      GREEN    BLUE    PINK    YELLOW    TURQ    WHITE
  
```

Note: For more information about setting default options, see Setting Defaults.

Batch JCL Maintenance

Batch JCL Maintenance lets you enter or update Job Control Language (JCL) for the following functions:

- Encyclopedia functions that can be submitted in batch

- Report printing
- Data Definition Language (DDL) generation
- Generated batch jobs
- Background code generation

```

                                Batch JCL Maintenance

COMMAND ==>

Select one of the options below, then press enter.

      1. Update JCL for encyclopedia functions
      2. Update JCL for report printing
      3. Update JCL for Data Definition Language function
      4. Update JCL for generated batch jobs
      5. Update JCL for background code generation

F1 = Help      F3 = Exit      F12 = Cancel

```

When you choose one of the options on the menu, up to eight lines of JCL are displayed for update. See the following sample screen. If you have not performed any of the five functions, these lines are blank. However, if you have performed any of the functions, the JCL used for the function is automatically supplied for all five options. The eight lines of JCL become the first eight lines in all batch submissions. You may update the JCL for any of the functions at any time.

```

                                Update JCL for Encyclopedia Functions

COMMAND ==>

Type or verify the JCL information below. Press enter or F6 to
save changes. Press F12 to cancel changes.

***** Start of JCL cards *****

//JOBNAME JOB (ACCT NO,ACCT INFO), 'YOUR NAME',
//              CLASS=JOBCLASS,REGION=2048K,PRTY=N
//*
//*
//*
//*
//*
//*
//*
***** End of JCL cards *****

F1 = Help      F3 = Exit      F6 = Save      F12 = Cancel

```

Note: The Job card Keyword parameter USER= might not be required at your site, depending on the security system and how it is installed. If you receive a message indicating that the user is unknown and does not have CE access, add the USER= parameter, and resubmit the job.

Suggested Guidelines

The Suggested Guidelines table contains three suggested guidelines for batch JCL for an IBM 3090 Model 200. For generated batch jobs and background code generation, you must use your own judgment about region and time, based on your experience.

| Function | Region | Time |
|--------------|--------|--------------------|
| Encyclopedia | 2048K | 12 minutes maximum |
| Reporting | 256K | 1 minute |
| DDL | 2048K | 8 minutes |

To Enter Batch JCL

Follow these steps:

1. From the Main Menu command prompt, enter 5.2 and press Enter.
2. Specify the JCL you want to modify:
 - JCL for encyclopedia functions
 - JCL for report printing
 - JCL for Data Definition Language (DDL) function
 - JCL for generated batch jobs
 - JCL for background code generation
3. Enter your JCL job card/JES cards, observing local standards.
Press F6 (Save).

When to Use Selection List Sort Options

Many Host Encyclopedia functions provide model and subset selection lists that let you select the model and subset names instead of typing them. This feature is useful if the name is long, you are unsure of the spelling, or you want to review all the available selections before making a choice.

From the Environment Specification option, select the Selection List Sort Options and this menu lets you specify how the various selection lists are organized.

Selection List Sort Options

COMMAND ==>

Select one of the options below, then press enter.

1

1. Model and Subset selection lists

2. Model Family selection lists

3. Aggregate Set selection lists

4. Restore Model selection list

F1 = HelpF3 = ExitF12 = Cancel

The following sample screen shows the panel which results from option 1, Model and Subset selection lists, which lets you sort by model owner, model name, last modify date, or by the user ID of the last person to modify the model.

Sort Options for Model Selection Lists

COMMAND ==>

Type / by one sort option, then press enter.

/

Model owner

Model name

Last modify date

Last modify user ID

F1 = HelpF3 = ExitF12 = Cancel

On each of the Selection List Sort Option panels, to select from the options available, enter the slash character (/) next to an option and press Enter.

Display License Information

This option displays the status of Host Encyclopedia licenses on the current system. It may assist in investigating licensing related messages that are displayed during encyclopedia or construction functions.

Display system and PTF information

Select 5 from the Environment Specifications menu and press Enter.

The System Administration Information menu appears.

```
System Administration Information
COMMAND ==>

Select one of the options below, then press
enter.

— 1. Display Host Encyclopedia installed PTF(s)
   2. Display selected Host Encyclopedia System Variables.
```

Common User Access Standards

Both the CA Gen Toolsets and Host Encyclopedia component support Common User Access (CUA) standards with their menu structures, standard symbols, prompt service, and user-specified panel customization. The following paragraphs discuss these CUA features. They also discuss the distinction CUA makes between the Cancel and Exit functions.

Standard Symbols

CUA panels use standard graphic symbols that have special meanings. Some symbols indicate the type of action to take. For example, dots before list items mean, Select one item only from this list. Other symbols indicate that a special service is provided. For example, a plus sign (+) after an input field means that list selection is available from this field.

The following table shows the standard symbols used in CA Gen z/OS panels.

| Symbol | Meaning |
|------------------|--|
| | Leader dots, to align a field literal with its data. |
| ..?_?_ | Data entry (input) field |
| ...: | Output field |
| + | Prompt indicator: a selection list is available for the field. |
| .Name1 .Name2 | Single choice selection list. |
| / | Default selection character for selection lists. |

| Symbol | Meaning |
|------------------|---|
| _Item1 _Item2 | Multiple choice selection or action list. |
| _ 1. _ 2. | Choice entry field for menu selection. |

The following paragraphs discuss the standard symbols in more detail.

Data Entry Field

A data entry field is an input field into which you type data. It is padded with underscores to indicate the total length of the field.

Prompt Indicator

The + (plus sign) following a data entry field is a prompt indicator. It indicates that a list of permitted values for the field is available. The list of permitted values is called a selection list. From these values, you can select one entry.

To display the selection list, position the cursor in the field and press F4 (or your designated Prompt function key, if you have customized your function key definitions) to request Prompt. When you have displayed the list and made your selection, press Enter. The system redisplay the panel from which you requested Prompt, and your selected value appears in the data entry field.

Single Choice Selection List

A single choice selection list is a list of permitted values for an input field, from which you can select only one entry. The . (dot) before each entry means 'choose only one'. Single choice selection lists are available when you request Prompt for model, subset, and model family names. They are also used for specifying batch or online execution of a report or function as well as ranges of objects (some versus all) for functions.

Default List Selection Character

The slash (/) character is the default character for marking a selection on a selection list. You can use it instead of S or X unless specific instructions on a panel tell you otherwise. For example, when adding a subset definition, you can select an object by entering either S or / next to it, but you can expand that object only by entering E by it.

The slash character is also used to mark a default selection when one has been provided. Selection lists that offer default values include online versus batch execution mode, all objects versus selected objects, and sort options for model, subset, and model family name selection lists. No action is needed to use the default selection value. To change the default to another choice:

- Blank out the entry containing the slash character.
- Enter slash next to the desired entry on the list.

Multiple Choice Selection or Action List

An underscore (_) in the leftmost column indicates a multiple choice action or selection list. You can select more than one item from the list if it is a selection list. If it is an action list, you can execute any of a specified list of activities against one or more entries in the list.

Choice Entry Field for Menu Selection

The underscore next to the first entry on a menu is a choice entry field, where you can enter the number of the menu option you want to execute. Menus are a type of single choice selection list, since you can select only one option at a time.

More information:

[Setting Defaults](#) (see page 159)

Changing Sort Options for Selection Lists

To change sort options for selection lists, use the Selection List Sort Options menu under the Environment Specification option of the Main Menu. To change the default sort option, blank out the entry containing the slash (/) character. Enter a slash next to the option you want and press Enter.

Using a Selection List

Follow these steps:

1. Position the cursor anywhere in the desired field.
2. Press F4 (or your designated Prompt function key if you have customized your function key definitions). The selection list which appears contains all the items that you are authorized to access. The fill character (dot) next to each item indicates that you can select only one item from this list. To select a name from the list:
 - a. If necessary, search the list for a name or portion of a name, using the ISPF Find (F) or Locate (L) command. Enter F or L followed by the name or value to search for. Press Enter.
 - b. Over the dot to the left of the desired item, enter a slash or any character except period. Press Enter. The selected value will be inserted in the field on the panel from which you requested the Prompt service.

To return to the previous panel without making a selection, press your designated Cancel function key, or enter CANCEL and press Enter. Pressing End is not permitted from this panel.

Setting Defaults

You can customize the CA Gen z/OS environment to suit your particular needs or preferences regarding panel colors, command line placement, function key definitions and cursor positioning on menu panels, or you can use the defaults for each.

Changing Command Line Placement

Follow these steps:

1. From the Main Menu, select Environment Specification. Press Enter.
2. Select Panel Specifications. Press Enter.
3. The options for command line placement are TOP (default) and BOTTOM. If you want to place the command line at the bottom of the panel, enter BOTTOM in the command line placement field and press Enter.

Changing Initial Cursor Placement on Menus

The cursor on CA Gen host menus can be placed initially at the command line (default) or at the choice entry field (the underscore next to the first entry on a menu).

Follow these steps:

1. From the Environment Specifications option, select 1 and press Enter.

2. Enter MENU in the cursor placement for menus field. Press Enter.

Note: Changing cursor placement applies only to CA Gen menu panels. If you want to use the extended selection feature (1.2.3), you must use command line placement. If you try to use extended selection with choice entry cursor placement, your path will truncate to a single option number. The procedures in this guide assume command line placement.

Customizing Function Key Definitions

The Key Assignments list shows the default CA Gen function key settings. To customize function key definitions shown, use the following procedure:

Follow these steps:

1. Enter KEYS on the command line of any CA Gen panel. Press Enter.
2. At the ISPF PF Key Definitions and Labels panel, tab to position the cursor at the key whose value you want to change. Enter the new value.
3. Press END.

| | |
|--------------|---------------|
| F1 (Help) | F7 (Up) |
| F2 (Accept) | F8 (Down) |
| F3 (End) | F9 (Retrieve) |
| F4 (Prompt) | F10 (Left) |
| F5 (Refresh) | F11 (Right) |
| F6 (Save) | F12 (Cancel) |

Note: When selecting object occurrences in subsetting, version control, aggregate set management, and object cross-reference reports, you can proceed more quickly by using F2 (Accept)

Displaying the Customized Function Key Legend

The minimum default CA Gen function keys shown are:

- F1 (Help)
- F3 (Exit)
- F12 (Cancel)

To list all your current function keys as a legend at the bottom of each panel, enter PFSHOW on the command line of any CA Gen panel and press Enter.

To change the number of keys per line or the range of keys shown (1-12, 13-24), enter PFSHOW TAILOR and press Enter.

To return to the default function key legends for each panel, enter PFSHOW OFF and press Enter.

Changing Panel Colors

The Default Panel Colors table shows the default CA Gen color settings. The colors used for text, input, and output fields can be changed.

Follow these steps:

1. From the Environment Specifications option, select 1 and press Enter.
2. Tab to the field you want to change.
3. Enter the new color value. Press Enter. The available colors will display at the bottom of the panel.

| Field Type | Normal Intensity | High Intensity |
|---------------|------------------|----------------|
| Text fields | Green | White |
| Input fields | Turquoise | White |
| Output fields | Turquoise | White |

Cancel Versus Exit

The basic dialog flow for CA Gen functions conforms to CUA standards. CUA treats the cancel and exit commands as two distinct activities, each having a standard or common function key dedicated to it.

- Under CUA, the Cancel function (F12 by default) lets you back up to the previously displayed panel. Repeated use of the Cancel function lets you back out of the function one panel at a time until you reach the menu from which you selected the option.
- The Exit function (F3 by default) causes the function you are executing to stop; you are returned to the menu from which you selected the option. Repeated use of the Exit function lets you back out of the CA Gen menu hierarchy one menu at a time until you reach the ISPF main menu.
- Full-screen pop-up panels, used for selection lists and option-specific parameters for Code Generation functions, do not allow the use of the Exit function. To return to the previously displayed panel without selecting an item, you must use the Cancel function.

The Exit command is not supported here, because it applies to the application as a whole, not to the immediate panel being displayed. After you have canceled the pop-up, you can Exit from the function.

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