

CA-CIS[®] for VSE

Administration Guide

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Introduction

This guide explains how to use each component of the CA Common Infrastructure Services (CA-CIS). Instructions are provided for using each component in prompt mode, command mode, and maintenance mode.

Common User Interface

The Common User Interface (CAICUI) provides a set of standards for the CA VSE product line. All CA VSE products and services running under the Common User Interface comply with a set of panel design and functionality standards, creating a common look as well as a common method of using all CA VSE products.

Using CAICUI eliminates the time required to learn multiple online procedures because it standardizes online navigation. You only learn one set of rules to operate any CAICUI-compliant product or service because with CAICUI, every application operates in basically the same way. CAICUI's standards provide consistency in all CA VSE products and allow the user to interface between products, services and operating systems. CAICUI is also flexible and user friendly and can be individually customized for each user.

Conceptually similar to IBM's Systems Applications Architecture (SAA), CAICUI implements a subset of its Common User Access (CUA) standard. The main service of CAICUI is the CUI transaction. It controls other CA product transactions and maintains product resource definitions. CAICUI consists of three main areas:

CUA	Common User Access
CPI	Common Programming Interface
SM	Session Manager
CAIHELP	Help for CUA panels

Common User Access

The Common User Access (CUA) provides a standard way to access information from 3270-type devices by combining a subset of SAA standards with a standard already in use by many CA VSE products.

Common Programming Interface

The Common Programming Interface (CPI) defines the set of standard programming tools, languages and interfaces available to CA software developers. Using a common set of tools provides a great benefit to CA clients because they improve reliability, availability and serviceability for all CA products.

Session Manager

The Session Manager (SM) is an online CICS transaction environment providing a common execution platform for CAICUI applications. This platform allows any CAICUI application to be invoked from any other application, thereby providing system-wide product integration within the VSE product line. Several of the CPI services are built with extensions into the SM, enforcing CAICUI standards as well as helping to create a common programming environment.

The CAICUI Session Manager offers two modes of operation, prompt mode and command mode. In prompt mode, the user selects a menu option and enters any additional information to perform a specific function. In command mode, the user executes a function by directly entering a command on the command line. Either mode or a combination of both can be used during a session; mode switching is automatic and is based upon the user's entry.

Internally the SM is a command-based navigation system. The full panel prompt programs generate the appropriate commands from terminal input and pass them to a command manager. The generated commands execute at either the panel processor or the immediate command processor level. Screen processor programs handle applications that require panel I/O while immediate command processors execute commands that require no additional input.

Another powerful feature provided by the Session Manager is the ability to create user-defined long and short commands. User-defined long commands are entered on the command line and are usually abbreviated forms of internal, CAICUI-supplied long commands. One example might be a command named DAO, created to execute the CAIAUDIT 'DISPLAY AUDIT PRODUCT=CAOP' command. User-defined short commands, on the other hand, are entered in the short command area provided on directory panels and perform specific functions.

CAIHELP

CAIHELP is an online application that provides immediate online assistance. It also presents detailed information about product facilities and explains all diagnostic messages.

HELP panels are designed in a hierarchy and are arranged by topic. Panel HELP, field HELP, HELP with HELP, message HELP and an online panel INDEX are all topics available within CAIHELP.

CAIAUDIT

The CAIAUDIT service provides a comprehensive auditing and reporting system for all CA VSE products and localizes the viewing and depositing of audited events. The CAIAUDIT runtime system performs the actual logging of data to the CAIAUDIT data set(s).

Common Communication Interface

The Common Communication Interface (CAICCI) is a communications facility that offers a simple yet flexible approach enabling CA products to communicate with one another. This facility provides a layer that isolates application software from the specifics of the communications environment.

Catalog Management

Catalog Management is a high-performance access method developed by CA. It supports many different record formats and can be accessed at high rates due to its sophisticated catalog index structure.

System Adapter

The System Adapter provides operating system-dependent services, such as program retrieval and recovery, for a variety of CA products. Made through generic requests, these services facilitate the development of operating system-independent products.

SSF

The Standard Security Facility (SSF) provides access to external security solutions through external program calls.

CA-EARL Service

The CA-EARL Service provides report writing facilities for CA VSE products. A subset of the CA-EARL Service is used as part of CA-CIS. **It is intended for use with CA products only.**

CAIVPE

CAIVPE, the Virtual Processing Environment, is an interproduct facility used by various CA solutions running under CICS. It contains monitor-specific code, and allows CA solutions to run independent of the environment.

- Makes environment inquiries
- Makes terminal inquiries
- Reads/Writes directly from/to sequential files
- Performs upper/lower case translation
- Issues messages to both the terminal and console
- Checks runaway tasks
- Dumps application-specific storage before giving control to the operating system

Common User Interface

The Common User Interface (CAICUI) service provides a set of standards for CA VSE products. All CA VSE solutions and services running under the Common User Interface comply with a set of panel design and functionality standards, creating a common look as well as a common method of use for all CA VSE solutions.

CUI eliminates the time required to learn multiple online procedures because it standardizes online navigation. You only learn one set of rules to operate any CAICUI-compliant solution or service because with CAICUI, every application operates in basically the same way. CAICUI's standards provide consistency in all CA VSE solutions and allow the user to interface between products, services and operating systems. CAICUI is also flexible and user friendly and can be individually customized for each user.

Conceptually similar to IBM's Systems Applications Architecture (SAA), CAICUI implements a subset of its Common User Access (CUA) standard. The main service of CAICUI is the CUI transaction. It controls other CA product transactions and maintains product resource definitions.

CAICUI System Features and Options

This section presents the system features and options of CAICUI and a detailed discussion of how to maintain CAICUI. It explains how to:

- Display and update system options
- Display, add, update and delete user profiles
- Display and update user main menus
- Display, add, update and delete command table profiles

Enabling the ICCF Interface

The ICCF interface option permits access to the CUI transaction from the ICCF environment. ICCF users can access CAICUI without first having to log off from ICCF. When specified, an ICCF user only has to enter **CUI** from the ICCF command line, from the ICCF editor command line or from a pseudo partition when a READ is pending to gain access. Perform the following to enable this feature:

1. Specify **YES** in the ICCF interface field on the System Options Panel (CUI-1000).
2. Review the ICCF interface system requirements in this guide.

Utilizing XFCS

Some products running under CAICUI use the External Function Control System (XFCS), a system that provides a focal point of function processing options common to many CA products. These options control the amount of storage that XFCS uses to process the function requests. See product-specific installation guides for XFCS requirements.

Defining a User Identification Method

All users of the CUI transaction must be defined to the system in the CAICUI Product Control data set. CAICUI does not allow an undefined user to access any portion of the CUI transaction.

Note: For information about backing up the Product Control data set, see the appendix “Data Set Backup Procedures.”

System Administrators specify what type of user identification method will be used by the CUI transaction (see the User Identification field description following the System Options Panel (CUI-1000) for details).

After the method of user identification has been determined, System Administrators must also define user profiles and can optionally define command table profiles for every user. These two system options are briefly described in the following sections.

Defining User Profiles

User profiles **must** be created for every user of the CUI transaction. They define users to the CAICUI Product Control data set and also define what restrictions (if any) apply to accessing other CA solutions or services running under the CUI transaction. For example, specifying that a user is a CAICUI System Administrator or can overtype fields on a selection panel determines what product panels can be viewed or what modifications can be made.

User profiles are defined to CAICUI on the User Profile Panel (CUI-2200), and include basic information about a user, such as the user's name, ID, and the command table profile to be used by the user.

There are four ways to define user profiles to CAICUI. Just one, or a combination of these methods, can be used. However, at least one profile per user must be defined.

1. Every user has a unique CAICUI user ID and user profile.
2. Several users may share a CAICUI user ID, but a unique user profile must be defined for each user sharing that user ID.
3. Every user has a unique user ID (such as a CA-TOP SECRET user ID or a CICS terminal ID) but shares a single CAICUI user ID. Shared CAICUI user IDs are defined generically and must all begin with the same letters.
4. All users without unique CAICUI user IDs are automatically assigned to a default CAICUI user ID. A default CAICUI user ID is defined to CAICUI by a System Administrator, or the hard-coded system default user ID, \$DEFAULT, is used.

Defining Command Table Profiles

Every user defined to the CAICUI Product Control data set can be assigned a command table profile. A command table profile contains all of the commands that are available to the user every time he or she initiates a CAICUI session.

You can also use command table profiles to:

- Create user-defined long and short commands
- Assign commands to PF keys
- Define what text will appear in the help lines that are displayed at the bottom of all CAICUI panels
- Define a default panel to be displayed immediately after starting CAICUI
- Execute any valid CAICUI commands

Command table profiles are defined and maintained only by CAICUI System Administrators using a full panel editor on the Command Table Profile Panel (CUI-3200). They can also be defined using the editor of your choice and loading them into the CAICUI Product Control data set using the database utility CACCDBU0. Please refer to the "Batch Product Control Database Utility -- CACCDBU0" appendix in this guide for details on using CACCDBU0 and to the "CAICUI in Command Mode" section of this chapter for a complete description of all available commands.

This chapter presents a basic overview on using and accessing CAICUI and CAIHELP. The common characteristics detailed in this chapter are what CAICUI uses to provide a common method of use and a standard look for all of its compliant products and services. Therefore, this chapter also serves as a reference for using all CAICUI-compliant products and services.

This chapter describes how to:

- Start the CUI transaction
- Navigate through CAICUI-compliant panels
- Request and use CAIHELP
- Exit CAIHELP
- Exit the CUI transaction

Starting the CUI Transaction

The CUI transaction can be invoked from the following environments:

- CICS

Start the CUI transaction by entering the CUI transaction ID at a CICS terminal. The default transaction ID is CUI, but it may have been changed by a System Administrator.

- ICCF

If the ICCF interface feature has been installed, the CUI transaction can be invoked from the ICCF environment by typing **CUI** on the ICCF command line, the ICCF editor command line or the ICCF pseudo partition command line and pressing Enter.

- VM

The CUI transaction is started from the VM environment by executing the CCUI module, which invokes the CUI Logical Device facility (CUILDEV).

If using a signon method other than the CAICUI prompt method, you can force the CUI transaction to prompt for a user ID and password by entering **CUI SIGNON** when starting the CUI transaction.

To execute a command immediately after the signon process is complete, enter a valid CAICUI command or menu number following the CUI transaction ID. It executes immediately after session initiation is complete.

If any problems occur, contact a System Administrator for specific information about your signon process. You can terminate the signon process by pressing PF3/PF15 or PF12/PF24.

If the CUI transaction is unable to determine the user ID from other system information, such as your CA-Top Secret user ID, the User Signon Panel is displayed. Enter a user ID and password and press Enter to initiate the transaction and proceed with the signon process.

CUI-X001	User Signon Panel				CAICUI
====>					
CCCCC	AAAAAAA	IIIIIIIII	CCCCC	UUU UU	IIIIIIIII
CCCCCCC	AAA AAA	III	CCCCCCC	UUU UU	III
CCCC CC	AAA AAA	III	CCCC CC	UUU UU	III
CCC	AAAAAAA	III	CCC	UUU UU	III
CCC	AAA AAA	III	CCC	UUU UU	III
CCCC CC	AAA AAA	III	CCCC CC	UUU UU	III
CCCCCCC	AAA AAA	III	CCCCCCC	UUUU UU	III
CCCCC	AAA AAA	IIIIIIIII	CCCCC	UUUUUU	IIIIIIIII
Computer Associates International, Inc. - Common User Interface					
User ID:			Password:		
PF 3/15=Exit			PF 12/24=Exit		

Primary Selection Panel (CUI-MENU)

After you have successfully signed on to CAICUI, the Primary Selection Panel (CUI-MENU) is displayed. It lists all of the options available to the signed on user within the CUI transaction. A System Administrator defines this panel for each user so the panel displayed may vary from user to user.

CUI-MENU	Primary Selection Panel				CAICUI
====>					
Enter desired option number or any valid command and press the ENTER key.					
1. CUI Session Status Selection					
2. CUI Maintenance					
3. Event Notification Selection					
4. Event Notification Maintenance					
1=Help	2=	3=Quit	4=	5=	6=
7=Backward	8=Forward	9=	10=	11=	12=Exit

To select a menu option, you can either enter the desired menu number and press Enter, or tab down to the desired option and press Enter.

Note: Please remember that the Primary Selection Panel will vary from user to user; the above panel is just an example of the options that may appear on your menu.

If a product or option is selected that is improperly installed, the following panel is displayed. Contact a System Administrator for assistance.

```

CUI-X002                      Command Processing Error                      CAICUI
====>
  AUDIT DISPLAY ARCHIVEMAIN
  The above command cannot be processed at this time. Check to see if
  the product selected is properly installed.
  Enter a valid command and press the ENTER key or QUIT to exit.
1=Help      2=          3=Quit    4=          5=          6=
7=          8=          9=          10=         11=         12=Exit
  
```

Common Panel Characteristics

All CAICUI-compliant panels share the following features:

```

CUI-MENU                      Primary Selection Panel                      CAICUI
====>
  Enter desired option number or any valid command and press ENTER:

                                1. CUI Session Status Selection
                                2. CUI Maintenance
                                3. Event Notification Selection
                                4. Event Notification Maintenance

1=Help      2=          3=Quit    4=          5=          6=
7=Backward  8=Forward  9=          10=         11=         12=Exit
  
```

Panel ID (corresponds to the menu number or path)

Panel title

Product/service name

Command line (used to enter menu numbers and long commands)

Message line (displays all error, warning and informational messages)

Main body

Help lines (normally display PF key settings, but can contain any information set by a System Administrator)

Navigating CAICUI-Compliant Panels

Three methods can be used to transfer from one CAICUI-compliant panel to another:

- Menu options and prompts
- Direct transfer
- Fastpath selection

Menu Options and Prompts

To use this method, type the menu number of the desired option on the command line and press Enter. If any options require additional information, another menu or prompt panel is displayed. Enter the additional information and press Enter again.

When finished with the selected function, type **QUIT** and press Enter, or press PF3/PF15 to return to the previous panel.

Direct Transfer

Type a valid long command on the command line and press Enter to directly transfer to another panel. For example, typing **CUI QUERY USERS** on the command line and pressing Enter transfers you to the Signed On Users Panel (CUI-S410).

Long commands are discussed in detail in the "CAICUI in Command Mode" chapter of this guide.

Fastpath Selection

Fastpath commands can also be used to transfer directly to a specific panel. Enter the Primary Selection Panel menu number of the branch you wish to select, prefixed by an equal sign. Follow this number with a group of integers separated by periods. These numbers select a panel within the branch already selected by the first digit in the command and execute the various options available on that panel.

For example, entering the fastpath command **=1.3** transfers you to the Short Commands Panel (CUI-S300), assuming that 1 is CUI Session Status Selection on the Primary Selection Panel; .3 selects the Short Commands Panel from the Session Status Selection Panel. Entering **=2.2.2** transfers you to the User Profile Panel (CUI-2200), assuming that 2 is CUI Maintenance on the Primary Selection Panel; the next two numbers, .2.2, select the User Profile Panel from the CUI Maintenance Panel.

Fastpath selection examples are provided in the "CAICUI in Command Mode" chapter of this guide.

Unstacking Panels

The CUI transaction remembers the sequence in which panels are selected so you can use the QUIT command to redisplay the panel from which a panel transfer command was executed.

However, panels can become stacked many levels deep if panel transfer commands are used repeatedly without issuing intervening QUIT commands. Normally just as many QUIT commands would have to be entered to exit from the transaction.

To avoid this problem, enter **MENU** or **0** on the command line and press Enter. The Primary Selection Panel (CUI-MENU) is displayed, with all panels unstacked.

Program Function Keys

Program function (PF) keys can be assigned menu options or commands. When pressed, the PF keys are processed as if the assigned option or command had been entered on the command line.

The following set of default PF keys are supplied with CAICUI and take effect upon initialization:

PF Key	Default Command
PF1/PF13	HELP
PF3/PF15	QUIT
PF7/PF19	BAckward
PF8/PF20	FOrward
PF12/PF24	EXIT

The default PF keys defined to CAICUI and its compliant products and services are **panel-specific**; that is, they are specifically assigned to correspond to each panel's functions. For example, some panels do not scroll backward and forward and therefore are not supplied with PF keys PF7/PF19 (Backward) and PF8/PF20 (Forward). Panels that do not belong to a series are not assigned these PF keys. Every panel, however, is assigned PF keys PF1/PF13 (Help), PF3/PF15 (Quit) and PF12/PF24 (Exit).

Although these PF key settings are hard-coded as defaults, they can be changed by the user or a System Administrator at any time during the session, either for the entire system or for a specific panel.

Setting PF keys is discussed in the "CAICUI in Command Mode" chapter of this guide.

The Clear and PA Keys

The Clear key and all PA keys perform two special functions:

1. Clear all pending error conditions from the panel currently displayed.
2. Redisplay the panel with the most current valid information.

There are a number of panels that cannot be exited if any pending error conditions exist -- the Clear key or a PA key can be used to clear these pending error conditions.

Some PA keys can be defined to CICS to perform special functions, such as printing a hardcopy of a panel. If so defined, they are not processed by the CUI transaction.

Commands

Long and short commands are supplied with CAICUI for use by the CUI transaction and its compliant products and services. Additionally, a System Administrator can create user-defined long and short commands.

Long Commands

Long commands are supplied with CAICUI to perform a variety of functions. All long commands must be entered from the command line and belong to one of the following categories:

Type	Description
Global	Can be issued from any panel. Control is transferred to a different panel. An example is the SELECT USERS command, which transfers the user to the Signed On Users Selection Panel (CUI-S400).
Immediate	Can be issued from any panel. Control remains with the current panel. Immediate commands set control information or affect some component of the system. An example is the SET PFKEY command, which sets a PF key to perform a particular function but does not transfer the user to a different panel.
Local	Can be issued only from a specific panel and affects only that panel. For example, scrolling commands such as TOP, BOTTOM, FORWARD and BACKWARD are local commands.

A System Administrator is responsible for determining which long commands are available to specific users. All CAICUI long commands are detailed in the "CAICUI in Command Mode" chapter of this guide.

User-defined Long Commands

In addition to the long commands supplied with CAICUI, System Administrators can also create user-defined long commands. When creating a user-defined long command, the command itself is **not** altered. A System Administrator simply defines new commands (usually abbreviated) that are equivalent to entering internal long commands.

For example, a System Administrator may create a user-defined long command called CM to perform the same function as the internal, CAICUI-supplied long command, CUI MENU. The CUI MENU command itself is not altered in any way, but a new way to execute the command is defined to the system.

A System Administrator is responsible for defining long commands for every user and should be consulted for details and command usage. All user-defined long commands available to the user currently signed on to the CUI transaction are displayed on the Long Commands Panel (CUI-S200).

Short Commands

A number of short commands are also provided with CAICUI to perform certain functions. They are **panel-specific**, that is, can be used only from the panel for which they are documented, and must be entered in the short command area provided on the panel. These short commands cannot be altered in any way. Two examples are DSP and DEL, which display or delete records on directory panels. Not all products make use of short commands.

User-defined Short Commands

User-defined short commands are special commands created by a System Administrator to perform specific functions. They must be entered in the short command area on selection panels and can perform a variety of functions, such as releasing, holding, altering and viewing jobs. Not all products make use of user-defined short commands.

A System Administrator is responsible for defining short commands for every user and should be consulted for details and command usage. All user-defined short commands available to the user currently signed on to the CUI transaction are displayed on the Short Commands Panel (CUI-S300).

Selection and Relation Fields

Certain CAICUI-compliant products and services feature panels from which a particular item or group of items can be selected for display. These panels contain selection and relation fields, both of which can be used to enter data that is **specific to** the desired item or group of items. When this information is received, a browse of the current or specified data set is initiated, searching from the first to last record in the data set for only those entries that match the specified data. These entries are then displayed on a directory panel.

Relation fields generally accompany selection fields and are described in detail in the "How to Use Relation Fields" section in this chapter.

How to Use Selection Fields

There are two types of panels that use selection fields. Depending on the type of panel used, selection fields look and function differently. These panels, and how to use the selection fields contained on them, are described as follows. Examples of both types appear in the 'Sample Panels' section in this chapter.

- **Selection panels**

On a selection panel, use the fields labeled "Selection" to enter information that is specific or unique to a desired item or group of items. After you press Enter, a directory panel is displayed that contains only those records that match the specified data.

If you press Enter on a selection panel without specifying any information, a directory panel containing all of the records in the current data set is displayed.

The information that is entered in the selection fields of a selection panel is displayed in the selection fields at the bottom of the resulting directory panel. As well as serving as a reminder of what data was used to create the list, these fields can be overtyped to start another browse for different or more specific criteria.

- **Directory panels**

Directory panels display a list of records contained in a specific data set. They also feature unlabeled selection fields at the bottom of the panel. These unlabeled fields (noted in the directory panel in the following "Sample Selection and Directory Panels" section) correspond to the columns of fields displayed above them. Use the top, shorter fields to enter logical relation(s) and the longer fields below them to specify selection criteria.

The selection fields on a directory panel may or may not already contain data. They may, for example, contain the information that was specified on the preceding selection panel and would therefore serve as a reminder of the criteria that was used to create the list. If the directory panel was displayed by default (that is, if you pressed Enter on a selection panel without specifying any information), the fields are blank.

In either case, you can enter or overwrite data in the unlabeled selection fields at the bottom of the panel. This in effect changes the selection criteria and starts a browse of the current or specified data set for the newest data. A new directory panel is displayed that contains records that are specific to the newest selection criteria.

How to Use Relation Fields

Relation fields are provided with most selection fields and are used to further limit the data for which the browse is being performed. For example, if you enter a date in a selection field and also enter GT or > in its corresponding relation field, the resulting directory panel displays only those records that contain dates that are more recent (or "greater than") the date specified. If you entered NE or ^= instead, the resulting panel would display only those records that **do not** contain (or are "not equal to") that date.

When you specify a relation with a selection field, you are browsing for **two** records that satisfy sets of criteria, as specified in both the selection and the relation fields.

The following chart lists all available relations. If you do not enter a relational abbreviation or symbol, an equal relation is assumed.

Abbreviation	Symbol	Relation
EQ	=	Equal to the selection criteria.
NE	^=	Not equal to the selection criteria.
LT	<	Less than the selection criteria.
GT	>	Greater than the selection criteria.
LE	<=	Less than or equal to the selection criteria.
GE	>=	Greater than or equal to the selection criteria.

For example, specifying the relation **GT** or **>** with a selection field limits selection to all entries that are **greater than** the data entered in the selection field. If 0900 (9:00 a.m.) was specified as a time in a selection field and the specified relation was GT or >, only records with times that are **greater than** 0900 would be displayed.

Sample Selection Panel

AUDT-1000		AUDIT Data Set Browse Selection		CAIAUDIT
====>				
Enter the desired selection criteria and press the ENTER key.				
CAUDPCn:	Relation	Selection	Specify Data Set to Browse (1,2)	
Product:	—	—	Product code	
Event:	—	—	Event code	
Date:	—	—	Date of event (MMDDYY)	
Time:	—	—	Time of event (HHMMSS)	
Userid:	—	—	User identification	
Facility:	—	—	Facility identification	
Severity:	—	—	Severity code	
Name:	—	—	Name identification	
Misc:	—	—	Miscellaneous	
CPU:	—	—	Relative CPU number	
1=Help 2= 3=Quit 4= 5= 6=				
7= 8= 9= 10= 11= 12=Exit				

Sample Directory Panel

AUDT-1100		AUDIT Data Set Directory - All Products							CAIAUDIT		
====>											
Cmd	Date	Time	Prod	Evnt	User	Fac	ID	Sev	Name	CPU	Miscellaneous
___	07/19/92	13:27:17	CASS	MSG	SSCHDUSR	TESTFAC1	I		GENJNAME	00	TEST JOB
___	07/19/92	13:27:17	CASS	CMS	USRSSCHD	FAC1TEST	I		JNAMEGEN	00	<< OTHER COMM
___	07/19/92	13:27:17	CASS	CMS	USERREC3	FAC1REC3	W		SALEPRIC	00	SALE PRICE \$1
___	07/19/92	13:27:17	CASS	CMS	USERREC4	FAC1REC4	W		RECORD04	00	20 BYTES OF C
___	07/19/92	13:27:17	CASS	MSG	SSCHDUSR	TESTFAC1	I		GENJNAME	00	TEST JOB
___	07/19/92	13:27:17	CASS	CMS	USRSSCHD	FAC1TEST	I		JNAMEGEN	00	<< OTHER COMM
___	07/19/92	13:27:17	CASS	CMS	USERREC3	FAC1REC3	W		SALEPRIC	00	SALE PRICE \$1
___	07/19/92	13:27:17	CASS	CMS	USERREC4	FAC1REC4	W		RECORD04	00	20 BYTES OF C
___	07/19/92	13:27:17	CASS	MSG	SSCHDUSR	TESTFAC1	I		GENJNAME	00	TEST JOB
___	07/19/92	13:27:17	CASS	CMS	USRSSCHD	FAC1TEST	I		JNAMEGEN	00	<< OTHER COMM
___	07/19/92	13:27:17	CASS	CMS	USERREC3	FAC1REC3	W		SALEPRIC	00	SALE PRICE \$1
___	07/19/92	13:27:17	CASS	CMS	USERREC4	FAC1REC4	W		RECORD04	00	20 BYTES OF C
___	07/19/92	13:27:17	CASS	MSG	SSCHDUSR	TESTFAC1	I		GENJNAME	00	TEST JOB
___	07/19/92	13:27:17	CASS	CMS	USRSSCHD	FAC1TEST	I		JNAMEGEN	00	<< OTHER COMM
==>	—	—	—	—	—	—	—	—	—	—	—
1=Help	2=	3=Quit	4=	5=	6=						
7=Backward	8=Forward	9=	10=	11=	12=Exit						

Selection/Relation Field Examples

- To display a list of all events logged to the current data set that occurred on July 19, 1992,
 1. Enter either **EQ** or **=** in the relation field that corresponds to the date selection field.
 2. Enter **071992** in the date selection field.

A directory panel listing all events that occurred on that day is displayed.

- To display a list of all events in the current data set that occurred **before** July 19, 1992, and are for CA-SYSTEM/SCHEDULER only:
 1. Enter **LE** or **<=** in the relation field that corresponds to the date selection field.
 2. Enter **071992** in the date selection field.
 3. Enter **EQ** or **=** in the relation field that corresponds to the product code selection field.
 4. Enter **CASS** in the product code selection field.

A directory panel listing all CA-SYSTEM/SCHEDULER events that occurred before July 19, 1992 is displayed.

Requesting and Using CAIHELP

CAIHELP is an online application developed for all CA VSE products and services. It provides immediate online assistance, presents detailed information about product and service facilities and explains all diagnostic messages.

Help for CAICUI-compliant products differs from online help for previous VSE products in several ways:

- Every field (or prompt) has its own help panel.
- Panel HELP panels are now 12 lines long and 56 characters across. Field HELP panels are eight lines long and 36 characters across.
- It is scrollable. Although there is a standard size and the size of the physical panel is therefore limited, there is no limit to the amount of information or number of panels that an individual help topic can contain. Users can simply scroll forward panel-by-panel until they reach the end of the information available on that topic.
- Help panels do not stack. If you select a help topic (for example, the online INDEX) while already in another help topic (for example, message HELP), you are transferred to the INDEX. When you quit or exit the INDEX, you do not return to message HELP but instead to the non-help product panel from which CAIHELP was first requested.

The following table describes the topics that are available within CAIHELP:

Topic	Description
Panel HELP	Explains how to use the panel for which help was requested and lists a menu of the panel's fields so that help for a specific field can be selected.
Field HELP	Presents a basic overview of a selected field and its requirements, if any.
Help with CAIHELP	Describes the different options available within CAIHELP.
Message HELP	Presents a brief explanation of all messages encountered when using CAICUI-compliant products and services.
INDEX	Provides a quick way to obtain help for any service panel.

CAIHELP Panel Hierarchy

CAIHELP panels are designed in a hierarchy and are arranged by topic. The five CAIHELP topics are designed in a tree structure. The four main branches -- Panel HELP, Message HELP, INDEX and Help with CAIHELP -- are equally accessible from each other (that is, you can get **to** any of them **from** any of them using the appropriate commands and panel IDs).

Field HELP, on the other hand, is accessible only from panel HELP. When in field HELP, you can either select another field HELP panel or return to the panel HELP from which it was requested. You cannot transfer to any other CAIHELP topics.

CAIHELP PF Keys and Commands

The following PF keys are provided with CAIHELP. If no PF keys are available, use the commands.

PF Key	Function
PF1/PF13	Call CAIHELP from any product panel or request help for CAIHELP while using CAIHELP.
PF3/PF15	Return to the last CAIHELP panel accessed.
PF7/PF19	Scroll the panel display backward one panel.
PF8/PF20	Scroll the panel display forward one panel.
PF12/PF24	Exit from CAIHELP (return to a non-CAIHELP panel).

Command	Function
BAckward nnn	Scroll the panel display backward nnn panels.
BOTtom	Scroll to the bottom of the panel display.
DOWn nnn	Scroll the panel display down nnn lines.
EXIT	Exit from CAIHELP (return to a non-CAIHELP panel).
FORward nnn	Scroll the panel display forward nnn panels.
HELP	Call CAIHELP from any product panel or request help for CAIHELP while using CAIHELP.
HELP panelid	Request help for a specific panel, identified by panel ID.
HELP MSG_msgid	Transfer to a specific message HELP panel, identified by message ID.
QUIT	Quit the current CAIHELP panel and return to the previous CAIHELP panel.
SWITch INDex	Transfer to the panel INDEX.
TOP	Scroll to the top of the panel display.
UP nnn	Scroll the panel display up nnn lines.

CAIHELP Panels

This section provides sample CAIHELP panels and describes how to request and "move around" the various topics.

Panel HELP provides a brief overview of the panel for which help was requested. It includes such information as the purpose of the panel, required prompts, what to enter and any special conditions. All of the panel's fields are listed on a menu from which they can be selected for help.

You can request panel HELP in one of three ways:

1. While on a product panel, press PF1/PF13 or type **HELP** on the command line and press Enter to receive help for that product panel.
2. While on a product panel, type **HELP panelid** on the command line and press Enter to get help for a specific product panel (specified by panel ID).
3. While in CAIHELP, you can type **SWI IND** on the command line and press Enter to switch to the online panel INDEX. From there, simply tab down to the panel ID of the panel from which you want help and press Enter.

There are two types of panel HELP: one that is complete on its own and does not branch into field HELP and another that has related field HELP and contains a menu of available field HELP topics. An example of a panel HELP panel that branches into field HELP is sequentially displayed on the following pages.

You can scroll through a panel HELP display a full panel length using PF7/PF19 (Backward) and PF8/PF20 (Forward), or line-by-line using the UP and DOWN commands. To exit from panel HELP, press PF3/PF15 (Quit) or PF12/PF24 (Exit) or type **QUIT** or **EXIT** on the command line and press Enter.

Using CUI in Prompt Mode

The following sections explain how to use the CUI transaction in prompt mode and shows you how to:

- Display the status of all sessions running under CAICUI
- Select another session
- Display current PF key settings
- Display available user-defined long and short commands
- Display a list of signed on users
- Enter commands from an extended command line

Primary Selection Panel (CUI-MENU)

This panel lists all the options available to a particular user in the CUI transaction. A System Administrator is responsible for defining this panel for each user.

CUI-MENU ====>	Primary Selection Panel	CAICUI
Enter desired option number or any valid command and press ENTER:		
1. CUI Session Status Selection		
2. CUI Maintenance		
3. Event Notification Selection		
4. Event Notification Maintenance		
1=Help	2=	3=Quit
7=Backward	8=Forward	9=
		10=
		11=
		12=Exit

To select a menu option, enter the desired menu number and press Enter, or tab down to the desired option and press Enter.

Session Status Selection Panel (CUI-S000)

This panel displays general information about the status of the CAICUI session currently running as well as a list of all CAICUI sessions defined to the current user.

CUI-S000		Session Status Selection		CAICUI	
====>					
User ID:	S	Genlevel:	149208CGN00		
Term ID:	V77A	Session 1:	CUI		
Help:	ON	Session 2:			
Case:	MIXED	Session 3:			
Date Format:	MMDDYY	Session 4:			
Stack Level:	0	Session 5:			
Cmd Profile:	RSAPROF	Session 6:			
LRecord:	OFF	Session 7:			
CC:	OFF	Session 8:			
Zone:	1- 10				
Columns:	20- 50, 80- 85				
Enter Selection ====> _					
P = Current PF key settings					
L = Available user-defined LONG commands					
S = Available user-defined SHORT commands					
U = User signon selection					
1=Help	2=	3=Quit	4=	5=	6=
7=	8=	9=	10=	11=	12=Exit

This is a display-only panel, but you can optionally select to enter one of the one-letter options in the Enter Selection ====> _ field to display additional session status information. You can also toggle to another CAICUI session.

Another CAICUI session is selected from this panel by tabbing to the desired session number or name and pressing Enter. This enables a user to toggle between multiple CAICUI sessions: if a number of sessions are running under CAICUI at the same time, a user can go back and forth between them without having to quit any of them.

Session names are user-defined, and the session currently being used is displayed in highlighted text. See the SESSION, SET TOGGLE and TOGGLE command descriptions in Using CUI in Command Mode for more information.

The field descriptions, relating to the above panel, are on the following page.

Fields	Descriptions
Userid	The ID of the user who is signed on to the current session.
Termid	The ID of the terminal being used for the current session.
Genlevel	The current genlevel of CAICUI. The genlevel number is required when communicating with CA Technical Support (http://ca.com/support).

Fields	Descriptions
Help	The current status of the help lines option, applicable only to certain CA products.
Case	Mixed Displays the text in upper and lower case.
	Upper Displays the text in upper case only.
Date format	The format in which all dates will be displayed, either in month-day-year or day-month-year format.
Stack level	The number of panels the user can stack without using the QUIT command.
CMD profile	The name of the command profile that is active.
Session n	The names and numbers assigned to any CAICUI sessions. The name is user-defined, and the number is assigned sequentially by CAICUI.

The following fields can be used by individual products when displaying data. It is dependent upon the CA product to take advantage of these fields.

LRecord	This field displays the logical record option. When LRecord is off, the displayed record number is the actual record number of the first record displayed on the panel. The record count includes special control information. When Lrecord is on, the displayed record number will be the logical line number of data, not including special control characters.
CC	This field displays the current CC setting: On Carriage control characters are to be displayed in column one. Off No carriage control characters are to be displayed.
Zone	This field displays the current zone setting. The zone controls what columns are used when searching a data file for a specific character string.
Columns	This field displays the current columns setting. It controls what columns are displayed on the panel.

PF Key Settings Panel (CUI-S100)

This panel displays the current program function PF key settings defined to the currently signed on user. It is a display-only panel.

CUI-S100	PF Key Settings					CAICUI
====>						
PF01	HELP					
PF02						
PF03	QUIT					
PF04						
PF05						
PF06						
PF07	BACKWARD					
PF08	FORWARD					
PF09						
PF10						
PF11						
PF12	EXIT					
PF13	HELP					
PF14						
PF15	QUIT					
PF16						
PF17						
1=Help	2=	3=Quit	4=	5=	6=	
7=Backward	8=Forward	9=	10=	11=	12=Exit	

Local Commands

Command	Function
BAckward nnn	Scroll backward nnn panels. The default is 1.
BOttom	Scroll to the bottom of the panel display.
DOwn nnn	Scroll down nnn lines. The default is 1.
FOrward nnn	Scroll forward nnn panels. The default is 1.
TOP	Scroll to the top of the panel display.
UP nnn	Scroll up nnn lines. The default is 1.

Long Commands Panel (CUI-S200)

This panel displays the user-defined long commands available to the currently signed on user. It is a display-only panel, showing the command keywords that should be entered on the command line and the internal commands that they actually generate.

CUI-S200		Long Commands			CAICUI
====>					
STAT		CUI QUERY STATUS			
PF		CUI QUERY PFKEYSETTINGS			
LONG		CUI QUERY LONGCOMMANDS			
SHORT		CUI QUERY SHORTCOMMANDS			
DOPT		CUI DISPLAY OPTIONS			
DUD		CUI DISPLAY USERDIRECTORY			
DUP		CUI DISPLAY USERPROFILE+,&1.			
DUM		CUI DISPLAY USERMENU+,&1.			
DCD		CUI DISPLAY CMDDIRECTORY			
DCP		CUI DISPLAY CMDPROFILE+,&1.			
1=Help	2=	3=Quit	4=	5=	6=
7=Backward	8=Forward	9=	10=	11=	12=Exit

Local Commands

Command	Function
BAckward nnn	Scroll backward nnn panels. The default is 1.
BOtTom	Scroll to the bottom of the panel display.
DOwn nnn	Scroll down nnn lines. The default is 1.
FOrward nnn	Scroll forward nnn panels. The default is 1.
TOP	Scroll to the top of the panel display.
UP nnn	Scroll up nnn lines. The default is 1.

Short Commands Panel (CUI-S300)

This panel displays the user-defined short commands available to the currently signed on user. It is a display-only panel, showing the command keywords that should be entered on the command line and the internal commands that they actually generate.

Please note that not all products make use of user defined short commands.

CUI-S300	Short Commands		CAICUI
====>			
RAPS-1010 CL	ALTER RDR,&JNA.,&JNO.,CLASS=&1.		
RAPS-1010 DEL	DELETE RDR,&JNA.,&JNO.		
RAPS-1010 DI	ALTER RDR,&JNA.,&JNO.,DISP=&1.		
RAPS-1010 DSP	VIEW RDR,&JNA.,&JNO.		
RAPS-1010 HLD	HOLD RDR,&JNA.,&JNO.		
RAPS-1010 PR	ALTER RDR,&JNA.,&JNO.,PRI=&1.		
RAPS-1010 REL	RELEASE RDR,&JNA.,&JNO.		
RAPS-1010 SHW	SHOW RDR,&JNA.,&JNO.		
RAPS-1010 SY	ALTER RDR,&JNA.,&JNO.,SYSID=&1.		
Lcmd	DLA D LST		
+ RAPS-1020 CL	ALTER LST,&JNA.,&JNO+.,&JSF.,CLASS=&1.		
+ RAPS-1020 C	ALTER LST,&JNA.,&JNO+.,&JSF.,COPY=&1.		
	RAPS-1020 SHW	SHOW LST,&JNA.,&JNO+.,&JSF.	
1=Help	2=	3=Quit	4=
7=Backward	8=Forward	9=	10=
			11=
			12=Exit

The detail for each command is broken down into 4 sections:

1. The panelid that this command is valid for. A panelid can be a full panelid or a generic panelid. An asterisk (*) denotes a generic panelid.
2. The actual short command that will be entered on the panel.
3. The internal command that will actually be generated.
4. If the literal Lcmd (long command) appears, this denotes that GROUP ON logic is in effect. Any short commands that follow that have a + literal preceding them, denote short commands that are part of this group. A user can only issue these short commands on the denoted panel if they have displayed the panel as a result of entering the long command that is defined next to the LCMD literal in column **B**.

Local Commands

Command	Function
Backward nnn	Scroll backward nnn panels. The default is 1.
BOTtom	Scroll to the bottom of the panel display.
Down nnn	Scroll down nnn lines. The default is 1.
Forward nnn	Scroll forward nnn panels. The default is 1.

Command	Function
TOP	Scroll to the top of the panel display.
UP nnn	Scroll up nnn lines. The default is 1.

Signed on Users Selection Panel (CUI-S400)

This selection panel creates a list of signed on users. You can select a specific user or group of users by entering information specific to the user or group in the Selection and Relation fields and press Enter. If no data is specified, all users currently signed on to CAICUI are displayed on the Signed On Users Panel (CUI-S410).

CUI-S400		Signed On Users Selection		CAICUI	
====>					
Enter the desired selection criteria and press the ENTER key.					
	Relation	Selection			
Userid:	—	_____		User Identification	
Termid:	—	_____		Terminal Identification	
Applid:	—	_____		Application Identification	
1=Help	2=	3=Quit	4=	5=	6=
7=	8=	9=	10=	11=	12=Exit

Fields	Descriptions
Userid	Specify the ID(s) of the user(s) you wish to display.
Termid	Specify the terminal ID(s) of the user(s) you wish to display.
Applid	Specify the application ID(s) of the user(s) you wish to display.

Relations

Enter either the relation's abbreviation or equivalent symbol:

Abbreviation	Symbol	Relation
EQ	=	Equal to the selection criteria.
NE	^=	Not equal to the selection criteria.
LT	<	Less than the selection criteria.
GT	>	Greater than the selection criteria.
LE	<=	Less than or equal to the selection criteria.
GE	>=	Greater than or equal to the selection criteria.

Signed on Users Panel (CUI-S410)

This panel displays one line of information for every user who is currently signed on to CAICUI and who is defined to the CAICUI Product Control data set. It is a display-only panel, but you can use the selection and relation fields at the bottom of the panel to display a different list of signed on users.

CUI-S410 Signed On Users					CAICUI
====>					
Cmd	Userid	Termid	Applid	User Name	
—	CSA	V77A	ICCF17	CUI SYSTEM ADMINISTRATOR	
—	BILL01	V77B	CICS17	BILL SCHULZ	
—	SYSMAN	V77C	SYSCICS	SAM CURTIN	
—	OPCAT	V77D	OPERA17	CATHY STEINWAY	
—	—	—	—		
==>	_____	_____	_____		
1=Help	2=	3=Quit	4=	5=	6=
7=Backward	8=Forward	9=	10=	11=	12=Exit

Fields	Descriptions
Cmd	Use this area to enter short commands. At this release, no short commands are available for use on this panel.
Userid	The ID(s) of the user(s) currently signed on to CAICUI. Also a selection field.
Termid	The terminal ID(s) of the user(s) currently signed on to CAICUI. Also a selection field.

Fields	Descriptions
Applid	The application ID(s) of the user(s) currently signed on to CAICUI. Also a selection field.
User Name	The name(s) of the user(s) currently signed on to CAICUI.

Local Commands

Command	Function
BACkward nnn	Scroll backward nnn panels. The default is 1.
BOTtom	Scroll to the bottom of the panel display.
DOwn nnn	Scroll down nnn lines. The default is 1.
FORward nnn	Scroll forward nnn panels. The default is 1.
TOP	Scroll to the top of the panel display.
UP nnn	Scroll up nnn lines. The default is 1.

Relations

Enter either the relation's abbreviation or equivalent symbol:

Abbreviation	Symbol	Relation
EQ	=	Equal to the selection criteria.
NE	^=	Not equal to the selection criteria.
LT	<	Less than the selection criteria.
GT	>	Greater than the selection criteria.
LE	<=	Less than or equal to the selection criteria.
GE	>=	Greater than or equal to the selection criteria.

Command Mode Panel (CUI-S600)

This panel allows you to enter any valid CAICUI commands from an extended command line, facilitating the processing of long commands.

This panel is displayed by issuing the CAICUI Long Command CMDMODE (see the chapter titled "CAICUI in Command Mode" for more information).

CUI-S600 ====>	Command Mode	CAICUI
Command to be Processed		
Feedback Messages		
1=Help 7=	2= 8=	3=Quit 9=
4= 10=	5= 11=	6= 12=Exit

Fields	Descriptions
Command to be Processed	Use this area to enter any valid CAICUI command.
Feedback Messages	Displays any informational or error messages received as a result of a command entered in the Command to be Processed field.

Primary Selection Panel (CUI-MENU)

This panel lists all the functions available to a particular user in the CUI transaction. System Administrators are responsible for defining this panel for each user.

CUI-MENU		Primary Selection Panel		CAICUI	
====>					
Enter desired option number or any valid command and press ENTER:					
1. CUI Session Status Selection 2. CUI Maintenance 3. Event Notification Selection 4. Event Notification Maintenance					
1=Help	2=	3=Quit	4=	5=	6=
7=Backward	8=Forward	9=	10=	11=	12=Exit

To select a menu option, enter the desired menu number and press Enter, or tab down to the desired option and press Enter.

CUI Maintenance Panel (CUI-0000)

This panel displays the various maintenance options available within the CUI transaction. It is available only to System Administrators and is displayed by:

- Selecting its menu number on the Primary Selection Panel (CUI-MENU)
- Entering **CUI MENU** from anywhere within the CUI transaction
- Typing fastpath **=X.0** (X being the numeric option for CUI Maintenance on the Primary Selection Panel (CUI-MENU))

CUI-0000		CUI Maintenance		CAICUI	
====>					
Enter desired option number or any valid command and press the ENTER key.					
1. System Options					
2.1 User Directory					
2.2 User Profile					
2.3 User Profile Menu Selection/Security					
3.1 Command Table Directory					
3.2 Command Table Profile					
1=Help	2=	3=Quit	4=	5=	6=
7=	8=	9=	10=	11=	12=Exit

To select a menu option, enter the desired option number and press Enter, or tab down to any option number and press Enter.

The following table summarizes what each menu option is used for:

Select	To
1. System Options	Display the system options and features that have been defined for CAICUI.
2.1 User Directory	Display a directory panel containing the name, type and user ID of every user profile defined to CAICUI.
2.2 User Profile	Display in detail the user profile that has been defined for a specific CAICUI user.
2.3 User Profile Menu Selection/Security	Display the main menu that has been defined for a specific CAICUI user.
3.1 Command Table Directory	Display a directory panel containing the ID and description of every command table profile defined to CAICUI.
3.2 Command Table Profile	Display in detail the command table profile that has been defined for a specific CAICUI user.

System Options Panel (CUI-1000)

This panel displays the system features and options currently defined for CAICUI. You can display this panel by:

- Selecting its menu number on the CUI Maintenance Panel (CUI-0000)
- Entering **CUI DISPLAY OPTIONS** from anywhere within the CUI transaction
- Typing fastpath **=X.1** (X being the numeric option for CUI Maintenance on the Primary Selection Panel (CUI-MENU))

You can overwrite any of the fields on this panel to modify CAICUI system options. Recycle CICS to enable the ICCF interface and re-IPL for the XFCS options to take effect. All other options take effect immediately.

CUI-1000		System Options		CAICUI	
====>					
ICCF Interface:		NO	(YES, NO)		
User Identification:		CUI	(CICSOPID, CICSTERM, CUI, USER, SSF)		
Date Format:		1	(1=MMDDYY, 2=DDMMYY)		
XFCS Number of Subtasks:		01	(1 - 32 Subtasks)		
XFCS Number of Connections:		0001	(1 - 8192 Connections)		
1=Help	2=	3=Quit	4=	5=	6=
7=	8=	9=	10=	11=	12=Exit

The field descriptions, relating to the above panel, are on the following page(s).

Fields	Descriptions
ICCF Interface	Specify whether to enable the ICCF interface. Choose one of the following:
	YES Enable the ICCF interface.
	NO Default. Do not enable the ICCF interface.
User Identification	Specify the user identification method to be used by the CUI transaction. Choose one of the following:
	CICSOPID Use the three-character CICS operator ID as the CAICUI user ID. It is set when the user signs on to CICS using the IBM supplied CSSN transaction.
	CICSTERM Use the four-character CICS terminal ID of the current user as the CAICUI user ID.
	SSF Call the Standard Security Facility (CAISSF) to provide the current user's CA-TOP SECRET or CA-ACF2 user ID.
	CUI Default. Instruct the CUI transaction to prompt for a user ID and password.
	USER Call a user-written Signon Exit program to provide the user ID.
Date Format	Specify the format in which all dates will be displayed and processed throughout the CAICUI session and its applications. Choose one of the following:
	1 Default. MMDDYY (month-day-year format).
	2 DDMMYY (day-month-year format)
XFCS subtasks	Specify the number of subtasks XFCS should attach in the CICS partition currently running. It can be any number from 1 to 32. The default is 1.
XFCS connections	Specify the number of subtask connections that XFCS should make. It can be any number from 1 to 8192. The default is 1.

User Directory Panel (CUI-2100)

This panel displays one line of information for every user profile defined to CAICUI. It is displayed by:

- Selecting its menu number on the CUI Maintenance Panel (CUI-0000)
- Entering **CUI DISPLAY USERDIRECTORY** from anywhere within the CUI transaction
- Typing fastpath **=X.2.1** (X being the numeric option for CUI Maintenance on the Primary Selection Panel (CUI-MENU))

CUI-2100		User Directory		CAICUI	
====>					
Cmd	Type	Userid	Name		
___	USER	BETTY	BETTY OLSEN		
___	USER	CSA	CUI SYSTEM ADMINISTRATOR		
___	USER	DSA	CA-TOP SECRET ADMINISTRATOR		
___	USER	GARY	GARY DONOVAN		
___	USER	HARRY	HARRY NELSON		
___	USER	JOE	JOE REILLY		
___	USER	ROBERT	ROBERT SMITH		
___	USER	ROLAND	ROLAND CARTHEW		
___	USER	SAM	SAM GUINAN		
___	USER	SCOTT	SCOTT BROWN		
___	USER	STEVE	STEVE BERGER		
1=Help	2=	3=Quit	4=	5=	6=
7=Backward	8=Forward	9=	10=	11=	12=Exit

You can use this panel to:

- Add a new user profile
- Delete a user profile
- Display a user profile in detail
- Use local commands

The field descriptions for the above panel follow.

Fields	Descriptions
Cmd	Use this area to enter short commands.
Type	Displays the type(s) of the user profile(s) defined to the system.
Userid	Displays the user ID(s) or terminal ID(s) for whom the user profile(s) have been defined.
Name	Displays the name(s) of the user(s) for whom the user profile(s) have been defined.

Local Commands

Command	Function
ADD user ID	Add a new user profile and display the User Profile Panel (CUI-2200). If no user ID is specified, a blank User Profile panel is displayed.
BAckward nnn	Scroll backward nnn panels. The default is 1.
BOTtom	Scroll to the bottom of the panel display.
DOWn nnn	Scroll down nnn lines. The default is 1.
FORward nnn	Scroll forward nnn panels. The default is 1.
TOP	Scroll to the top of the panel display.
UP nnn	Scroll up nnn lines. The default is 1.

Short Commands

Command	Function
DEL	Delete the specified user profile. Enter DEL in the short command area on the same line as the profile to be deleted.
DSP	Display the specified user profile in detail. Enter DSP in the short command area on the same line as the profile to be displayed or if no other short commands have been entered, position the cursor anywhere on the line of the desired profile and press Enter.

User Profile Panel (CUI-2200)

This panel displays the user profile of a specific CAICUI user in detail. It is the first in a series of two panels and is displayed by:

- Selecting its menu number on the CUI Maintenance Panel (CUI-0000)
- Executing the DSP command on the User Directory Panel (CUI-2100)
- Entering **CUI DISPLAY USERPROFILE** from anywhere within the CUI transaction
- Switching backward or forward from the other panel in this series
- Typing fastpath **=X.2.2**(X being the numeric option for CUI Maintenance on the Primary Selection Panel (CUI-MENU))

If a user ID is entered with the menu number when selecting this panel directly, it is also displayed (for example, 2.2 CSA). If no user ID is specified, a blank panel is displayed.

CUI-2200		User Profile		CAICUI	
====>					
Userid: CSA		Type: USER	Name: CUI SYSTEM ADMINISTRATOR		
Signon password: INITIAL					
Default command table profile:		\$DEFAULT			
CUI system administrator:		YES	(YES, NO)		
Execute command table profiles:		YES	(YES, NO)		
Internal long command authorization:		YES	(YES, NO)		
Short command authorization:		YES	(YES, NO)		
Overtyping selection panel:		YES	(YES, NO)		
Bypass Main Menu on QUIT:		NO	(YES, NO)		
1=Help	2=	3=Quit	4=	5=Switch Backward	6=Switch Forward
7=	8=	9=	10=	11=	12=Exit

You can use this panel to:

- Update the displayed user profile
- Display another user profile
- Create a new user profile using the displayed profile as a model
- Use local commands

The field descriptions for the above panel follow.

Fields	Descriptions
Userid	Specify the user ID of the user whose profile you wish to display, update or create. If using the CUI user identification method, you must specify the 1 to 8 character user ID that the user must always enter when signing on to CAICUI. For any other user identification method, specify a unique user ID or a generic user ID. (A generic user ID is a 1 to 7 character string followed by an asterisk (*) and is shared by all users whose IDs begin with those common characters.) Once you have entered a user ID, CAICUI searches the Product Control data set for that user ID in the following order: 1. A user ID that is an exact match. 2. Any generic user ID containing a matching character string. 3. The \$DEFAULT user ID. If no user ID is found, the user is prompted for a user ID and password. You can enter a different user ID in this field at any time to display another user profile. If a user profile has already been defined to CAICUI for that ID, it is displayed. If not, a copy of the displayed user profile is created for that ID, using the existing profile as a model.
Type	Specify the type of the profile. The default is USER. This feature will be used in the future by other CA products.
Name	Specify the name of the user for whom this profile is to be created. It is treated as a comment by CAICUI and can contain any information.
Signon password	Specify the signon password of the user for whom this profile is to be created. If using the CUI user identification method, you should specify the 1 to 8 character signon password of the user.
Default command table profile	Specify the name of the command table profile to be executed every time the user initiates a CAICUI session. If not specified, or if the specified command table profile does not exist, no profile will be executed, and the user will be unable to execute any user-defined short commands.

Fields	Descriptions
CAICUI system administrator	Specify whether the user is also a System Administrator. Only users defined as System Administrators have access to the CAICUI maintenance panels. Choose one of the following: YES The user is a System Administrator. NO Default. The user is a normal user.
Execute command table profiles	Specify whether the user is authorized to use the EXECUTE and SET PROFILE commands. An authorized user can change command table profiles at any time during a session and load a new set of user-defined commands. An unauthorized user cannot change his command table profile but can still execute the default command table profile defined to him at any time during the session. Choose one of the following: YES The user can use the EXECUTE and SET PROFILE commands. NO Default. The user cannot use the EXECUTE and SET PROFILE commands.
Internal long command authorization	Specify whether the user is authorized to use CAICUI long commands for all products. An unauthorized user can use only the user-defined long commands defined to him. Normally a user is restricted from issuing internal long commands if command security is desired. Choose one of the following: YES The user can use internal long commands. NO Default. The user can use only user-defined long commands.
Short command authorization	Specify whether the user is authorized to use short commands on the queue file display panels. An authorized user can share command table profiles containing short commands with both authorized and unauthorized users. Choose one of the following: YES The user can use short commands. NO Default. The user cannot use short commands.

Fields	Descriptions
Overtyping selection panel	Specify whether the user can alter records by overtyping fields on directory type panels, such as the CA-RAPS POWER queue display panels. Not all directory panels support overtyping. Consult a product's documentation to determine if it supports this option. Choose one of the following: YES The user can overtype fields. NO Default. The user cannot overtype fields.
Bypass Main Menu on QUIT	Specify whether or not the QUIT command is to bypass the Primary Selection Panel. Choose one of the following: YES Bypass the Primary Selection Panel. NO Default. Do not bypass the Primary Selection Panel.

Local Commands

Command	Function
Backward nnn	Scroll backward nnn panels. The default is 1.
BOTtom	Scroll to the bottom of the panel display.
DOWn nnn	Scroll down nnn lines. The default is 1.
FORward nnn	Scroll forward nnn panels. The default is 1.
SWitch BAcKward	Switch backward to the previous panel level.
SWitch FORward	Switch forward to the next panel level.
TOP	Scroll to the top of the panel display.
UP nnn	Scroll up nnn lines. The default is 1.

Menu Selection/Security Panel (CUI-2300)

This panel displays the main menu defined for a specific user. The menu defines which products, or portions of products, the user can access and determines what is displayed on the user's Primary Selection Panel. It is second in a series of two panels and is displayed by:

- Selecting its menu number on the CUI Maintenance Panel (CUI-0000)
- Entering **CUI DISPLAY USERMENU** from anywhere within the CUI transaction

- Switching backward or forward from the other panel in this series
- Typing fastpath =**X.2.3** (X being the numeric option for CUI Maintenance on the Primary Selection Panel (CUI-MENU))

If a user ID is entered with the menu number when selecting this panel directly, it is also displayed (for example, 2.3 CSA). If no user ID is specified, a blank panel is displayed.

```

CUI-2300
====>
Menu Selection/Security
CAICUI

Userid: AUDIT      Type: USER      Name: AUDIT PROFILE - ADMINISTRATOR

Menu Number      Menu Panel ID      Product Admin.      Long Commands
                  (No/Yes)      (No/Yes)

001      AUDT-0000      NO      NO
002      AUDM-0000      NO      NO
003      CUI-5000      N/A      N/A
004      CUI-0000      N/A      N/A
005      _____      _____      _____
006      _____      _____      _____
007      _____      _____      _____
008      _____      _____      _____
009      _____      _____      _____
010      _____      _____      _____

1=Help      2=      3=Quit      4=      5=Switch Bwd      6=Switch Fwd
7=Backward      8=Forward      9=      10=      11=      12=Exit

```

You can use this panel to:

- Update the displayed main menu
- Display another user's main menu
- Use local commands

The field descriptions for the panel follow.

Fields	Descriptions
Userid	Specify the user ID of the user whose main menu you wish to display. A different user ID can be specified at any time to display the main menu defined for that user. However, if you request to display the main menu of a user not yet defined to CAICUI, you will receive an error message; main menus cannot be created for undefined users. Return to the User Profile Panel (CUI-2200) to define the user and then use this panel to define a main menu for the new user.
Type	Displays the type of user profile defined to the user. The default is USER.

Fields	Descriptions				
Name	Displays the name of the user whose main menu is displayed. It is treated as a comment by CAICUI and can contain any information.				
Menu Panel ID	Specify the panel ID of a specific product's main menu to correspond to the Menu Number next to it. You can overtype any of the panel IDs in this column to update a user's main menu. What is specified here determines what is displayed on the user's Primary Selection Panel. A user cannot access a product if its panel ID is not specified on this list. If no panel IDs are specified for a user, the user is unable to do anything within the CUI transaction. This list can be different for every user and can be in any order.				
Product Administrator	Specify whether or not the user is an administrator for this product. A N/A denotes that this field is not applicable. The default is NO. Note: This field may or may not be used by all products.				
Long Commands	Specify whether the user is authorized to issue internal long commands for this product. An unauthorized user can issue an internal command if YES has been specified for the field "Internal long command authorization" on panel CUI-2200. <table> <tr> <td>YES</td><td>The user can use internal long commands for this product</td></tr> <tr> <td>NO</td><td>Default. The user can issue the product's internal long commands only if YES has been specified for the field "Internal long command authorization" on panel CUI-2200. If not, only user-defined long commands can be executed.</td></tr> </table>	YES	The user can use internal long commands for this product	NO	Default. The user can issue the product's internal long commands only if YES has been specified for the field "Internal long command authorization" on panel CUI-2200. If not, only user-defined long commands can be executed.
YES	The user can use internal long commands for this product				
NO	Default. The user can issue the product's internal long commands only if YES has been specified for the field "Internal long command authorization" on panel CUI-2200. If not, only user-defined long commands can be executed.				

For a list of valid menu panel IDs for CAICUI and its services, see the appendix "Valid Menu Panel IDs."

Local Commands

Command	Function
BAckward nnn	Scroll backward nnn panels. The default is 1.
BOTtom	Scroll to the bottom of the panel display.
DOWn nnn	Scroll down nnn lines. The default is 1.

Command	Function
FOrward nnn	Scroll forward nnn panels. The default is 1.
SWitch BAcKward	Switch backward to the previous panel level.
SWitch FOrward	Switch forward to the next panel level.
TOP	Scroll to the top of the panel display.
UP nnn	Scroll up nnn lines. The default is 1.

Command Table Directory Panel (CUI-3100)

This panel displays one line of information for every command table profile defined to CAICUI. It is displayed by:

- Selecting its menu number on the CUI Maintenance Panel (CUI-0000)
- Entering **CUI DISPLAY CMDDIRECTORY** from anywhere within the CUI transaction
- Typing fastpath **=X.3.1** (X being the numeric option for CUI Maintenance on the Primary Selection Panel (CUI-MENU))

CUI-3100		Command Table Directory				CAICUI
====>						
Cmd	ID	Description				
---	\$DEFAULT	DEFAULT PROFILE - DO NOT ALTER				
---	JOEPROF	JOE'S PROFILE				
---	LONG	LONG COMMANDS				
---	MYTABLE	GBE'S TEST TABLE				
---	SHORT	SHORT COMMANDS				
---	TEST	TEST PROFILE				
1=Help	2=	3=Quit	4=	5=	6=	
7=Backward	8=Forward	9=	10=	11=	12=Exit	

You can use this panel to:

- Add a new command table profile
- Delete a command table profile
- Display a command table profile in detail
- Use local commands

The field descriptions for the above panel follow.

Fields	Descriptions
Cmd	Use this area to enter short commands.
ID	Displays the ID(s) of the command table profile(s) defined to the system.
Description	Displays the description(s) of the command table profile(s).

Local Commands

Command	Function
ADD command table profile ID	Add a new command table profile and display the Command Table Profile Panel (CUI-3200). If no command table profile ID is specified, a blank Command Table Profile panel is displayed.
BAckward nnn	Scroll backward nnn panels. The default is 1.
BOtTom	Scroll to the bottom of the panel display.
DOwn nnn	Scroll down nnn lines. The default is 1.
FOward nnn	Scroll forward nnn panels. The default is 1.
TOP	Scroll to the top of the panel display.
UP nnn	Scroll up nnn lines. The default is 1.

Short Commands

Command	Function
DEL	Delete the specified command table profile. Enter DEL in the short command area on the same line as the profile to be deleted.
DSP	Display the specified command table profile in detail. Enter DSP in the short command area on the same line as the profile to be displayed or if no other short commands have been entered, position the cursor anywhere on the line of the desired profile and press Enter.

Command Table Profile Panel (CUI-3200)

This panel displays and updates command table profiles. It is displayed by:

- Selecting its menu number on the CUI Maintenance Panel (CUI-0000)
- Entering **CUI DISPLAY CMDPROFILE** from anywhere within the CUI transaction
- Typing fastpath **=X.3.2** (X being the numeric option for CUI Maintenance on the Primary Selection Panel (CUI-MENU))

If a command table profile ID is entered with the menu number when selecting this panel directly, it is also displayed (for example, 2.3 CSA). If no command table ID is specified, a blank panel is displayed.

CUI-3200	Command Table Profile	CAICUI
====>		
	SIZE=16	LINE=0
Command table ID: \$DEFAULT	Description: DEFAULT PROFILE - DO NOT ALTER	
....+....1....+....2....+....3....+....4....+....5....+....6....+....7..		
	** TOP OF COMMAND TABLE **	=====
*****		=====
*	PFKEYS	* =====
*****		=====
SET PF1 'HELP'		=====
SET PF2 'ADD'		=====
SET PF3 'QUIT'		=====
SET PF7 'BACKWARD'		=====
SET PF8 'FORWARD'		=====
SET PF12 'EXIT'		=====
SET PF13 'HELP'		=====
SET PF14 'ADD'		=====
SET PF15 'QUIT'		=====
SET PF19 'BACKWARD'		=====
SET PF20 'FORWARD'		=====
SET PF24 'EXIT'		=====
1=Help	2=	3=Quit
7=Backward	8=Forward	9=
		10=
		11=
		6=
		12=Exit

You can use this panel to:

- Update the displayed command table profile
- Display another command table profile
- Create a new profile using the displayed profile as a model
- Use local commands

The field descriptions for the above panel follow.

Fields	Descriptions
Command table ID	Specify the ID of the command table profile you wish to display. You can enter a different command table ID in this field to display the command table profile defined to the Product Control data set for that ID. If a command table profile has already been defined for that ID, it is displayed; if no command table profile exists for the specified ID, a copy of the displayed command table profile is created for it, using the existing command table profile as a model. Note: A different ID cannot be specified if any changes have been made to the displayed profile unless the changes have been saved by a SAVE command.
Description	Specify a description of the command table profile to be defined or displayed. It is treated as a comment by CAICUI and can contain any information.
Short command area	Use this area to enter the command editor short commands discussed later in this section. The short command area is on the right-hand side of the panel.
Command line	Only local commands can be issued from the command line when using the command profile editor. Global commands normally issued from any panel are invalid in this environment and result in an error message.

Use the rest of the panel to define commands to the profile. Most CAICUI commands can be used in a command table profile. Please note the following conditions:

- Commands can be continued from one line to the next by placing a dash (-) as the last nonblank character on any line and continuing the command anywhere on the next line.
- Comments can be placed in a command table profile by entering an asterisk (*) in column 1 of any line.
- Blank lines can also be used and are ignored when the profile is executed.

Local Commands

Command	Function
BAckward nnn	Scroll backward nnn panels. The default is 1.
BOttom	Scroll to the bottom of the panel display.

Command	Function
DOWn nnn	Scroll down nnn lines. The default is 1.
FIND target	Search forward in the file for the first line that starts with the text specified by "target". The search starts with the line at the top of the current panel.
FOWard nnn	Scroll forward nnn panels. The default is 1.
LOCATE target	Search the file for a specific character string. The search starts with the line at the top of the current panel.
TOP	Scroll to the top of the panel display.
UP nnn	Scroll up nnn lines. The default is 1.

Short Commands

Command	Function
A(ADD)	Insert a single line or a specified number of lines. A Insert a single blank line. An Insert the specified number of blank lines.
C(COPY)	Copy a single line, a specified number of lines, or a block of lines. The P (Preceding) or F (Following) command must also be used to specify the destination of the copied lines. C Copy a single line. Cn Copy the specified number of lines. CC Copy a block of lines. To copy a block of lines, enter CC on both the first and last lines to be copied.
D(DELETE)	Delete a single line, a specified number of lines, or a block of lines. D Delete a single line. Dn Delete the specified number of lines. DD Delete a block of lines. To delete a block of lines, enter DD on both the first and last line to be deleted.
F(FOLLOWING)	Specify where copied or moved lines are to be placed. The lines are inserted after the specified line.

Command	Function
I(INSERT)	Insert a single line or a specified number of lines. I Insert a single blank line. In Insert the specified number of blank lines.
M(MOVE)	Move a single line, a specified number of lines, or a block of lines. The P (Preceding) or F (Following) command must also be used to specify the destination of the moved lines. M Move a single line. Mn Move the specified number of lines. MM Move a block of lines. To move a block of lines, enter MM on both the first and last lines to be moved.
P(PRECEDING)	Specify where copied or moved lines are to be placed. The lines are inserted before the specified line.
"(DUPLICATE)	The " (double quote) command duplicates a single line or block of lines one or more times. " Duplicate a single line one time. "n Duplicate a single line the specified number of times. "" Duplicate a block of lines one time. ""n Duplicate a block of lines the specified number of times. To duplicate a block of lines, enter "" on both the first and last line to be duplicated.
/(SET CURRENT LINE)	The / (slash) command positions a line on the first display line of the panel.

ICCF Interface Option

Enabling the ICCF interface permits ICCF users to access CAICUI without requiring them to log off and return to the CICS environment.

To enable the ICCF interface, perform the following steps:

1. Verify the CICS Processing Program Table (PPT).

The CICS PPT or DFHCSD was modified during installation to include the entries required by CAICUI. Examine the results of the modification to be certain that the following entry was added correctly:

```
CACCICCF DFHPPT TYPE=ENTRY, CUI ICCF INTERFACE PROGRAM      X
PROGRAM=CACCICCF
```

2. Update CAICUI system options.

Specify the ICCF Interface as YES on the System Options Panel (CUI-1000). This change can be made only by a System Administrator.

3. IPL VSE.

Bring VSE and CICS up again to activate the CAICUI ICCF interface.

CACCTLNK

CACCTLNK, the CUI transaction interface, allows users to access the CUI transaction from user-written CICS transactions. This interface can be used to process a CAICUI command or to begin an interactive CUI transaction session. This interface runs in conversational mode.

Programming Requirements

User-written programs that call CACCTLNK must provide a CICS Command level communication area and must meet the following specifications:

1. The program must be written in Command level or mixed mode (a single program using both Command level and Macro level CICS). Programs written in Macro level only **cannot** be used.
2. The program must use a CICS Command level link to enter CACCTLNK.
3. The program must have a transaction work area of at least 4 bytes (TWASIZE=4).

CACCTLNK Copybooks

The CACCTLNK Command level communication area is described in the following copybooks:

Book name	Type	Description
CACCURCM	A	The transaction interface communication area DSECT (for use by Assembler programs).
CACCURCM	C	The transaction interface communication area description (for use by COBOL programs).

Assembler Copybook

The CACCURCM ABOOK contains the following code.

```
*****
*****
*          CAICUI USER INTERFACE COMMUNICATION AREA          *
*****
*****
      SPACE
UCCOM  DSECT
UCCOMFNC DC  XL1'00'          FUNCTION CODE
UCCOMFIM EQU  X'F1'          ...PROCESS IMMEDIATE COMMAND
UCCOMFXC EQU  X'F2'          ...TRANSFER CONTROL TO CUI
UCCOMFXB EQU  X'F3'          ...TRANSFER CONTROL TO CUI AND
*                               BYPASS THE MAIN MENU

      SPACE
UCCOMUID DC  CL8' '          USERID
UCCOMPWD DC  CL8' '          PASSWORD
      SPACE
UCCOMCMD DC  CL128' '        COMMAND TO BE PROCESSED
UCCOMMSG DC  CL72' '        FEEDBACK MESSAGE
UCCOMRC  DC  CL1' '          RETURN CODE
UCCOMOK  EQU  C'0'           ...SUCCESSFUL
UCCOMINV EQU  C'1'           ...INVALID FUNCTION CODE
UCCOMINC EQU  C'2'           ...INVALID COMMAND
UCCOMCER EQU  C'3'           ...COMMAND NOT EXECUTED
UCCOMSON EQU  C'4'           ...SIGNON FAILED
      SPACE
UCCOMLEN EQU  *-UCCOM        COMMAREA LENGTH
```

COBOL Copybook

The CACCURCM CBOOK contains the following code:

```
01 UCCOM.
  02 UCCOMFNC          PIC X.
    88 UCCOMFIM        VALUE '1'.
    88 UCCOMFXC        VALUE '2'.
    88 UCCOMFXB        VALUE '3'.
  02 UCCOMUID          PIC X(8).
  02 UCCOMPWD          PIC X(8).
  02 UCCOMCMD          PIC X(128).
  02 UCCOMMSG          PIC X(128).
```

```

02 UCCOMRC      PIC X.
   88 UCCOMOK      VALUE '0'.
   88 UCCOMINV     VALUE '1'.
   88 UCCOMINC     VALUE '2'.
   88 UCCOMCER     VALUE '3'.
   88 UCCOMSON     VALUE '4'.

```

CACCTLNK Communication Area Initialization

To call CACCTLNK to process either an immediate command or an interactive session with the CUI transaction, initialize the CICS Command level communication area as follows:

Field Name	Description
URCOMFNC	Indicates to CACCTLNK what function is to be performed. When CACCTLNK is called to process an immediate command, this value must be set to X'F1' (equated as URCOMFIM in CACCURCM). For an interactive session, this value must be set to X'F2' or X'F3' (equated as URCOMFXC in CACCURCM).
URCOMUID	The 8-byte user ID that CAICUI validates for internal security validation. It must be left-justified and blank-filled, and must be defined to the CAICUI Product Control data set. If not provided, CAICUI attempts to extract the user ID from the source defined on the System Options Panel (CUI-1000).
URCOMPWD	The 8-byte password of the user ID specified in field URCOMUID. It must be left-justified and blank-filled, and must be valid for the specified user.
URCOMCMD	The 128-byte command to be processed. DISPLAY commands are invalid. Any valid long commands for which the user ID (given in URCOMUID) is authorized can be specified in this field, left-justified and blank-filled.
URCOMMSG	The 128-byte feedback area. CACCTLNK returns in this area any error or special message that normally appears on the message line of the CUI transaction.
URCOMRC	The 1-byte return code area. CACCTLNK returns in this area the primary return code. Return code values are documented further in the CACCURCM copybook.

Pseudo Conversational Link to the CUI Transaction

The pseudo conversational link feature allows the user to initiate an interactive CUI session from a user-written program such as a menu system. At initialization, a control record must be passed to CUI that contains information the CUI session will use for initialization and termination.

Note: If you use this feature, you **must not** use "RAP1" as a transaction identifier.

Initiating an Interactive CUI Session

CUI may be started with the interval control START. The START may or may not include data. If no data is passed, it is the user's responsibility to write the control record to CICS temporary storage.

Note: The temporary queue ID must be the four-character literal "RAP1"; the next 4 characters are the term ID. Termination of CUI will delete the queue (control record).

Control Record

Assembler

The CAPRUCOM ABOOK (for users of CA-RAPS prior to release 5.0) and CACCUCOM ABOOK contain the following code:

```
*****
                          CA-RAPS PSEUDO CONV LINK                      *
*****
      SPACE
UTSCOMM DSECT
UTSCOM  DC    CL4'CUI'      RAPS LITERAL MUST BE "CUI"
UTSTYPE DC    CL1' '        TYPE RETURN
UTSTYPEX EQU   C'1'         XCTL
UTSTYPES EQU   C'2'         START TRANSACTION
UTSPGMID DC    CL8' '        PROGRAM RETURN/TRANSACTION START
UTSCMD  DC    CL72' '       OPTIONAL COMMAND
UTSCOML EQU    *-UTSCOM
```

COBOL

The CAPRUCOM CBOOK (for users of CA-RAPS prior to release 5.0) and CACCUCOM CBOOK contain the following code:

```

01  UTSCOMM.
    02  UTSCOM          PIC X(04)    VALUE 'RAPS' .
    02  UTSTYPE         PIC X(01)    VALUE ' ' .
        88  UTSTYPEX          VALUE '1' .
        88  UTSTYPES         VALUE '2' .
    02  UTSPGMID        PIC X(8)     VALUE ' ' .
    02  UTSCMD          PIC X(72)    VALUE ' ' .
01  UTSCOMML          PIC S9(4)     COMP VALUE +85 .

```

The control record described in copybooks CAPRUCOM and CACCUCOM must be initialized as follows:

Field Name	Description
UTSCOM	The CUI identifier must be the literal "RAPS".
UTSTYPE	The 1-byte field is used to determine what action to take at termination of the CUI session. The value 1 will cause CUI to XCTL to the program defined in field UTSPGMID. The value 2 will cause CUI to START the transaction defined in field UTSPGMID.
UTSPGMID	The 8-byte field is used at termination of the CUI session. If the value of field UTSTYPE is 1, an 8-byte program name is assumed. If the value of field UTSTYPE is 2, a 4-byte left-justified transaction is assumed.
UTSCMD	This optional 72-byte field can be used to pass an initial command to CUI.

Following is a sample statement or command to start the CUI pseudo conversational link.

```

EXEC CICS START
      TRANSID('CUI')
      TERMID(EIBTRMID)
      FROM(UTSCOMM)
      LENGTH(UTSCOMML)

```

Signon Exit Programs

The CUI transaction (default transaction ID = CUI) provides different levels of functionality for all users based upon the user ID that is signed on to CAICUI. Only valid CAICUI user IDs are allowed to access the transaction; CAICUI does not allow an unknown user ID to access **any** portion of the CUI transaction.

By default, the CUI transaction displays the CAICUI Signon Panel and requires that a CAICUI user ID and password be entered. However, CAICUI can optionally bypass this signon step and extract the required user ID according to the signon option selected on the System Options Panel (CUI-1000).

One of the following options can be selected:

Specify	To
CICSOPID	Use the three-character CICS operator ID as the CAICUI user ID. It is set when the user signs on to CICS using the IBM supplied CSSN transaction.
CICSTERM	Use the four-character CICS terminal ID of the current user as the CAICUI user ID.
SSF	Call the Standard Security Facility (CAISSF) to provide the current user's CA-TOP SECRET or CA-ACF2 user ID.
CUI	Prompt the user to enter his or her user ID and password. This is the default.
USER	Call a user-written Signon Exit program to provide the user ID.

Specify **USER** as the signon option to have the CUI transaction call a user-written Signon Exit program to provide the user ID. This option can only be selected by a System Administrator.

Programming Requirements

Signon Exit programs must be written to meet the following specifications:

1. The program must be written either in CICS Command level or in mixed mode (a single program using both Command level and Macro level CICS). Programs written in Macro level only **cannot** be used.
2. The program must be cataloged with the PHASE name CACCE001.
3. The program must be defined to CICS in the Processing Program Table (PPT) or in the CSD as CACCE001.
4. The program must be completely reentrant.

5. When CAICUI calls CACCE001, an 8-byte CICS Command level communication area is provided. CACCE001 must place in this communication area the user ID to be used by CAICUI for this session.
6. The ID returned must be defined to CAICUI and must be placed in the communication area provided, left-justified and blank-filled.
7. CACCE001 can make any standard CICS calls, with the following restrictions:
 - Any terminal I/O performed must be done in Conversational Mode.
 - The CUI transaction must be returned to using the standard Command level CICS RETURN. Do not use Macro level RETURN.

Sample Signon Exit Program

This sample Signon Exit program is written in Assembler, mixed mode:

```
*ASM CICS(NOPROLOG NOEPILOG)
CACCE001 TITLE 'CUI SIGNON USER EXIT'
CACCE001 START 0
        SPACE
R0      EQU 0
R1      EQU 1
R2      EQU 2
R3      EQU 3
R4      EQU 4
R5      EQU 5
R6      EQU 6
R7      EQU 7
R8      EQU 8
R9      EQU 9
R10     EQU 10
R11     EQU 11
R12     EQU 12
R13     EQU 13
R14     EQU 14
R15     EQU 15
        SPACE 2
        USING CUICOM,R10
        USING SIGNON,R2
        EJECT
*****
*                      CICS COMMAND LEVEL PROLOG                      *
*****
        SPACE
        DFHEIENT CODEREG=(R3,R5),DATAREG=(R13),EIBREG=(R11)
        EJECT
*****
*                      PROGRAM INITIALIZATION                          *
*****
        SPACE
INIT0000 DS 0H
          L   R10,DFHEICAP      LOAD COMM AREA ADDRESS
          MVC CUIUSER,DEFAULT   SET USERID TO DEFAULT FOR NOFIND
          EXEC CICS,ASSIGN,      GET OPID FROM TCTTE
          OPID(TCTOPID)
          LA  R2,TABLE          LOAD START OF TABLE
```

```

MAIN0000 DS    0H
          CLC    TERMID,ENDTABLE    ARE WE AT THE END OF THE TABLE
          BE     RETU0000            YES - RETURN TO CALLER
          LA     R6,4
          LA     R8,TERMID           LOAD ADDRESS OF TERMID FROM TABLE
          LA     R9,EIBTRMID         LOAD ADDRESS OF TERMID FROM EIB
MAIN1000 DS    0H
          CLI     0(R8),C'*'         IS THIS A WILD CARD
          BE     MAIN2000            YES - TERMID GOOD GO CHECK OPID
          CLC     0(1,R8),0(R9)       IS TERMID CHAR EQUAL
          BNE     MAIN5000            NO - GO CHECK NEXT ENTRY IN TABLE
          LA     R8,1(R8)            BUMP TO NEXT TERMID CHAR IN TABLE
          LA     R9,1(R9)            BUMP TO NEXT TERMID CHAR IN EIB
          BCT     R6,MAIN1000         GO BACK AND CHECK NEXT CHAR
MAIN2000 DS    0H
          LA     R6,3
          LA     R8,OPID             LOAD ADDRESS OF OPID FROM TABLE
          LA     R9,TCTOPID          LOAD ADDRESS OF OPID FROM TCTTE
MAIN3000 DS    0H
          CLI     0(R8),C'*'         IS THIS A WILD CARD
          BE     MAIN4000            YES - OPID GOOD GO SET CUI USERID
          CLC     0(1,R8),0(R9)       IS OPID CHAR EQUAL
          BNE     MAIN5000            NO - GO CHECK NEXT ENTRY IN TABLE
          LA     R8,1(R8)            BUMP TO NEXT OPID CHAR IN TABLE
          LA     R9,1(R9)            BUMP TO NEXT OPID CHAR IN TCTTE
          BCT     R6,MAIN3000         GO BACK AND CHECK NEXT CHAR
MAIN4000 DS    0H
          MVC     CUIUSER,USERPROF   SET CUI USERID FROM TABLE
          B       RETU0000            RETURN TO CALLER

MAIN5000 DS    0H
          LA     R2,TABENLEN(R2)      BUMP TO NEXT ENTRY IN TABLE
          B       MAIN0000            GO BACK AND CHECK NEXT TABLE ENTRY
RETU0000 DS    0H
          EXEC    CICS,RETURN
          EJECT
DEFAULT  DC     CL8'$DEFAULT'        DEFAULT USERID
          LTORG ,
*****
*   THE FOLLOWING TABLE CONTAINS THE SIGNON INFORMATION USED BY THIS *
*   EXIT PROGRAM. EACH ENTRY CONTAINS A 4 CHAR TERMID,A 3 CHAR OPID *
*   AND AN 8 CHAR CUI USERID. THE TABLE IS TERMINATED BY A STRING *
*   OF XL4'FFFFFFFF'. AN * MAY BE USED AS A WILD CARD IN TERMID AND *
*   OPID SELECTION. IF NO MATCH IS FOUND IN THE TABLE THE USERID *
*   WILL BE SET TO $DEFAULT. *
*****
TABLE    DS     0H                    SIGNON TABLE
SIGN1    DC     CL4'V77A',CL3'001',CL8'RSA      '    TERMID V77A OPID 001
*        TABENLEN MUST BE AFTER FIRST ENTRY IN TABLE
TABENLEN EQU  *-TABLE                TABLE ENTRY LENGTH
SIGN2    DC     CL4'V77B',CL3'*  ',CL8'CSA      '    TERMID V77B ANY OPID
SIGN3    DC     CL4'*  ',CL3'001',CL8'DSA      '    ANY TERMID OPID 001
SIGN4    DC     CL4'V*  ',CL3'002',CL8'JEFFREYG'  TERMID STARTING WITH
*                                                V OPID 002
ENDTABLE DC     XL4'FFFFFFFF'          END OF SIGNON TABLE
          EJECT
DFHEISTG DFHEISTG ,                  START OF DYNAMIC STORAGE
          SPACE
TCTOPID  DS     CL3                    OPID FROM TCTTE01
          SPACE
DFHEIEND DFHEIEND ,                  END OF DYNAMIC STORAGE
          EJECT
SIGNON   DSECT                        SIGNON TABLE DSECT
TERMID   DS     CL4                    TERMID
OPID     DS     CL3                    TERM OPERATOR ID

```

USERPROF	DS	CL8		CUI	USERID
	EJECT				
CUICOM	DSECT			COMMAREA	DSECT
CUIUSER	DS	CL8		CUI	USERID
	END				

Command Exit Programs

In addition to performing administrative functions, the CUI transaction issues commands to other CA and IBM products or to the CUI runtime system. These commands can be issued in long or short form and are processed immediately.

Command Exit programs allow examination of these commands after they have been parsed and expanded, but before they have been executed.

Programming Requirements

Command Exit programs must be written to meet the following specifications:

1. The program must be written either in CICS Command level or in mixed mode (a single program using both Command level and Macro level CICS). Programs written in Macro level only **cannot** be used.
2. The program must be cataloged with the PHASE name CACCE005.
3. The program must be defined to CICS in the Processing Program Table (PPT) or in the CSD as CACCE005.
4. The program must be completely reentrant.
5. CACCE005 can make any standard CICS calls, with the following restrictions:
 - No terminal I/O can be performed.
 - The calling transaction must be returned to using the standard Command level CICS RETURN. Do not use Macro level RETURN.

Command Exit Copybooks

When CAICUI calls CACCE005, a 140-byte CICS Command level communication area is provided and is described below in the following copybooks:

Book name	Type	Description
CACCCMDX	A	The Command Exit communication area DSECT (for use by Assembler programs).
CACCCMDX	C	The Command Exit communication area description (for use by COBOL programs).

Assembler Copybook

The CACCCMDX ABOOK contains the following code:

```
*****
*           CAICUI COMMAND EXIT COMMUNICATION AREA           *
*****
      SPACE
CACCCMDX DSECT
CACCECTX DC   F'0'          RETURN CODE
CACCCMD  DC   CL128' '      COMMAND TO BE PROCESSED
CACCURS  DC   CL8' '        USERID
CACCCMLN EQU   *-CACCCMDX   LENGTH OF COMM AREA
```

COBOL Copybook

The CACCCMDX CBOOK contains the following code:

```
01 CACCCMDX.
02 CACCRETC          PIC 9(8) COMP.
02 CACCCMD           PIC X(128).
02 CACCUSR           PIC X(8).
```

Command Exit Fields

The following categories explain the use of the Command Exit program communication area fields:

(1)	(2)	(3)
CACCECTX	CACCCMD	CACCUSR
RETURN CODE	COMMAND AREA	userid
4 bytes	128 bytes	8 bytes

- (1) If the Command Exit program sets the return code to X'00000004' ("do not execute command"), an error message is moved to the CACCCMD field and is displayed on the message line of the panel. When CAICUI links to the Command Exit, this area contains zeros. The Command Exit program can place one of the following into this area:
- | | |
|-------------|--|
| X'00000000' | Execute the command found in field CACCCMD. No validation of this command is performed prior to its execution. |
| X'00000004' | Do not execute the command found in field CACCCMD. The terminal operator is notified that the command has been rejected. |
- (2) When CAICUI links to the Command Exit, the CACCETCX area contains the command that is about to be processed, with all parsing and parameter substitutions completed. The Command Exit program can make any changes required by the command found there. No validation of changes made by the Command Exit is performed.
- (3) When the CACCUSR (userid) is coded for a generic user ID, asterisks (*) displayed in the field on-screen must be replaced with hexadecimal FFs, to agree with the way entries are defined in the Product Control data set.

Using CUI in Command Mode

This section explains how to use the CUI transaction in command mode. CAICUI commands generally fall into one of three groups: long, short or special. This chapter details CAICUI long commands and special commands. (Short commands are detailed in the panel descriptions of each panel for which they are available.)

There are three basic types of long commands:

Type	Description
Global	Can be issued from any panel. Control is transferred to a different panel.
Immediate	Can be issued from any panel. Control remains with the current panel. Immediate commands set control information or affect some component of the system.
Local	Can be issued only from a specific panel and affect only that panel.

Special commands are also described in this chapter, including fastpath selection. Using fastpath is equivalent to entering long commands to call certain panels for display. A detailed description of fastpath selection is provided in the '=' (EQUAL SIGN)' section in this chapter and in the 'Fastpath Selection' section in the "Getting Acquainted with CAICUI and CAIHELP" chapter of this guide.

Long Command Summary

The following is a summary of CAICUI long commands.

Global

The following global commands display the status of a particular product or component session, or control the CUI transaction environment.

Command	Function
CUI QUERY LCMD	Display available user-defined long commands.
CUI QUERY LONGCOMMANDS	Display available user-defined long commands.
CUI QUERY PFKEYSETTINGS	Display the current PF key settings.
CUI QUERY SCMD	Display available user-defined short commands.
CUI QUERY SHORTCOMMANDS	Display available user-defined short commands.
CUI QUERY STATUS	Display general information about the CAICUI session.
CUI QUERY USERS	Display all users currently signed on to CAICUI.
CMDMODE	Display the Command Mode Panel (CUI-S600).
EEXIT	Exit from the CUI transaction.
EXIT	Exit from the CUI transaction.
MENU	Return to the Primary Selection Panel (CUI-MENU).
QQUIT	Return to previous panel.
QUIT	Return to previous panel.
SELECT USERS	Select a specific user for display.
SESSION	Transfer to a specific session.

Command	Function
SET AUTOREFRESH	Put the current CAICUI session into autorefresh mode.
SET GROUP	Define whether short form commands in a profile are to be associated with a long form command or are to be global for the panel specified.
SET STACKLEVEL	Set panel stack limit.
SET TOGGLE	Set toggle key for multi-session transfer.
TOGGLE	Transfer to next session.

Immediate

The following immediate commands control the CUI transaction environment.

Command	Function
EXECUTE	Execute a group of commands in a command profile.
SET CC	Determine whether or not carriage control is to be displayed on certain panels.
SET CASE	Set the case in which all panel text will be displayed.
SET COLUMNS	Determine which columns are to be displayed on certain panels.
SET HELP	Set the help lines displayed at the bottom of panels.
SET LCMD	Create user-defined long commands.
SET LRECORD	Determine which line number counter is to be displayed on certain panels.
SET PF	Change the setting of PF keys.
SET PROFILE	Load a new command profile.
SET SCMD	Create user-defined short commands.
SET ZONE	Determine which columns are to be searched on certain panels.

Local

The following local commands execute command processing for specific panels only.

Command	Function
BACKWARD	Scroll backward a specified number of panels.
BOTTOM	Scroll to the last entry in a display.
BP	Scroll backward a specified number of logical pages.
DOWN	Scroll forward a specified number of lines.
FORWARD	Scroll forward a specified number of panels.
FP	Scroll forward a specified number of logical pages.
LEFT	Shift the display to the left a specified number of columns.
PAGE	Restart the display at a specific page number.
REFRESH	Refresh the current panel display.
RIGHT	Shift the display to the right a specified number of columns.
RUN	Define the information on the current panel to the system.
SORT	Redisplay a directory panel in alphabetical order.
SWITCH BACKWARD	Scroll backward, in a sequence of panels, one panel.
SWITCH FORWARD	Scroll forward, in a sequence of panels, one panel.
TOP	Scroll to the first entry in a display.
UP	Scroll backward a specified number of lines.

Special

The following is a summary of CAICUI special commands. They perform special functions within the CUI transaction.

Command	Function
=	Reexecute the last command entered or issue a fastpath command.
?	Redisplay the last command executed from the command line.
&	Leave the command in the command line after execution.

Command Descriptions

This section describes each long and special command in detail. Note that only the required command characters appear in capital letters. Commands are listed in alphabetical order and specify their command type.

BACKWARD

BACKWARD scrolls a display backward a specified number of panels.

Type: local

BAckward [nnn] Optional operand

nnn Specify the number of panels to scroll backward. The default is 1. It is not necessary to separate the command and the operand with a space.

The following commands scroll backward 4 panels:

BACKWARD 4
BA4

BOTTOM

BOTTOM scrolls a display to the last record or entry.

Type: local

BOttom

The following commands scroll to the bottom of a display:

BOTTOM
BOT

BP

BP scrolls a display backward a specified number of logical pages. This command may be used by certain display panels.

Type: local

BP [pages]

pages Specifies the number of pages to scroll backward. If it is omitted, a default of one page is assumed. It is not necessary to separate the command and the operand with a space.

The following commands both scroll backward 2 pages:

```
BP 2
BP2
```

CMDMODE

CMDMODE displays the Command Mode Panel (CUI-S600), from which you can enter any valid CAICUI command. Its extended command processing area is 8 lines long, which facilitates the processing of lengthy commands.

Type: global

```
CMDMODE
```

The following command displays the Command Mode Panel (CUI-S600):

```
CMDMOD
```

CUI QUERY LCMD

CUI QUERY LCMD displays the user-defined long commands currently available to the signed on user.

Type: global

```
CUI Query Lcmd
```

The **CUI** prefix is optional on this command. It is sometimes necessary to specify with which product the command is associated.

The following commands display the Long Commands Panel (CUI-S200):

```
QUERY LCMD
Q L
```

Fastpath selection

=X.2 where X is the menu option number for CUI Session Status Selection on the Primary Selection Panel (CUI-MENU)

CUI QUERY LONGCOMMANDS

CUI QUERY LONGCOMMANDS displays the user-defined long commands currently available to the signed on user.

Type: global

CUI Query Longcommands

The **CUI** prefix is optional on this command. It is sometimes necessary to specify with which product the command is associated.

The following commands display the Long Commands Panel (CUI-S200):

```
QUERY LONGCOMMANDS  
Q L
```

Fastpath selection

=X.2 where X is the menu option number for CUI Session Status Selection on the Primary Selection Panel (CUI-MENU)

CUI QUERY PFKEYSETTINGS

CUI QUERY PFKEYSETTINGS displays the PF keys currently available to the signed on user.

Type: global

CUI Query Pfkeysettings

The **CUI** prefix is optional on this command. It is sometimes necessary to specify with which product the command is associated.

The following commands display the PF Key Settings Panel (CUI-S100):

```
QUERY PFKEYSETTINGS  
Q P
```

Fastpath selection

=X.1 where X is the menu option number for CUI Session Status Selection on the Primary Selection Panel (CUI-MENU)

CUI QUERY SCMD

CUI QUERY SCMD displays the user-defined short commands currently available to the signed on user.

Type: global

CUI Query Scmd

The **CUI** prefix is optional on this command. It is sometimes necessary to specify with which product the command is associated.

The following commands display the Short Commands Panel (CUI-S300):

```
QUERY SCMD  
Q S
```

Fastpath selection

=X.3 where X is the menu option number for CUI Session Status Selection on the Primary Selection Panel (CUI-MENU)

CUI QUERY SHORTCOMMANDS

CUI QUERY SHORTCOMMANDS displays the user-defined short commands currently available to the signed on user.

Type: global

CUI Query Shortcommands

The **CUI** prefix is optional on this command. It is sometimes necessary to specify with which product the command is associated.

The following commands display the Short Commands Panel (CUI-S300):

```
QUERY SHORTCOMMANDS  
Q S
```

Fastpath selection

=X.3 where X is the menu option number for CUI Session Status Selection on the Primary Selection Panel (CUI-MENU)

CUI QUERY STATUS

CUI QUERY STATUS displays general information about the status of the CAICUI session currently being used.

Type: global

CUI Query STATus

The **CUI** prefix is optional on this command. It is sometimes necessary to specify with which product the command is associated.

The following commands display the Session Status Selection Panel (CUI-S000):

QUERY STATUS
Q STAT

Fastpath selection

=X.0 where X is the menu option number for CUI Session Status Selection on the Primary Selection Panel (CUI-MENU)

CUI QUERY USERS

CUI QUERY USERS displays a list of all users currently signed on to CAICUI.

Type: global

CUI Query Users

The **CUI** prefix is optional on this command. It is sometimes necessary to specify with which product the command is associated.

The following commands display the Signed On Users Panel (CUI-S410):

QUERY USERS
Q U

Fastpath selection

=X.4 where X is the menu option number for CUI Session Status Selection on the Primary Selection Panel (CUI-MENU)

DOWN

DOWN scrolls a display forward a specified number of lines.

Type: local

Down [nnn]

nnn

Specify the number of lines to scroll forward. The default is 1. It is not necessary to separate the command and the operand with a space.

The following commands scroll forward 4 lines:

DOWN 4
D04

EEXIT

EEXIT immediately terminates the CAICUI session and exits from the CUI transaction.

Type: global

EExit

The EEXIT command is accepted even when error conditions exist on the panel currently displayed. It is not necessary to first clear pending error conditions and reenter the EEXIT command.

The following commands terminate a CAICUI session, regardless of whether any errors are displayed on the panel:

EEXIT
EE

EXECUTE

EXECUTE executes a group of commands contained in a specific command table profile. The commands are executed sequentially, just as if they had been entered on the command line.

Type: immediate

EXECute profname

profname

Specify the name of the command table profile to be executed. It must have previously been defined to the CAICUI Product Control data set by a System Administrator.

User-defined long and short commands cannot be defined using the EXECUTE command and the command table profile cannot contain SET LCMD, SET SCMD or SET PROFILE commands (these commands will be ignored).

The command profile **may not** contain a SET PROFILE command.

The command profile **may** contain other EXECUTE commands.

If the command table profile contains any global DISPLAY commands, only the last DISPLAY command in the profile is executed. It will not execute if any errors are found in any other commands contained in the profile.

If any commands in the profile contain errors, only the last error message is displayed. There is no indication that any other commands failed.

The following command executes a command profile named MNTPROF:

```
EXEC MNTPROF
```

Command profile MNTPROF might contain the following commands:

```
SET PF1 'CUI DISPLAY OPTIONS'  
SET PF2 'CUI DISPLAY USERDIRECTORY'  
SET PF3 'CUI DISPLAY CMDDIRECTORY'  
CUI MENU
```

EXIT

EXIT immediately terminates the CAICUI session and exits from the CUI transaction.

Type: global

```
EXIT
```

The EXIT command is not accepted when error conditions exist on the panel currently displayed. To clear all pending error conditions from a panel, press the [Clear] key and reenter the EXIT command, or use the EEXIT command, which exits even when error conditions exist.

The following command exits a CAICUI session:

```
EXIT
```

FORWARD

FORWARD scrolls a display forward a specified number of panels.

Type: local

F0rward [nnn]

nnn

Specify the number of panels to scroll forward. The default is 1. It is not necessary to separate the command and the operand with a space.

The following commands scroll forward 4 panels:

FORWARD 4
F04

FP

FP scrolls a display forward a specified number of logical pages. This command may be used by certain display panels.

Type: local

FP [pages]

pages

Specifies the number of pages to scroll forward. The default is 1. It is not necessary to separate the command and the operand with a space.

The following commands will both scroll forward 2 pages:

FP 2
FP2

LEFT

LEFT shifts a display to the left a specified number of columns. This command may be used by certain display panels.

Type: local

LEft [columns]

columns

Specifies the number of columns to shift the display. The default is 1. It is not necessary to separate the command and the operand with a space.

The following commands will both shift the display 25 columns to the left:

LEFT 25
LE25

MENU

MENU unstacks all panels and returns to the Primary Selection Panel (CUI-MENU). It is useful if many global DISPLAY commands have been issued without any intervening QUIT commands.

Type: global

MENU

The following command returns to the Primary Selection Panel (CUI-MENU):

MENU

PAGE

PAGE restarts the display at a specified page number. This command may be used by certain display panels.

Type: local

PAGE [pageno]

pageno

Specifies the page number to restart the display from. The default is 1. It is not necessary to separate the command and the operand with a space.

The following commands will both restart the display from page 125:

PAGE 125
PA125

QQUIT

QQUIT exits from a panel and returns to the previous panel. If used from the Primary Selection Panel (CUI-MENU), the CUI transaction is ended.

Type: global

QQuit

The QQUIT command is accepted even when error conditions exist on the panel currently displayed. It is not necessary to first clear pending error conditions and reenter the QQUIT command.

The following commands quit the current panel and return to the previous panel, regardless of whether any errors are displayed on the panel:

QQUIT
QQ

QUIT

QUIT exits from a panel and returns to the previous panel. If used from the Primary Selection Panel (CUI-MENU), the CUI transaction is ended.

Type: global

QUIT

The QUIT command is not accepted when error conditions exist on the panel currently displayed. To clear all pending error conditions from a panel, press the [Clear] key and reenter the QUIT command, or use the QQUIT command, which exits even when error conditions exist.

The following command quits the current panel and returns to the previous panel:

QUIT

REFRESH

REFRESH rescans the systems to pick up and display any new information that may have been added since the last time it was browsed.

Type: local

REFresh

The following command refreshes your current panel display:

REF

RIGHT

RIGHT shifts a display to the right a specified number of columns. This command may be used by certain display panels.

Type: local

RIght [columns]

columns

Specifies the number of columns to shift the display. The default is 1. It is not necessary to separate the command and the operand with a space.

The following commands will both shift the display 25 columns to the right:

RIGHT 25
RI25

RUN

RUN defines the currently displayed panel's attributes to the system. This command may be used by certain display panels.

Type: local

RUN

The following command defines new data to your system:

RUN

SELECT USERS

SELECT USERS transfers to the Signed On Users Selection Panel (CUI-S400), from which a specific signed on user can be selected for detail display.

Type: global

SElect Users

The following commands display the Signed On Users Selection Panel (CUI-S400):

SELECT USER
SEL U

=X.5

where X is the menu option number for CUI Session Status Selection on the Primary Selection Panel (CUI-MENU)

SESSION

SESSION creates and controls a user's multi-session environment. Issuing this command directly transfers a user to a specific CAICUI session, specified by session name. Multi-sessioning allows a user to toggle between multiple CAICUI sessions without logging off from any of them. Session names are user-defined and are assigned an internal number by CAICUI.

A user can transfer to a session either directly by using the SESSION command or in its sequential turn using the TOGGLE command.

Type: global

SESSION session name [SWITCH|START|STOP]

session name

Specify the name of the session to which you want to transfer. It can be up to 8 characters in length. Do not use imbedded blanks.

SWITCH

Specify that CAICUI should switch to another session.

START	Specify that CAICUI should initiate the specified session.
STOP	Specify that CAICUI should terminate the specified session.
	The following command starts a session named AUDIT: SESSION AUDIT START

SET AUTOREFRESH

SET AUTOREFRESH puts the current session into autorefresh mode, automatically redisplaying the current CAICUI panel with updated information at specified intervals. CAICUI commands may be used in the usual way during a session that is in autorefresh mode. This command may be issued from any panel.

To cancel autorefresh mode during a CUI session, press [Clear] or any PA key.

Type: global

SET AUTOREfresh hhmss

hhmss	Specify the time interval after which the current CAICUI panel is to be automatically redisplayed. The minimum interval that may be specified is five seconds. This operand will be right justified and left filled with zeroes.
-------	--

Note: SET AUTOREFRESH may not be used in ICCF or in any CAICUI session that uses the CAICUI transaction interface CACCTLNK.

To put the current CAICUI session into autorefresh mode, updating the current panel every 30 seconds, use the following command:

SET AUTOR 30

SET CASE

SET CASE sets the case in which all panel text is displayed and processed throughout CAICUI and its applications.

Type: immediate

SET CASE UPPER|MIXED

UPPER	Specify that panel text should be upper case only.
MIXED	Specify that panel text should be mixed (upper and lower) case. MIXED is the default.

The following command causes all panel text to appear in upper case only:

```
SET CASE UPPER
```

SET CC

SET CC controls whether carriage control characters are shown in certain display panels. This command may be issued from any panel.

Type: immediate

```
SET CC ON|OFF
```

ON Specify the carriage control characters are to be displayed in column one. The characters are in ASA format.

OFF Specify the carriage control characters are not to be displayed. The file display starts in column one. **OFF** is the default operand.

The following command will cause the data file display to show carriage control characters in column one:

```
SET CC ON
```

SET COLUMNS

SET COLUMNS controls what portion of the data is to be displayed on certain panels. This command may be issued from any panel.

Type: immediate

```
SET COLUMNS xx yy [xx yy ...]
```

xx Specify the starting column to be displayed.

yy Specify the ending column to be displayed.

At least one pair of starting/ending columns must be specified.

Up to 10 pairs of starting and ending columns may be specified.

The first pair of columns specified will be displayed beginning in position 1 of the panel. Subsequent pairs of columns will be displayed adjacent to each previous pair.

The following command will cause the data file display to display only columns 20 - 50 and 90 - 132. Columns 20 - 50 of the record will be displayed in columns 1 - 31 of the panel, and columns 90 - 132 of the record will be displayed in columns 32 - 74 of the panel.

```
SET COLUMNS 20 50 90 132
```

SET GROUP

SET GROUP defines whether short form commands in a profile are to be associated with a long form command or are to be global for the panel specified. It may be issued only from the command profile. Command profiles may be defined only by the CAICUI System Administrator.

Type: global

```
SET GROUP ON|OFF
```

- | | |
|-----|--|
| ON | In this command profile, short commands are to be associated with long commands. |
| OFF | In this command profile, short commands are to be associated with the panel defined to the command. OFF is the default operand. |

The SET GROUP command may appear multiple times in a command profile. SET GROUP is valid only during signon and SET PROFILE execution.

If no SET GROUP is defined in the command profile, SET GROUP OFF is assumed.

The following commands are defined with SET GROUP OFF. The short commands are global and are valid for the queue(s) defined. Short form commands have no association with long form commands in the same profile.

```
SET GROUP OFF
SET LCMD DL      'D LST+,&1+. ,&2+. ,&3+. ,&4+. ,&5+. ,&6+. ,&7+. ,&8+. ,&9' .
SET LCMD DR      'D RDR+,&1+. ,&2+. ,&3+. ,&4+. ,&5+. ,&6+. ,&7+. ,&8+. ,&9' .
SET SCMD CL (RAPS-1020)  'ALTER LST,>JNA,>JNO+,>JSF,CLASS=&1' .
SET SCMD CL (RAPS-1010)  'ALTER RDR,>JNA,>JNO,CLASS=&1' .
SET SCMD PR (RAPS*)      'ALTER &QUEUE. ,>JNA,>JNO+,>JSF,PRI=&1' .
```

The following commands are defined with SET GROUP ON. In this profile, short commands are associated to the long form command that precedes them, forming a command group. Each long form command starts a new command group, which includes the short form commands that follow.

```
SET GROUP ON
SET LCMD DLA      'D LST,A'      }
SET SCMD DSP(RAPS-1020)  'VIEW LST,>JNA,>JNO+,>JSF'      } command group
SET SCMD DEL(RAPS-1020)  'DELETE LST,>JNA,>JNO+,>JSF'      }
SET LCMD DLB      'D LST,B'      }
SET SCMD CL(RAPS-1020)  'ALTER LST,>JNA,>JNO+,>JSF,CLASS=&1'      }ommand group
SET SCMD VIEW(RAPS-1020) 'VIEW LST,>JNA,>JNO+,>JSF'      }
```

The only short commands allowed with user defined command DLA are DSP and DEL. Likewise, the short form commands CL and VIEW are grouped with DLB.

SET HELP

SET HELP controls the text that is displayed in the help lines at the bottom of every panel.

Type: immediate

```
SET HELP  ON|OFF
          LINE1 text [(panel ID)]
          LINE2 text [(panel ID)]
```

ON	Specify that the help lines are to be displayed at the bottom of data file display panels. It has no effect on any other panels. Not all CA products make use of this function. ON is the default operand.
OFF	Specify that no help lines are to be displayed at the bottom of data file display panels (only data is displayed on the panel). It has no effect on any other panels. Not all CA products make use of this function.
LINE1	Specify that the text displayed in the first help line is to be changed. If this operand is specified, the text operand must also be specified.
LINE2	Specify that the text displayed in the second help line is to be changed. If this operand is specified, the text operand must also be specified.
text	Specify the text that is to be displayed in the help lines. It is required if LINE1 or LINE2 is specified. Up to 79 characters can be specified. If the help text contains imbedded blanks, enclose it in quotes.
(panel ID)	Specify the panel ID of the panel whose help lines are to be edited. If used, do not separate it from the command with a space. The parentheses are required. If no panel ID is specified, the help text is changed for the entire system. A panel ID should not be specified for setting help ON or OFF .

The following command causes the data file displays to use the entire panel and suppress the help lines:

```
SET HELP OFF
```

The following command changes the text displayed in the first help line:

```
SET HELP LINE1 'PF1=D P  PF2=D L  PF3=D S'
```

SET LCMD

SET LCMD creates user-defined long commands and can only be issued by a System Administrator from a command table profile.

Type: immediate

```
SET LCMD  usercommand  
          prototype-command  
          [varname(default,value...)]
```

usercommand Specify a command keyword. This keyword will be entered on the command line to generate an internal CAICUI long command. It can be from 1 to 16 characters in length. Do not use imbedded blanks.

prototype-command Specify the internal prototype command to be executed when the above keyword is entered. Any valid CAICUI long command can be specified. Use quotes if it contains imbedded blanks.

The prototype command can also contain operand variable names. Variable substitution is performed prior to command execution. Valid variable names are &1. to &16. and should correspond to the position of the operands that were entered with the user-defined command keyword.

To concatenate variables with data, delimit the variable name from the data with the concatenation character (.). The concatenation character never appears in the final command generated. Concatenation is shown in Example 4 in the following 'Examples' section.

Conditional operands can also be defined in the prototype statement. A conditional operand is not entered into the generated command if its associated variable is blanks or nulls. You can define a conditional operand by specifying the conditional operand character (+), followed by optional data and terminated with a variable name. If the specified variable is null, the variable and any associated data do not appear in the generated command. The use of conditional operands is shown in Example 3 in the following "Examples" section.

varname (default,value...) Specify the operand values that a user is authorized to enter for the user-defined long command. If no value is specified for a variable that appears in the prototype statement, there are no restrictions on the corresponding operand.

varname Specify the variable name that corresponds to the operand of the user-defined long command. It can be specified as &1. to &16.

(default,value...) Specify the allowable values that can be entered for the operand. The first in the list is used as a default if the operand was not entered with the user-defined long command. Each value can be up to 16 characters long. There is no limit to the number of values that can be specified.

Examples

Following are five examples that use the SET LCMD command:

1. This example creates a user-defined long command that displays the Session Status Panel (CUI-S000):

Syntax of user-defined long command:

QSTAT

SET LCMD command used:

SET LCMD QSTAT 'QUERY STATUS'

Actual command executed:

QUERY STATUS

2. This example creates a user-defined long command that alters the priority of jobs in a POWER reader queue:

Syntax of user-defined long command:

ARP jobname,newpriority

SET LCMD command used:

SET LCMD ARP 'ALTER RDR,&1.,PRI=&2'.

Command entered in command line:

ARP PAUSEBG,4

Actual command executed:

ALTER RDR,PAUSEBG,PRI=4

3. This example creates a user-defined long command that displays entries in a POWER list queue. All operands of the user-defined long command are optional. If no operands are entered, the entire queue is displayed.

Syntax of user-defined long command:

DL class,disposition,priority

SET LCMD command used:

SET LCMD DL 'DISPLAY LST+,CCLASS=&1+.,CDISP=&2+.,CPRI=&3'.

Command entered in command line:

DL A,,3

Actual command executed:

DISPLAY LST,CCLASS=A,CPRI=3

4. This example creates a user-defined long command that releases a PAUSE job for execution in a specific partition. Note the use of variable and data concatenation.

Syntax of user-defined long command:

RP partition-id

SET LCMD command used:

SET LCMD RP 'R RDR,PAUSE.&1'.

Command entered in command line:

RP BG

Actual command executed:

R RDR,PAUSEBG

5. This example creates a user-defined long command that starts printer V77A. The printer is started only with classes A, B, C or D and remote IDs 001, 002 and 003. Defaults are class A and remote ID 003.

Syntax of user-defined long command:

SP class,remote-id

SET LCMD command used:

SET LCMD SP 'START V77A,CLASS=&1.,REMOTE=&2'. -
 &1(A.,B,C,D) -
 &2(003.,001,002)

Command entered in command line:

SP A

Actual command executed:

START V77a,CLASS=A,REMOTE=003

SET LRECORD

SET LRECORD controls the line number counter that is normally displayed in the message line of certain display panels. The line counter can display either the physical record number or the logical print line number. This command may be issued from any panel.

Type: Immediate

SET LRecord ON|OFF

Required operands

ON	Specify that the logical print line number is to be displayed.
OFF	Specify that the physical record number is to be displayed. OFF is the default operand.

The following commands will both cause the data file display to show physical record numbers:

```
SET LRECORD OFF
SET LR OFF
```

SET PF

SET PF sets a PF key to execute a specific command.

Type: Immediate

```
SET PFnn[(panel ID)] OFF|DEFAULT|command
```

Required operands

nn Specify the PF key that is to be set. It can be specified as a number between 1 and 24. Note that this is actually part of the command keyword and not an operand. Do not separate the number (1 through 24) from PF with a space.

OFF Specify that the PF key is to perform the same function as the [Enter] key.

DEFAULT Specify that the PF key is to execute a default command as supplied by the CUI transaction. Using this operand for a PF key not listed here has the same effect as specifying OFF.

PF1/PF13	Help
PF3/PF15	Quit
PF5/PF17	Switch Backward
PF6/PF18	Switch Forward
PF7/PF19	Backward
PF8/PF20	Forward
PF12/PF24	Exit

command Specify the command that is to be executed when the PF key is pressed. If the command contains blanks, enclose it in quotes.

(panel ID) Specify the panel ID of the panel whose PF keys are to be altered. If used, do not separate it from the command with a space. The parentheses are required. If no panel ID is specified, the default PF keys are changed for the entire system.

A panel ID may also be defined generically as follows:

- ? Denotes a generic place holder.
- * Denotes a generic ending to the panel ID.

The following are examples of how to test PF keys.

- The first sets PF4 to display the Session Status Selection Panel (CUI-S000).
`SET PF4 'Q STATUS'`
- The second sets PF2 to switch backward on all panels beginning with 'RAPS'.
`SET PF2(RAPS*) 'SWITCH BACKWARD'`
- The third sets PF9 to HELP on all panels ending with '0000'.
`SET PF9(????_0000) HELP`

SET PROFILE

SET PROFILE executes all commands contained in a specific command profile and loads a new set of user-defined commands. The commands in the profile are executed sequentially just as if they had been entered in the command line.

Type: immediate

`SET PROFile profname`

Required operand

profname Specify the name of the command profile to be executed. The profile must have been previously defined to the Product Control data set by a System Administrator.

The command profile cannot contain any other SET PROFILE command. Unpredictable results may occur.

The command profile may contain EXECUTE commands.

If the command profile contains any global DISPLAY commands, only the last command in the profile is executed. The DISPLAY command is not executed if any errors are found in any other commands contained in the profile.

If commands in the profile contain errors, only the last error message is displayed. There is no indication that any other commands failed.

The following command executes a command profile named MNTPROF:

```
SET PROF MNTPROF
```

Command profile MNTPROF might contain the following commands:

```
SET PF1 'CUI DISPLAY OPTIONS'  
SET PF2 'CUI DISPLAY USERDIRECTORY'  
SET PF3 'CUI DISPLAY CMDDIRECTORY'  
CUI MENU
```

SET SCMD

SET SCMD creates user-defined short commands. It can only be issued from a command profile, which is defined only by a System Administrator.

Type: immediate

```
SET SCMD  usercommand[(panelid)]
          prototype-command
          [varname(default,value...)]
```

Required operands

usercommand Specify a keyword to be used as the name of the user-defined short command being created. It can be from 1 to 3 characters in length. Do not use imbedded blanks.

prototype-command Specify the internal prototype command to be executed when the user-defined short command is entered. Any valid CAICUI long command can be specified. Use quotes if it contains imbedded blanks.

The prototype command can also contain operand variable names. Variable substitution is performed prior to executing the command. Valid variable names are defined by the individual products.

To concatenate variables with data, delimit the variable name from the data with the concatenation character (.). The concatenation character never appears in the final command generated.

Conditional operands can also be defined in the prototype statement. A conditional operand is not entered into the generated command if its associated variables are blanks or nulls. A conditional operand is defined by specifying the conditional operand character (+), followed by optional data and terminated with a variable name. If the specified variable is null, the variable and any associated data do not appear in the generated command. The use of conditional operands is shown in Examples 2 and 3 in the following 'Examples' section.

panelid Specify the panelid for which the command is valid. If specified, it must be enclosed in parentheses. If omitted, the command is valid for all panels. Panelid(s) can also be defined generically.

Not all CA products make use of this option.

varname (default,value...) Specify the values that a user is authorized to enter as operands for the user-defined short command. If no value is specified for a variable that appears in the prototype statement, there are no restrictions on the corresponding operand.

varname	Specify the variable name that corresponds to the operand of the user-defined short command. It can be specified as &1. to &16.
(default,value...)	Specify the allowable values that can be entered for the operand. The first in the list is used as a default if the operand was not entered with the user-defined short command. Each value can be up to 16 characters long. There is no limit to the number of values that can be specified.

The order in which commands are defined to the system is very important when CAICUI is determining what command has been entered and what the operand is (if any). Commands with the same starting character(s) should be defined in order of **descending** number of characters. For example, if a P command and a PR command are to be defined, the PR command should be defined first.

After the command has been determined, any characters left over are treated as the operand. Great care should be taken when defining commands to ensure that a valid command/operand combination is not the same as another command.

Examples

Following are examples that use the SET SCMD command. At this time, not all of the examples are applicable to all CAICUI compliant products.

1. This example creates a user-defined short command that deletes a job from any queue:

Syntax of user-defined short command:

DEL

SET SCMD command used:

```
SET SCMD DEL(RAPS-10*) 'DELETE &queue. ,&JNA. ,&JNO. ,&JSF' .
```

Command entered in command line next to job ICCF17,12986,004:

DEL

Actual command executed:

```
DELETE LST,ICCF17,12986,004
```

This will be valid for all RAPS-10* panels.

2. This example creates a user-defined short command that starts a printer for a single job displayed on that line. An operand can also be entered to specify the last character of the printer ID to be started. If the operand is omitted, printer P001 is assumed.

Syntax of user-defined short command:

SPx (where x is the last character of the printer ID)

SET SCMD command used:

```
SET SCMD SP(RAPS-1020) 'START P00&1. ,&JNA. ,&JNO+.,&JSF' . -  
    &1(1.,2,3,4,5,6,7,8,9)
```

Command entered in command line next to job LIBR,3276,000:

SP

Actual command executed:

START P001,LIBR,3276

Note: The conditional operand caused the job suffix to be omitted because it was zero.

3. This example creates a user-defined short command that changes the priority of a job in any queue. The priority cannot be set higher than 5. If the operand is omitted, the priority is set to 3.

Syntax of user-defined short command:

PRx (where x is the priority)

SET SCMD command used:

```
SET SCMD PR(RAPS-10*) 'ALTER &QUEUE.,&JNA.,&JNO+.,&JSF.,PRI=&1'. -
&1(3.,1,2,4,5)
```

Command entered in command line next to job COMPILE,12473:

PR1

Actual command executed:

ALTER RDR,COMPILE,12473,PRI=1

SET STACKLEVEL

SET STACKLEVEL sets a limit to the number of levels CAICUI panels can be stacked without entering any intervening QUIT commands. When the stack level limit is reached, QUIT commands must be used to unstack the panels. This command must be issued from a command profile, which is defined only by a System Administrator.

Type: immediate

SET STACKLEVEL nnnnn

Required operand

nnnnn

Specify the highest panel stack level that CAICUI should allow the user. It can be a number between 0 and 32767. Specifying 0 enforces no limit.

The following command sets a stack level limit of 10:

SET STACKLEVEL 10

SET TOGGLE

SET TOGGLE sets a PF key to switch to the next session in the CAICUI multi-session sequence.

Type: immediate

SET TOGGLE PFnn

PFnn

Specify the PF key that is to perform the toggle function. It can be a number between 1 and 24. Note that the number (1 through 24) is actually part of the operand and should not be separated from PF with a space.

The following command sets [PF10] to switch to the next session in the CAICUI multi-session sequence:

SET TOGGLE PF10

SET ZONE

SET ZONE defines what columns are to be searched when using the FIND or LOCATE command. This command can be issued from any panel, but it affects only the data on certain panel displays.

Type: immediate

SET ZONE xx yy

xx

Specify the starting column to be searched.

yy

Specify the ending column to be searched.

The zone applies to the logical data record as defined by the SET COLUMNS command. If SET COLUMNS 20 50 and the SET ZONE 1 10 had been entered, the actual columns of the record that would be searched are 20-29.

Example

The following command sets the zone to columns 1-50:

SET ZONE 1 50

SORT

SORT redisplay a directory list in alphabetical order.

Type: local

SORT

The SORT command is used where appropriate for product-specific screens such as the SPI-1200, Volume List or VTOC detail screen. On the screen, **SORT** changes the list from the order in which they appear in the VTOC to an alphabetical order.

SWITCH BACKWARD

SWITCH BACKWARD scrolls one panel backward in a sequence of panels.

Type: local

SWItch BACKward

The following commands scroll back to the User Profile Panel (CUI-2200) from the Menu Selection/Security Panel (CUI-2300):

SWITCH BACKWARD
SWI BAC

SWITCH FORWARD

SWITCH FORWARD SWITCH FORWARD scrolls one panel forward in a sequence of panels.

Type: local

SWItch FORward

The following commands scroll forward to the Menu Selection/Security Panel (CUI-2300) from the User Profile Panel (CUI-2200):

SWITCH FORWARD
SWI FOR

TOGGLE

TOGGLE forces a switch to the next session in the CAICUI multi-session sequence.

Type: global

TOGGLE

The following command transfers to the next session in the CAICUI multi-session sequence:

TOGGLE

TOP

TOP scrolls a display to the first record or entry.

Type: local

TOP

The following command scrolls to the top of a display:

TOP

UP

UP scrolls a display up a specified number of lines.

Type: local

UP [nnn]

nnn

Specify the number of lines to scroll forward. The default is 1. It is not necessary to separate the command and the operand with a space.

The following commands scroll up 4 lines:

UP 4
UP4

? (QUESTION MARK)

Type: special

The ? command redisplay the last command entered from the command line. It must be entered in column 1 of the command line.

& (AMPERSAND)

Type: special

The & command will cause the command (entered in the command line) to remain in the command line after execution. It must be entered in column 1 of the command line, before any command is entered. The command is reexecuted by pressing the Enter key.

= (EQUAL SIGN)

Type: special

The = command reexecutes the last command entered from the command line. If directly followed by a panel identifier, it executes fastpath selection.)

Using fastpath selection transfers you **directly** to a specific panel from another panel. To execute fastpath, enter the Primary Selection Panel menu number of the branch you wish to select, prefixed by an equal sign. Follow this number with a group of integers separated by periods. These numbers select a panel within the branch already selected by the first digit in the command and execute the various options available on that panel.

Note: Panel IDs are located in the upper left hand corner of the panel and indicate the product's path to that particular panel.

The following commands executed from the Primary Selection Panel (CUI-MENU) display the PF Key Settings Panel (assuming menu option 1 on the Primary Selection Panel is CUI Session Status Selection): **=1.1.0.0 =1.1**

CAICUI Logical Device Facility

The CAICUI Logical Device Facility (CUILDEV) allows access to VSE/CICS from a VM/CMS environment. CUILDEV establishes a logical session via CP's Logical Device Support Facility (LDEV). This facility can be used (by default) to establish a CAICUI session from CMS, or can be used to issue any valid CICS transaction from CMS. The CUILDEV driver is designed to be flexible and easy to use. The system can be tailored through the use of user defined profiles.

CUILDEV Communication - CMS to VSE

The purpose of this facility is to offer, in effect, a CMS interface to CAICUI or even to user defined transactions. Establishing a VM to VSE connection through CMS is a two-step process. First, start the facility by issuing the CCUI command on CMS and then issue any CMS or CP commands needed by prefacing them with either CMS or CP.

Invoking CUILDEV

CUILDEV is invoked by issuing the command CCUI on CMS. CUILDEV will then dial to a CICS session using the CP command 'DIAL'. After successfully dialing to a CICS session CUILDEV will, optionally, issue a security transaction id. If the security transaction id has been issued, the user will then be prompted to supply his password. After successfully signing on, or if security prompting has not been requested, CUILDEV will then issue the requested CICS transaction id. If the user has not requested a specific transaction id, the transaction id CUI will be issued and CAICUI signon will occur.

Issuing CP or CMS commands

At any time during the CICS session, the user may issue any CP or CMS command by prefacing the command with either 'CP' or 'CMS'. CUILDEV will issue the command in the user's CMS environment. Upon completion of command, control will be returned to the CICS session.

Exiting a CUILDEV session

A user may end a CUILDEV session by doing one of the following:

- If the user has issued the default transaction id CUI, his CUILDEV session will be ended when he exits CAICUI.
- An immediate exit will occur by issuing the command ####, LDEVX or CSSF LOGOFF.

Note: At CUILDEV session termination, VSE/CICS security signoff can optionally be requested.

CUILDEV Profile Description

In order to establish a successful VSE/CICS session, CUILDEV obtains data from a site profile and a user profile. CUILDEV first reads the CMS file 'SITE CUIPROF' to establish installation CUILDEV parameters. The CMS file 'USER CUIPROF' is used to set CUILDEV parameters for a specific user. The values from 'USER CUIPROF' will override the values obtained from the 'SITE CUIPROF'. A user can override values in both the 'USER CUIPROF' and 'SITE CUIPROF' by entering parameters along with the CCUI command. Command parameters will be valid for the current session only.

CUILDEV CCUI Command

The CCUI command initiates a CCUI - VSE/CICS session.

The format of the CCUI command is:

CCUI parameters

Each profile record begins with the keyword 'CCUI' followed by any of the valid CCUI keyword parameters. Any profile records that do not begin with 'CCUI' will be ignored. One or more blanks act as a delimiter. Each parameter must be followed by a corresponding value. More than one parameter is allowed on any profile record.

The following is a description of the valid CCUI parameters.

CATDSN	Data set name of the VSE/VSAM catalog that will contain the CAICUI product control data set (see Note 1).
DDMODE	CMS disk mode that will be used when linking to the virtual DASD address that contains the CAICUI product control data set. If specified, a check will be performed to ensure that it is free. If omitted or an asterisk (*) is specified, the highest mode available will be used (see Note 2).
DDNAME	DDNAME for the CAICUI product control data set. Maximum length of ddname is 7 characters (see Note 2).
DEBUG	This parameter will provide a CMS PUNCH file that contains diagnostic information. This command should only be issued if requested by CA support personnel (see Note 2).
DSNAME	Data set name of the CAICUI product control data set (See Notes 2 and 6).
LKADDR	Virtual DASD address where the CAICUI product control data set resides (see Note 2).
LKID	VM userid that owns the virtual DASD that contains the CAICUI product control data set (see Note 2).
NOPROF	Specifying NOPROF will force CCUI to ignore all parameters that deal with CAICUI setup (see Note 3).
PORT	Port addresses to dial. A range of port addresses can be specified in the format: cuu-cuu A 'DIAL' will be attempted starting with the low address and continuing to the higher address until successful or all available port addresses have been exhausted.

SECTID	Security signon for transaction ID CSSN. This displays the IBM-supplied CSSN panel.
SECTION	Security signon transaction ID (see Note 4).
SECTOF	Security signoff transaction ID (see Note 4).
TRANID	Transaction ID that CCUI will issue after CICS session has been established. The default value is CUI.
USERID	User identification that will be used if the SECTION parameter is specified, or if the CUI transaction will be executed. Specifying an asterisk (*) as userid indicates that the userid for CICS and/or CAICUI is the current CMS userid (see Note 5).
VSEID	VM userid to DIAL. This is the userid where VSE/CICS is running.

Note 1: It is assumed that VSAM catalog and VSAM cluster BOTH reside on the same DASD volume.

Note 2: Valid only when specified with 'TRANID CUI'

Note 3: This parameter does not require any additional data. DO NOT specify this parameter when using 'TRANID CUI'. The following parameters will be ignored when NOPROF is specified: CATDSN, CAT, DDMODE, DDNAME, DSNNAME, LKADDR, LKID, and LKMODE.

Note 4: SECTION and SECTOF must both be specified when security checking is required.

Note 5: CAICUI userid is used as a key to access the VSAM file.

Note 6: The CAICUI product control data set is read to get a CAICUI user record. The user's password is extracted from the user record and will be used for CAICUI signon.

The following is an example of a valid CCUI command.

```
CCUI TRANID AOIP
```

This command will initiate a CCUI - VSE/CICS session and then start the transaction known as AOIP.

Sample CUILDEV Site Installation Profile

CCUI CATDSN	VSAM.USER.CATALOG1
CCUI SECTID	CSSN
CCUI SECTOF	CSSF
CCUI USERID	DEFAULT
CCUI DDNAME	CAICUI
CCUI DDMODE	*
CCUI DSNNAME	CAI.CUI.PRODUCT.CONTROL.DATASET.BASE

Sample CUILDEV User Profile

CCUI LKADDR	183
CCUI LKID	CUIMIN1
CCUI LKMODE	RR
CCUI LKPASS	PASSWORD
CCUI PORT	040-042
CCUI USERID	CSA
CCUI VSEID	VSEMIN1

The CAIAUDIT service provides a comprehensive logging and reporting system for CA products. The AUDIT runtime system performs the actual logging of data to the CAIAUDIT data set(s). Tuning the AUDIT runtime system to further increase throughput or reduce storage (or both) can be accomplished using the Event Notification Maintenance panels or the CACCDBU0 utility (ALTER AUDITOPTIONS).

Factors Affecting Performance

The AUDIT runtime system is maximized by permitting products that produce CAIAUDIT event records to log data with extremely low overhead. Products write their records to an in-core message queue rather than to DASD, thus avoiding I/O. The records are then written asynchronously to the CAIAUDIT data set(s) at periodic intervals (or when the message queue becomes full) by the AUDIT runtime system. As long as there is room in the message queue, products can log records without any requirement to wait for I/O or other supervisor services.

When the message queue fills, however, applications that need to log CAIAUDIT event records must wait for room in the queue to become available again. Avoiding this type of wait is critical to maintaining good performance.

Tuning the AUDIT Runtime System

CAIAUDIT offers four different methods to use separately or together to tune the AUDIT runtime system:

1. Restrict the amount of records being logged.
Limit the number of records to be logged by the AUDIT runtime system.
2. Allocate a large Message Queue.
Specify up to 1 megabyte of storage for the in-core Message Queue.

3. Drain the Message Queue frequently.
Reduce the number of seconds that pass between Message Queue drains.
4. Use staging.
Specify that the Message Queue is to be drained to the Staging data set, CAUDSTG. This procedure is helpful because the algorithms and access methods used to write to the Staging data set are significantly faster than those used to write to the CAUDPCn data set(s) directly.

Primary Selection Panel (CUI-MENU)

This panel lists all the functions available to a particular user in the CUI transaction. System Administrators are responsible for defining this panel for each user.

CUI-MENU ====>	Primary Selection Panel	CAICUI
Enter desired option number or any valid command and press ENTER:		
1. CUI Session Status Selection 2. CUI Maintenance 3. Event Notification Selection 4. Event Notification Maintenance 5. File Management 6. Systems Programmer Interface 7. Automated Message Management 8. Catalog Management Maintenance 9. System Adapter Maintenance		
1=Help 7=Backward	2= 8=Forward	3=Quit 9= 4= 10= 5= 11= 6= 12=Exit

To select a menu option, enter the desired menu number and press Enter, or tab down to the desired option, and press Enter.

Event Notification Maintenance Panel (AUDM-0000)

This panel displays all of the products or services that can be selected for CAIAUDIT event notification maintenance. This option is available only to System Administrators.

You can display this panel by:

- Selecting its menu number on the Primary Selection Panel (CUI-MENU)
- Entering **AUDIT MENU** from anywhere within the CUI transaction
- Typing fastpath **=X.0** (X being the numeric option for Event Notification Maintenance on the Primary Selection Panel (CUI-MENU))

AUDM-0000	Event Notification Maintenance		CAIAUDIT		
====>					
Enter desired option number or any valid command and press the ENTER key.					
1. CAIAUDIT OPTIONS					
2. CA-TOP SECRET					
3. CA-OPERA					
4. SYSTEM ADAPTER					
5. CATALOG MANAGEMENT					
6. CA-ASM					
7. CA-ASM/ARCHIVE					
8. CA-SCHEDULER					
9. CA-SYSTEM/SCHEDULER					
1=Help	2=	3=Quit	4=	5=	6=
7=	8=	9=	10=	11=	12=Exit

To select a menu option, enter the desired menu number, or tab down to the desired option, and press Enter.

AUDIT Control Options Panel (AUDM-1000)

This panel displays the system control options that have been defined for CAIAUDIT, either by a System Administrator or the defaults that take effect upon system initialization. You can display this panel by:

- Selecting its menu number on the Event Notification Maintenance Panel (AUDM-0000)
- Entering **AUDIT DISPLAY AUDITMAINT** from anywhere within the CUI transaction
- Typing fastpath **=X.1** (X being the numeric option for Event Notification Maintenance on the Primary Selection Panel (CUI-MENU))

You can overwrite any of the fields on this panel to modify CAIAUDIT control options. Any changes made on this panel require that the AUDIT runtime system be shut down and brought back up again in order to take effect.

AUDM-1000		AUDIT Control Options		CAIAUDIT	
====>					
CAUDPC1 Full Action:	SWITCH	(Switch, COnsole, STop)	Share:	NO	(Yes, No)
Message Queue Size:	008	(Specify 1-256 4k Blocks)	Stage:	YES	(Yes, No)
Logger Wait Interval:	030				
Merger Wait Interval:	030				
	CPU nn	CPU ID			
	01	FF00001230900000			
	02	FF00003430900000			
	03	FF00002730900000			
	04	FF00004330900000			
	05	_____			
	06	_____			
	07	_____			
	08	_____			
	09	_____			
	10	_____			
1=Help	2=	3=Quit	4=	5=	6=
7=Backward	8=Forward	9=	10=	11=	12=Exit

The field descriptions for the above panel follow.

Fields	Descriptions
CAUDPC1 Full Action	Specify what the system is to do when the CAUDPC1 data set becomes full. CAUDPC1 is the primary repository of event records logged by the AUDIT runtime system and is a VSAM KSDS data set to which additional allocations can be dynamically added as needed. Choose one of the following actions to be taken by the AUDIT runtime system when it becomes full: - SWitch Switch to the alternate output data set CAUDPC2 and notify the operator console of the switch. For the switch to be successful, the CAUDPC2 must have been previously defined to VSAM and initialized using CACCDBU0. Refer to the <i>Getting Started Guide</i> for details on how to define and initialize CAUDPC2. - COnsole Stop logging to CAUDPC1 and begin logging to the VSE operator console, even if the Notify VSE Console option for this exit has been set to NO. - STop <i>Default.</i> Stop logging to CAUDPC1 and halt all recording of events. The operator console is notified that logging has stopped.

Fields	Descriptions
Share	Specify whether to share CAUDPC1 and CAUDPC2 among multiple physical or virtual machines. This option indicates to the AUDIT runtime system whether to perform the special processing required to function in a shared environment. Choose one of the following: NO <i>Default.</i> Do not share the CAUDPCn data set(s). YES Share the CAUDPCn data set(s). Note: For best performance, specify Share as YES only if the CAUDPCn data sets are actually being shared.
CPU nn	Displays the internal numbers, 1 through 32, assigned to the CPU IDs that are defined to the system.
CPU ID	Specify the 16-digit hexadecimal CPU ID(s) of the VSE machine(s) to be used. As many as 32 VSE machines can share concurrent access to the CAUDPCn data set(s). Each of these CPUs must be identified to CAIAUDIT. Note: CAIAUDIT inserts into a record the relative CPU number (1 to 32) of the CPU on which it was logged. If CAIAUDIT is activated on an improperly identified CPU, a warning message is written to the VSE operator console and a default relative CPU number of 00 is inserted into any and all records logged on that CPU.
Stage	Specify whether the Staging data set (CAUDSTG) is to be used by the AUDIT runtime system. Staging enables the runtime system to drain the Message Queue significantly faster than when staging is not used; the faster the Message Queue can be drained, the greater the probability that room is available in the Message Queue. Choose one of the following: NO <i>Default.</i> Do not use CAUDSTG. YES Use CAUDSTG. Note: CAUDSTG must be defined and initialized before Stage YES can be specified. Refer to the <i>Getting Started</i> guide for detailed instructions on how to define and initialize CAUDSTG.

Fields	Descriptions
Logger wait interval	Specify the amount of time, in seconds, that the CAIAUDIT logger task is to remain dormant between scans of the Message Queue. Valid values are 1 to 999. The default is 30. If you have specified Stage=YES, you should increase the default to (at least) 180. The lower the interval, the more often the in-core Message Queue is drained.
Merger wait interval	Specify the amount of time, in seconds, that the CAIAUDIT merger task is to remain dormant between scans of CAUDSTG. The merger task is attached only if the Stage option has been specified as YES. If Stage=NO has been specified, this field is meaningless. Valid values are 1 to 999. The default is 30. The merger task drains CAUDSTG of all records logged to it and migrates them to the current output data set (CAUDPC1 or CAUDPC2). The lower the interval, the more often CAUDSTG is drained.
Message Queue size	Specify the number of 4K storage blocks to be allocated for the Message Queue. Valid values are 1 to 256. The default is 8 (reducing this number will cause performance degradation). The Message Queue is where records are placed and stored by products until they are written to CAUDSTG or one of the CAUDPCn data set(s). Storage is allocated out of system GETVIS.

Local Commands

Command	Function
BAckward nnn	Scroll backward nnn panels. The default is 1.
BOtTom	Scroll to the bottom of the panel display.
DOwn nnn	Scroll down nnn lines. The default is 1.
FOrward nnn	Scroll forward nnn panels. The default is 1.
TOP	Scroll to the top of the panel display.
UP nnn	Scroll up nnn lines. The default is 1.

Catalog Management AUDIT Control Options (AUDM-7000)

This panel displays the CAIAUDIT control options defined for the Catalog Management service. It is displayed by:

- Selecting its menu number on the Event Notification Maintenance Panel (AUDM-0000)
- Entering **AUDIT DISPLAY CATMAINT** from anywhere within the CUI transaction
- Typing fastpath **=X.7** (X being the numeric option for Event Notification Maintenance on the Primary Selection Panel (CUI-MENU))

You can overwrite any of the fields on this panel to modify Catalog Management AUDIT control options. Any changes made on this panel require that the AUDIT runtime system be brought down and back up again in order to take effect.

The currently specified actions to be taken by the AUDIT runtime system are displayed on the panel. To change an action, type the new value over the current one.

AUDM-7000 ====>				Catalog Management AUDIT Control Options		CAIAUDIT
Event Code	Event Description			Notify Console	Log to CAUDPC1	Notify Exit
CATU	Catalog Management Options Update			YES	YES	NO
1=Help	2=	3=Quit	4=	5=	6=	
7=Backward	8=Forward	9=	10=	11=	12=Exit	

The field descriptions for the above panel follow.

Fields	Descriptions
Notify Console	Specify whether the event is to be logged to the operator console. Choose one of the following: NO Do not log the event to the operator console. YES Log the event to the operator console.
Log to CAUDPC1	Specify whether the event is to be logged to the CAUDPC1 data set. Choose one of the following: NO Do not log the event to the CAUDPC1 data set. YES Log the event to the CAUDPC1 data set.

Fields	Descriptions
Notify Exit	Specify whether Exit programs are to be notified of this event. Choose one of the following: NO Do not notify any Exit programs of this event. YES Notify all Exit programs of this event.

Local Commands

Command	Function
BAckward nnn	Scroll backward nnn panels. The default is 1.
BOtTom	Scroll to the bottom of the panel display.
DOwn nnn	Scroll down nnn lines. The default is 1.
FOward nnn	Scroll forward nnn panels. The default is 1.
TOP	Scroll to the top of the panel display.
UP nnn	Scroll up nnn lines. The default is 1.

System Adapter AUDIT Control Options (AUDM-C000)

This panel displays the CAIAUDIT control options defined for the System Adapter service. It is displayed by:

- Selecting its menu number on the Event Notification Maintenance Panel (AUDM-C000)
- Entering **AUDIT DISPLAY SADMAINT** from anywhere within the CUI transaction
- Typing fastpath **=X.C** (X being the numeric option for Event Notification Maintenance on the Primary Selection Panel (CUI-MENU))

You can overwrite any of the fields on this panel to modify System Adapter AUDIT control options. Any changes made on this panel require that the AUDIT runtime system be brought down and back up again in order to take effect.

The currently specified actions to be taken by the AUDIT runtime system are displayed on the panel. To change an action, type the new value over the current one.

AUDM-C000 ====>				System Adapter AUDIT Control Options		CAIAUDIT
Event Code	Event Description			Notify Console	Log to CAUDPC1	Notify Exit
SADU	System Adapter Options Update			NO	YES	NO
1=Help	2=	3=Quit	4=	5=	6=	
7=Backward	8=Forward	9=	10=	11=	12=Exit	

The field descriptions for the above panel follow.

Fields	Descriptions
Notify Console	Specify whether the event is to be logged to the operator console. Choose one of the following: NO Do not log the event to the operator console. YES Log the event to the operator console.
Log to CAUDPC1	Specify whether the event is to be logged to the CAUDPC1 data set. Choose one of the following: NO Do not log the event to the CAUDPC1 data set. YES Log the event to the CAUDPC1 data set.
Notify Exit	Specify whether Exit programs are to be notified of this event. Choose one of the following: NO Do not notify any Exit programs of this event. YES Notify all Exit programs of this event.

Local Commands

Command	Function
Backward nnn	Scroll backward nnn panels. The default is 1.
BOTtom	Scroll to the bottom of the panel display.
DOWn nnn	Scroll down nnn lines. The default is 1.
FORward nnn	Scroll forward nnn panels. The default is 1.
TOP	Scroll to the top of the panel display.
UP nnn	Scroll up nnn lines. The default is 1.

Using CAIAUDIT in Prompt Mode

CAIAUDIT is a comprehensive logging and reporting facility for a variety of CA products. The AUDIT runtime system performs the actual logging of data to the CAIAUDIT data set(s). All CAIAUDIT records can be viewed on directory or detail panels.

This section explains how to use CAIAUDIT in prompt mode and shows you how to display:

- A directory of all records logged to the CAIAUDIT data set(s)
- A directory of specific records
- A record in detail

Primary Selection Panel (CUI-MENU)

This panel lists all of the options available to a particular user within the CUI transaction. A System Administrator is responsible for defining this panel for each user.

CUI-MENU	Primary Selection Panel	CAICUI
====>		
	Enter desired option number or any valid command and press ENTER:	
	1. CUI Session Status Selection	
	2. CUI Maintenance	
	3. Event Notification Selection	
	4. Event Notification Maintenance	
1=Help	2=	3=Quit
7=Backward	8=Forward	9=
		10=
		11=
		12=Exit

To select a menu option, enter the desired menu number and press Enter, or tab down to the desired option and press Enter.

The Event Notification Selection is used to select and display the CAIAUDIT records that you desire.

Event Notification Maintenance is used to display or alter CAIAUDIT global options or product specific options.

CAIAUDIT Data Set Browse Selection Panel (AUDT-1000)

This panel allows you to specify what CAUDPCn records you want to display. You can select a record or group of records by entering data **specific** to the desired record or group of records in these selection and relation fields. CAICUI uses this information to browse the specified CAUDPCn data set from the first to last record and redisplay a directory of all entries that match the specified information.

If no criteria are entered, all records in the current CAUDPCn data set are displayed on the CAIAUDIT Data Set Directory Panel - All Products (AUDT-1100).

AUDT-1000		CAIAUDIT Data Set Browse Selection		CAIAUDIT
====>				
Enter the desired selection criteria and press the ENTER key.				
	Relation	Selection		
CAUDPCn:	—	—	Specify Data Set to Browse (1,2)	
Product:	—	—	Product code	
Event:	—	—	Event code	
Date:	—	—	Date of event (MMDDYY)	
Time:	—	—	Time of event (HHMMSS)	
Userid:	—	—	User identification	
Facility:	—	—	Facility identification	
Severity:	—	—	Severity code	
Name:	—	—	Name identification	
Misc:	—	—	Miscellaneous	
CPU:	—	—	Relative CPU number	
1=Help	2=	3=Quit	4=	5=
7=	8=	9=	10=	11=
				12=Exit

For example, enter a valid, CAIAUDIT-assigned product code on this panel to display a **product-specific** CAIAUDIT data set directory panel. Refer to Appendix C of this guide for a list of valid product codes.

The field descriptions, relating to the above panel, are on the following page.

Fields	Descriptions
CAUDPCn	Specify a data set. The default is the current CAUDPCn data set.
Product	Specify a product code. For a list of valid product codes, see the appendix "CAIAUDIT Codes."
Event	Specify an event code. For a list of valid event codes, see the appendix "CAIAUDIT Codes."
Date	Specify a date.
Time	Specify a time.
Userid	Specify a user ID.
Facility	Specify a facility ID; depending upon the product, it can be a terminal ID, partition ID or VTAM application ID.

Fields	Descriptions
Severity	Specify a severity code. Valid severity codes are: A Abend E Error I Informational W Warning
Name	Specify a Job name.
Misc	Specify any miscellaneous event information.
CPU	Specify a CPU ID.

Relations

Enter either the relation's abbreviation or equivalent symbol:

Abbreviation	Symbol	Relation
EQ	=	Equal to the selection criteria.
NE	^=	Not equal to the selection criteria.
LT	<	Less than the selection criteria.
GT	>	Greater than the selection criteria.
LE	<=	Less than or equal to the selection criteria.
GE	>=	Greater than or equal to the selection criteria.

CAIAUDIT Data Set Directory Panel - All Products (AUDT-1100)

This panel displays one line of information for each record contained in the CAUDPCn data set currently being browsed. It is displayed if no product code is specified on the CAIAUDIT Data Set Browse Selection Panel (AUDT-1000).

AUDT-1100 CAIAUDIT Data Set Directory - All Products CAIAUDIT									
====>									
Cmd	Date	Time	Prod	Evnt	User	Fac	ID	Sev	Miscellaneous
---	07/19/89	13:27:17	CASS	MSG	SSCHDUSR	TESTFAC1	I	GENJNAME	00 TEST JOB
---	07/19/89	13:27:17	CASS	CMS	USRSSCHD	FAC1TEST	I	JNAMEGEN	00 << OTHER COMM
---	07/19/89	13:27:17	CASS	CMS	USERREC3	FAC1REC3	W	SALEPRIC	00 SALE PRICE \$1
---	07/19/89	13:27:17	CASS	CMS	USERREC4	FAC1REC4	W	RECORD04	00 20 BYTES OF C
---	07/19/89	13:27:17	CASS	MSG	SSCHDUSR	TESTFAC1	I	GENJNAME	00 TEST JOB
---	07/19/89	13:27:17	CASS	CMS	USRSSCHD	FAC1TEST	I	JNAMEGEN	00 << OTHER COMM
---	07/19/89	13:27:17	CASS	CMS	USERREC3	FAC1REC3	W	SALEPRIC	00 SALE PRICE \$1
---	07/19/89	13:27:17	CASS	CMS	USERREC4	FAC1REC4	W	RECORD04	00 20 BYTES OF C
---	07/19/89	13:27:17	CASS	MSG	SSCHDUSR	TESTFAC1	I	GENJNAME	00 TEST JOB
---	07/19/89	13:27:17	CASS	CMS	USRSSCHD	FAC1TEST	I	JNAMEGEN	00 << OTHER COMM
---	07/19/89	13:27:17	CASS	CMS	USERREC3	FAC1REC3	W	SALEPRIC	00 SALE PRICE \$1
---	07/19/89	13:27:17	CASS	CMS	USERREC4	FAC1REC4	W	RECORD04	00 20 BYTES OF C
---	07/19/89	13:27:17	CASS	MSG	SSCHDUSR	TESTFAC1	I	GENJNAME	00 TEST JOB
---	07/19/89	13:27:17	CASS	CMS	USRSSCHD	FAC1TEST	I	JNAMEGEN	00 << OTHER COMM
==>									
1=Help	2=	3=Quit	4=	5=	6=				
7=Backward	8=Forward	9=	10=	11=	12=Exit				

You can use this panel to:

- Change selection criteria
- Select a record for detail display
- Use local commands

The field descriptions, relating to the above panel, are on the following page.

Fields	Descriptions
Cmd	Use this area to enter short commands.
Date	The date the event occurred. Also a selection field.
Time	The time the event occurred. Also a selection field.
Prod	The CAIAUDIT-assigned product code of the product that logged the event. Also a selection field. For a list of valid product codes, see Appendix C of this guide.
Evnt	The event code of the event that occurred. Also a selection field. For a list of valid product codes, see Appendix C of this guide.
User	The user ID associated with the event that occurred. Also a selection field.

Fields	Descriptions
Fac ID	The facility ID of the event that occurred. Depending upon the product, the facility ID is a terminal ID, partition ID, or VTAM application ID. Also a selection field.
Sev	The severity code of the event that occurred. Also a selection field. Valid severity codes are: A Abend E Error I Informational W Warning
Name	The name associated with the event that occurred. Also a selection field.
CPU	The relative ID of the CPU where the event occurred. Also a selection field.
Misc	Any miscellaneous event information. Also a selection field.

Local Commands

Command	Function
BAckward nnn	Scroll backward nnn panels. The default is 1.
BOtTom	Scroll to the bottom of the panel display.
DOwn nnn	Scroll down nnn lines. The default is 1.
FOrward nnn	Scroll forward nnn panels. The default is 1.
TOP	Scroll to the top of the panel display.
UP nnn	Scroll up nnn lines. The default is 1.

Short Commands

Command	Function
DSP	Display in detail all available information contained in a specific record. Enter DSP in the short command area on the same line as the desired record or if no other short commands have been entered, position the cursor anywhere on the line of the desired record and press Enter.

Relations

Enter either the relation's abbreviation or equivalent symbol:

Abbreviation	Symbol	Relation
EQ	=	Equal to the selection criteria.
NE	^=	Not equal to the selection criteria.
LT	<	Less than the selection criteria.
GT	>	Greater than the selection criteria.
LE	<=	Less than or equal to the selection criteria.
GE	>=	Greater than or equal to the selection criteria.

CAIAUDIT Data Set Directory Panel - Catalog Management (AUDT-1700)

This panel displays one line of information for each Catalog Management record logged to the CAUDPCn data set currently being browsed when CACN is specified as the product code on the CAIAUDIT Data Set Browse Selection Panel (AUDT-1000).

AUDT-1700						CAIAUDIT
====>						
Cmd	Event code	Date	Time	User ID	Term ID	
---	CATU	04/19/90	10:18:13	USER1	V77A	
---	CATU	04/19/90	10:25:33	USER2	V77A	
---	CATU	04/19/90	10:25:49	USER3	V77A	
==>	---	---	---	---	---	
1=Help	2=	3=Quit	4=	5=	6=	
7=Backward	8=Forward	9=	10=	11=	12=Exit	

You can use this panel to:

- Change selection criteria
- Select a record for detail display
- Use local commands

The field descriptions for this panel are as follows:

Fields	Descriptions
Cmd	Use this area to enter short commands.
Event Code	The event code of the event that occurred. Also a selection field. For a list of valid event codes, see Appendix C of this guide.
Date	The date the event occurred. Also a selection field.
Time	The time the event occurred. Also a selection field.
User ID	The user ID associated with the event that occurred. Also a selection field.
Term ID	The terminal ID of the event that occurred. Also a selection field.

Local Commands

Command	Function
Backward nnn	Scroll backward nnn panels. The default is 1.
BOTtom	Scroll to the bottom of the panel display.
DOWn nnn	Scroll down nnn lines. The default is 1.
FORward nnn	Scroll forward nnn panels. The default is 1.
TOP	Scroll to the top of the panel display.
UP nnn	Scroll up nnn lines. The default is 1.

Short Commands

Comm and	Function
DSP	Display in detail all available information contained in a specific record. Enter DSP in the short command area on the same line as the desired record or if no other short commands have been entered, position the cursor anywhere on the line of the desired record and press Enter.

Enter either the relation's abbreviation or equivalent symbol:

- Change selection criteria
- Select a record for detail display
- Use local commands

The field descriptions for this panel are as follows:

Fields	Descriptions
Cmd	Use this area to enter short commands.
Event Code	The event code of the event that occurred. Also a selection field. For a list of valid event codes, see Appendix C of this guide.
Date	The date the event occurred. Also a selection field.
Time	The time the event occurred. Also a selection field.
User ID	The user ID associated with the event that occurred. Also a selection field.
Term ID	The terminal ID of the event that occurred. Also a selection field.

Local Commands

Command	Function
Backward nnn	Scroll backward nnn panels. The default is 1.
BOTtom	Scroll to the bottom of the panel display.
DOWn nnn	Scroll down nnn lines. The default is 1.
FORward nnn	Scroll forward nnn panels. The default is 1.
TOP	Scroll to the top of the panel display.
UP nnn	Scroll up nnn lines. The default is 1.

Short Commands

Comm and	Function
DSP	Display in detail all available information contained in a specific record. Enter DSP in the short command area on the same line as the desired record or if no other short commands have been entered, position the cursor anywhere on the line of the desired record and press Enter.

Relations

Enter either the relation's abbreviation or equivalent symbol:

Abbreviation	Symbol	Relation
EQ	=	Equal to the selection criteria.
NE	^=	Not equal to the selection criteria.
LT	<	Less than the selection criteria.
GT	>	Greater than the selection criteria.
LE	<=	Less than or equal to the selection criteria.
GE	>=	Greater than or equal to the selection criteria.

CAIAUDIT Data Set Detail Panel - Catalog Management (AUDT-1710)

The following panel is displayed when a Catalog Management record with event code CATU is selected for detail display:

AUDT-1710 ====>	CAIAUDIT Data Set Detail - Catalog Management	CAIAUDIT
Event Code:	CATU Catalog Management Options Update	
	** Catalog Enqueue Information **	
	Enqueue Wait Interval:	005 (Seconds)
	Number of messages before CADC0001:	0010 (1-9999)
	Number of messages before CADC0005:	0010 (1-9999)
	Catalog Recovery:	YES (Yes or No)
	** Default Values **	
	Default Control Interval Size:	0001 (1-9999)
	Default number of catalog buffers:	004 (1-9999)
	Default maximum buffer space allocation:	0000 (1-9999)
	Physical journaling supported:	YES (Yes or No)
	Physical journaling compression desired:	YES (Yes or No)
1=Help	2=	3=Quit
7=Backward	8=Forward	9=
	10=	11=
		12=Exit

CAIAUDIT Data Set Detail Panel - System Adapter (AUDT-1C10)

The following panel is displayed when a System Adapter record with event code SADU is selected for detail display:

AUDT-1C10		CAIAUDIT Data Set Directory - System Adapter		CAIAUDIT	
====>					
Event Code:		SADU System Adapter Options Update			
Description:					
SVC Number:		000	Number of SVRBs:		000
----- CPU Identification -----					
CPU ID		System ID		CPU Serial Number	
--		--		-----	
--		--		-----	
--		--		-----	
--		--		-----	
--		--		-----	
--		--		-----	
--		--		-----	
--		--		-----	
1=Help		2=	3=Quit	4=	5=
7=Backward		8=Forward	9=	10=	11=
					12=Exit

Using CAIAUDIT in Command Mode

This section explains how to use CAIAUDIT in command mode. There are essentially two commands that can be used to display CAIAUDIT panels. Both contain the optional prefix AUDIT: it may sometimes be required to specify with which product or component the command is associated (that is, to distinguish it from similar product or component commands). Consult a System Administrator for details.

SELECT AUDITRECORDS

SELECT AUDITRECORDS displays the CAIAUDIT Data Set Browse Selection Panel (AUDT-1000), from which you can select specific CAIAUDIT records.

Type: global

```
AUDIT SElect AUDITRECORDS
```

The **AUDIT** prefix is optional on this command. It is sometimes necessary to specify with which product the command is associated. **The command executes with or without the AUDIT prefix.**

The following command displays the CAIAUDIT Data Set Browse Selection Panel (AUDT-1000):

```
SEL AUDIT RECORDS
```

DISPLAY AUDIT

DISPLAY AUDIT selects specific CAIAUDIT records for display on a directory panel.

Type: global

```
AUDIT Display AUDIT [PRODUCT=ALL|product]
                    [DSN=1|2]
                    [CPU=nn]
                    [DATE=mmddyy|ddmmyy]
                    [EVENT=eventcode]
                    [FACILITY=facility]
                    [MISC=miscellaneous]
                    [SEVERITY=A|E|I|W]
                    [TIME=hhmmss]
                    [USERID=userid]
```

The **AUDIT** prefix is optional on this command. It is sometimes necessary to specify with which product the command is associated. **The command executes with or without the AUDIT prefix.**

AUDIT Specify that CAIAUDIT records are to be displayed.

PRODUCT=ALL|product Specify the product code of the record(s) to be displayed. Only one product can be specified at a time. See Appendix C of this guide for a list of valid product codes. The default is ALL.

DSN=1|2 Specify the data set to be browsed. The default is the data set currently being logged. Choose one of the following:

1 CAUDPC1

2 CAUDPC2

CPU=nn Specify the relative CPU number of the record(s) to be displayed. It can be any number from 1 to 32.

DATE=mmddyy|ddmmyy Specify the date of the record(s) to be displayed, using the format specified in the AUDIT Control Options Panel (AUDM-1000).

EVENT=eventcode Specify the event code of the record(s) to be displayed.

FACILITY=facility Specify the facility ID of the record(s) to be displayed.

MISC=miscellaneous Specify any informational text.

SEVERITY=A E I W	Specify the severity code of the record(s) to be displayed. Valid severity codes are: A Abend E Error I Informational W Warning
TIME=hhmmss	Specify the time of the record(s) to be displayed.
USERID=userid	Specify the user ID associated with the record(s) to be displayed. The following command displays all CA-OPERA records with the event code DLAY: D AUDIT,PRODUCT=CAOP,EVENT=DLAY

Using CAIAUDIT in Batch Mode

CAIAUDIT's extensive reporting capabilities are facilitated by the CA-EARL Service, a utility that generates reports for all CA products using CAIAUDIT. In addition to the standard reports provided with CAIAUDIT, customized reports can also be created using the CA-EARL Service.

The copybook needed to generate a specific product's CAIAUDIT EARL report was cataloged to the library defined as a 0 (zero) book during installation. The copybooks for all CA products using CAIAUDIT can be found in this library with the prefix CAAU.

The next page displays a sample CA-EARL Service report listing all CA-OPERA CAIAUDIT records. Following are directions for generating that report.

Sample CA-EARL Service Report

To produce a sample CA-EARL report, use the following JCL (the OPTION statement values can be modified).

```
// JOB CAAUEP04
// UPSI 00000000                                (See Note 1)
// ASSGN SYS001,DISK,VOL=WORK01,SHR
// ASSGN SYS006,DISK,VOL=WORK02,SHR
// DLBL  EARLOBJ,'EARLOBJ.FILE'
// EXTENT SYS001,WORK01,1,0,100,10
// DLBL  WORK1,'SORTWORK.FILE'
// EXTENT SYS001,WORK01,1,0,110,20
// LIBDEF *,SEARCH=your.library
// DLBL  CAICEFO,'CAAUEARL.FILE'
// EXTENT SYS006,WORK02,1,0,90,30
// DLBL  UCAT,'VSAM.USER.CATALOG1',,VSAM          (See Note 2)
// DLBL  CAUDPC1,'CAI.AUDIT1.DATASET',,VSAM,CAT=UCAT (See Note 3)
// TLBL  INFILE,'AUDIT.DATASET'                  (See Note 4,6)
// ASSGN SYS004,tape                              (See Note 5,6)
// MTC REW,SYS004                                 (See Note 6)
// EXEC EARL,SIZE=300K
OPTION PRINTER=132
OPTION PAGE=60
OPTION SORT=SRAM
COPY CAAUEF
COPY CAAUDCOD
COPY CAAUE04
/*
/&
```

Note 1 UPSI settings are listed at the end of this section.

Note 2 Substitute for VSAM.USER.CATALOG1 the name of the VSAM catalog to be used. Substitute for UCAT the DLBL filename of the VSAM catalog to be used. This DLBL must always be present.

Note 3 Substitute for CAI.AUDIT1.DATASET the name of the CAUDPC1 data set defined in the VSAM catalog. This DLBL must always be present.

Note 4 Substitute for AUDIT.DATASET the file ID present on the input tape label.

Note 5 Specify the CUU address of the tape drive to be used.

Note 6 Use this statement for tape processing only.

The control statements that print this report are contained in the CAAUE06 source member shown next. These statements can be modified to produce customized reports. Printable fields for the common portion of the audit record (header) are listed at the end of this chapter. See individual product guides for the printable fields for that product.

```
REPORT 'AUDIT RECORD LISTING'
  TITLE 'PRODUCT: DYNAM/T'
  TITLE ' '
SELECT CAAUDPRD = 'DYNT' AND CAAUDPEC NOT= 'UTIL'
CONTROL (CAAUDPEC) SKIP BREAK CAAUDDTE DOWN CAAUDTME
PRINT DOUBLE SPACING CAAUDPEC CAAUDDTE CAAUDTME CAAUDNAM
```

```
                                CAYDSTEP CAYDPART CAYDPROG CAAUDCPR CAYDDSN
REPORT 'AUDIT RECORD LISTING'
  TITLE 'PRODUCT:DYNAM/D'
  TITLE ' '
SELECT CAAUDPRD = 'DYND' AND CAAUDPEC NOT= 'UTIL'
CONTROL (CAAUDPEC) SKIP BREAK CAAUDDTE DOWN CAAUDTME
PRINT DOUBLE SPACING CAAUDPEC CAAUDDTE CAAUDTME CAAUDNAM
                                CAYDSTEP CAYDPART CAYDPROG CAAUDCPR CAYDDSN
REPORT 'AUDIT RECORD LISTING'
  TITLE 'PRODUCT:DYNCAUT UTILITY'
  TITLE ' '
SELECT CAAUDPEC = 'UTIL'
CONTROL (CAAUDPEC) SKIP BREAK CAAUDDTE DOWN CAAUDTME
PRINT DOUBLE SPACING CAAUDPEC CAAUDDTE CAAUDTME CAAUDNAM
                                CAYDSTEP CAYDPART CAYDPROG CAAUDCPR CAYDDSN
END
```

UPSI Settings

The following UPSI settings apply to the CA-EARL Service JCL displayed earlier in this section.

UPSI bits 5 and 8 are used for processing CAIAUDIT reports.

- | | |
|------------|--|
| UPSI bit 5 | Set this bit to 1 to process CAIAUDIT records from tape, or set it to 0 to process CAIAUDIT records from a VSAM data set. |
| UPSI bit 8 | Set this bit to 1 to process CAIAUDIT records from the CAUDPC2 data set, or set it to 0 to process CAIAUDIT records from the CAUDPC1 data set. |

Note: UPSI bit 5 overrides UPSI bit 8.

Printable Fields

The following tables list the printable fields that can be used for:

- CAIAUDIT
- Catalog Management and System Adapter

CAIAUDIT Header Fields

Names	Positions	Descriptions
CAAUDDTE	8	Header date (part of CAIAUDIT key)
CAAUDTME	8	Header time (part of CAIAUDIT key)
CAAUDPRD	4	Header product code
CAAUDPEC	4	Header event code

Names	Positions	Descriptions
CAAUDUID	8	Header user ID
CAAUDCPR	2	Header CPU ID
CAAUDSID	2	Header system ID
CAAUDFID	8	Header facility ID
CAAUDSVC	1	Header severity code
CAAUDNAM	8	Header job name
CAAUDINF	20	Header miscellaneous information
CAAUDSVCP	13	Header severity code (additional detail)
CAAUDCFL1	20	Header control flag (alphabetic)
CAAUDCFL2	8	Header control flag (numeric)
CAAUDPRDP	19	Header product code (additional detail)

Notification Exits

This section describes the CAIAUDIT Notification Exit programming requirements. You can instruct CAIAUDIT to optionally pass event records to Notification Exit programs, which then extract or modify the contents of the event records as required.

Notification Exits are called **after** the AUDIT runtime system has completed event logging and console processing. Consequently, the contents of the event logged to the CAIAUDIT data set do not reflect any changes made by the Notification Exits.

Using the Event Notification Maintenance Panel (AUDM-0000), a System Administrator can select event records to be passed to the Notification Exit by specifying the Notify Exit option of an event code as **YES**. That record is then passed to all available Notification Exits.

Programming Requirements

Notification Exit programs must be written to meet the following specifications:

1. The program must be cataloged with one of the following PHASE names (the names appear in the order in which Notification Exits are called):
CAAUUSR1
CAAUUSR2
CAAUUSR3
CAAUUSR4
CAAUUSR5
2. The program must be completely reentrant.
3. The program must be linked as SVA eligible.
4. The program must be written in Assembler.

Register Contents

The contents of the registers upon entry to the Notification Exit are:

Register	Description
R1	Address of CAAUDPRM
R13	Address of an 18-fullword chained savearea
R14	Address where the Notification Exit must return
R15	Entry point address of the Notification Exit

Notification Exit Copybooks

The following copybooks are provided with CAIAUDIT to assist in the development of Notification Exits:

Book name	Type	Description
CAAUDPRM	A	Describes the Parameter list pointed to by Register 1 on entry to the Notification Exit.
CAAURECS	A	A DSECT containing descriptions of the records being logged.

Assembler Copybook - CAAUDPRM

The CAAUDPRM area pointed to by Register 1 is described in the following copybook:

```
*****
*      AUDIT USER/LOGGING TASK PARAMETER LIST AND WORK AREA      *
*****
      SPACE
CAAUDPRM DSECT ,
      SPACE
      DS      0D          FORCE DOUBLEWORD ALIGN
CAAURECA DC      A(0)      ADDRESS OF AUDIT RECORD BEING LOGGED
CAAURSRV DC      3F'0'     RESERVED-INTERNAL AUDIT CONTROL USE
CAAUDWRK DC      XL128'00' AUDIT LOGGER TASK WORK AREA
CAAUDECB DC      F'0'     RESERVED-INTERNAL AUDIT CONTROL USE
CAAURETC DC      F'0'     RESERVED
CAAUDSFL DC      XL1'00'   RESERVED
      SPACE
CAAUDSVR DC      72F'0'    STORAGE FOR 4 CHAINED SAVE AREA'S
CAAUDPLN EQU      *-CAAUDPRM LENGTH OF THE CAAUDPRM
      SPACE
```

The address of the record presented to the runtime system can be found in field CAAURECA.

Assembler Copybook - CAAURECS

The record pointed to by field CAAURECA of the CAAUDPRM is described in the following copybook:

```
*****
*      CAIAUDIT EVENT RECORDS - COMMON HEADER                    *
*****
      SPACE
CAAUDREC DSECT ,          COMMON RECORD PREFIX
      SPACE
CAAUDKEY DS      0XL32     RECORD KEY
CAAUDDTE DS      PL4       ...DATE STAMP - 00YYDDD+
CAAUDTME DS      PL4       ...TIME STAMP - HHMMSS+
CAAUDUKY DS      XL20      ...20 BYTES OPTIONAL KEY DATA
CAAUDSEQ DS      F         ...SEQUENCE NUMBER
      SPACE
CAAUDLEN DS      F'0'      FULLWORD, LENGTH OF PRODUCT SPECIFIC DATA
      SPACE
CAAUDPRD DS      CL4       PRODUCT CODE
CAAUDPEC DS      CL4       PRODUCT SPECIFIC EVENT CODE
      SPACE
CAAUDUID DS      CL8       USER ID
      SPACE
CAAUDCPR DS      CL2       CPU RELATIVE ID
      ORG      CAAUDCPR
CAAUDSID DS      CL1       SYSID (CA-SCHEDULER)
      ORG      ,
CAAUDFID DS      CL8       FACILITY ID
CAAUDSVC DS      CL1       SEVERITY CODE
CAAUDSVW EQU      C'W'     SEVERITY=WARNING
CAAUDSVI EQU      C'I'     SEVERITY=INFORMATIONAL
CAAUDSVE EQU      C'E'     SEVERITY=ERROR
```

CAAUDSVA	EQU	C'A'	SEVERITY=ABEND
CAAUDNAM	DS	CL8	GENERIC JOB NAME
CAAUDINF	DS	CL20	COMMENTS/INFO
		SPACE	
CAAUDCFL	DS	XL1	CONTROL FLAG
CAAUDC01	EQU	X'01'	...RECORD IS 1ST RECORD OF A SET
CAAUDC02	EQU	X'02'	...RECORD IS A CONTINUATION
CAAUDC04	EQU	X'04'	...RECORD IS FINAL ONE IN A SET
		SPACE	
CAAUDRSV	DS	CL17	RESERVED
CAAUDVAR	DS	XL4000	VARIABLE PORTION OF RECORD
		ORG	
		CAAUDVAR	
CAAUDIRP	DS	CL80	OPTIONALLY FIRST 80 BYTES OF
*			VARIABLE PORTION OF RECORD

Common Communication Interface

The Common Communications Interface (CAICCI) provides a common approach to CA Solution communications requirements. These requirements include:

- Product-to-product communication
- Cross product communication
- Cross system communication

In *product-to-product communication*, CAICCI enables copies of the same product to communicate with each other across network nodes and processors in a multi-node environment. It also allows copies of the same product to communicate with each other locally within a common host in a single domain.

In *cross product communication*, CAICCI enables CA solutions to communicate with other CA Solutions using a standard protocol.

In *cross system communication*, CAICCI enables CA solutions to communicate with other CA Solutions across any system capable of supporting CAICCI's protocols. This enables CA Solutions to quickly and efficiently adapt to new network platforms without requiring extensive application changes.

This chapter explains the use and configuration of CAICCI across VSE and VM operating system platforms; including information on system-to-system connectivity through TCP/IP, connectivity through SNA LU2 with structured field support, and use of the Configurator for running CAICCI on the PC.

Information on using CAICCI OS/390 is located in the Unicenter TNG Framework for OS/390 documentation.

Note: The following topics are discussed in this chapter:

- Mainframe system requirements
- Network transports
- Characteristics of SNA LU2 and TCP/IP
- CAICCI VSE operation and control options
- Customizing TCP/IP for VSE

- CAICCI VM operation and control options
- Customizing TCP/IP for VM
- Logon and logoff script files
- Error messages
- UNIX kernel parameters

CAICCI Storage Requirements

CAICCI requires a minimum storage size of 4Mb.

Requirements for VSE Users

CAICCI uses a recommended partition size of 6Mb. Specify SIZE=CA3CINIT on the EXEC statement when starting the CAICCI initialization phase CA3CINIT.

A sample CAICCI startup jobstream can be found in the STARTCCCI.Z book in the sublibrary where CAICCI is installed. After all of the CAICCI definitions have been completed and CAICCI started, use the AR command **GETVIS *nn*** with *nn* being the CAICCI partition ID) to determine the amount of partition GETVIS actually used. The partition size can then be adjusted. All CAICCI startup control statements **must** be in the SYSIPT data stream at CAICCI initialization.

TCP/IP Requirements

CA-CIS CAICCI provides support for TCP/IP. The requirements for using TCP/IP are:

- CA-CIS for VSE or CA90s Services VSE at genlevel 9801 or higher
- CA-CIS CAICCI at Release 1.1
- VSE/ESA at Release 1.3 or higher

And one of:

- TCPIP4VSE at Release 1.3 or higher
- Barnard Software TCP/IP-TOOLS at Build 240 or higher

Requirements for VM Users

Before installing CAICCI VM, CA-CIS for VM should be installed and operating. Consult the *CA-CIS VM Installation Guide* for complete information on installing CAICCI for VM.

Requirements Summary for VM

System	Version
CAICCI for VM	Level 9407 or higher
VM/SP or VM/HPO	All current releases
VM/XA	All current releases
VM/ESA	All current releases
z/VM	All current releases
TCP/IP	Level 9608 or higher

Loading CCI on a Client Platform

CAICCI for Windows is distributed both on the CA-CIS installation tape and on a 3.5 inch disk. The following table lists the locations and file names for the various media.

Media	Files
VSE tape	The CA-CIS installation library contains member CCIPCW32.EXE. Refer to Notes for VSE Users below.
3.5 inch disk	Contains executable file CCIPCW32.EXE.

Notes for VSE Users

For VSE/ESA 1.3.0 and above users, this member can be transferred directly from the VSE library to the PC using a workstation file transfer facility.

Alternatively, this file can be transferred directly from the VSE library to the PC using the FTP service of TCP/IP for VSE, with the following conditions:

- Be sure the VSE library that contains CA-CIS for VSE is defined to the file system of TCP/IP for VSE.
- You must download CCIPCW32.EXE in binary.
- Make sure that UNIX mode is turned off. Otherwise CCIPCW32.EXE will be downloaded in ASCII mode, even when you specify binary. UNIX mode is one parameter of your VSE FTP daemon. Some FTP clients might force UNIX mode to be turned on. The following example shows how a successful transfer of CCIPCW32.EXE was made using an FTP client:

```
c:\temp>ftp 41.256.139.133
Connected to 41.256.139.133
220-TCP/IP for VSE -- Version 01.04.00 -- FTP Daemon
Copyright (c) 1995,2001 Connectivity Systems Incorporated
220 Service ready for new user.
User (41.256.139.133:(none)): sysa
331 User name okay, need password.
Password:
230 User logged in, proceed.
ftp> cd cai2
250 Requested file action okay, completed.
ftp> cd ca90s14
250 Requested file action okay, completed.
ftp> binary f 80
200 Command okay.
ftp> get ccipcw32.exe
200 Command okay.
150-About to open data connection
File: CAI2.CA90S14.CCIPCW32.EXE
Type: Binary Recfm: S Lrecl: 4096
CC=ON UNIX=OFF RECLF=OFF TRCC=OFF CRLF=ON
150 File status okay; about to open data connection
226-Bytes sent:          943,520
Records sent:          11,794
Transfer Seconds:       12.41 (    76K/Sec)
File I/O Seconds:       1.05 (   921K/Sec)
226 Closing data connection.
943520 bytes received in 12.96 seconds (72.81 Kbytes/sec)
ftp> bye
221 Service closing control connection.
```

Network Transports and CAICCI

The Common Communication Interface (CAICCI) has been designed to allow you to choose among different network transports, depending on your specific preferences and performance requirements. This section outlines the networking alternatives supported by CAICCI and lists hardware and software prerequisites for each configuration.

The ability of CAICCI to be adapted to multiple network transports allows you great flexibility and freedom in configuring host-to-PC communications. You can normally install new applications within your existing environment, confident that your investment in communications hardware and software will be protected. As your needs change – perhaps to take advantage of new generations of low cost, high performance networking technology – you can migrate easily, without the need to change the applications which use CAICCI.

Currently, two alternatives are available for PC-to-host connectivity through CAICCI:

- SNA LU2, also known as 3270 emulation
- TCP/IP

The characteristics of these environments are explained on the following pages.

Characteristics of SNA LU2

CAICCI can provide mainframe connectivity over an SNA LU2 (3270 emulation) link.

In Microsoft Windows or OS/2, CAICCI exists as a DLL (Dynamic Link Library), allowing a single copy of the CAICCI executable routines to be shared across multiple applications. (In DOS, CAICCI functions are provided by a TSR program.) Applications communicate with CAICCI through a series of API verbs, implemented as local (DOS) or DLL (OS/2 and Windows) function calls.

HLLAPI (High Level Language Application Programming Interface) is an IBM standard which allows PC programs to emulate a 3270 device. In an SNA LU2 environment, CAICCI interacts with the mainframe through HLLAPI function calls. Any 3270 emulation products can be used, as long as they conform to IBM's HLLAPI specification. Third-party 3270 connectivity products which support IBM's HLLAPI definition include:

Attachmate: EXTRA! for Windows, Release 3.4 or higher

DCA: IRMA Workstation for Windows, Release 2.1.2 or higher

IBM: Personal Communications/3270, Release 3.0 A or higher

IBM: OS/2 Communications Manager/2 Release 1.0 or higher

Novell: Netware 3270 LAN Workstation for Windows, Release 1.2 or higher

NetSoft (formerly NSA): Dynacomm Elite, Release 3.4 or higher

Wall Data: RUMBA, Version 3.1, Update 5 or higher

You may be able to use products which are not on the above list if a compatible HLLAPI interface is provided by the vendor. Consult the documentation that comes with your 3270 emulation product or contact CA Technical Support (<http://ca.com/support>) for more information.

Any combination of hardware supported by your HLLAPI provider can be used with CAICCI. Most 3270 products support a wide range of hardware connections, including 3270 (coaxial) adapters and SDLC connections. In addition, many vendors offer LAN connectivity, in many cases including support for proprietary gateway configurations.

3270 Structured Fields

Some 3270 connectivity vendors support an extension to IBM's HLLAPI definition which provides access to a feature known as **3270 structured fields**. If your emulator supports this feature (for example, IBM's Personal Communications/3270 Version 3.0 and OS/2 Communications Manager products), CAICCI will automatically use structured field HLLAPI functions, resulting in greatly improved throughput.

Configuration Tips for LU2 Emulators

LU2 communications are made possible through use of a 3270 terminal emulation package. General information that applies for all emulators follows:

- Some 3270 emulators have problems when set up to execute in CUT mode. It is recommended that 3270 Emulators be set up to execute in DFT mode.
- Do not mix screen size and LOG modes. If you configure your session as a MOD 4 do not use a LOGMODE entry for a MOD 2. This causes a re-size of the emulator screen to occur and will cause problems. If you configure for a MOD 2, be sure that the default LOGMODE is for a MOD 2 or use another LOGMODE entry.
- LOG MOD 5 is not supported for LU2 communications.
- Be sure the PATH statement is correct and the emulator is in the path.

Characteristics of TCP/IP

In addition to SNA LU2, CAICCI can communicate between mainframes and PCs using TCP/IP as the network protocol. TCP/IP (Transmission Control Protocol/Internet Protocol) allows efficient high bandwidth connections and is especially well suited to environments where achieving top performance or the ability to handle high volume is of primary concern.

CAICCI offers identical interfaces for TCP/IP and SNA LU2. This allows applications to operate using the same internal programming syntax in both TCP/IP and SNA LU2 environments. Like the SNA LU2 interface, CAICCI for Microsoft Windows and OS/2 exists in DLL form and is shared across multiple instances of applications.

CAICCI interfaces to TCP/IP through an interface known as the **Sockets API**. Just as the HLLAPI interface helps shield CAICCI from the peculiarities of many 3270 implementations, Sockets allows CAICCI to operate consistently with full support of most of the popular PC TCP/IP products.

The Sockets layer within CAICCI can interface with any of the following TCP/IP networking products:

3COM: 3+Open TCP, Release 1.1 or higher

Beame & Whiteside: TCP/IP, Release 2.20 or higher

DEC: Pathworks for DOS (TCP/IP), Release 4.1 or higher

Frontier Technologies: Super-TCP, Release 3.00 or higher

FTP: PC/TCP, Release 2.04 or higher

HP: ARPA Services for DOS, Release 2.1 or higher

IBM: TCP/IP for DOS, Release 2.1.1 or higher

IBM: TCP/IP for OS/2

Locus: TCP/IP for DOS

Microsoft: LAN Manager TCP/IP, Release 2.2 or higher

NetManage Chameleon: TCP/IP, Release 4.0 or higher

NetManage Chameleon NFS: TCP/IP, Release 3.10 or higher

Novell: LAN WorkPlace for DOS, Release 4.00 or higher

Sun: PC-NFS, Release 3.5 or higher

Ungermann-Bass: Net/One, Version 16.5 or higher

Wollongong: PathWay Access for DOS, Release 1.1 or higher

Wollongong: WIN/TCP for DOS, Release 4.1.1 or higher

Note: To use CAICCI in a TCP/IP environment, you must install one of the products listed above. The list of supported networking software is extended frequently, so if you are using a product not currently on the above list, contact CA Technical Support (<http://ca.com/support>) for more information.

Depending on the TCP/IP product you choose, a variety of hardware options will be available to you, including TokenRing or Ethernet LAN connections and asynchronous dial-up facilities.

Choosing Network Transports

The choice of network transport greatly influences many of the operational characteristics of CAICCI, including the overall performance capabilities of individual applications and management requirements. While each installation will need to consider their own unique needs, this section presents some of the common rules of thumb that can be used to decide between SNA LU2 and TCP/IP approaches.

Keep in mind that CAICCI supports mixed configurations, where different users connect through different transports, yielding a combination of both SNA LU2 and TCP/IP. As the types of applications or your performance needs change, CAICCI enables you to easily migrate users between SNA LU2 and TCP/IP.

The major factors you will want to consider when choosing a network transport are:

- Performance considerations
- Hardware support
- Software support and prerequisites
- Management capabilities

Each of these issues is discussed in the sections below.

Performance Considerations

One of the most significant differences between SNA LU2 and TCP/IP is performance. The chart below summarizes performance differences observed when comparing three typical environments:

Configuration	Relative Performance
Coaxial SNA LU2 without structured fields	1X
Coaxial SNA LU2 with structured fields	Approximately 4X
TCP/IP with 10Mb Ethernet	Approximately 25X
TCP/IP with 100Mb Ethernet	Approximately 100X

There are several reasons for performance differences between TCP/IP and SNA LU2. TCP/IP tends to require less CAICCI control information to be transmitted between systems, making data transfers more efficient. The TCP/IP Sockets interface is also full duplex, allowing CAICCI to communicate without the need for line turnaround and polling. A fixed capacity communications channel will therefore typically achieve greater throughput with TCP/IP than with SNA LU2.

Hardware Support

In general, both TCP/IP and SNA LU2 support similar LAN and synchronous dial-up connections. The main difference in hardware support is that TCP/IP generally does not support coaxial 3270 connections.

TCP/IP, on the other hand, commonly supports a wider range of network connections at the very high and low ends of the performance spectrum. At the high end, most TCP/IP systems can support fiber optic and other advanced, high throughput connections. If your needs are more modest, TCP/IP commonly supports communications directly over asynchronous communications lines, allowing easy high performance dial-up connections for PC users.

Software Support

TCP/IP for the PC requires that you install a third-party TCP/IP network software package.

For best performance with SNA LU2, use 3270 emulation software which includes structured-field support. SNA LU2 requires ACF/VTAM software on the mainframe.

Network Management

In general, depending on the TCP/IP network software you install on your PC, TCP/IP may offer more robust network management than SNA LU2. When establishing PC-to-host connections, CAICCI operating with TCP/IP can dynamically locate host servers by interfacing through a TCP/IP Name Server. This feature allows PC users to connect to hosts through logical system names, further simplifying the network management process. SNA LU2 may require logon scripts due to the terminal emulation nature of the protocol.

Most TCP/IP transports can also generate SNMP (Simple Network Management Protocol) alerts to help you identify hardware errors or to collect performance or configuration information.

CAICCI on VSE

This section provides instructions for operating VSE CAICCI. The areas covered include:

- General operation
- CAICCI control options and their descriptions
- Defining the CAICCI setup
 - Procedure 1 explains how to define a CAICCI non-network (single-host) configuration
 - Procedures 2 and 3 explain how to define CAICCI network configurations
 - ◆ Procedure 2 discusses a simple network (two hosts or CPUs) and presents the sample definition statements
 - ◆ Procedure 3 discusses a three-host network

CAICCI Startup

CAICCI must be initialized and active **prior to** any application attempting to communicate via CCI. The startup program name is CA3CINIT. Specify SIZE=CA3CINIT on the EXEC statement.

CAICCI Control Options

CAICCI control options are specified at CAICCI startup time. They may be dynamically altered via the CCI operator command. For example, entering:

```
CCI SYSID(A97SYSID)
```

would alter the CAICCI SYSID control option.

The following pages contain summaries and descriptions for CAICCI control options.

About the MAXRU Size In the descriptions that follow, you will see the operand MAXRU. MAXRU is the maximum data packet size, specified in bytes, that is allowed to be transmitted between two CAICCI subsystem nodes.

To determine the required MAXRU for hosts connected via NCP, refer to your MAXDATA operand of the PCCU macro, the BUFSIZE of the BUILD macro, and the INBFRS, MAXBFRU and UNITSZ operands of the HOST macro. (See your *IBM VTAM Resource Definition Reference* and *NCP, SSP, and EP Resource Definition Guide*. You should also consult with your data center's VTAM/NCP systems programmer for further information.)

To determine the required MAXRU for hosts which are connected via CTC, refer to your VTAM start option LPBUF (See your *IBM VTAM Resource Definition Reference*.)

Option Summary

The following is a list of the CAICCI control options.

Control Option	Operand(s)	Default Value(s)
CCI	(RECYCLE)	n/a (not applicable)
CCI	(TERM)	n/a
CONNECT	(sysid,...)	n/a
DISPLAY,CONNECT	n/a	n/a
DISPLAY,LINK	n/a	n/a
DISPLAY,NODE	n/a	n/a
DISPLAY,PROTOCOL	n/a	n/a
DISPLAY,RESOURCE	n/a	n/a
DISPLAY,SYSID	n/a	n/a

Control Option	Operand(s)	Default Value(s)
GATEWAY	(VTAM, applid, retry, sysid, maxru,start/stop)	retry=10, maxru=4096, start/stop=START /SHUT
MAXRU	(nnnnn)	n/a
NODE	(LU0,applid,retry,sysid, maxru,start/stop)	retry=10, maxru=4096, start/stop=START /SHUT
PASSTHRU	(YES NO)	NO
PERMIT	(NONE ALL)	ALL
PROTOCOL	(VTAM TCPIP, applid, retry, sysid,maxru,start/stop)	retry=10, maxru=4096, start/stop=START /SHUT
REMOVE	(sysid)	n/a
SYSID	(sysid)[,FORCE]	n/a
VARY	(INACT ACT, SYSID, sysid)	n/a

Notes:

- Only use the CCI(RECYCLE) control option under the direction of CA Technical Support (<http://ca.com/support>).
- The CONNECT(sysid) control option refers to definitions made using the PROTOCOL and NODE control options to perform actual CAICCI linking.
- The PROTOCOL control option establishes CAICCI control blocks.
- The maxru= default value may be redefined by the MAXRU control statement.
- The stop=SHUT keyword is equivalent to the keyword STOP. Either may be coded to indicate that session termination is to occur at CAICCI shutdown.

Each of the CAICCI control options is described in one of the following sections.

CCI(RECYCLE)

Causes CAICCI to terminate all sessions with its remote CAICCI nodes and LU2 devices, followed by a shutdown of the CAICCI subsystem. Immediately afterwards, the CAICCI subsystem attempts to restart and reestablish VTAM connections with its remote subsystems that have NODE and CONNECT control statements defined for them. Remote CAICCI subsystems lacking NODE and CONNECT definitions and all LU2 devices must reestablish the session with the local CAICCI from the remote CAICCI subsystems.

This control statement should only be used under the direction of CA Technical Support (<http://ca.com/support>).

CCI(TERM)

Causes CAICCI to terminate all sessions with its remote CAICCI nodes and LU2 devices followed by a shutdown of the CAICCI subsystem. CAICCI subsystem will not attempt a restart.

CONNECT(sysid,...)

Connects one or more remote CAICCI nodes (previously defined by the NODE control statement) to the local host.

Operand	Description
sysid	The unique 1- to 8-character identifier of the remote CAICCI system to be connected. A maximum of seven CAICCI sysids may be connected using a single CONNECT statement. This operand is required for this statement.

Example (console):

```
CCI CONNECT(A73CVC01,A93CVC01)
```

Example (SYSIPT):

```
CONNECT(A73CVC01,A93CVC01)
```

DISPLAY,CONNECT

Displays the CAICCI connections of this host. This command returns the following messages to the console:

```
CA3C214I  CAICCI  COMMAND:  DISPLAY,CONNECT
CA3C720I  CAICCI  SYSID(A97CVC01)
CA3C730I  CAICCI  CONNECT(A97CVCXX,          ,          ,          )
```

The first two messages identify the CAICCI SYSID of this host as A97CVC01. The third message identifies that this host will attempt a connection with the remote CAICCI host whose CAICCI SYSID is A97CVCXX.

DISPLAY, LINK

Displays the host CAICCI link's status on the console. This command generates messages on the status of CAICCI links. CAICCI messages are explained in the *CA-CIS Message Guide*. Some of the typical messages returned include:

```
CA3C626I  CAICCI SUBSYSTEM IS OPERATIONAL .
CA3C710I  CAICCI LINK SPEAKER(P) ACT(Y) RESP(N) LUT(00) T(L)
```

CA3C710I identifies the speaker for this CAICCI link as primary (P) and is currently active (Y). Sessions in this link are network (N) related. LU-type 00 protocol rules are enforced. This link-type entry definition is local (L) to the host.

DISPLAY, NODE

Displays the CAICCI NODES of this host. This command returns the following messages to the console:

```
CA3C214I  CAICCI COMMAND: DISPLAY, NODE
CA3C720I  CAICCI SYSID(A97CVC02)
CA3C721I  CAICCI NODE TYPE(00) RETRY(0001) START(S) SHUT(S) MN(F6)
```

CA3C721I identifies the NODE level support for the remote host. The Host connection is VTAM LU0.

DISPLAY, PROTOCOL

Displays the CAICCI protocols of this host. This command returns the following messages to the console:

```
CA3C214I  CAICCI COMMAND: DISPLAY, PROTOCOL
CA3C720I  CAICCI SYSID(A97CVC01)
CA3C721I  CAICCI PROT TYPE(LU0) RETRY(0001) START(S) SHUT(S) MN(F6)
```

CA3C721I identifies the protocol level support for this host as VTAM LU0. If the LU-to-SSCP session should fail (ACB open failure), CAICCI will retry it in one minute (RETRY(0001)). CAICCI START and SHUT options are the normal START/SHUT defaults. The VTAM MAXRU size as it appears in the CAICCI BIND image is F6 ($F * 2^6 = 960$).

DISPLAY, RESOURCE

Displays all CAICCI resources on the console. This command returns the following messages to the console:

```
CA3C626I  CAICCI SUBSYSTEM IS OPERATIONAL
CA3C701I  CAICCI # RCVRS(00000003) LOCAL(00000001) REMOTE(00000002)
```

CA3C701I indicates that CAICCI has a total of three receivers. It has one local receiver and 2 remote receivers.

DISPLAY,SYSID

Displays the CAICCI system identifier of the host This command returns the following message to the console:

```
CA3C214I CAICCI COMMAND: DISPLAY,SYSID
CA3C720I CAICCI SYSID(A97CVC01)
```

GATEWAY(VTAM,applid,retry,sysid,maxru,start/stop)

The GATEWAY command defines a remote CAICCI node to the local host. The default values are: retry=10, maxru=4096, start/stop=START/SHUT.

GATEWAY differs from the NODE statement in that in a multi-CPU or multi-platform environment, one or more CPUs are *not* logically connected (through VTAM) to other CPUs.

Options which must be entered for GATEWAY are as follows:

Operand	Description
VTAM	VTAM is the communications protocol supported by the local host node to access the remote CAICCI node.
applid	The LU name defined in VTAMLST (as a cross-domain resource) that the remote CAICCI uses as its APPLID.
retry	The repoll time in minutes that CAICCI uses to attempt to reestablish a session with the remote CAICCI via the APPLID specified. This time ranges from 0 (do not repoll) to 59 minutes. This operand is optional and has a default value of 10.
sysid	The unique 1- to 8-character identifier of the remote CAICCI system.
maxru	The maximum data packet size, specified in decimal bytes, that is allowed to be transmitted between the local CAICCI and this remote CAICCI node. The default MAXRU value is 4096 or the value set by the MAXRU control option statement.

Operand	Description
start/stop	The control words used to specify when the session with the remote CAICCI is to be established and terminated. Acceptable values are: ▪ START/SHUT Start link at CAICCI startup time. Drop link when CAICCI shuts down. START/SHUT is the default. ▪ START/TERM Start link at CAICCI startup time. Drop link when the first CA application issues a CAICCI TERM. ▪ INIT/SHUT Start link when the first CA application issues a CAICCI INIT. Drop link when CAICCI shuts down. ▪ INIT/TERM Start link when the first CA application issues a CAICCI INIT. Drop link when the first CA application issues a CAICCI TERM.

Note: This operand should be specified as **START/SHUT**. Other operands available are shown but should not be selected unless specifically requested by the installation procedures of the CA Solution you are installing. The operands STOP and SHUT are fully compatible and can be substituted for one another.

Example (console): CCI GATEWAY(VTAM,A73CVC01,01,A73SYSID,4000,START/SHUT)

Example (SYSIPT): GATEWAY(VTAM,A73CVC01,01,A73SYSID,4000,START/SHUT)

MAXRU(nnnnn)

An **optional** control statement that alters the default MAXRU size from its initial value of 4096. The default value is used whenever the MAXRU operand is not specified in the PROTOCOL or NODE control options.

Operand	Description
nnnnn	The maximum data packet size, specified in decimal bytes, that is allowed to be transmitted between two or more CAICCI network nodes.

If MAXRU is specified, it must be placed **after** the SYSID control options and **prior** to the PROTOCOL and NODE control options.

Note: It is recommended that the default MAXRU value be set to the **smallest** path size in your network. Typically, the initial value of 4096 is sufficient unless there is 1 (or more) host(s) connected via an NCP. A default value of 256 is recommended in this network.

Example (SYSIPT)

MAXRU(4096)

This control option may **not** be entered via the console.

NODE(LU0,applid,retry,sysid,maxru,start/stop)

Defines a remote CAICCI node to the local host. The default values are: retry=10, maxru=4096, start/stop=START/SHUT.

Options which must be entered are as follows:

Operand	Description
LU0	LU0 is the communications protocol supported by the local host node to access the remote CAICCI node.
applid	The LU name defined in VTAMLST (as a cross-domain resource) that the remote CAICCI uses as its APPLID.
retry	The repoll time in minutes that CAICCI uses to attempt to reestablish a session with the remote CAICCI via the APPLID specified. This time ranges from 0 (do not repoll) to 59 minutes. This operand is optional and has a default value of 10.
sysid	The unique 1- to 8-character identifier of the remote CAICCI system.
maxru	The maximum data packet size, specified in decimal bytes, that is allowed to be transmitted between the local CAICCI and this remote CAICCI node. The default MAXRU value is 4096 or the value set by the MAXRU control option statement.

Operand	Description
start/stop	The control words used to specify when the session with the remote CAICCI is to be established and disestablished. Acceptable values are: ▪ START/SHUT Start link at CAICCI startup time. Drop link when CAICCI shuts down. START/SHUT is the default. ▪ START/TERM Start link at CAICCI startup time. Drop link when the first CA application issues a CAICCI TERM. ▪ INIT/SHUT Start link when the first CA application issues a CAICCI INIT. Drop link when CAICCI shuts down. ▪ INIT/TERM Start link when the first CA application issues a CAICCI INIT. Drop link when first CA application issues a CAICCI TERM.

Note: For MVS, VM, and VSE, this operand should be specified as **START/SHUT**. Other operands available are shown but should not be selected unless specifically requested by the installation procedures of the CA Solution you are installing.

The operands STOP and SHUT are fully compatible and can be substituted for one another.

Example (console): CCI NODE(LU0,A73CVC01,01,A73SYSID,4000,START/SHUT)

Example (SYSIPT): NODE(LU0,A73CVC01,01,A73SYSID,4000,START/SHUT)

PASSTHRU(YES|NO)

Indicates whether a broadcast of resource changes (the starting and stopping of a CA Solution using CAICCI at a remote node) received by CAICCI should be passed to the other remote CAICCI nodes with which the receiving CAICCI is in session. The default is **NO**.

Operand	Description
YES	Changes in CAICCI resources that occur locally, or notification of changes occurring at remote nodes, are broadcast to all CAICCI subsystems that are in session with the local CAICCI.
NO	Only changes in CAICCI resources that occur locally are broadcast to all CAICCI subsystems that are in session with the local CAICCI. NO is the default.

CAICCI must be aware of all remote CAICCI and the CA solutions that they are supporting. To achieve this, CAICCI is designed to communicate with its remote subsystems through intermediate GATEWAY connections, as well as through direct connections.

A particular CAICCI subsystem can readily pass information to a remote subsystem to which it is not directly connected, provided the two subsystems are indirectly connected through one or more intermediate nodes that have the PASSTHRU option turned ON.

A simple example of this is a three-CPU network: CPU-A, CPU-B, and CPU-C.

CPU-A is connected via the CONNECT statement only to CPU-B.

CPU-C is connected via the CONNECT statement only to CPU-B.

CPU-B has CPU-A and CPU-C in its CONNECT statement.

When a CA Solution is started on CPU-A, CPU-B is informed that this solution is started on CPU-A, and CPU-B informs CPU-C that this solution is started on CPU-A. Likewise, as soon as a CA Solution is started on CPU-C, CPU-B is informed, and CPU-B tells CPU-A.

In the example above, CPU-B is a PASSTHRU CPU to CPU-A and CPU-C. In a much larger network of five or more CPUs, any given CAICCI will broadcast the starting and stopping of each CA Solution to all CAICCI that are directly connected. These, in turn, will rebroadcast the changes to all of their directly connected CAICCI. This process continues until the information has completely propagated throughout the network.

To minimize the network data traffic, it is highly recommended that for three or more CPUs you:

1. Define all remote CAICCI subsystems as VTAM cross-domain resources at each node.
2. Provide each CAICCI in the network a NODE statement for each of the other CAICCI in the network. Their SYSIDs, specified in the NODE statements, should be placed in the CONNECT statement(s).
3. Specify PASSTHRU(NO), or omit to accept its NO default value, in each of the CAICCI startup parameters on every CPU in the network.

Example (SYSIPT): PASSTHRU(NO)

This control option may **not** be entered via the console.

PERMIT(ALL | NONE)

Restricts other systems from logging on to your system if NODE (or GATEWAY) and CONNECT statements have not been defined on your environment. The default is **ALL**.

Operand	Description
ALL	Allows systems to log on. ALL is the default.
NONE	Prevents other systems from logging on.

Note: CA Solutions running on PCs or VAX systems **will** be able to log on if NONE is specified.

PROTOCOL(VTAM, applid, retry, sysid, maxru, start/stop)

Defines specific networking requirements to the host or local CPU. Default: retry=10, maxru=4096, start/stop=START/SHUT.

Operand	Description
VTAM	VTAM is the communications protocol supported by this local host node to access remote CAICCI nodes.
applid	The primary LU name defined in VTAMLST that CAICCI uses as its APPLID. This node should be defined and active to VTAM before this command is entered. This operand is required if remote host communications is required .

Operand	Description
retry	The repoll time in minutes that CAICCI uses to attempt to reestablish a session with VTAM via the APPLID specified. This time ranges from 0 (do not repoll) to 59 minutes. This operand is optional and has a default value of 10.
sysid	A unique 1- to 8-character identifier that is used for this CAICCI system. This identifier must be kept unique within the entire CAICCI system network. This operand is required, and must be the same as specified with the SYSID control statement.
maxru	The maximum data packet size, specified in decimal bytes, that is allowed to be transmitted between the local CAICCI and the remote CAICCI nodes. The default MAXRU value is 4096 or the value set by the MAXRU control option statement.
start/stop	The control words used to specify when the LU-to-SSCP session is to be established and terminated. Acceptable values are: ■ START/SHUT Start link at CAICCI startup time. Drop link when CAICCI shuts down. START/SHUT is the default. ■ START/TERM Start link at CAICCI startup time. Drop link when the first CA application issues a CAICCI TERM. ■ INIT/SHUT Start link when the first CA application issues a CAICCI INIT. Drop link when CAICCI shuts down. ■ INIT/TERM Start link when the first CA application issues a CAICCI INIT. Drop link when first CA application issues a CAICCI TERM.

Note: The last operand refers to when the ACB should be opened and when it should be closed. For MVS, VM, and VSE, this operand should be specified as **START/SHUT**. Other operands available are shown but should not be selected unless specifically requested by the installation procedures of the CA Solution you are installing.

The operands STOP and SHUT are fully compatible and can be substituted for one another.

REMOVE(sysid)

Removes a NODE or GATEWAY entry. If a NODE or GATEWAY entry was entered incorrectly, the REMOVE command can be used to remove the control block built by the CONNECT statement.

Operand	Description
sysid	A unique 1- to 8-character identifier that is used for this CAICCI system. This identifier must be kept unique within the entire CAICCI system network. This operand is required .

SYSID(sysid)[,FORCE]

Used to define a name for the local CAICCI system. This control statement is **required**.

Operand	Description
sysid	An 8-character identifier that is unique throughout the CAICCI network. This parameter is required .
FORCE	An optional parameter used to change the SYSID while CAICCI is active. The force option should only be used under the direction of CA Technical Support (http://ca.com/support).

VARY(ACT|INACT,SYSID,sysid)

The VARY command can be entered via the console to connect or disconnect a remote node.

Note: If this command is entered on CPU A for SYSID of CPU B, CPU B will attempt to reconnect to CPU A and fail every retry time interval.

Operand	Description
ACT	Connects to a remote node.
INACT	Disconnects from a remote node.
sysid	An 8-character identifier that is unique throughout the CAICCI network.

Example (console): CCI VARY(INACT,SYSID,A97S)

CAICCI TCP/IP Servers

CAICCI implements TCP/IP using one or more separate server address spaces to coordinate TCP/IP processing for CAICCI. There are two distinct CAICCI TCP/IP servers, depending on the type of TCP/IP processing you require:

- TCPIP – Supports mainframe to PC connections using TCP/IP. This configuration supports CA products that employ the client-server CAICCI protocol between the mainframe and the PC.
- TCPIP GW – Supports the mainframe as a full peer to other platforms in a TCP/IP network. Platforms supported include other mainframe systems, UNIX, and Windows NT. This is also known as TCP/IP Gateway.

CAICCI for VSE operates with the TCP/IP software provided by vendors like Connectivity Systems Inc., since IBM does not provide TCP/IP software for the VSE environment.

Using both types of CAICCI TCP/IP servers involves these steps:

1. Download, install, and configure the TCP/IP software. See the documentation from the appropriate vendor for this procedure.
2. Download and install the CAICCI software. For more information, see Loading CCI on a Client Platform.
3. Configure the CAICCI service.

Procedures for using each type of server are described next.

Configuring CAICCI for TCP/IP when Using CSI's TCP/IP for VSE

Use the following steps to properly configure CAICCI for use with TCP/IP.

1. Add a TCP PORT statement to the CCIVSE startup parameters, for example:

```
* SET THE TCP/IP PORT
*
TCP PORT(1202) By default, CAICCI uses port number 1202.
```

2. Create phase CA\$TCP6.

This step creates the CAICCI API interface module and should be run whenever maintenance is applied to ensure that CAICCI has the appropriate level of API routines for the level of the vendor's software you are running. A sample jobstream is provided next and is contained in the CA-CIS library as member LINKTCP6.Z.

This phase is linked into the TCPIP4VSE library that the autolinked API routines come from. By doing this, and then pointing the execution of CCITCP (see Step 3) and TCPIP4VSE at this library, you ensure that the level of the API routines matches the level of TCPIP4VSE.

```
* $$ JOB JNM-LINKTCP6,CLASS=0,DISP=D
* $$ PRT CLASS=A
// JOB LINKCSI6
/* FOLLOWING POINTS TO CA-CIS LIBRARY
// DLBL libnameA,'the library where CA-CIS is installed'
// EXTENT ,valid
/* FOLLOWING POINTS TO CONNECTIVITY SYSTEMS LIBRARY
// DLBL libnameB,'the library where TCPIP4VSE is installed'
// EXTENT ,valid
/* LINK EDIT INTO CONNECTIVITY SYSTEMS LIBRARY
// LIBDEF PHASE,CATALOG=libnameB.sublibB
/* AUTO LINK CURRENT BSD-C SOCKET INTERFACE SERVICE LEVEL
// LIBDEF OBJ,SEARCH=libnameA.sublibA,libnameB.sublibB
// OPTION CATAL
  PHASE CA$STCP6
  INCLUDE CAS9CSIR
/*
// EXEC LNKEDT,PARM='AMODE=ANY,RMODE=24,MSHP'
/&
* $$ E0J
```

3. Tailor the following jobstream to run the CAICCI TCP/IP server.

```
* $$ JOB JNM=CCITCP,CLASS=2,DISP=D
* $$ PRT CLASS=A
// JOB CCITCP
/* FOLLOWING POINTS TO CA-CIS LIBRARY
// DLBL libnameA,'the library where CA-CIS is installed'
// EXTENT ,valid
/* FOLLOWING POINTS TO CONNECTIVITY SYSTEMS LIBRARY
// DLBL libnameB,'the library where TCPIP4VSE is installed'
// EXTENT ,valid
// LIBDEF *,SEARCH=(libnameB,sublibB,libnameA,sublibA)
// OPTION DUMP
// EXEC CAS9AOGM,SIZE=200K Partition should have at lease 1M storage
/*
/&
* $$ E0J
```

Note: CCITCP establishes its connection to TCP/IP based on the TCP/IP sysid (not the same as the CCI SYSID). By default, CCITCP uses a sysid of zero. If the TCP/IP stack uses a different sysid, then you would need to pass this information to CCITCP through a SYSPARM:

```
// OPTION SYSPARM='xx'
```

xx

The ID of the TCP/IP stack.

You need to add the correct SYSPARM to each copy of the JCL so that CCITCP will bind to the appropriate IP stack.

Each copy of the partition that executes PGM=CAS9AOGM then uses the PORT specified in the TCPPORT parameter of the CCI parameters.

Configuring CAICCI for TCP/IP when Using BSI's TCP/IP-TOOLS

When using Barnard Software Inc.'s TCP/IP-TOOLS, perform the following steps:

1. Add a TCPPOPT statement to the CCIVSE startup parameters, for example:

```
* SET THE TCP/IP PORT
*
TCPPOPT(1202) By default, CAICCI uses port number 1202.
```

2. Create phase CA\$STCP6.

This step creates the CAICCI API interface module and should be run whenever maintenance is applied to ensure that CAICCI has the appropriate level of API routines for the level of the vendor's software you are running. A sample jobstream is provided next and is contained in the CA-CIS library as member LINKBSI6.Z.

This phase is linked into the TCP/IP-TOOLS library that the autolinked routines come from. By doing this, and then pointing the execution of CCITCP (see Step 3) and TCP/IP-TOOLS at this library, you ensure that the level of the API routines matches the level of TCP/IP-TOOLS.

```
* $$ JOB JNM=LINKBSI6,CLASS=0,DISP=D
* $$ PRT CLASS=A
// JOB LINKBSI6
/* FOLLOWING POINTS TO CA-CIS FOR VSE LIBRARY
// DLBL libnameA,'the library where CA-CIS is installed',99/366
// EXTENT ,validA
/* FOLLOWING POINTS TO BARNARD SOFTWARE TCP/IP-TOOLS LIBRARY
// DLBL libnameB,'the library where TCP/IP is installed',99/366
// EXTENT ,validB
/* LINK EDIT INTO BARNARD SOFTWARE TCP/IP-TOOLS LIBRARY
// LIBDEF PHASE,CATALOG=libnameB.sublibB
// LIBDEF OBJ,SEARCH=(libnameB.sublibB,libnameA.sublibA)
// OPTION CATAL
ACTION NOAUTO
PHASE CA$STCP6
INCLUDE CAS9CSIR
INCLUDE BSTTENVR
/*
// EXEC LNKEDT,PARM='AMODE=ANY,RMODE=24,MSHP'
/&
* $$ EOJ
```

3. Tailor the following jobstream to run the CAICCI TCP/IP server:

```
* $$ JOB JNM=CCITCP,CLASS=2,DISP=D
* $$ PRT CLASS=A
// JOB CCITCP
/* FOLLOWING POINTS TO CA-CIS FOR VSE LIBRARY
// DLBL libnameA,'the library where CA-CIS is installed',99/366
// EXTENT ,validA
/* FOLLOWING POINTS TO BARNARD SOFTWARE TCP/IP-TOOLS LIBRARY
// DLBL libnameB,'the library where TCP/IP is installed',99/366
// EXTENT ,validB
// LIBDEF *,SEARCH=(libnameB,sublibB,libnameA,sublibA)
// OPTION DUMP
// EXEC CAS9AOGM,SIZE=200K Partition should have at lease 1M storage
/*
/&
* $$ EOJ
```

Automatic Startup for TCP/IP

To have CCITCP automatically start when CAICCI VSE starts, add the following statements to your SPNPARMS B book:

```
TCPIP          SERVICE SERVICE_UNAVAILABLE=START_SERVICE,
                SERVER_NAME=VSE_START_SERVER,
                LOST_CLIENT=DEALLOCATE,
                DEALLOCATE=TERMINATE,
                MAX#_PROCESSES=1,
                MAX#_SERVICES=1,
                MAX#_CLIENTS=1

*              PROCESS PROCESS_TYPE=VSE_STC,
                PWR_JECL=CCITCP,
                PWR_CLASS=G,
                JOBNAME=CCITCP

*
TCPIP          SERVER SERVICE_NAME=TCPIP
```

PC Configuration

CAICCI on the PC must be configured to work with TCP/IP. Open the CCI Configurator and select Protocol TCP/IP. The CCI Server should be set to the IPADDR or NODE name where the CCI/TCPIP server is running, and the port number should be set to the number entered in the TCPPORT parameter.

Controlling the TCP/IP Server

All commands issued to CCITCP are issued using the following VSE Operator Command:

```
MSG pid,DATA=keyword
```

pid is the partition identifier in which CCITCP is running. The keywords and their functions are described below:

EXIT	Causes the TCPIP server to terminate. Any currently active sessions are terminated.
SEG	Causes the server to close the current SYSLST Power Spool Segment. This is useful when collecting trace output.
STATUS	Lists all active sessions for the server.
TRACEON	Activates tracing to SYSLST for TCPIP. This is a debugging tool which CA Technical Support (http://ca.com/support) may request you to activate.

Note: Due to the volume of spooled data, only use this keyword at the direction of CA Technical Support (<http://ca.com/support>).

TRACEOFF	Deactivate the debugging trace for TCPIP.
----------	---

VTAM Requirements for TCPIP

The CAICCI TCPIP server uses the OpenConnect Socket Access Method (OC/SAM) from OpenConnect Systems Inc. This access method uses VTAM Protocol to communicate with the OpenConnect/Server and requires one or more VTAM ACBs and a number of VTAM LUs to be defined. Please refer to the OC/SAM documentation to determine exactly what is required for the release of OC/SAM in use at your site.

For some releases of OC/SAM, there are differences in the VTAM requirements based on which BSD Functions or Base Functions are used. Currently, CAICCI uses the following functions which affect the VTAM requirements:

- OPENACB()
- GETHOSTBYNAME()
- GETHOSTBYADDRESS()

Controlling the TCP/IP Gateway Server

All commands issued to CCITCP are issued using the following VSE Operator Command:

```
MSG pid,DATA=keyword
```

pid is the partition identifier in which CCITCP is running. The keywords and their functions are described below:

CONnect	Causes the TCPIP GW server to connect to another peer system described by the CCI GATEWAY or NODE command. For example, CON,CPU3.
DISCONnect	Causes the TCPIP GW server to disconnect from a currently active connected peer system. For example, DISCON,CPU3.
EXIT	Causes the TCPIP server to terminate. Any currently active sessions are terminated.
SEG	Causes the server to close the current SYSLST Power Spool Segment. This is useful when collecting trace output.
STATUS	Lists all active sessions for the server.

The STATUS command entered from CPU1 would show the following:

```
msg y1,data=status
AR 0015 1I40I  READY
Y1 0157 CAS9850I - CCI TCP/IP Protocol Driver TCPIPGW
Y1 0157 TASK# STATUS  SYSID  IP ADDRESS/PORT #
Y1 0157 #158  ACTV    CPU3    141.202.232.99:1721
Y1 0157                                     V1.2 00083C120 00 20000622
Y1 0157 CA3C899I: END OF LIST
Y1 0157 CA3C240I - Command complete
```

CAICCI on VM

The installation of CAICCI on VM is very similar to installing it on VSE. The section provides information on the control options available on VM

CAICCI Control Options

CAICCI control options are specified at CAICCI startup time. They may be dynamically altered via the CCI operator command. For example, entering
CCI SYSID(A97SYSID)

would alter the CAICCI SYSID control option.

The following pages contain summaries and descriptions for CAICCI control options.

About the MAXRU Size In the descriptions that follow, you will see the operand MAXRU. MAXRU is the maximum data packet size, specified in bytes, that is allowed to be transmitted between two CAICCI subsystem nodes.

To determine the required MAXRU for hosts connected via NCP, refer to your MAXDATA operand of the PCCU macro, the BUFSIZE of the BUILD macro, and the INBFRS, MAXBFRU and UNITSZ operands of the HOST macro. (See your *IBM VTAM Resource Definition Reference* and *NCP, SSP, and EP Resource Definition Guide*. You should also consult with your data center's VTAM/NCP Systems Programmer for further information.)

To determine the required MAXRU for hosts which are connected via CTC, refer to your VTAM start option LPBUF (See your *IBM VTAM Resource Definition Reference*.)

Control Option Summary

The following is a list of the CAICCI control options, presented in alphabetical order.

Control Option	Operand(s)	Default Value(s)
CONNECT	(sysid,...)	n/a (not applicable)
DISPLAY,CONNECT	n/a	n/a
DISPLAY,LINK	n/a	n/a
DISPLAY,NODE	n/a	n/a
DISPLAY,PROTOCOL	n/a	n/a
DISPLAY,RESOURCE	n/a	n/a
DISPLAY,SYSID	n/a	n/a
GATEWAY	(LU0,applid,retry,sysid, maxru,start/stop)	retry=0, maxru=4096, start/stop=START/ SHUT
MAXRU	(nnnnn)	n/a
NODE	(LU0,applid,retry,sysid, maxru,start/stop)	retry=0, maxru=4096, start/stop=START/ SHUT
PASSTHRU	(YES NO)	NO
PERMIT	(NONE ALL)	ALL
PROTOCOL	(VTAM TCPIP,applid,retry , sysid,maxru,start/stop)	retry=0, maxru=4096, start/stop=START/ SHUT
RECYCLE	n/a	n/a
REMOVE	(sysid)	n/a
SYSID	(sysid[,FORCE])	n/a
TERM	n/a	n/a
VARY	(INACT ACT,SYSID,sysid)	n/a

Notes:

- Only use the CCI RECYCLE control option under the direction of CA Technical Support (<http://ca.com/support>).
- Refers to definitions made using the PROTOCOL and NODE control options to perform actual CAICCI linking.

- Establishes CAICCI control blocks.
- This value may be redefined by the control statement MAXRU.
- The keyword SHUT is equivalent to the keyword STOP. Either may be coded to indicate that session termination is to occur at CAICCI shutdown.

Each control option is described in one of the following sections.

CCI CONNECT(sysid,...)

Connects one or more remote CAICCI nodes (previously defined by the NODE control statement) to the local host.

Operand	Description
sysid	The unique eight-character identifier of the remote CAICCI system to be connected. A maximum of seven CAICCI sysids may be connected using a single CONNECT statement. This operand is required for this statement.

Example

```
CCI CONNECT(A73CVC01,A93CVC01)
```

CCI DISPLAY,CONNECT

Displays the CAICCI connections of this host:

```
CAS9214I  CAICCI  COMMAND: DISPLAY,CONNECT
CAS9720I  CAICCI  SYSID(A97CVC01)
CAS9730I  CAICCI  CONNECT(A97CVCXX,          ,          )
```

The first two messages identify the CAICCI SYSID of this host as A97CVC01. The third message identifies that this host will attempt a host connection with the remote CAICCI host whose CAICCI SYSID is A97CVCXX.

CCI DISPLAY,LINK

Displays the host CAICCI link's status on the console. This command generates messages on the status of CAICCI links. These messages are documented in the *CA-CIS Message Guide*.

CCI DISPLAY,NODE

Displays the CAICCI NODES of this host. This command returns the following messages to the console:

```
CAS9214I  CAIENF  COMMAND:  DISPLAY,NODES
CAS9720I  CAICCI  SYSID(A97CVC02)
CAS9721I  CAICCI  NODE TYPE(00)  RETRY(0001)  START(S)  SHUT(S)  MN(F6)
```

The first two messages identify the CAICCI SYSID of this host as A97CVC02. The third message the NODE level support for the remote host. The Host connection is VTAM LU0.

CCI DISPLAY,PROTOCOL

Displays the CAICCI protocols of this host:

```
CAS9721I  CAICCI  PROT TYPE(00)  RETRY(0001)  START(S)  SHUT(S)  MN(F6)
```

This message identifies the protocol level support for this host as VTAM LU0. If the LU to SSCP session should fail (ACB open failure), CAICCI will retry it in one minute (RETRY(0001)). CAICCI STARTup and SHUT down options are the normal START/SHUT defaults. The VTAM MAXRU size as it appears in the CAICCI BIND image is F6 ($F * 2^6 = 960$).

CCI DISPLAY,RESOURCE

Displays all CAICCI resources on the console.

CCI DISPLAY,SYSID

Displays the CAICCI system identifier of the host.

CCI GATEWAY(LU0, applid, retry, sysid, maxru, start/stop)

Defines a remote CAICCI node to the local host. The default values are: retry=0, maxru=4096, start/stop=START/SHUT.

GATEWAY differs from the NODE statement in that in a multi-cpu or multi-platform environment, one or more CPUs are *not* logically connected (thru VTAM) to other CPUs.

Options which must be entered for GATEWAY are as follows:

Operand	Description
LU0	LU0 is the communications protocol supported by the local host node to access the remote CAICCI node.
applid	The LU name defined in VTAMLST (as a cross domain resource) that the remote CAICCI uses as its APPLID.
retry	The repoll time in minutes that CAICCI uses to attempt to reestablish a session with the remote CAICCI via the APPLID specified. This time ranges from 0 (do not repoll) to 59 minutes. This operand is optional and has a default value of zero.
sysid	The unique eight-character identifier of the remote CAICCI system.
maxru	The maximum data packet size, specified in decimal bytes, that is allowed to be transmitted between the local CAICCI and this remote CAICCI node. The default MAXRU value is 4096 or the value set by the MAXRU control option statement.
start/stop	The control words used to specify when the session with the remote CAICCI is to be established and terminated. Acceptable values are: ▪ START/SHUT Start link at CAICCI startup time. Drop link when CAICCI shuts down. START/SHUT is the default. ▪ START/TERM Start link at CAICCI startup time. Drop link when the first CA application issues a CAICCI TERM. ▪ INIT/SHUT Start link when first CA application issues a CAICCI INIT. Drop link when CAICCI shuts down. ▪ INIT/TERM Start link when first CA application issues a CAICCI INIT. Drop link when the first CA application issues a CAICCI TERM. Note: This operand should be selected as START/SHUT. Other operands available are shown but should not be selected unless specifically requested by the installation procedures of the CA Solution you are installing. The operands STOP and SHUT are fully compatible and can be substituted for one another.

Example: CCI GATEWAY(LU0,A73CVC01,01,A73SYSID,4000,START/SHUT)

CCI MAXRU(nnnnn)

An **optional** control statement that alters the default MAXRU size from its initial value of 4096. The default value is used whenever the MAXRU operand is not specified in the PROTOCOL or NODE control options.

Operand	Description
nnnnn	The maximum data packet size, specified in decimal bytes, that is allowed to be transmitted between two or more CAICCI network nodes.

If MAXRU is specified, it must be placed **after** the SYSID control options and **prior** to the PROTOCOL and NODE control options.

Note: It is recommended that the default MAXRU value be set to the **smallest** path size in your network. Typically, the initial value of 4096 is sufficient unless there is 1 (or more) host(s) connected via an NCP. A default value of 256 is recommended in this network.

CCI NODE(LU0, applid, retry, sysid, maxru, start/stop)

Defines a remote CAICCI node to the local host. The default values are: retry=0, maxru=4096, start/stop=START/SHUT.

Options which must be entered are as follows:

Operand	Description
LU0	LU0 is the communications protocol supported by the local host node to access the remote CAICCI node.
applid	The LU name defined in VTAMLST (as a cross domain resource) that the remote CAICCI uses as its APPLID.
retry	The repoll time in minutes that CAICCI uses to attempt to reestablish a session with the remote CAICCI via the APPLID specified. This time ranges from 0 (do not repoll) to 59 minutes. This operand is optional and has a default value of zero.
sysid	The unique eight-character identifier of the remote CAICCI system.

Operand	Description
maxru	The maximum data packet size, specified in decimal bytes, that is allowed to be transmitted between the local CAICCI and this remote CAICCI node. The default MAXRU value is 4096 or the value set by the MAXRU control option statement.
start/stop	The control words used to specify when the session with the remote CAICCI is to be established and terminated. Acceptable values are: ■ START/SHUT Start link at CAICCI startup time. Drop link when CAICCI shuts down. START/SHUT is the default. ■ START/TERM Start link at CAICCI startup time. Drop link when the first CA application issues a CAICCI TERM. ■ INIT/SHUT Start link when first CA application issues a CAICCI INIT. Drop link when CAICCI shuts down ■ INIT/TERM Start link when first CA application issues a CAICCI INIT. Drop link when the first CA application issues a CAICCI TERM. Note: For MVS, VM, and VSE, this operand should be selected as START/SHUT. Other operands available are shown but should not be selected unless specifically requested by the installation procedures of the CA Solution you are installing.

The operands STOP and SHUT are fully compatible and can be substituted for one another.

CCI PASSTHRU(YES|NO)

Indicates whether a broadcast of resource changes (the starting and stopping of a CA Solution using CAICCI at a remote node) received by CAICCI should be passed to the other remote CAICCI nodes with which the receiving CAICCI is in session. The default is **NO**.

Operand	Description
YES	Changes in CAICCI resources that occur locally, or notification of changes occurring at remote nodes, are broadcast to all CAICCI subsystems that are in session with the local CAICCI.
NO	Only changes in CAICCI resources that occur locally are broadcast to all CAICCI subsystems that are in session with the local CAICCI. NO is the default.

CAICCI must be aware of all remote CAICCI and the CA Solutions that they are supporting. To achieve this, CAICCI is designed to communicate with its remote subsystems through intermediate GATEWAY connections, as well as through direct connections.

A particular CAICCI subsystem can readily pass information to a remote subsystem to which it is not directly connected, provided the two subsystems are indirectly connected through one or more intermediate nodes that have the PASSTHRU option turned ON.

A simple example of this is a three-CPU network: CPU-A, CPU-B, and CPU-C.

- CPU-A is connected via the CONNECT statement only to CPU-B.
- CPU-C is connected via the CONNECT statement only to CPU-B.
- CPU-B has CPU-A and CPU-C in its CONNECT statement.

When a CA Solution is started on CPU-A, CPU-B is told that this solution is started on CPU-A and CPU-B tells CPU-C that this solution is started on CPU-A. Likewise, as soon as a CA Solution is started on CPU-C, CPU-B is told and CPU-B tells CPU-A.

In the example above, CPU-B is a PASSTHRU CPU to CPU-A and CPU-C. In a much larger network of five or more CPUs, any given CAICCI will broadcast the starting and stopping of each CA Solution to all CAICCI that are directly connected. These, in turn, will rebroadcast the changes to all of their directly connected CAICCI. This process continues until the information has completely propagated throughout the network.

To minimize the network data traffic, it is highly recommended that for three or more CPUs:

1. Define all remote CAICCI subsystems as VTAM cross domain resources at each node.
2. Each CAICCI in the network should have a NODE statement for each of the other CAICCI in the network. Their SYSIDs, specified in the NODE statements, should be placed in the CONNECT statement(s).
3. Specify PASSTHRU(NO), or omit to accept its NO default value, in each of the ENFPARMS on every CPU in the network.

Example

CCI PASSTHRU(NO)

CCI PERMIT(ALL|NONE)

Restricts other systems from logging on to your system if NODE (or GATEWAY) and CONNECT statements have not been defined on your environment. The default is **ALL**.

Operand	Description
ALL	Allows systems to log on. ALL is the default.
NONE	Does not allow systems to log on.

Note: CA Solutions running on PCs or VAXs **will** be able to log on if NONE is specified.

Example

CCI PERMIT(NONE)

CCI PROTOCOL(VTAM, applid, retry, sysid, maxru, start/stop)

Defines specific networking requirements to the host or local CPU. Default: retry=0, maxru=4096, start/stop=START/SHUT.

Operand	Description
VTAM	VTAM is the communications protocol supported by this local host node to access remote CAICCI nodes.
applid	The primary LU name defined in VTAMLST that CAICCI uses as its APPLID. This node should be defined and active to VTAM before this command is entered. This operand is required if remote host communications is required .

Operand	Description
retry	The repoll time in minutes that CAICCI uses to attempt to reestablish a session with VTAM via the APPLID specified. This time ranges from 0 (do not repoll) to 59 minutes. This operand is optional and has a default value of zero.
sysid	A unique eight-character identifier that is used for this CAICCI system. This identifier must be kept unique within the entire CAICCI system network. This operand is required, and must be the same as specified with the SYSID control statement.
maxru	The maximum data packet size, specified in decimal bytes, that is allowed to be transmitted between the local CAICCI and the remote CAICCI nodes. The default MAXRU value is 4096 or the value set by the MAXRU control option statement.
start/stop	The control words used to specify when the LU-to-SSCP session is to be established and terminated. Acceptable values are: ■ START/SHUT Start link at CAICCI startup time. Drop link when CAICCI shuts down. START/SHUT is the default. ■ START/TERM Start link at CAICCI startup time. Drop link when the first CA application issues a CAICCI TERM. ■ INIT/SHUT Start link when first CA application issues a CAICCI INIT. Drop link when CAICCI shuts down. ■ INIT/TERM Start link when first CA application issues a CAICCI INIT. Drop link when first CA application issues a CAICCI TERM. Note: The last operand refers to when the ACB should be opened and when it should be closed. For MVS, VM, and VSE, this operand should be selected as START/SHUT. Other operands available are shown but should not be selected unless specifically requested by the installation procedures of the CA Solution you are installing.

The operands STOP and SHUT are fully compatible and can be substituted for one another.

Example

CCI PROTOCOL(VTAM,A97CVC01,01,A97SYSID,,START/STOP)

Causes CAICCI to terminate all sessions with its remote CAICCI nodes and LU2 devices followed by a shutdown of the CAICCI subsystem. Immediately afterwards, the CAICCI subsystem attempts to restart and re-establish VTAM connections with its remote subsystems that have NODE and CONNECT control statements defined for them. Remote CAICCI subsystems lacking NODE and CONNECT definitions and all LU2 devices must re-establish the session with the local CAICCI from the remote CAICCI subsystems.

This control statement should only be used under the direction of CA Technical Support (<http://ca.com/support>).

CCI REMOVE(sysid)

Removes a NODE or GATEWAY entry. If a NODE or GATEWAY entry was entered incorrectly, the REMOVE command can be used to remove the control block built by the CONNECT statement.

Operand	Description
sysid	A unique eight-character identifier that is used for this CAICCI system. This identifier must be kept unique within the entire CAICCI system network. This operand is required .

CCI SYSID(sysid[,FORCE])

Used to define a name for the local CAICCI system. This control statement is **required**.

Operand	Description
sysid	An eight-character identifier that is unique throughout the CAICCI network. This parameter is required .
FORCE	An optional parameter used to change the SYSID while CAICCI is active. The force option should only be used under the direction of CA Technical Support (http://ca.com/support).

CCI TERM

Terminates all sessions with its remote CAICCI nodes and LU2 devices followed by a shutdown of the CAICCI subsystem. CAICCI subsystem will not attempt a restart.

CCI VARY(ACT|INACT,SYSID,sysid)

Connects or disconnects a remote node.

Note: If this command is entered on CPU A for SYSID of CPU B, CPU B will attempt to reconnect to CPU A and fail every retry time interval.

Operand	Description
ACT	Connects to a remote node.
INACT	Disconnects from a remote node.
sysid	An eight-character identifier that is unique throughout the CAICCI network.

The CAICCI VM TCP/IP Interface

Installing CAICCI's TCP/IP feature involves these steps:

1. Install the software using CA-Activator.
2. Configure the TCP/IP parameters.
3. Create a virtual machine for the TCP/IP task.

Installing the CAICCI TCP/IP Software

Refer to the *Getting Started* guide for the steps needed to install the CAICCI TCP/IP software.

Configuring the CAICCI TCP/IP Virtual Machine

The CAICCI implementation of TCP/IP uses a discreet CMS virtual machine to run a multi-user TCP/IP server. A sample CP directory entry needed to run the CCITCP virtual machine using **IBM TCP/IP** is shown here:

```

USER      CCITCP   CCITCP   6M  8M  G
ACCOUNT   CCI      SYSADMIN
MACHINE   370
IPL       CMS
IUCV      ANY
CONSOLE   009   3215
SPOOL     00C   2540 READER *
SPOOL     00D   2540 PUNCH A
SPOOL     00E    1403 A
LINK      MAINT   190 190 RR
LINK      MAINT   19E 19E RR
LINK      CCIVM   191 192 RR
LINK      IBMC370 xxx 193 RR
MDISK     191 3380 start 1 volser MR READ WRITE MULTI

```

The IBM C/370 runtime library, called SCEERUN LOADLIB, is required to run CCITCP. Therefore, you must change the above LINK IBM C370 statement to link to the minidisk containing this file.

After formatting the 191 minidisk as defined above, a PROFILE EXEC should be created on this minidisk using the following sample:

```
/* PROFILE EXEC to invoke the Computer Associates      */
/* CAICCI TCP/IP Interface.                            */
address COMMAND
'ACCESS 193 E'
'EXEC CCITCP PORT=1202'
exit rc
```

The CCITCP virtual machine should be started, using the CP AUTOLOG or XAUTOLOG command, after the CCIVM virtual machine has been started.

Choosing Port Numbers

TCP/IP connections are based on network addresses plus a port number. Together, the combination of address and port uniquely identifies each application on the network. CAICCI, like all other TCP/IP applications, requires that you specify a port number for its use. This port number must be available to both the mainframe CAICCI software and PC client systems.

By default, CAICCI will use port number **1202**, which need not be changed unless a conflict occurs. If you work with the default value, you need not administer anything on either the mainframe or the PC.

CA recommends using the default port number if possible to simplify the installation and administration of CAICCI's TCP/IP feature.

Changing the Default

If the default cannot be used, you can specify an alternate port number by changing the PORT= parameter on the following command in your PROFILE EXEC:

```
'EXEC CCITCP PORT=1202'
```

In place of 1202, specify the port number you have selected.

Note: If you change the port number from the default of 1202, make sure that your remote PC users know the port number you have chosen so that they can configure their software appropriately.

Running Multiple CAICCI TCP/IP Servers

Each concurrent user of CAICCI TCP/IP services will require approximately 100K of virtual storage within the CAICCI TCP/IP virtual machine. If your workload is such that not all users can be accommodated by a single copy of CAICCI TCP/IP, then you can run up to 16 CAICCI TCP/IP virtual machines. If you decide to implement multiple CAICCI TCP/IP virtual machines, each virtual machine must have a unique port number. By default, CAICCI uses port number 1202 and will sequentially assign port numbers from this point forward for each virtual machine you start.

For example, if you assign CAICCI port number 1501, the second virtual machine started will use port number 1502, the third will use 1503, and so on.

Note: If you run multiple CCITCP servers **on different CPUs**, then each may use the same port. In this case, users would select between different servers by specifying different TCP/IP Internet addresses, but identical ports.

When deciding whether to run multiple CCITCP virtual machines, keep in mind that CCITCP uses CAICCI services that enable transparent routing through multiple CPUs. Once a PC application contacts CCITCP on VM, existing CAICCI SNA links can be used to route communications requests to applications anywhere in your CAICCI network. Except for traffic volume and performance considerations, there is not necessarily a need to run copies of CCITCP on each CPU in a multi-CPU environment.

CAICCI TCP/IP Command Descriptions

These commands are used to control the CAICCI TCP/IP environment.

Command	Operand(s)	Default Value
CCI DUMP	n/a	n/a
CCI EXIT	n/a	n/a
CCI KILL	connection_number	none
CCI LISTEN	n/a	n/a
CCI MAXSIZE	value	none
CCI RELEASE	n/a	n/a
CCI SHUT	connection_number	none
CCI STATUS	n/a	n/a

CCI DUMP

Dumps the primary address space and DCSSs of the CCITCP virtual machine using the CP VMDUMP command. After the dump is complete, execution resumes normally.

Note: The dump will be placed in the virtual reader of the CCITCP virtual machine.

CCI EXIT

Ends execution of the CCITCP virtual machine. Any active TCP/IP connections will be dropped as part of exit processing.

CCI KILL connection_number

Drops a TCP/IP connection after dumping the primary address space, including DCSSs.

Operand	Description
connection_number	The unique 1 to 4 digit identifier of the TCP/IP connection to be dropped. Refer to the CCI STATUS command for information on active TCP/IP connections. This operand is required for this command.

CCI LISTEN

Requests the program to attempt to re-open the TCP/IP listen socket in order to accept new connection requests.

CCI MAXSIZE value

Defines the maximum amount of data that can be transmitted on one connection before checking for other connections waiting for data transfer.

Operand	Description
value	A decimal number from 1 to 256 which, when multiplied by 256, determines the maximum amount of data that can be transmitted on behalf of one connection before a check is made for other connections that may be waiting for data transfer.

CCI RELEASE

Displays the date and time that the CAICCI TCP/IP module was assembled.

CCI SHUT *connection_number*

Drops a TCP/IP connection.

Operand	Description
<i>connection_number</i>	A unique 1 to 4 digit identifier of the TCP/IP connection to be dropped. Refer to the CCI STATUS command for information on active TCP/IP connections. This operand is required for this command.

CCI STATUS

Displays the status of all active TCP/IP connections, including the PC application name, the network IP address of the PC and the TCP/IP port number.

Defining the CAICCI Setup

Before defining a CAICCI network or non-network configuration to your system, you must complete the installation of CAICCI (as specified in the *Getting Started* guide). Once installation is complete, you must define the CAICCI network to both VTAM and CAICCI before CAICCI can be started.

On the following pages, the procedures for establishing three typical CAICCI configurations are presented. Examples of making CAICCI configurations follow the procedures.

- Procedure 1 explains how to define a CAICCI non-network (single-host) configuration.
- Procedure 2 discusses a simple network (two hosts or CPUs) and presents the sample definition statements.
- Procedure 3 discusses a three-host network.

Procedure 1: Defining a Non-Network (Single-Host) Configuration

In a CAICCI non-network configuration, CAICCI operates from within a single host or CPU to support communication among one or more CA Solutions.

To define a non-network configuration, only the identifier for the local CAICCI system must be specified. This is accomplished by using the following CAICCI control option:

`CCI SYSID(sysid)`

sysid A unique eight-character identifier that is used for this CAICCI system.

Once you have issued this control statement, all the appropriate definitions for a non-network configuration have been made. CAICCI can be started. When invoked (started), CAICCI performs a status search for all CA Solutions running under the local host operating system.

CAICCI Non-Network (Single-Host) Configuration

CA Solution application #1 and CA Solution application #2 communicate from the same CAICCI domain within the same operating system.

To implement this setup, define the local host definition of CAICCI. This is done through the use of the SYSID control statement. Using this statement, you define the CAICCI link for all application products that reside within the host as follows:

`CCI SYSID(UNIQUECCI)`

This statement defines the CAICCI link to the host operating system. The operand, UNIQUECCI, refers to the CAICCI system ID.

All the appropriate definitions for the sample configuration have now been made. At this point, CAICCI can be started by starting CAIENF. When invoked (started), CAICCI performs a status search for all CA Solutions running under the local host operating system. Remember that this example has been provided as a guide; you must devise and implement your own custom definitions for CAICCI setup.

Procedure 2: Defining a Simple (Two-Host) Network Configuration

In a CAICCI simple (two-host) network configuration, two CAICCI systems operate from within two separate hosts or CPUs to support communication among one or more CA Solutions. Each host can run more than one CA Solution. To define a simple network configuration, you must do the following:

- Step 1. Define the local CAICCI system (VTAM major node) to host 1.
- Step 2. Define the cross-domain resource for the remote CAICCI system (2nd VTAM major node) to host 1. That is, the CAICCI system that will run on host 2 is being defined as the remote CAICCI system to host 1.
- Step 3. Add the two major nodes to the ATCCONxx startup VTAM member.
- Step 4. Define the local CAICCI system (VTAM major node) to host 2.
- Step 5. Define the cross-domain resource for the remote CAICCI system (2nd VTAM major node) to host 2.
- Step 6. Specify the identifier for the CAICCI system on the local host (host 1). This is accomplished by using the following CAICCI control option:
- `CCI SYSID(sysid)`
- | | |
|--------------------|--|
| <code>sysid</code> | A unique eight-character identifier that is used for this CAICCI system. |
|--------------------|--|
- Step 7. Define the VTAM definitions which CAICCI will activate at CAICCI startup time. This is accomplished by using the following CAICCI control option:
- `CCI PROTOCOL(VTAM,applid,retry,sysid,maxru,START/SHUT)`
- | | |
|-------------------------|---|
| <code>applid</code> | The primary LU name defined in VTAMLST that CAICCI, on the local host (host 1) uses to establish its LU to SSCP session. |
| <code>retry</code> | The repoll time in minutes that CAICCI uses to attempt to reestablish a LU-to-SSCP session (reopen its ACB). Values can range from 1 to 59. |
| <code>sysid</code> | The unique eight-character identifier specified in the SYSID control statement. |
| <code>maxru</code> | The maximum data packet size, specified in bytes, that is allowed to be transmitted between nodes. |
| <code>START/SHUT</code> | The control words indicating when the LU-to-SSCP session should be established and disestablished. |

- Step 8. Define the remote CAICCI system (CAICCI on host 2) to the local CAICCI system (CAICCI on host 1) so that the local system knows to contact the remote system at startup. This is accomplished by using the following CAICCI control option:
- ```
CCI NODE(LU0,applid,retry,sysid,maxru,START/SHUT)
```
- |            |                                                                                                                                               |
|------------|-----------------------------------------------------------------------------------------------------------------------------------------------|
| applid     | The primary LU name defined in VTAMLST that CAICCI uses to establish a session with the remote CAICCI system.                                 |
| retry      | The repoll time in minutes that CAICCI uses to attempt to reestablish a session with the remote CAICCI system. Values can range from 1 to 59. |
| sysid      | The unique eight-character identifier of the remote CAICCI system.                                                                            |
| maxru      | The maximum data packet size, specified in bytes, that is allowed to be transmitted between the local node and this remote CAICCI node.       |
| START/SHUT | The control words indicating when the LU-to-SSCP session should be established and terminated.                                                |
- Step 9. Connect to the remote node using the following control option:
- ```
CCI CONNECT(sysid)
```
- | | |
|-------|--|
| sysid | The unique eight-character identifier of the remote CAICCI system. |
|-------|--|
- Step 10. Provide the reciprocal set of SYSID, PROTOCOL, NODE, and CONNECT statements at the remote CAICCI system (host 2).
- Once the above steps have been accomplished, all of the appropriate definitions for a simple network configuration have been made. At this point, CAICCI can now be started by starting CAIENF on both systems.

Two-Host CAICCI/Network Configuration

To define the cross-domain link, CAICCI is already defined to each host CPU. There are two host network domains: CAICCI A (CCIA) and CAICCI B (CCIB). Within each domain you must define to VTAM the existence of CAICCI which resides at that domain. You must also define all remote CAICCI to be attached.

- Step 1. Assume you define CAICCI A on host 1 first. You would define the VTAM major node CCIHOST1 as follows:

```
CCIHOST1 VBUILD TYPE=APPL
CCIA      APPL   ACBNAME=CCIA,AUTHEXIT=YES,
           AUTH=(ACQ)
```

- Step 2. Next, define the cross-domain resource of CAICCI B on host 1. A sample CDRSC within sample major node CCICDRS1 is as follows:

```
CCICDRS1 VBUILD TYPE=CDRSC
CCIB      CDRSC  CDRM=CDRMB, ISTATUS=ACTIVE
```

Within the major node CCICDRS1 there is a minor node (CCIB) defined. The minor node reflects the targeted remote CAICCI system.

- Step 3. At this point, the active status of the two major nodes can be changed directly through NCCF or VTAM console support. To insure that these elements become active when VTAM is initialized, add these two major nodes to your ATCCONxx startup VTAM member.

- Step 4. Define the VTAM definitions to host 2. The major node definition for CCIB on host 2 would be as follows:

```
CCIHOST2 VBUILD TYPE=APPL
CCIB      APPL   ACBNAME=CCIB,AUTHEXIT=YES,
           AUTH=(ACQ)
```

The cross domain resource definition on host 2 would be as follows:

```
CCICDRS2 VBUILD TYPE=CDRSC
CCIA      CDRSC  CDRM=CDRMA, ISTATUS=ACTIVE
```

Note: In addition to the above definitions, you would also have to define the appropriate VTAM functionality to allow cross-system support (CDRM, CTC, NCP, etc). Consult your *VTAM Installation and Operation Guide* for further information regarding these definitions.

- Step 5. Define local CAICCI using VTAM. The appropriate VTAM definitions are now in place. We must define VTAM definitions which CAICCI uses (activates) at CAICCI startup time. This definition is accomplished by updating the ENF PARMS data set. Referencing host 1, you must first define the local host definition of CAICCI through the use of the SYSID control statement. In this statement, you define host 1 as follows:

```
CCI SYSID(UNIQCCIA)
```

This statement defines the CAICCI link to the host operating system. The operand, UNIQCCIA, refers to the CAICCI system ID.

Step 6.

The next statement required for a VTAM networked configuration is the PROTOCOL statement. In this control statement you define the networking specific requirements for this host.

```
CCI PROTOCOL (VTAM,CCIA,01,UNIQCCIA,4096,START/SHUT)
```

VTAM	Identifies to CAICCI that conversations between CAICCI's will use VTAM communications.
CCIA	Refers to the VTAM ACBNAME as previously defined to VTAM.
01	Refers to the time in minutes (1) that CAICCI would wait before attempting to reconnect to VTAM via this CCIA ACBNAME (in the event of an open ACB failure).
UNIQCCIA	Represents the eight-character CAICCI system ID that is unique throughout the CAICCI NETWORK.
4096	Refers to the MAXRU size of all data traffic on this link before data chaining is to occur.
START/SHUT	Refers to when the ACB should be opened and when it should be closed. This operand should be selected as START/SHUT . Other operands available are shown below, but should not be selected unless specifically requested by the installation procedure of the CA product you are installing.
	START/TERM INIT/SHUT INIT/TERM
	The operands STOP and SHUT are fully compatible and can be substituted for each other.

Step 7.

Define remote CAICCI's using VTAM. The definition of CAICCI remote nodes is accomplished through a series of NODE definitions. One node definition is required for each remote connection.

```
CCI NODE (LU0,CCIB,01,UNIQCCIB,4096,START/SHUT)
```

LU0	Identifies to CAICCI that conversations between CAICCI's will use VTAM communications.
CCIB	Refers to the VTAM ACBNAME as previously defined to VTAM.

01	Refers to the time in minutes (1) that CAICCI would wait before attempting to reconnect to VTAM via this CCIA ACBNAME (in the event of an open ACB failure).
UNIQCCIB	Represents the eight-character CAICCI system ID that is unique throughout the CAICCI NETWORK.
4096	Refers to the MAXRU size of all data traffic on this link before data chaining is to occur.
START/SHUT	Refers to when the ACB should be opened and when it should be closed. This operand should be selected as START/SHUT . Other operands available are shown below, but should not be selected unless specifically requested by the installation procedure of the CA product you are installing.
	START/TERM INIT/SHUT INIT/TERM
	The operands STOP and SHUT are fully compatible and can be substituted for one another.

Step 8.

Connect the remote node. Node definition does not imply a connection request. To tell CAICCI to connect to the remote host, a connect statement is required.

```
CCI CONNECT(UNIQCCIB)
```

A maximum of seven CAICCI sysids may be defined within a single connect statement. For example:

```
CCI CONNECT(UNIQA,UNIQB,UNQC,UNIQD,UNIQE,UNIQF,UNIQG)
```

Multiple connect statements are allowed.

The code displayed below shows all the CAICCI control statements combined for host 1:

```
CCI SYSID(UNIQCCIA)
CCI PROTOCOL(VTAM,CCIA,01,UNIQCCIA,4096,START/SHUT)
CCI NODE(LU0,CCIB,01,UNIQCCIB,4096,START/SHUT)
CCI CONNECT(UNIQCCIB)
```

Notice the local sysid UNIQCCIA in the SYSID and PROTOCOL statements, as well as the remote sysid UNIQCCIB in both the NODE and CONNECT statements

The code displayed below shows all the CAICCI control statements combined for host 2:

```
CCI SYSID(UNIQCCIB)
CCI PROTOCOL(VTAM,CCIB,01,UNIQCCIB,4096,START/SHUT)
CCI NODE(LU0,CCIA,01,UNIQCCIA,4096,START/SHUT)
CCI CONNECT(UNIQCCIA)
```

Notice the local sysid UNIQCCIB in the SYSID and PROTOCOL statements, as well as the remote sysid UNIQCCIA in both the NODE and CONNECT statements,

All the appropriate definitions for the sample configuration have now been made. At this point, CAICCI can be started by starting CAIENF. It is important to keep in mind that this example has been provided as a guide. A unique plan for your CAICCI VTAM network must be configured, and the custom definitions devised and implemented.

Procedure 3: Defining a Three-Host Network Configuration

In a CAICCI simple three-host network configuration, three separate CAICCI systems operate from within three separate hosts or CPUs to support communication among one or more CA Solutions. Each host may run more than one CA Solution. To define a three-host network configuration, you must do the following:

- Step 1. Define the local CAICCI system (VTAM major node) to host 1.
- Step 2. Define the cross-domain resource (2nd major node) for the remote CAICCI systems, the CAICCI systems that will run on host 2 and host 3, to host 1. Within the second major node there are two minor nodes (a target node for each of the two remote CAICCI systems).
- Step 3. Add the two major nodes to the ATCCONxx startup VTAM member.
- Step 4. Define the local CAICCI system (VTAM major node) to host 2.
- Step 5. Define the cross-domain resource (2nd major node) for the remote CAICCI systems, the CAICCI systems that will run on host 1 and host 3, to host 2. Within the second major node there are two minor nodes (a target node for each of the two remote CAICCI systems).
- Step 6. Define the cross-domain resource for the remote CAICCI system (2nd VTAM major node) to host 2.
- Step 7. Define the local CAICCI system (VTAM major node) to host 3.

- Step 8. Define the cross-domain resource (2nd major node) for the remote CAICCI systems, the CAICCI systems that will run on host 1 and host 2, to host 3. Within the second major node there are two minor nodes (a target node for each of the two remote CAICCI systems).
- Step 9. Specify the identifier for the CAICCI system on host 1. This is accomplished by using the following CAICCI control option:
- ```
CCI SYSID(sysid)
```
- |       |                                                                                   |
|-------|-----------------------------------------------------------------------------------|
| sysid | A unique eight-character identifier that is used for the CAICCI system on host 1. |
|-------|-----------------------------------------------------------------------------------|
- Step 10. Define the VTAM definitions which CAICCI will activate at CAICCI startup time. This definition is accomplished by using the following CAICCI control option:
- ```
CCI PROTOCOL(VTAM,applid,retry,sysid,maxru,START/SHUT)
```
- | | |
|------------|--|
| applid | The primary LU name defined in VTAMLST that CAICCI uses, on the local host, to establish its LU-to-SSCP session. |
| retry | The repoll time in minutes that CAICCI uses to attempt to reestablish an LU-to-SSCP session (reopen its ACB). Values can range from 1 to 59. |
| sysid | The unique eight-character identifier specified in the SYSID control statement. |
| maxru | The maximum data packet size, specified in bytes, that is allowed to be transmitted between nodes. |
| START/SHUT | The control words indicating when the LU to SSCP session should be established and disestablished. |
- Step 11. Define the remote CAICCI systems (CAICCI on host 2 and host 3) to the local CAICCI system (CAICCI on host 1) so that the local system knows to contact the remote system at startup. This is accomplished by using the following CAICCI control option:
- ```
CCI NODE(LU0,applid,retry,sysid,maxru,START/SHUT)
```
- |        |                                                                                                                                               |
|--------|-----------------------------------------------------------------------------------------------------------------------------------------------|
| applid | The primary LU name defined in VTAMLST that CAICCI uses to establish a session with the remote CAICCI system.                                 |
| retry  | The repoll time in minutes that CAICCI uses to attempt to reestablish a session with the remote CAICCI system. Values can range from 1 to 59. |
| sysid  | The unique eight-character identifier of the remote CAICCI system.                                                                            |

|       |                                                                                                                                         |
|-------|-----------------------------------------------------------------------------------------------------------------------------------------|
| maxru | The maximum data packet size, specified in bytes, that is allowed to be transmitted between the local node and this remote CAICCI node. |
|-------|-----------------------------------------------------------------------------------------------------------------------------------------|

|            |                                                                                              |
|------------|----------------------------------------------------------------------------------------------|
| START/SHUT | The control words indicating when the LU to LU session should be established and terminated. |
|------------|----------------------------------------------------------------------------------------------|

A NODE statement is required for each remote connection to be made. You must issue the above control option twice, once for host 2 and again for host 3.

Step 12. Connect the remote nodes using the following control option:

```
CCI CONNECT(sysid 2,sysid 3)
```

|         |                                                                                          |
|---------|------------------------------------------------------------------------------------------|
| sysid x | The unique eight-character identifiers of the remote CAICCI systems (host 2 and host 3). |
|---------|------------------------------------------------------------------------------------------|

Step 13. Provide the reciprocal sets of SYSID, PROTOCOL, NODE, and CONNECT statements at the remote CAICCI systems (host 2 and host 3).

Once the above steps have been accomplished, all the appropriate definitions for a three-host network configuration have been made. At this point, CAICCI can now be started by starting CAIENF on all three systems.

### Three-Host CAICCI Network Configuration

There are three host network domains: CAICCI A (CCIA), CAICCI B (CCIB) and CAICCI C (CCIC). Within each domain you must define to VTAM the existence of CAICCI which resides at that domain. You must also define all remote CAICCI to be attached.

The definitions for this sample configuration would be the same if any or all the hosts had non-network CAICCI links within their own domains.

Step 1. Assume you define CAICCI A on host 1 first. You would define the VTAM major node CCIHOST1 as follows:

```
CCIHOST1 VBUILD TYPE=APPL
CCIA APPL ACBNAME=CCIA,AUTHEXIT=YES,
 AUTH=(ACQ)
```

Step 2. Next, define the cross-domain resource of CAICCI B and CAICCI C on host 1. A sample CDRSC within sample major node CCICDRS1 is as follows:

```
CCICDRS1 VBUILD TYPE=CDRSC
CCIB CDRSC CDRM=CDRMB,ISTATUS=ACTIVE
CCIC CDRSC CDRM=CDRMC,ISTATUS=ACTIVE
```

Within the major node CCICDRS1 there are two minor nodes (CCIB and CCIC) defined. Each minor node reflects the targeted remote CAICCI system.

Step 3. At this point, the active status of these two major nodes can be changed directly through NCCF or VTAM console support. To insure that these elements become active when VTAM is initialized, add these two major nodes to your ATCCONxx startup VTAM member.

Step 4. The next step is to define the VTAM definitions to Host 2 and host 3. The major node definition for CCIB on host 2 would be as follows:

```
CCIH0ST2 VBUILD TYPE=APPL
CCIB APPL ACBNAME=CCIB,AUTHEXIT=YES,
 AUTH=(ACQ)
```

The cross-domain resource definition on host 2 would be as follows:

```
CCICDRS2 VBUILD TYPE=CDRSC
CCIA CDRSC CDRM=CDRMA, ISTATUS=ACTIVE
CCIC CDRSC CDRM=CDRMC, ISTATUS=ACTIVE
```

The major node definition for CCIC on host 3 would be as follows:

```
CCIH0ST3 VBUILD TYPE=APPL
CCIC APPL ACBNAME=CCIC,AUTHEXIT=YES,
 AUTH=(ACQ)
```

The cross-domain resource definition on host 3 would be as follows:

```
CCICDRS3 VBUILD TYPE=CDRSC
CCIA CDRSC CDRM=CDRMA, ISTATUS=ACTIVE
CCIB CDRSC CDRM=CDRMB, ISTATUS=ACTIVE
```

**Note:** In addition to the above definitions, you would also have to define the appropriate VTAM functionality to allow cross-system support (CDRM, CTC, NCP, etc). Consult your *VTAM Installation and Operation Guide* for further information regarding these definitions.

Step 5. The next step is to define local CAICCI using VTAM. The appropriate VTAM definitions are now in place. We must define VTAM definitions which CAICCI uses (activates) at CAICCI startup time. This definition is accomplished by updating the ENF PARMs data set. Again referencing host 1, you must first define the local host definition of CAICCI. This is done through the use of the SYSID control statement. In this statement, you define host 1 as follows:

```
CCI SYSID(UNIQCCIA)
```

This statement results in the definition of the CAICCI link-to-host operating system. The operand, UNIQCCIA, refers to the CAICCIA system ID.

### Step 6.

The next statement required for a VTAM networked configuration is the **PROTOCOL** statement. In this control statement you define the networking specific requirements for this host.

```
CCI PROTOCOL (VTAM,CCIA,01,UNIQCCIA,4096,START/SHUT)
```

|            |                                                                                                                                                                                                                                                                                                                           |
|------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| VTAM       | Identifies to CAICCI that conversations between CAICCI's will use VTAM communications.                                                                                                                                                                                                                                    |
| CCIA       | Refers to the VTAM ACBNAME as previously defined to VTAM.                                                                                                                                                                                                                                                                 |
| 01         | Refers to the time in minutes (1) that CAICCI would wait before attempting to reconnect to VTAM via this CCIA ACBNAME (in the event of an open ACB failure).                                                                                                                                                              |
| UNIQCCIA   | Represents the 8-character CAICCI system ID that is unique throughout the CAICCI NETWORK.                                                                                                                                                                                                                                 |
| 4096       | Refers to the MAXRU size of all data traffic on this link before data chaining is to occur.                                                                                                                                                                                                                               |
| START/SHUT | Refers to when the ACB should be opened and when it should be closed. For MVS, VM, and VSE, this operand should be selected as <b>START/SHUT</b> . Other operands available are shown below, but should not be selected unless specifically requested by the installation procedure of the CA product you are installing. |
|            | START/TERM<br>INIT/SHUT<br>INIT/TERM                                                                                                                                                                                                                                                                                      |
|            | The operands STOP and SHUT are fully compatible and can be substituted for one another.                                                                                                                                                                                                                                   |

### Step 7.

The next step is to define the remote CAICCI's using VTAM. The definition of CCI remote nodes is accomplished through a series of **NODE** definitions. One node definition is required for each remote connection that is required. The **NODE** definition for the first remote CAICCI is:

```
CCI NODE (LU0,CCIB,01,UNIQCCIB,4096,START/SHUT)
```

|      |                                                                                        |
|------|----------------------------------------------------------------------------------------|
| LU0  | Identifies to CAICCI that conversations between CAICCI's will use VTAM communications. |
| CCIB | Refers to the VTAM ACBNAME as previously defined to VTAM.                              |

|            |                                                                                                                                                                                                                                                                                                                                                                                                                                                |
|------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 01         | Refers to the time in minutes (1) that CAICCI would wait before attempting to reconnect to VTAM via this CCIA ACBNAME (in the event of an open ACB failure).                                                                                                                                                                                                                                                                                   |
| UNIQCCIB   | Represents the 8-character CAICCI system ID that is unique throughout the CAICCI NETWORK.                                                                                                                                                                                                                                                                                                                                                      |
| 4096       | Refers to the MAXRU size of all data traffic on this link before data chaining is to occur.                                                                                                                                                                                                                                                                                                                                                    |
| START/SHUT | Refers to when the ACB should be opened and when it should be closed. This operand should be selected as <b>START/SHUT</b> . Other operands available are shown below, but should not be selected unless specifically requested by the installation procedure of the CA product you are installing.<br><br>START/TERM<br>INIT/SHUT<br>INIT/TERM<br><br>The operands STOP and SHUT are fully compatible and can be substituted for one another. |

The NODE definition for the second remote CAICCI is:

```
CCI NODE(LU0,CCIC,01,UNIQCCIC,4096,START/SHUT)
```

|          |                                                                                                                                                              |
|----------|--------------------------------------------------------------------------------------------------------------------------------------------------------------|
| LU0      | Identifies to CAICCI that conversations between CAICCI's will use VTAM communications.                                                                       |
| CCIC     | Refers to the VTAM ACBNAME as previously defined to VTAM.                                                                                                    |
| 01       | Refers to the time in minutes (1) that CAICCI would wait before attempting to reconnect to VTAM via this CCIA ACBNAME (in the event of an open ACB failure). |
| UNIQCCIC | Represents the eight-character CAICCI system ID that is unique throughout the CAICCI NETWORK.                                                                |
| 4096     | Refers to the MAXRU size of all data traffic on this link before data chaining is to occur.                                                                  |

START/SHUT

Refers to when the ACB should be opened and when it should be closed. This operand should be selected as **START/SHUT**. Other operands available are shown below, but should not be selected unless specifically requested by the installation procedure of the CA product you are installing.

START/TERM

INIT/SHUT

INIT/TERM

The operands STOP and SHUT are fully compatible and can be substituted for one another.

Step 8.

Connect the remote nodes. Node definition does not imply a connection request. To tell CAICCI to connect to the remote host, a connect statement is required.

```
CCI CONNECT (UNIQCCIB, UNIQCCIC)
```

A maximum of seven CAICCI sysids may be defined within a single connect statement.

```
CCI CONNECT (UNIQA, UNIQB, UNIQC, UNQD, UNIQE, UNIQF, UNIQG)
```

Multiple connect statements are allowed.

The example below shows all the CAICCI control statements combined for host number 1.

```
CCI SYSID (UNIQCCIA)
CCI PROTOCOL (VTAM, CCIA, 01, UNIQCCIA, 4096, START/SHUT)
CCI NODE (LU0, CCIB, 01, UNIQCCIB, 4096, START/SHUT)
CCI NODE (LU0, CCIC, 01, UNIQCCIC, 4096, START/SHUT)
CCI CONNECT (UNIQCCIB, UNIQCCIC)
```

Notice the local sysid UNIQCCIA in the SYSID and PROTOCOL statements, as well as the remote sysids UNIQCCIB and UNIQCCIC in both the NODE and CONNECT statements.

The example below shows all the CAICCI control statements combined for host number 2.

```
CCI SYSID(UNIQCCIB)
CCI PROTOCOL(VTAM,CCIB,01,UNIQCCIB,4096,START/SHUT)
CCI NODE(LU0,CCIA,01,UNIQCCIA,4096,START/SHUT)
CCI NODE(LU0,CCIC,01,UNIQCCIC,4096,START/SHUT)
CCI CONNECT(UNIQCCIA,UNIQCCIC)
```

Notice the local sysid UNIQCCIB in the SYSID and PROTOCOL statements, as well as the remote sysids UNIQCCIA and UNIQCCIC in both the NODE and CONNECT statements. The example below shows all the CAICCI control statements combined for host number 3.

```
CCI SYSID(UNIQCCIC)
CCI PROTOCOL(VTAM,CCIC,01,UNIQCCIC,4096,START/SHUT)
CCI NODE(LU0,CCIB,01,UNIQCCIB,4096,START/SHUT)
CCI NODE(LU0,CCIA,01,UNIQCCIA,4096,START/SHUT)
CCI CONNECT(UNIQCCIB,UNIQCCIA)
```

Notice the local sysid UNIQCCIC in the SYSID and PROTOCOL statements, as well as the remote sysids UNIQCCIB and UNIQCCIA in both the NODE and CONNECT statements.

All the appropriate definitions for the sample configuration have now been made. At this point, CAICCI can be started by starting CAIENF. It is important to keep in mind that this example has been provided as a guide. A unique plan for your CAICCI VTAM network must be configured, and the custom definitions devised and implemented.

The operands STOP and SHUT are fully compatible and can be substituted for one another.



# Catalog Management

Catalog Management is a high-performance access method developed by CA for all CA products. It supports many different record formats and can be accessed at high rates due to its sophisticated catalog index structure.

## Catalog Management Panel (CACN-1000)

This panel displays the system control options defined for the Catalog Management service. It is displayed by:

- Entering **CATMAN DISPLAY OPTIONS** from anywhere within the CUI transaction
- Switching backward or forward from the other panels in this series
- Typing fastpath **=X** (X being the numeric option for Catalog Management on the Primary Selection Panel (CUI-MENU))

You can overwrite any of the fields on the following panel, to modify Catalog Management control options. Some changes take effect immediately, some require that the Catalog **must** be reinitialized, others require an IPL. See the field descriptions for more details.

|                                          |           |                                        |     |        |         |
|------------------------------------------|-----------|----------------------------------------|-----|--------|---------|
| CACN-1000                                |           | Catalog Management                     |     | CAICAT |         |
| ====>                                    |           |                                        |     |        |         |
| Event Code:                              |           | CATU Catalog Management Options Update |     |        |         |
| ** Catalog Enqueue Information **        |           |                                        |     |        |         |
| Enqueue Wait Interval:                   |           | 005 (Seconds)                          |     |        |         |
| Number of messages before CADC0001:      |           | 0010 (1-9999)                          |     |        |         |
| Number of messages before CADC0005:      |           | 0255 (1-9999)                          |     |        |         |
| Catalog Recovery:                        |           | YES (Yes or No)                        |     |        |         |
| ** Default Values **                     |           |                                        |     |        |         |
| Default Control Interval Size:           |           | 001 (1-999)                            |     |        |         |
| Default number of catalog buffers:       |           | 004 (1-999)                            |     |        |         |
| Default maximum buffer space allocation: |           | 000 (0-999)                            |     |        |         |
| Physical journaling supported:           |           | YES (Yes or No)                        |     |        |         |
| Physical journaling compression desired: |           | YES (Yes or No)                        |     |        |         |
| 1=Help                                   | 2=        | 3=Quit                                 | 4=  | 5=     | 6=      |
| 7=Backward                               | 8=Forward | 9=                                     | 10= | 11=    | 12=Exit |

| Fields                    | Descriptions                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
|---------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Enqueue Wait Interval     | Displays the number of seconds the system should wait before attempting to enqueue the Catalog file again in a multi-CPU environment. While waiting, the partition requesting the enqueue is stopped so that other processing can continue. It can be any number from 1 to 999. The default is 5 seconds. In a multi-CPU environment of mismatched speeds, this value can be adjusted to decrease the wait time for the slower CPU, allowing the Catalog to be accessed more frequently.                                                                       |
| Messages before CADC0001  | Displays the number of external enqueues to be attempted on the Catalog Management data set in a multi-CPU environment before an error message is issued. It can be any number from 1 to 9999; the default is 10. Increase this value if the error message appears too often.<br><i>This option is placed into effect immediately.</i>                                                                                                                                                                                                                         |
| Messages before CADC0005  | Specify the number of external enqueues to be attempted on the Catalog Management data set in a multi-CPU environment before an error message is issued and the enqueue is considered to have failed. It can be any number from 1 to 9999; the default is 255. Increase this value if the error message appears too often.<br><i>This option is placed into effect immediately.</i>                                                                                                                                                                            |
| Catalog Recovery          | Specify YES if Catalog Recovery is to be supported.<br><i>The Catalog must be reinitialized to put this option into effect.</i>                                                                                                                                                                                                                                                                                                                                                                                                                                |
| Control Interval Size     | Displays the CIsizes of the data sets in multiples of K (1024 bytes). It can be any number from 1 to 999. The default is 1.<br><i>The Catalog must be reinitialized to put this option into effect.</i>                                                                                                                                                                                                                                                                                                                                                        |
| Number of catalog buffers | Displays the maximum number of buffers to be requested when accessing Catalog data sets. It can be any number from 1 to 999. The default is 4, which is the minimum number required for Catalog Access function and provides 4K for the Catalog Access buffers. The size of each buffer depends on the CIsizes specified.<br><br>You can specify a greater number of buffers for faster access; however, this requires more partition GETVIS storage. Values greater than 6 have no apparent effects.<br><i>This option is placed into effect immediately.</i> |

| Fields                                  | Descriptions                                                                                                                                                                                                                                                                                                                                                                                     |
|-----------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Maximum buffer space allocation         | Displays the total amount of buffer space available for the Catalog Manager and serves as a limit for the Max No. of Buffs parameter. It can be any number from 0 to 999, but should be specified as 0 unless instructed otherwise by CA Technical Support personnel ( <a href="http://ca.com/support">http://ca.com/support</a> ).<br><br><i>This option is placed into effect immediately.</i> |
| Journaling supported (YES NO)           | Specify YES if Physical Journaling is to be supported.<br><br><i>An IPL is required to put this option into effect.</i>                                                                                                                                                                                                                                                                          |
| Journaling compression desired (YES NO) | Specify YES if Journal Compression is to be supported. Journal Compression eliminates the need of a large journal data set.<br><br><i>An IPL is required to put this option into effect.</i>                                                                                                                                                                                                     |

**Note:** The following options -- Control Interval Size, Number of catalog buffers, and Maximum buffer space allocation -- are Catalog Management default values **only**. Specific products (for example, CA-Scheduler) may provide product-level options which then override these defaults.

The Catalog Management system options are no longer supported through the DYNAM and CPUID macros; they must be maintained through the on-line maintenance or the CUI batch maintenance.

Catalog Management is a service that is used by certain CA VSE products on an internal level. End-users can take advantage of the functionality, but this service can be accessed by System Administrators only.

## Catalog Management Internal Display Utility - CACNUTIL

CACNUTIL is a Catalog Management display aid used in the diagnosis of problems. It should only be used in consultation with CA Technical Support (<http://ca.com/support>). It enables you to find and display data set records in hexadecimal format on SYSLSL or SYSLOG. You can display:

- All records associated with a specific data set or volume
- A record located at a specific relative byte address (RBA) within the data set, considerably simplifying the process of locating and printing specific records.

If you execute CACNUTIL from:

- A card reader (SYSRDR), control statements are read from SYSIPT and end with /\*.
- The console, control statements are read from SYSLOG and end with EOB/END/ENTER.

This chart lists the CACNUTIL parameters.

| Parameter                  | Description                                                                                                                                                                                                                                                                                                                                                                                                                       |
|----------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ABSVOL=volser              | Locates the volume indicated and prints associated records (VBR and DPR). Volume serial number must be 6 characters since CACNUTIL will look for a volser that matches the 6 characters following ABSVOL=.                                                                                                                                                                                                                        |
| CISIZE=nnnn                | Specifies the CISIZE of the Catalog to be accessed.<br>Default: 1024                                                                                                                                                                                                                                                                                                                                                              |
| DDNAME=filename            | Specifies the filename of the Catalog to be accessed.<br>Default: CAICATL                                                                                                                                                                                                                                                                                                                                                         |
| DSN=data set<br>name   ALL | Locates the data set and prints associated records:<br><br>DBR    Data set base record<br><br>ACR    Allocation control record (Disk)<br><br>COR    Comment record<br><br>VLR    Vault location record<br><br>GBR    Generation base record<br><br>VPR    Volume pointer record (Additional GBR/VPR<br>pairs that exist)<br><br>Data set name may be up to 44 characters. Do not use<br>quotation marks to enclose data set name. |

| Parameter                                             | Description                                                                                                                                                                                                                                                                                                             |
|-------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| RBA=nnnnnnnn<br>(relative byte address<br>in Catalog) | Displays the control interval (1024-byte block)<br>containing the requested RBA.<br><br>The RBA is an 8-digit hexadecimal relative byte<br>address.                                                                                                                                                                     |
| SKR=sortkey                                           | Locates and prints the associated Sort Key Record<br>(SKR).<br><br>Sort Key name is from 1 to 8 bytes.                                                                                                                                                                                                                  |
| VCR=vault ID                                          | Locates the associated vault control record (VCR) and<br>prints it. Vault ID is 1 character from A through Z.                                                                                                                                                                                                           |
| VOL=volser   ALL                                      | Locates the volume indicated and prints associated<br>records:<br><br>VBR    Volume base record<br><br>DPR    Data set pointer record<br><br>Volume serial number is 1 to 6 characters,<br>right-justified, and padded on the left with zeros. For<br>example, "VOL=22" causes CACNUTIL to search for<br>volser 000022. |

The output on SYSLST of each CACNUTIL command includes:

- The control statement being processed.
- The actual seek (CKD) or locate (FBA) address used to retrieve each record.
- The records to be displayed, in dump format. The address shown in the left position is the RBA for the first byte in the line.

Any documentation sent to CA concerning a suspected problem with the Catalog-managed file should be accompanied by CACNUTIL displays of all records suspected to be associated with the problem, and of RBA=00000000, the Catalog control record. RBA=ALL may be used if the error is uncertain, or to avoid additional requests for documentation.

## Modifying Catalog Records

On rare occasions, as a solution to a Catalog problem, you may be requested by CA support personnel to modify a Catalog record. This is done by locating the RBA of a particular record and then verifying and replacing specific bytes in the record.

Following the RBA= command, additional commands will be accepted to modify records in the Catalog. For example,

|              |                                                                                                                                                                                                                                          |
|--------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| RBA=1FE00    | Displays indicated RBA.                                                                                                                                                                                                                  |
| +180         | Locates offset of x'180' bytes past RBA indicated. Valid entry is a hexadecimal value which cannot exceed the CISIZE for the file (x'400') nor cause access of an address in another CI. The contents of the location will be displayed. |
| VER=0001E400 | Verifies accuracy of data at change location (optional).                                                                                                                                                                                 |
| REP=00000000 | Replaces data at change location with hexadecimal value indicated. Valid entry is a 1- to 16-character hexadecimal value with no commas or spaces.                                                                                       |

Use the VER and REP commands with caution; otherwise, unrecoverable Catalog corruption may result. Contact CA support personnel before attempting manual Catalog changes using CACNUTIL.

## CATRACE Command

The CATRACE facility is an Attention Routine (AR) command used to control the collection of debugging information. CATRACE may be used to start and stop function-specific trace activity, and control the level of trace detail.

The CATRACE CAT command is used to provide trace information to assist in problem determination. CA support personnel will direct you if it becomes necessary to supply the Catalog Management traces. The CATRACE command can also be used to stop the realtime components. Again, use this command only when so advised.

```
CATRACE CAT ON|OFF [event-options|extract-options]
 ALL
 CLEAR
```

|              |                                                              |
|--------------|--------------------------------------------------------------|
| CAT ON   OFF | Enables or disables the Catalog Management component traces. |
|--------------|--------------------------------------------------------------|

|           |                                                                                                                                                                                                                                                                               |
|-----------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>ON</b> | Enables the Catalog Management component traces. The currently set options in effect are used, with all events monitored. Extraction and routing options currently in effect are used. If any new options are supplied with the ON keyword, the trace honors the new options. |
|-----------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

|            |                                                                                                                                                                                                              |
|------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>OFF</b> | Disables the Catalog Management component traces. Any options supplied are accepted and used when the trace is subsequently enabled via the ON keyword. The event-options supplied are accepted but ignored. |
|------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

|                 |                                                                                                                                                                                                                                                                        |                                                                |
|-----------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------|
| event-options   | These are the events that are to be monitored by the trace facility. The keywords may be used in conjunction with each other. Valid keywords are:                                                                                                                      |                                                                |
|                 | <b>ENTRY</b>                                                                                                                                                                                                                                                           | Traces high-level entry to the Catalog Management component.   |
|                 | <b>EXIT</b>                                                                                                                                                                                                                                                            | Traces high-level exit from the Catalog Management component.  |
|                 | <b>SENTRY</b>                                                                                                                                                                                                                                                          | Traces entry at every subfunction.                             |
|                 | <b>SEXIT</b>                                                                                                                                                                                                                                                           | Traces exit from every subfunction.                            |
|                 | <b>BGET</b>                                                                                                                                                                                                                                                            | Traces on EXIT from BGET.                                      |
|                 | <b>IO</b>                                                                                                                                                                                                                                                              | Traces after I/O calls.                                        |
| extract-options | These designate the Catalog Management storage areas to be displayed whenever the specified trace events occur. The extraction options may contain a NO prefix, as in NOCAW. This indicates that the specified storage area is not to be displayed. Valid options are: |                                                                |
|                 | <b>POOLS</b>                                                                                                                                                                                                                                                           | All storage pools allocated are to be displayed.               |
|                 | <b>REGS</b>                                                                                                                                                                                                                                                            | Register contents are to be displayed (the default).           |
|                 | <b>CPL</b>                                                                                                                                                                                                                                                             | Catalog parameter list is to be displayed (the default).       |
|                 | <b>CAW</b>                                                                                                                                                                                                                                                             | Catalog Management work area is to be displayed (the default). |
|                 | <b>CACB</b>                                                                                                                                                                                                                                                            | Catalog access control block is to be displayed (the default). |
|                 | <b>BUF</b>                                                                                                                                                                                                                                                             | The current Catalog buffer is to be displayed.                 |
|                 | <b>ABUF</b>                                                                                                                                                                                                                                                            | The AUDIT buffer is to be displayed.                           |
|                 | <b>BUFS</b>                                                                                                                                                                                                                                                            | All Catalog buffers are to be displayed.                       |
| ALL             | Enables the trace for all events and for all extraction options. The route options in effect are honored.                                                                                                                                                              |                                                                |
| CLEAR           | Disables all events, and resets all extraction options. Any new options supplied are accepted, and are used the next time the trace is enabled. Event options are accepted but ignored.                                                                                |                                                                |

## Examples

The following example turns on the default traces. All events are monitored and default extraction data is routed to the printer.

```
CATRACE CAT ON
```

The following example enables the trace only for subfunction entry and exit. The output contains only the Catalog Parameter List.

```
CATRACE CAT ON SENTRY SEXIT CPL
```

## Catalog Management Options with the DYNAM Macro

In prior releases of Catalog Management, the options ENQTRY1, ENQTRY5, ENQWAIT, RECOVER, BUFSP, and BUFNO were supported only by the DYNAM macro generation. This is no longer the case. These options are now also supported through the CUI system options for Catalog Management.

# System Adapter

The CA System Adapter provides operating system-dependent services, such as program retrieval and recovery, for a variety of CA products. Made through generic requests, these services facilitate the development of operating system-independent products.

## System Adapter Panel (CASA-1000)

This panel displays the system control options defined for the System Adapter service. It is displayed by:

- Entering **SAD DISPLAY OPTIONS** from anywhere within the CUI transaction
- Switching backward or forward from the other panels in this series
- Typing fastpath =X (X being the numeric option for System Adapter on the Primary Selection Panel (CUI-MENU))

You can overwrite any of the fields on this panel to modify System Adapter control options. Any changes made on this panel require an IPL to take effect.

| CASA-1000                      |           | System Adapter         |     | CAISAD |         |
|--------------------------------|-----------|------------------------|-----|--------|---------|
| ====>                          |           |                        |     |        |         |
| Description: _____             |           |                        |     |        |         |
| SVC Number: 255                |           | Number of SVRBs: 00000 |     |        |         |
| ----- CPU Identification ----- |           |                        |     |        |         |
| CPU ID                         | System ID | CPU Serial Number      |     |        |         |
| A                              | —         | _____                  |     |        |         |
| B                              | —         | _____                  |     |        |         |
| C                              | —         | _____                  |     |        |         |
| D                              | —         | _____                  |     |        |         |
| E                              | —         | _____                  |     |        |         |
| F                              | —         | _____                  |     |        |         |
| G                              | —         | _____                  |     |        |         |
| H                              | —         | _____                  |     |        |         |
| I                              | —         | _____                  |     |        |         |
| 1=Help                         | 2=        | 3=Quit                 | 4=  | 5=     | 6=      |
| 7=Backward                     | 8=Forward | 9=                     | 10= | 11=    | 12=Exit |

**Fields**

| <b>Fields</b> | <b>Descriptions</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
|---------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Description   | Displays a description of the selected system option.                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| SVC Number    | <p>Displays the internal CA SVC number of the System Adapter. This value can be overtyped to modify the system default of 255. It can be any number from 119 to 140 and 142 to 255.</p> <p><b>Caution:</b> Make sure that the value you select does not conflict with IBM usage or other installed software products.</p>                                                                                                                                                                   |
| SVRB          | <p>Displays the number of SVRB blocks for System Adapter. The SVRBs are used to save user PSW and registers during SVC intercept processing, and indicates the maximum concurrent intercepts at any one time. If jobs cancel with IBM message:</p> <p><b>0P78I UNRECOGNIZED CANCEL CODE X'CA'</b></p> <p>then, this number must be increased. The SVRB has a default of 25. The maximum value allowed is 32767. The SVRB control blocks are allocated in the 24 bit system GETVIS area.</p> |
| CPU System ID | Displays the letters and numbers, A through Z and 0 through 9, internally assigned to the CPU serial numbers by the system to identify them.                                                                                                                                                                                                                                                                                                                                                |
| System ID     | Displays a one-byte System ID that corresponds to, or takes the place of, the Power System ID. The 'System ID' has an alphanumeric default of 1 (one); and it should match the Power System ID, if the Power System ID is present.                                                                                                                                                                                                                                                          |

| Fields            | Descriptions                                                                                                                                                                                                                                                                                     |
|-------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| CPU Serial Number | Displays the serial number of the CPU upon which the service was installed. This number is assigned by the system during installation; if using a multi-CPU system, additional CPUs should be defined on this panel. The 16-digit hexadecimal CPU serial numbers should be specified as follows: |
| aa                | the version code                                                                                                                                                                                                                                                                                 |
| bbbbbb            | the processor identification number                                                                                                                                                                                                                                                              |
| cccc              | the model number of the processor                                                                                                                                                                                                                                                                |
| dddd              | the machine check extended logout (always x'0000')                                                                                                                                                                                                                                               |

**Note:** The CPU system options are no longer supported through the CPUID macro; they are maintained through on-line maintenance or the CUI batch maintenance.

#### Local Commands

| Command         | Function                                             |
|-----------------|------------------------------------------------------|
| Backward nnn    | Scroll backward <b>nnn</b> panels. The default is 1. |
| BOTtom          | Scroll to the bottom of the panel display.           |
| DOWn nnn        | Scroll down <b>nnn</b> lines. The default is 1.      |
| FORward nnn     | Scroll forward <b>nnn</b> panels. The default is 1.  |
| SWItch BACKward | Scroll backward to previous panel level.             |
| SWItch FORward  | Scroll forward to the next panel level.              |
| TOP             | Scroll to the top of the panel display.              |
| UP nnn          | Scroll up <b>nnn</b> lines. The default is 1.        |

System Adapter is a service that is used by all CA VSE products on an internal level. End-users can take advantage of their functionality, but this service can be accessed by System Administrators only.

## System Adapter Utility Program - CASAUTIL

The System Adapter program allows you to:

- Initialize the System Adapter nucleus and the services of the various products installed
- Provide for diagnostics and manipulation of the modules under the control of the System Adapter

If CASAUTIL is executed with **// UPSI 00000000** in effect (no UPSI), the system will be interrogated to determine if it needs to be initiated. If so, initialization is performed. If the System Adapter is already in control, a message is issued verifying this, and no action is taken.

### CASAUTIL Special Diagnostic and System Control Functions

For your convenience in determining and documenting problems, CASAUTIL also supports several special functions to display and manipulate the service phases under control of the System Adapter. To perform these functions, execute CASAUTIL with **// UPSI 01** in effect. In this mode, CASAUTIL accepts commands from the SYSIPT device. If no commands are found, it asks the operator to enter a command on the SYSLOG device.

| To start up the system by:                                          | Issue Command   |
|---------------------------------------------------------------------|-----------------|
| Initializing the system as though it were executed without any UPSI | INITIAL SYSTEM  |
| Performing the first phase of a two-phase startup procedure         | INITIAL PHASE-1 |
| Performing the second phase of a two-phase startup procedure        | INITIAL PHASE-2 |
| Selectively activating CA System Adapter products at IPL            | START PRODUCT   |

Issue This Command: To:

|        |                                                                                                                   |
|--------|-------------------------------------------------------------------------------------------------------------------|
| LIST   | Diagnose problems by displaying information on SYSLOG and SYSLST about the phase found in the shared virtual area |
| RELOAD | Replace a phase or Adapter function in the shared virtual area with the phase found in the core image library     |

|           |                                                                                                                                                                                                                                                                                                                                                       |
|-----------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| DISABLE   | <p>Dynamically modify operation of the System Adapter by disabling the SVC intercept for:</p> <ul style="list-style-type: none"><li>All partitions and products issue DISABLE ALL</li><li>A specific partition issue DISABLE pp</li><li>A specific product issue DISABLE product</li><li>File open processing intercepts issue DISABLE OPEN</li></ul> |
| ENABLE    | <p>Re-activate the SVC intercept for:</p> <ul style="list-style-type: none"><li>All partitions and products issue ENABLE ALL</li><li>A specific partition issue ENABLE pp</li><li>A specific product issue ENABLE product</li><li>File open processing intercepts issue ENABLE OPEN</li></ul>                                                         |
| RESIDENCE | <p>Establish a batch partition as a service residence for those functions using a service subtask</p>                                                                                                                                                                                                                                                 |

## Starting the System Commands

### INITIAL Command

|          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
|----------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Format:  | INITIAL SYSTEM                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| Purpose: | Causes CASAUTIL to initialize the system as though it were executed without any UPSI.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| Format:  | INITIAL PHASE-1                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| Purpose: | <p>Causes CASAUTIL to perform the first phase of a two-phase startup procedure. System information necessary to initialize the system is saved in system GETVIS storage, where it can be referenced when the second phase of initialization is entered. No dynamic hooks are set into the supervisor at this time. Use the two-phase startup procedure if message:</p> <p>CADS021 INITIALIZATION ERROR - nn</p> <p>occurs when the System Adapter is initialized with another software product. This option is not normally required because the System Adapter uses sophisticated code search techniques to locate the desired information.</p> |
| Format:  | INITIAL PHASE-2                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |

**Purpose:** Causes CASAUTIL to perform the second phase of the two-phase startup procedure, using the information stored from Phase 1. Phase 2 sets dynamic hooks into the supervisor so that the System Adapter can be fully initialized.

## START Command

**Format:** START product-name-1 ... product-name-n INITial

**Purpose:** Allows you to selectively activate CA System Adapter products at IPL time. Products that are installed but not included in the START product list will not be activated, and no storage will be allocated to them.

The following rules apply when using the CASAUTIL START command:

- All START commands are processed and validated before any products are activated. Invalid product names cause an error condition, and no products are activated.
- START commands are terminated with the INITIAL keyword, at which time the product is activated. No products are activated if you omit the INITIAL keyword (must be the last statement).
- You must specify at least one valid product name in your START command; otherwise, an error message is issued, and no products are initialized.
- Separate multiple product names with either a space or a comma.
- You may spread the product names over multiple control statements. Each control statement must begin with the START keyword. Although it is not required, for reasons of clarity we recommend that you issue a separate START command for each product, followed by the activating START INITIAL command.
- Spell and punctuate the product names correctly. Refer to the individual product documentation for the correct product names.
- The START command is only valid when the System Adapter is not active. Therefore, it is used primarily as a facility for initializing a subset of the CA products as a diagnostic procedure. Once the system is initialized, you cannot reissue START to add a new product to already-active products. In this case, a system IPL must be performed.
- Here are the following START parameters for CA-CIS services:

|            |                       |
|------------|-----------------------|
| SYSADAPTER | CA-CIS System Adapter |
| CATLG/MGMT | Catalog Management    |
| CCI/VSE    | CCI                   |

## START AUDIT Command

Format: START AUDIT audit startup parameters

Purpose: Activates the AUDIT runtime system. This command can only be used after the System Adapter is initialized.

The AUDIT startup parameters are the same as those in the CACCDBU0 STARTup AUDIT command.

### Examples:

AUDIT startup with all CA products:

```
// JOB CASAUTIL START AUDIT RUNTIME
// UPSI 01
// EXEC CASAUTIL
INITIAL SYSTEM
START AUDIT SUB(POWER)
/*
/ &
```

AUDIT startup with specific CA products:

```
// JOB CASAUTIL START AUDIT RUNTIME
// USPI 01
// EXEC CASAUTIL
START DYNAM/D DYNAM/T ASMARHIVE INITIAL
START AUDIT SUB(POWER)
/*

/ &
```

AUDIT startup after the System Adapter is active:

```
// JOB CASAUTIL START AUDIT RUNTIME
// USPI 01
// EXEC CASAUTIL
START AUDIT SUB(POWER)
/*
/ &
```

## PARM Command

Format: PARM productname value

Purpose: Enables CASAUTIL to now support the initialization of CA products. The **parm** value will be supplied to the product when it is first invoked.

The new PARM command is as follows:

```
// UPSI 01
// EXEC CASAUTIL
START DYNAM/D DYNAM/T DYNAM/FI
PARM OPERA (INIT1, INIT2, INIT3)
START SCHEDULER
```

```
PARM ACF/2 (INIT4 INIT5 INIT6 INIT7)
START INITIAL
```

All values following the product name are passed to the product as product specific parameter values.

In this case, each product can have its own initialization parameters passed to it and may not require separate initialization phases after CASAUTIL. This will also allow future parameters to be passed to exits.

## Diagnostic Commands

### LIST Command

Format: LIST phasename | ALL

LISTX phasename | ALL

LX phasename | ALL

Purpose: Produces SYSLOG and SYSLST information about the indicated phase found in the shared virtual area. The display looks like this:

```
FN=FREE PN=CASASTMA LE=00B02C0 IN=5080 SLV=02 EP=0DA7D560
LA=00A7D488 V=08
```

where:

FN is the internal function name

PN is the phasename

LE is the list entry

EP is the entry point

V, IN and SLV are the internal indicators

LA is the load address

**Note:** The **LISTX** and **LX** commands list the same information as the **LIST** command and, **LISTX** and **LX** print the first 68 bytes of the phase.

Any documentation submitted to CA concerning a suspected problem with the System Adapter should be accompanied by the output of a CASAUTIL LIST ALL function. This information is produced automatically as a by-product of the CAISERV program.

After the System is Started Commands

## RELOAD Command

Format: RELOAD phasename | /function

Purpose: Replaces the indicated phase or Adapter function in the shared virtual area with the phase found in the core image library.

Issue this command to make PTFs applied with MSHP immediately effective without an IPL. Use this command with caution. If there is insufficient storage, the system may be left only partially installed.

This command is executed only if there is enough free storage in the system GETVIS portion of the shared virtual area in which to reload the named phase. If a phase is reloaded twice, additional storage is reserved for it until an IPL is performed.

## DISABLE Command

Purpose: Causes CASAUTIL to dynamically modify the operation of the system by disabling the SVC intercept.

Format: DISABLE ALL

Purpose: Totally deactivates the System Adapter by immediately disabling the SVC intercept for all partitions and products. Since only the SVC for internal system communication is intercepted, you can later enable the system.

**Note:** This command will not be allowed if CA-ACF2 or CA-Top Secret is active.

Format: DISABLE pp ALL | OPEN

Purpose: DISABLE pp ALL immediately disables the intercept for partition pp only, deactivating only partition pp.

DISABLE pp OPEN disables the SVC intercept for OPEN/CLOSE interception; the SVC stays effective for some of the utilities.

'pp' is the partition ID; for example, BG, F1, and so on. An equal sign (=) can be used to specify the partition in which CASAUTIL is executing.

**Note:** This command will not be allowed if CA-ACF2 or CA-Top Secret is active.

Format: DISABLE product

**Purpose:** Disables phase intercepts (SVC 2 and 4) and AR command intercepts for the named product. 'product' is one of the System Adapter products.

**Note:** DISABLE CA-ACF2 or DISABLE CA-Top Secret is not allowed.

**Note:** Use of the DISABLE facilities can adversely affect your system's stability:

- DISABLE ALL or DISABLE product issued in a busy system may lead to various abends because of in-flight processing at the time of the disable. Avoid disabling a partition (either ALL or OPEN) from another partition for similar reasons.
- Any DISABLE, apart from OPEN, removes the VTOC management intercepts and can result in various VTOC processing errors or corrupt VTOC indexes if indexed VTOCS are initialized.

It is not possible to disable a particular product by partition using the CASAUTIL DISABLE command.

## ENABLE Command

**Purpose:** Causes CASAUTIL to enable the SVC intercept after running the DISABLE function.

**Format:** ENABLE ALL

**Purpose:** Totally re-activates the System Adapter product intercepts.

**Format:** ENABLE pp

**Purpose:** Enables the intercepts for partition pp. An equal sign (=) can be used to specify the partition in which CASAUTIL is executing.

**Format:** ENABLE product

**Purpose:** Enables phase and AR command intercepts for the specified System Adapter products. See the DISABLE command for product name formats.

**RESIDENCE Command**

Format: RESIDENCE [EOB | pp]

Purpose: Establishes the current partition or pp, as the partition, in which service subtasks will be attached for various product functions. A 'long running' partition (POWER, VTAM, CICS) is required since subtasks are detached at EOJ. This command is not required. The default residence is the VSE system partition. When the RESIDENCE command is used, the current partition will enter a wait state, and can be restarted using the 'CASTART fn' command. An EOB response will set the current partition as the resident partition.

Format: RESIDENCE [END]

Purpose: Terminates a partition as the partition in which service subtasks will be attached for various product functions.

## System Adapter Diagnostic Label Trace Facility - CATRACE

System Adapter provides a trace facility for calls to the Label Interface. It is available through the Attention Routine (AR) Command, CATRACE. With the CATRACE command, one or all of the partitions can be traced. Output of the extended traces is directed to a printer assigned in the partition.

To activate the trace:

```
CATRACE SLA ON SYSnnn {ALL|pp}
```

To deactivate the trace:

```
CATRACE SLA OFF
```

Where:

ON | OFF Turns the SLA traces on and off for the indicated partition.

SYSnnn Indicates the logical unit in the specified partition where the output of the SLA traces are to be directed. Supply a device only if the function is ON, not if it is OFF. This may be SYSLST or any programmer logical unit; it must be assigned to a printer.

If all partitions are to be traced, SYSLST must be specified.

ALL | pp Specifies the partition for which the traces are to be turned ON. Only one value can be entered.

For dynamic partitions, the CATRACE command may be specified after the partition has been initialized. If CATRACE is issued for a dynamic partition which has not been initialized, an error message is produced.

## System Adapter Diagnostic IUCV Trace Facility

System Adapter provides a trace facility for all requests made to the Adapter IUCV subsystem. It is available through the Attention Routine (AR) Command, CATRACE. With this command, the trace of calls to IUCV and the operations that are performed may be directed to either SYSLST, SYSLOG, or a dedicated tape drive.

To activate the trace:

```
CATRACE IUC TRACEON FLAG1=nn,FLAG2=nn,CUU=cuu
```

To deactivate the trace:

```
CATRACE IUC TRACEOFF
```

Where:

FLAG1=nn Is the value of nn translated into a hexadecimal byte with the following values:

X'80' = Snap data areas before entry to routine

X'40' = Snap data areas on return from routine

X'20' = Direct snap output to tape ('cuu' operand MUST be specified)

X'10' = Direct snap output to operator console (SYSLOG)

FLAG2=nn Is the value of nn translated into a hexadecimal byte with the following values:

X'80' = Snap current register save area

X'40' = Snap IUCV communication control area

X'20' = Snap IUCV work area

X'10' = Snap IUCV internal work area

X'08' = Snap send/receive/reply data areas

X'04' = Snap internal control tables

X'02' = Snap save area chain block

X'01' = Snap all subroutine links

CUU=cuu Is the output tape device.

## System Adapter Extended Operator Communication Facility

The following table describes the AR commands.

| This command               | Has this purpose                                                                                                                                                                                                                                                                          |
|----------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| CA-CP   CP                 | <p>Passes a VM command to the CP processor and displays the returned message. For example,</p> <p>CA-CP QUERY STORAGE</p> <p>Any CP command valid for the userid's privilege class(es) will be processed. For instance, this facility could be used to attach or detach tape devices.</p> |
| CA-CANcl nn<br>CA-FLUSH nn | These CANCEL-DELAY commands enable cancellation for partition nn.                                                                                                                                                                                                                         |
| CASTART fn                 | Starts partitions, either static or dynamic, which were previously STOPped by System Adapter.                                                                                                                                                                                             |
| CA-LOG   CA-NOLOG          | These commands will set the AR LOG or NOLOG command in effect for any dynamic partitions started after the command is entered.                                                                                                                                                            |
| CA?                        | The STATUS commands display information about the CPU, operating system, and CA products currently active in the system.                                                                                                                                                                  |
| SA?                        | The SA? command displays information about internal System Adapter control block addresses. The SA? command is new for System Adapter 6.1.                                                                                                                                                |

### CASAPPCA - Print Adapter Permanent Storage Chain

This utility program will list all of the currently allocated permanent storage (storage that will not be released at Task termination) allocated by the System Adapter. This storage has been acquired by the System Adapter on behalf of CA Products and for use by the System Adapter itself. There are no INPUT parameters required by this utility program.

This utility program is designed to assist CA Support Personnel in Problem Determination and may be requested by them.

The output of this utility program goes to the currently assigned SYSLST device. The SYSLST device must be assigned to a valid VSE/ESA printer device.

**Note:** The CASAPPCA utility is new for System Adapter 6.1.

## CASAGVIS - Display System Related Information

This utility program will display the current System layout of Virtual Memory along with the amount of System Getvis memory that is currently allocated to each defined SubPool. There are no INPUT parameters required by this utility program. The output of this utility program goes to both the System Console and to the currently assigned SYSLST device. The SYSLST device must be assigned to a valid VSE/ESA printer device.

**Note:** The CASAGVIS utility is new for System Adapter 6.1.

Following is an example of the output from the CASAGVIS utility program.

```

CASAGVIS VERSION=6.1 DATE=07/25/95 TIME= 9.59.49
SYSTEM INFORMATION : VSE/ESA 2.1.0 MODE=ESA -----
VIRTUAL INFORMATION : -----| SIZE --
SUPERVISOR : 0: 91FFF 584K
SDAID AREA : 92000: A1FFF 64K
SVA(24) AREA : A2000: 3DFFFF 3320K
GETVIS(24) AREA : 2A6000: 3B4FFF 1084K
SYSTEM LABEL AREA : 3B5000
VPOOL AREA : 3D0000: 3DFFFF 64K
SHARED AREA : 3E0000: 3FFFFFF 128K
PASIZE AREA : 400000: 13FFFFFF 16384K
SVA(31) AREA : 1400000: 16FFFFFF 3072K
GETVIS(31) AREA : 15D2000: 16FFFFFF 1208K

SVA INFORMATION : -----| SIZE --
SVA SDL AREA : A2050: A7FFF 23K+
SDL ENTRIES:NEXT FREE: 145: A491C 13K+
SVA(24) VL AREA : A8000: 2A5FFF 2040K
SVA(24) VL FREE AREA: 1CF004: 2940F7 788K+
SVA(31) VL AREA : 1400000: 15D1FFF 1864K
SVA(31) VL FREE AREA: 147C694: 157C5A7 1023K+

GETVIS INFORMATION : -----| SIZE --
GETVIS CONTROL AREA: 15D2000: 15DAFFF 36K
GETVIS AREA(24) : 2A6000: 3B4FFF 1084K
HIGH WATER MARK: 353000 692K
GETVIS AREA(31) : 15DB000: 16FFFFFF 1172K
LOW WATER MARK: 1674000 560K

IJBVDI 4K 2.0960K 1.0064K 1 1
IJBDS 0K 0.0000K 0.0000K
31-> 4K 0.0256K 3.0768K 1 1
IJBAL 0K 0.0000K 0.0000K
31-> 4K 0.0256K 3.0768K 1 1
CASA 424K 416.0784K 7.0240K 106
31-> 220K 219.0256K 0.0768K 55
IPVEN 0K 0.0000K 0.0000K
31-> 4K 2.0320K 1.0704K 1 1
CASAP 12K 9.0832K 2.0192K 3 3
31-> 60K 54.0400K 5.0624K 15 15
PEXIT 0K 0.0000K 0.0000K
31-> 8K 6.0512K 1.0512K 2 2
PEXITM 0K 0.0000K 0.0000K
31-> 32K 26.0160K 5.0864K 8
ILCKSP 4K 0.0352K 3.0672K 1
SYSTEM TOTALS -----

```

|                         |      |           |          |    |
|-------------------------|------|-----------|----------|----|
| SGVIS24                 | 672K | 635.0384K | 36.0640K | 10 |
| SGVIS31                 | 560K | 524.0400K | 35.0624K | 64 |
| LARGEST FREE AREA (24): |      | 392.0000K |          |    |
| LARGEST FREE AREA (31): |      | 612.0000K |          |    |

The output of the utility program CASAGVIS is intended to give you a map of the current System's Virtual Storage layout, along with allocation information of the System Getvis Area and the amount of memory allocated to the different Sub Pool's defined.

The SPOOLID of CASA is all of the storage allocated by the System Adapter which is non PFIX'd. The SPOOLID of CASAPF is all of the storage allocated by the System Adapter that has been PFIX'd. These values will vary depending on the number of CA Products that have been started by CASAUTIL and other storage requirements that CA Products will require during normal system processing.

### System Adapter CANCEL-DELAY Support

To ensure the integrity of certain critical system functions (such as CATALOG DEQUEUE), the System Adapter provides support for a 'CANCEL-DELAY' function, which uses a standard IBM facility to prevent operator-generated cancellation of a job from becoming effective until the critical function has completed.

This facility only affects cancellations originating with the operator (not those generated by program-check interruption, I/O errors or other causes) and delays; it does not prevent operator cancellation. The System Adapter ensures that critical CA-product system tasks, such as CATALOG DEQUEUE, complete without interruption, preventing Catalog corruption which might otherwise occur.

This support is provided automatically without user intervention. When an operator issues the 'CANCEL BG' command if 'CANCEL-DELAY' is in effect, the task is set to be canceled as usual; however, the cancellation does not occur until the CA-product function in progress has completed. If the POWER/VS(E) PFLUSH (F BG) command is issued while 'CANCEL-DELAY' is in effect, message CADS327E PFLUSH IGNORED is issued, and the command is ignored.

In either case, no further action should be taken until a reasonable time has elapsed, to permit the critical function to complete. If it is suspected that the partition which has been canceled or flushed is in an unending loop or wait condition, an override to the 'CANCEL-DELAY' facility has been provided. The operator may enter, to the attention routing (AR), any one of the following:

CA-CANCL nn or CA-CAN nn or CA-FLUSH nn

Where **nn** is the partition ID of the partition to be canceled.

These commands disable the 'CANCEL-DELAY' condition if it is in effect for the partition specified and allow the previously entered 'CANCEL' to take effect. Note that these commands do not cause the job to be canceled, but merely allow the cancellation to proceed.

## System Adapter Options with the DYNAM Macro

In prior releases of the System Adapter, the options SVC1 and NSVRBS (for the System Adapter) were supported only by the DYNAM macro generation. This is no longer the case. These options are now also supported through the CUI system options for the System Adapter. See the sections entitled "System Adapter Product Control Maintenance" and "Batch Product Control Database Utility -- CACCDBUO" for more information.

# Standard Security Facility

---

Many CA products implement security through calls to external security products. Typically, these products have implemented interfaces to CA-ACF2, CA-Top Secret and to generic SAF-compatible products such as RACF. While the basic functionality provided by these security products is similar, the techniques used to request security services are quite different. CA products attempting to provide external security interfaces have had to address these differences, often with varying degrees of success.

SSF (CAISSF) is a facility that insulates the CA product from the differences which exist between the major security products.

The functions and parameters listed above are not available for CA-Top Secret.

## Features

- A status function provides information about which CA security product (CA-Top Secret or CA-ACF2) is active. It also detects if a RACF-compatible product is installed. The general return code 4 indicates that security is inactive or there is no security information available.
- A generic signon interface returns the address of a "user identification token" to identify the user's security environment and messages for either system. Return codes and their meanings are standardized and minimized to eliminate any need for dual interpretation.
- The generic signoff interface uses the security environment token from the signon function.
- A generic resource checking interface provides return codes and messages for either system. Return codes and their meanings are standardized to eliminate any need for dual interpretation.
- Generic requests for user identification in a CICS environment can retrieve the secured user ID value and the current security token for that signed-on CICS user.
- Dynamic loading of the security interface module eliminates the need to link the security module or position it with hard anchor points.

- Similarities to the RACROUTE parameter list minimize the changes required to current CA-Top Secret and RACF interfaces. (The interface is not identical to RACROUTE because of differences between RACF, CA-Top Secret, and CA-ACF2 features.)
- It is able to associate a library name with a resource. When used with the PROGRAM parameter, the LIBRARY parameter specifies the program library where the privileged program resides.
- A minimal variety of return codes simplifies return code handling. Reason information is provided in the feedback area.

## CAISSF Components

CAISSF consists of the following component:

- A security driver processes a general parameter list that combines the requirements/features of both CA-Top Secret and CA-ACF2.

CAISSF includes four service routines that handle all security requests:

|          |                                                                                                                                                                                                                            |
|----------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| CAS9SEC  | Invoked directly via the #SECUR macro, CAS9SEC determines which CA security system is available or if another SAF-compatible system is active. Control is passed to one of the security translation routines listed below. |
| CAS9ACF2 | Request translation module invoked by CAS9SEC when a CA-ACF2 VSE system has been detected. CAS9ACF2 is included with CA-ACF2 VSE Release 3.0 and above.                                                                    |
| CAS9TS42 | Request translation module invoked by CAS9SEC when a CA-Top Secret system release 3.0 and above has been detected. CAS9TS42 is included as part of CA-Top Secret.                                                          |
| CATSSVSE | Request translation module invoked by CAS9SEC when a CA-Top Secret VSE system release 2.3 has been detected. CATSSVSE is included as part of the S9 component.                                                             |

When processing via the #SECUR macro it is not necessary for the application to adjust the calls for the particular security system, CAS9SEC will do the necessary interpretation. All required modules are dynamically located or installed by the #SECUR macro.

## #SECUR (External Security Interface)

The interface to CAISSF is a single macro, #SECUR, which builds parameter lists and executes the CAS9SEC module. The format of the #SECUR macro is as follows:

```
#SECUR function,
 ATTR=access,
 CLASS=res_class,
 DSECT=NO|YES,
 ENTITY=entity,
 ENTITYX=entity,
 ENVIR=envir,
 ERROR=error_rtn,
 FEEDBK=fdbk_area,
 LOG=YES|NO,
 NEWPW=new_password,
 PROGRAM=privpgm,
 PW=password,
 RESLEN=length,
 TERM=terminal_id,
 TOKEN=envir_token,
 USER=userid[user_id,ACTIVE|EXPLICIT],
 VERPW=reverify_pswd,
 VTERM=virtual_term,
 VOLUME=volser,
 MF=mf
```

The #SECUR functions are as follows:

|          |                                                                                                                                                                                     |
|----------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ADMIN    | Checks for administration authority.<br><br>Not available for CA-ACF2 VSE and CA-Top Secret Release 2.3.                                                                            |
| EXTRACT  | In the VSE batch and CICS environments, this function returns the security ID and token of the currently signed-on user.                                                            |
| PWCHECK  | Requests password reverification.                                                                                                                                                   |
| RECORD   | Writes an audit record via the security system. The security system controls where this audit record is stored.<br><br>Not available for CA-ACF2 VSE and CA-Top Secret Release 2.3. |
| RESCHECK | Checks the access authority to a particular resource.                                                                                                                               |
| SIGNON   | Builds a security environment and verifies access.                                                                                                                                  |
| SIGNOFF  | Deletes the security environment.                                                                                                                                                   |
| STATUS   | Requests information about the security system.                                                                                                                                     |
| VSIGNON  | Not available for CA-ACF2 VSE and CA-Top Secret Release 2.3.                                                                                                                        |

|                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
|---------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| VSIGNOFF            | Not available for CA-ACF2 VSE and CA-Top Secret Release 2.3.                                                                                                                                                                                                                                                                                                                                                                                             |
| VRESCHEK            | Not available for CA-ACF2 VSE and CA-Top Secret Release 2.3.<br><br>Valid parameters for the #SECUR macro are:                                                                                                                                                                                                                                                                                                                                           |
| ENVIR=envir         | Identifies the operating environment in which the macro is being issued. Default is VSE.                                                                                                                                                                                                                                                                                                                                                                 |
| USER=userid         | The address of an eight-byte field containing the user ID or logon ID that requires further validation.<br><br><b>userid</b> must be specified as a register (enclosed in parentheses), a label, or a literal (enclosed in single quotes). The value of userid must be left-justified.                                                                                                                                                                   |
| PW=password         | The address of an eight-byte field containing the password associated with the user ID or logon ID.<br><br><b>password</b> must be specified as a register (enclosed in parentheses), a label, or a literal (enclosed in single quotes). The value of password must be left-justified.                                                                                                                                                                   |
| NEWPW=new_password  | The address of an eight-byte field containing a new password associated with the user ID or logon ID. Required only if password change is active or when RC=20 is returned from the SIGNON call.<br><br><b>new_password</b> must be specified as a register (enclosed in parentheses), a label, or a literal (enclosed in single quotes). The value of new_password must be left-justified.                                                              |
| VERPW=reverify_pswd | The address of an eight-byte field containing a second new password used to verify the contents of the NEWPW field. Required only if password change is active and reverification of the password is desired, or if RC=24 is returned from the SIGNON call.<br><br><b>reverify_pswd</b> must be specified as a register (enclosed in parentheses), a label, or a literal (enclosed in single quotes). The value of reverify_pswd must be left-justified. |
| TERM=terminal_id    | The address of an eight-byte field containing the terminal ID associated with the user ID or logon ID to be signed on to the system. Optional.<br><br><b>terminal_id</b> must be specified as a register (enclosed in parentheses), a label, or a literal (enclosed in single quotes). The value of terminal_id must be left-justified.                                                                                                                  |

|                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
|--------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| VTERM=virtual_term | <p>This optional eight-byte field should contain the virtual terminal ID for security processing. The virtual terminal ID is assigned by a session manager product such as CA-VMAN or CA-VTERM.</p> <p><b>virtual_term</b> must be specified as a register (enclosed in parentheses), a label, or a literal (enclosed in single quotes). The value of terminal_id must be left-justified.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| TOKEN=envir_token  | <p>Address of the security environment for the signed-on user. In CA-ACF2, this is the address of the ACMCB. In CA-Top Secret, it is the address of the ACEE or USMCB. For signon, the ACEE, USMCB, or ACMCB is placed into the address supplied by the security system.</p> <p><b>envir_token</b> must be specified as a register (enclosed in parentheses) or a label.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| RESLEN=length      | <p>The address of a halfword field that contains the length of the value in the ENTITY field. This should be the actual length of the resource being checked, not the maximum length allowed for the class.</p> <p><b>length</b> must be specified as a register (enclosed in parentheses) or a label.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| ENTITY(X)=entity   | <p>The address of a variable field that contains the value corresponding to CLASS. ENTITYX is used when specifying an extended form of entity, in which case the address may be above the 16M line and must point to two 2-byte fields followed by the entity name.</p> <p>For example, if the class DATASET is being checked, ENTITY contains the address of the data set name to verify. Each class definition in the security system must include the maximum allowable entity length. This variable field is capable of handling up to 64K of data. When using an existing resource class (versus obtaining a new one) do not to exceed the maximum length for the class.</p> <p><b>entity</b> must be specified as a register (enclosed in parentheses), a label, or a literal (enclosed in single quotes). The value of entity must be left-justified.</p> <p>The format of the field pointer to by ENTITYX is:</p> <ol style="list-style-type: none"> <li>1. A two-byte field containing the length of the entity buffer (0-255 bytes) excluding the two 2-byte length fields.</li> <li>2. A two-byte field containing the actual length of the ENTITY name.</li> <li>3. The ENTITY name.</li> </ol> <p><b>Note:</b> If ENTITYX='cccc' is specified, RESLEN must be coded and must point to a fullword which contains the lengths specified above.</p> |

|                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
|------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| CLASS=res_class  | <p>The address of a field containing the eight-byte name of the resource class being checked. For example, to check data set access, use the function RESCHECK to indicate that a resource is being verified. CLASS=DATASET, further defines the type of resource. Some other valid examples of classes are: PROGRAM, FCT, DBD, JOBNAME, SCHEDULE, FIELD, PPT and PCT.</p> <p>If a CLASS is not defined to the security system, RC=4 is returned.</p> <p><b>res_class</b> must be specified as a register (enclosed in parentheses), a label, or a literal (enclosed in single quotes). The value of res_class must be left-justified.</p> <p>This parameter is used to identify the format of a record being written on a request type of RECORD.</p> |
| ATTR=access      | <p>The address of an eight-byte access level or service requested for CLASS. Not all classes have valid ATTR values (for example, PROGRAM). If the specified CLASS does not have ATTR values the ATTR parameter is ignored.</p> <p><b>access</b> must be specified as a register (enclosed in parentheses), a label, or a literal (enclosed in single quotes). The value of access must be left-justified.</p>                                                                                                                                                                                                                                                                                                                                         |
| PROGRAM=privpgm  | <p>The address of an eight-byte program name to be associated with this request for privileged program controls. When PROGRAM= is coded on a RESCHECK call, access to the resource may be restricted to the program (only program x may access the resource).</p> <p><b>privpgm</b> must be specified as a register (enclosed in parentheses), a label, or a literal (enclosed in single quotes). The value of privpgm must be left-justified.</p>                                                                                                                                                                                                                                                                                                     |
| VOLUME=volser    | <p>The address of a six-byte volume serial number to be associated with data set access. Required with DATASET class checking.</p> <p>To check a whole volume (not just a data set) use CLASS=DASDVOL and ENTITY=volser, not VOLUME=xxxxxx. The value of volser must be left-justified.</p> <p><b>volser</b> must be specified as a register (enclosed in parentheses), a label, or a literal (enclosed in single quotes).</p> <p>Not available for CA-ACF2 VSE and CA-Top Secret Release 2.3.</p>                                                                                                                                                                                                                                                     |
| FEEDBK=fdbk_area | <p>The address of the feedback area that will be used to pass messages and detailed return code information to the caller. This is the area where all security related messages are obtained by the CA product. The feedback area must be 256 bytes in length. The format of the feedback area is provided later in this chapter.</p> <p><b>fdbk_area</b> must be specified as a register (enclosed in parentheses) or a label.</p>                                                                                                                                                                                                                                                                                                                    |

|                    |                                                                                                                                                                                                                                                    |
|--------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| LOG=YES   NO       | LOG=NO suppresses all logging of an event, even if the request results in a violation. Typically, this technique is used for recursive calls to determine access authority (for example, building option menus).                                   |
|                    | LOG=YES (the default) initiates logging of any activity for the resource according to the definitions in the security system.                                                                                                                      |
| DSECT=YES   NO     | DSECT=YES requests generation of a DSECT of the parameter list. Valid for MF=L only. (Default is NO.)                                                                                                                                              |
| ERROR=error_rtn    | The label of an error routine. If not coded, the program must perform its own return code handling. ERROR cannot be used with the STATUS function.                                                                                                 |
| MF=mf              | Indicates list or execute form of the macro.                                                                                                                                                                                                       |
| <b>MF=L</b>        | Generates a parameter list for the service. The DSECT=YES   NO parameter which, if set to YES, generates symbolic labels of the storage used by the MF=L area.                                                                                     |
| <b>MF=(E,addr)</b> | Execute form of the macro specifying a remote parameter list. <b>addr</b> can be coded as a label (MF=(E,PLIST)) or as a register (MF=(E,(R2))). The storage pointed to by the parameter should be an area reserved by the MF=L form of the macro. |
|                    | If MF is not specified, an inline parameter list is generated. The code generated, when MF is not specified, is not reentrant. The following format is recommended:                                                                                |
|                    | <b>MF=(E,plist)</b> where plist refers to an external storage area.                                                                                                                                                                                |
|                    | <b>MF=L</b> will generate a PLIST area.                                                                                                                                                                                                            |
|                    | <b>MF=I (default)</b> will generate an inline PLIST area.                                                                                                                                                                                          |

## Coding Restrictions and Guidelines

This section and the following subsections are the general and function-specific guidelines associated with using #SECUR. Be sure to follow these general restrictions when using #SECUR:

1. Parameters can be passed via registers, labels, or literals.
2. Registers 0, 1, 14, and 15 are reserved for #SECUR.
3. Working storage for #SECUR must be zeroed for the initial request and not zeroed for subsequent requests.

4. To generate reentrant code MF=E and MF=L must be used.
5. For all functions, ENVIR must be coded for systems other than MVS. For MF=L requests, DSECT may be coded to generate a DSECT which maps the #SECUR parameter list.

## Function-Specific Coding Guidelines

The function-specific guidelines are contained in the following sections.

### ADMIN Function

The ADMIN function is used to check for administration authority.

TOKEN is required unless the environment in which the call is issued is batch or CICS.

If ATTR is not specified, and the CLASS specified has valid access or service levels, then the request will default to READ access.

The valid parameters in addition to those listed in the section *Coding Restrictions and Guidelines* are:

Required: CLASS, RESLEN, ENTITY, FEEDBK

Optional: TOKEN, ATTR, LOG, UTOKEN, USER

The ADMIN function return codes are:

- 00 Access authorized. Allow administration activity to complete.
- 04 Resource not defined to security, or security system is inactive. Use internal security if available, and take action based on internal controls.
- 08 Access denied, application should fail request. Issue messages and deny administration request.
- 10 Password reverification required. Issue message. Use the PWCHECK function to reverify password.

## EXTRACT Function

In the VSE environments of batch and CICS, this function returns the security ID and token of the current signed-on user.

Upon return, the USER= field will contain the name of the currently signed-on user. The format of the data area returned in response to an EXTRACT request is:

|          |       |             |                          |
|----------|-------|-------------|--------------------------|
| EXTRACT  | DSECT |             |                          |
| EXTRLID  | DS    | CL8         | Virtual Machine ID       |
| EXTRSLID | DS    | CL8         | Security Auth LogonID    |
| EXTRPLID | DS    | CL8         | Password Auth LogonID    |
| EXTRL    | EQU   | *-EXTRACT   | Length of area in bytes  |
| EXTRLDW  | EQU   | (EXTRL+7)/8 | Length of area in dwords |

Be sure to check the return code from EXTRACT. The contents of the USER field are unpredictable after an unsuccessful EXTRACT. The security product may even deliberately place invalid data in this field to ensure against accidental use of residual values.

The EXTRACT function is intended for use when a request is shipped by the application to be handled by a peer on another system or when the request is stored by the application for local deferred processing. In both of these cases, a security environment must be established at execution time that properly represents the identity and authorities of the original requestor.

The valid parameters in addition to those listed in the section *Coding Restrictions and Guidelines* are:

Required:           USER

The EXTRACT function return codes are:

- 00 Extract successful. USER contains the currently signed-on userid.
- 04 User not under security control or security inactive. Value of USER is not modified.
- 12 Security interface error. USER is not valid.

## RECORD Function

This function writes an audit record via the security system.

CLASS= is used to identify the type of record being passed. If the security product cannot identify the type of record, an RC=4 will result.

ENTITY contains the contents of the record being written. The format must be fixed based on a prescribed record type identified by a unique CLASS value.

If you wish to write your own data to the security audit files, you may create a variable length string up to 255 bytes long and pass this data to the security system. To do this simply code function RECORD with the USERDATA operand. In this case, the USERDATA operand must be a pointer to an area, the first byte of which indicates the length of the record (0-255) followed by a variable length string, or, if USERDATA='cccc', UDLN= must specify the length of the character string. You can use either of the following:

```
#SECUR RECORD,USERDATA=MYRECORD
MYRECORD DC XL1'10',CL10'log data'
#SECUR RECORD,USERDATA='log data',UDLN=8
```

The valid parameters, in addition to those listed in the section *Coding Restrictions and Guidelines*, are:

Required: (EITHER (CLASS, RESLEN, ENTITY) or (USERDATA)), FEEDBK

Optional: TOKEN, UTOKEN, UDLN

The RECORD function return codes are:

- 00 Audit record successfully written.
- 04 Record type identified on CLASS parameter is not defined to the system. Issue message and continue with processing.
- 08 Record processing not supported in this system. Issue messages and continue processing.
- 0C Security Interface error. Issue messages. Probable coding or installation error.

## RESCHECK Function

The RESCHECK function checks the access authority to a particular resource.

TOKEN is required unless the environment in which the call is issued is batch or CICS.

If ATTR is not specified, and the CLASS specified has valid access or service levels, then the request will default to READ access.

VOLUME is required only with CLASS=DATASET.

The valid parameters in addition to those listed in the section *Coding Restrictions and Guidelines* are:

Required: CLASS, RESLEN, ENTITY, FEEDBK, VOLUME

Optional: TOKEN, ATTR, PROGRAM, LOG, USER, UTOKEN, RTOKEN

The RESCHECK function return codes are:

- 00 Access authorized, allow access to the resource.
- 04 Resource not defined to security, or security system is inactive. Use internal security if available, and take action based on internal controls.
- 08 Access denied, application should fail request. Issue messages and deny access to the resource.
- 0C Security interface error. Issue messages. Probable coding or installation error. Fail the request.
- 10 Password reverification required. Issue message. Use the PWCHECK to reverify the password.
- 14 User violation threshold exceeded. Cancel the user and/or terminate all processing for the user.

## SIGNON Function

The SIGNON function verifies access and builds the security environment.

If PASSCHK= is not specified or is set to YES, then PW= is required.

Upon return, TOKEN= will contain the address of the user's security token. This address must be included on subsequent access and signoff requests.

The valid parameters in addition to those listed in the section *Coding Restrictions and Guidelines* are:

Required: USER, TOKEN, FEEDBK

Optional: PW, PASSCHK, NEWPW, VERPW, TERM, VTERM, LOG

The SIGNON function return codes are:

- 00 Signon authorized.
- 04 User not defined to system or security inactive. If available in the CA product, validate access using internal controls.
- 08 User access denied. Issue message and deny user access to system.
- 0C Internal error. CA product should issue message and deny access.
- 10 Password incorrect or missing. Obtain password and retry.
- 14 Password expired and new password missing. Obtain new password and retry specifying PW and NEWPW.
- 18 Reverification password required. Obtain new password and reverify password. Retry using PW=, NEWPW=, and VERPW=.

## SIGNOFF Function

The SIGNOFF function deletes the security environment.

The valid parameters in addition to those listed in the section Coding Restrictions and Guidelines are:

Required: TOKEN, FEEDBK

Optional: LOG

The SIGNOFF function return codes are:

- 00 Signoff successful. The token no longer valid.
- 0C Internal error. The token address is probably no longer valid for security checks. Some storage is probably not freed.

## STATUS Function

The STATUS function is used to request information about the security system. It is required only when a subsequent action is based on the security product installed (for example, in schedulers where JCL is modified to identify the submitting user).

Normally, RC=4 from any other request is adequate to determine that no CA security system is active.

The valid parameters in addition to those listed in the section *Coding Restrictions and Guidelines* are:

Required: None

Optional: None

The STATUS function return codes are:

- E3 EBCDIC value for a "T". Indicates CA-Top Secret is active in this system.
- C1 EBCDIC value for an "A". Indicates CA-ACF2 is active in this system.
- E2 EBCDIC value for an "S". Indicates that a RACF or non-CA SAF compatible security system was detected.
- 04 No security system was detected.

## #SECUR Feedback Area

The following example shows the format of the area returned by #SECUR when the FEEDBK parameter is specified.

|          |       |       |                                 |
|----------|-------|-------|---------------------------------|
| FEEDBACK | DSECT |       |                                 |
| FDBID    | DS    | CL4   | Identifier                      |
| FDBLENTH | DS    | X     | Length of feedback area         |
| FDBRC    | DS    | X     | Real or "Fail mode" return code |
| FDBDRC   | DS    | X     | Detail Reason Code              |
| FDBRACC  | DS    | X     | Requested Access                |
| FDBAACC  | DS    | X     | Allowed Access                  |
| FDBFLAGS | DS    | X     | Status Flags 1:                 |
| FFDBUNDF | EQU   | X'80' | User is not defined to security |
| FFDBDEFA | EQU   | X'40' | Default user was used           |
| FFDBPWC  | EQU   | X'20' | Password was changed            |
| FFDBNLOG | EQU   | X'10' | Do not log this call            |
| FFDBKILL | EQU   | X'08' | Cancel this user                |
| FFDBATS  | EQU   | X'04' | User must be defined            |
| FDBFSCR  | EQU   | X'02' | dataset to be scratched.        |
| FDBMODE  | DS    | X     | Top 4 Bits = MODE               |
| FDBNUMSG | DS    | X     | Number of Message Segments      |
|          | DS    | X     | Reserved                        |
| FDBFLAG2 | DS    | X     | Status Flags 2                  |
|          | DS    | X     | Free                            |
|          | DS    | X     | Free                            |
|          | DS    | H     | Free                            |
|          | DS    | CL8   | Reserved                        |
| FDBMSG   | DS    | 0X    | Message Segments                |
| FDBMSGLN | DS    | H     | Message Length of First Segment |
| FDBMSG   | DS    | 0X    | Message First Segment           |
| LFEEDBCK | EQU   | 256   |                                 |



The copybook EARLOPT.A has been provided should it be necessary to change default options for CA-EARL.

## Using the EARLGEN Macro

To set CA-EARL defaults applicable to your installation, the EARLGEN macro must be coded using standard assembly language coding conventions, the parameters that may be specified are described later in this chapter.

This macro must be assembled and the output module link edited into the CA-EARL core image library with name EARLOPT. The following job may be used to assemble the macro and link edit EARLOPT.

The following JCL is necessary to assemble the macro and recatalog the EARLOPT phase:

```
// JOB CA-EARL MACRO ASSEMBLY
* Include job control statements to define
* a target core image library
// OPTION CATAL
// EXEC ASSEMBLY
 PRINT ON
 EARLGEN DISK=3350,
 PRINTER=132,
 PAGE=60,
 DB=NONE,
 LIBRARY=YES,
 DATE=MMDDYY
 END
/*
// EXEC LNKEDT, PARM='MSHP'
/*
/&
```

A description of the EARLGEN macro follows. A parameter may be omitted if the default is appropriate.

|          |                                                                                                                                                                                                                  |                                                                       |
|----------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------|
| BANNER=  | This operand indicates whether the CA-EARL Banner Heading is required.                                                                                                                                           |                                                                       |
|          | <b>YES</b>                                                                                                                                                                                                       | Standard CA-EARL Banner Heading on first page of compiler listing.    |
|          | <b>NO</b>                                                                                                                                                                                                        | No Banner Heading on first page of compiler listing; the default.     |
| CPAGE=   | The number of lines to be printed on each page of the compiler listing. Acceptable values are 08 through 88. The page length may be overridden for a given run with the statement <code>OPTION CPAGE=nn</code> . |                                                                       |
|          | Default: 60.                                                                                                                                                                                                     |                                                                       |
| DATE=    | This specifies the date format.                                                                                                                                                                                  |                                                                       |
|          | <b>DDMMYY</b>                                                                                                                                                                                                    | Numeric format date with the day number first.                        |
|          | <b>DDMONYY</b>                                                                                                                                                                                                   | Alphanumeric format date with the month name abbreviated.             |
|          | <b>MMDDYY</b>                                                                                                                                                                                                    | Numeric format date with the month number first.                      |
|          | <b>MONDDYY</b>                                                                                                                                                                                                   | Alphanumeric format date with the month name abbreviation first.      |
|          | Default: Under VSE, the format is taken from the communications region. Under OS and CMS, the default is DDMMYY.                                                                                                 |                                                                       |
| DB=      | CA-EARL MVS and VSE only. This operand indicates whether IMS or DL/1 database support is required.                                                                                                               |                                                                       |
|          | <b>DL1</b>                                                                                                                                                                                                       | Support for VSE DL/1 is required.                                     |
|          | <b>IMS</b>                                                                                                                                                                                                       | Support for OS IMS is required.                                       |
|          | <b>NONE</b>                                                                                                                                                                                                      | No DL/1 or IMS database support is required; the default.             |
|          | <b>Note:</b> Support for CA-DATACOM/DB and SQL/DS is included in CA-EARL Release 6.0 and need not be coded in the DB parameter.                                                                                  |                                                                       |
| DECEDIT= | This operand specifies which character will be used to print decimal places in numeric fields.                                                                                                                   |                                                                       |
|          | <b>0</b>                                                                                                                                                                                                         | Numeric fields will be printed with a decimal point (.); the default. |
|          | <b>1</b>                                                                                                                                                                                                         | Numeric fields will be printed with a decimal comma (,).              |

**DISK=** Specify the disk model for the CA-EARL compiler work files and the hit file. CA-EARL uses this value to compute and attempt to optimize block sizes only. For CMS, the value is not important as CMS files are not blocked. Valid values are: **2311, 2314, 3330, 3311, 3340, 3350, 3310, 3370, 3375, 3380, 3390, 9332 and 9335..**

No default can be specified.

**LANG=** This operand specifies the language to be used for the Report Legends.

**0** English, with Report Legends 'GRAND TOTAL' and 'PAGE'; the default.

**1** German, with Report Legends 'GESAMTSUMME' and 'SEITE.'

**2** German, with Report Legends 'GESAMTTOTAL' and 'BLATT.'

**LANG=** 3-10

Report Legends in the following languages, respectively:

- Finnish
- French
- Dutch
- Spanish
- Italian
- Danish
- Swedish
- Portuguese

**LIBRARY=** This operand indicates whether CA-EARL library support is required.

**YES** CA-EARL library support required; the default. A CA-EARL program may include source statements using the COPY command.

**NO** No library support required. The COPY command is disabled.

|          |                                                                                                                                                                                                                                                                                                                  |                                                                                   |
|----------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|
| MESSAGE= | This operand indicates whether CA-EARL runtime information is required. Runtime information includes elapsed times in each stage of a CA-EARL run, number of file records written, and number of records processed and lines printed for each report.                                                            |                                                                                   |
|          | <b>YES</b>                                                                                                                                                                                                                                                                                                       | Standard CA-EARL runtime messages will be printed; the default.                   |
|          | <b>NO</b>                                                                                                                                                                                                                                                                                                        | Standard CA-EARL runtime messages will not be printed.                            |
| OUTPUT=  | This operand indicates whether CA-EARL programs are allowed to write output files.                                                                                                                                                                                                                               |                                                                                   |
|          | <b>YES</b>                                                                                                                                                                                                                                                                                                       | Users can compile programs using output files; the default.                       |
|          | <b>NO</b>                                                                                                                                                                                                                                                                                                        | CA-EARL programs with output files will be flagged with a compiler error message. |
| PAGE=    | The number of lines to be printed on each report page. Valid values are 08 through 88. The page length may be changed with the statement <code>OPTION PAGE=nn</code> . This has the effect of removing automatic page-skip control if the number of lines specified is beyond the number of lines in the report. |                                                                                   |
|          | Default: 60.                                                                                                                                                                                                                                                                                                     |                                                                                   |
| PRINTER= | The width of the print line (excluding control characters) for reports. Valid values are 20 through 216.                                                                                                                                                                                                         |                                                                                   |
|          | Default: 132.                                                                                                                                                                                                                                                                                                    |                                                                                   |
| SCAN=    | Specifies the number of source record characters scanned by the compiler.                                                                                                                                                                                                                                        |                                                                                   |
|          | <b>72</b>                                                                                                                                                                                                                                                                                                        | Compiler scans CA-EARL source record columns 1-72 only; the default.              |
|          | <b>80</b>                                                                                                                                                                                                                                                                                                        | Compiler scans CA-EARL source record columns 1-80.                                |
|          | Depending on the selected value, the user can enter CA-EARL source statements from columns 1 through 80 or alternatively leave columns 73 through 80 free for such purposes as user-defined statement sequence numbers.                                                                                          |                                                                                   |
| SORT=    | This operand specifies the sorting method to be used to sequence reports.                                                                                                                                                                                                                                        |                                                                                   |
|          | <b>SRAM</b>                                                                                                                                                                                                                                                                                                      | CA-SRAM Sort Reentrant Access Method will be used.                                |
|          | <b>NOSRAM</b>                                                                                                                                                                                                                                                                                                    | The installation sort will be invoked; the default.                               |

|          |                                                                                                                                                                                                                                                                                                          |                                                                            |
|----------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------|
| UPDATE=  | This operand indicates whether CA-EARL programs are allowed to update VSAM files.                                                                                                                                                                                                                        |                                                                            |
|          | <b>YES</b>                                                                                                                                                                                                                                                                                               | Users can compile programs using VSAM update; the default.                 |
|          | <b>NO</b>                                                                                                                                                                                                                                                                                                | CA-EARL programs with Update files will be rejected with an error message. |
| WKNAME=  | CA-EARL VSE only. This operand specifies the first six characters of the DTfname for the six CA-EARL work files.                                                                                                                                                                                         |                                                                            |
|          | <b>IJSYS0</b>                                                                                                                                                                                                                                                                                            | CA-EARL will use the VSE standard work files; the default.                 |
|          | <b>EARLWK</b>                                                                                                                                                                                                                                                                                            | CA-EARL will use files EARLWK1-EARLWK6                                     |
| SYSEARL= | CA-EARL VSE only. This operand specifies the programmer logical unit for SYSEARL. The CA-EARL reports are written to SYSEARL if this logical unit is assigned (and appropriate DLBL and EXTENT, or TLBL statements are supplied, if necessary), and the logical unit for AFP is not assigned.            |                                                                            |
|          | Valid values are 7 through 240.                                                                                                                                                                                                                                                                          |                                                                            |
|          | Default: 7.                                                                                                                                                                                                                                                                                              |                                                                            |
| AFPOUT=  | CA-EARL VSE only. This operand specifies the programmer logical unit for AFPOUT. If the logical unit is assigned and appropriate DLBL/EXTENT statements are provided, CA-EARL will invoke AFP to produce a disk file (on AFPOUT) suitable for later printing on an IBM 3820 or compatible laser printer. |                                                                            |
|          | Valid values are 7 through 240.                                                                                                                                                                                                                                                                          |                                                                            |
|          | Default: 8.                                                                                                                                                                                                                                                                                              |                                                                            |
| SYSPRIN= | CA-EARL VSE only. This operand specifies the programmer logical unit for SYSPRIN. The compiler listing and runtime messages are written to SYSPRIN if this logical unit is assigned (and appropriate DLBL and EXTENT, or TLBL statements are supplied, if necessary).                                    |                                                                            |
|          | The CA-EARL reports are also written to this file if the logical units for AFP and SYSEARL are not assigned.                                                                                                                                                                                             |                                                                            |
|          | Valid values are 7 through 240.                                                                                                                                                                                                                                                                          |                                                                            |
|          | Default: 9.                                                                                                                                                                                                                                                                                              |                                                                            |



This chapter provides details on using the Purge Storage function of CAIVPE (Virtual Processing Environment).

The Purge Storage Function is used to "clean up" if a terminal session is abruptly ended with CICS. This could occur, for example, if a line or a node is dropped unexpectedly. If the terminal was AUTOINSTALLED by CICS, CAIVPE may have storage areas and control blocks allocated on behalf of the terminal. These storage areas could be allocated indefinitely since the random terminal ID assignment of AUTOINSTALL may not reuse the original terminal ID.

## Invoking the Purge Storage Function

The Purge Storage function may be invoked in one of two ways:

- The function can be invoked automatically by a Node Error Program (NEP). If specified, CICS starts an NEP upon LOSTERM notification from VTAM.

In order to invoke the CAIVPE Purge Storage function from an NEP, add the following statements to program DFHZNEP0. Refer to IBM's *CICS Customization Guide* for details on Node Error Program processing.

```

 NEP0AF DS OH @BD5021A
-----BEGINNING OF SUGGESTED VPE PURGE INVOCATION CODE-----
 CLI TWAEC,TCZTXCU UNRECOVERABLE ERROR?
 BNE GO_ON NO; ELSE...
 EXEC CICS START TRANSID('VPUR') LENGTH(4) FROM(TWANID)
GO_ON DS OH
-----END OF SUGGESTED VPE PURGE INVOCATION CODE-----
 EXEC CICS RETURN

```

- For SCF-based products running CAIIPC 4.2 or higher, there is a new SCF command:

```
PURGE tmid
```

tmid

is the four-character terminal ID.

Note that **tmid** is case sensitive and must be typed exactly as generated by the AUTOINSTALL routine.

One of the following three messages is returned to the user after issuing this command:

```
INVALID 'tmid' FORMAT - 'tmid' IS NOT 4 VALID CHARACTERS
TERMINAL NOT FOUND - 'tmid' IS NOT A DEFINED TERMINAL-ID.
TERMINAL 'tmid' PURGE COMPLETE.
```

# Data Set Backup Procedures

---

The CAICUI Product Control data set should be backed up on a regular basis. Any system utility capable of processing standard VSAM KSDS data sets can be used.

## Backing Up the CAICUI Product Control Data Set

The following copybook backs up the CAICUI Product Control data set on an unlabeled tape:

| Data Set Name | Copybook Name | Description                        |
|---------------|---------------|------------------------------------|
| CAICUI        | BKUPCUI.Z     | Back up the existing file to tape. |



## Valid Menu Panel IDs

The following is a list of valid menu panel IDs for CA-CIS, alphabetized by panel ID:

| Panel ID  | Description                             |
|-----------|-----------------------------------------|
| AUDM-0000 | CAIAUDIT Event Notification Maintenance |
| AUDT-0000 | CAIAUDIT Event Notification Selection   |
| CACN-1000 | Catalog Management                      |
| CASA-1000 | System Adapter                          |
| CUI-S000  | CAICUI Session Status                   |
| CUI-0000  | CAICUI Maintenance                      |

**Note:** See your product specific documentation for the most current information.



# CAIAUDIT Codes

This appendix lists the CAIAUDIT-assigned product and event codes for CA-CIS.

The following CAIAUDIT-assigned product codes are listed alphabetically by code:

| Product Code | Product            |
|--------------|--------------------|
| CACN         | Catalog Management |
| SADE         | System Adapter     |

## CAIAUDIT-Assigned Event Codes

The following CAIAUDIT-assigned event codes are listed alphabetically by code:

| Event Code | Event                             |
|------------|-----------------------------------|
| CATU       | Catalog Management options update |
| SADU       | System Adapter options update     |

**Note:** See your CA product-specific documentation for assigned product and event codes.



# Batch Product Control Database Utility -- CACCDBU0

---

CACCDBU0, the batch product control database utility, performs a variety of maintenance functions for CA-CIS. You can use CACCDBU0 to:

- Initialize the CA-CIS system and processing options.
- Add, update, delete and list command table profiles.
- Add, update and delete user profiles.
- Convert the CAICUI Product Control data set to current release record formats.
- Alter the system and processing options.
- Activate and deactivate the AUDIT runtime system.
- Force the AUDIT runtime system to switch logging to an alternate output data set.
- Selectively delete, restore and backup records from CAIAUDIT data sets.

## Using CACCDBU0

To perform database maintenance using CACCDBU0, request the various utility functions using control statements. Control statements:

- Are accepted from the SYSLOG device if the program is initiated from the system console.
- Are read from the SYSIPT device if the program is executed from a job stream.
- Can be passed on the EXEC statement as PARM='statement'.

## Command Syntax

Follow these rules when coding control statements:

1. Control statements should be coded in columns 1-80.
2. Each statement must begin with a command keyword, followed by a control keyword, which is followed by one or more operands.
3. Operand keywords must be coded as shown, with all associated data enclosed in parentheses.
4. A single comma or one or more blanks must separate each operand.
5. Any statement can be continued by placing a dash (-) after the last operand on any line and continuing the information anywhere in columns 1-80 of the next line.

The job control statements and batch commands required by CACCDBU0 to maintain CA-CIS are grouped as follows and are detailed in the following order:

- CAICUI and CAIHELP
- CAIAUDIT
- Catalog Management
- System Adapter

## CAICUI and CAIHELP

### Job Control Statements

The CACCDBU0 JCL required for CAICUI and CAIHELP include statements similar to the following. The chart indicates whether each statement is required (R) or optional (O).

| Statement                      | R/O            | Description                     |
|--------------------------------|----------------|---------------------------------|
| // JOB jobname                 | R <sup>1</sup> | Job statement                   |
| // DLBL CAICUI,'fileid',,VSAM  | R <sup>2</sup> | CAICUI Product Control data set |
| // DLBL CAIHLPV,'fileid',,VSAM | R <sup>2</sup> | CAIHELP data set                |
| // EXEC CACCDBU0,SIZE=100K     | R              | Execute program                 |
| Control statements             | R              | (as needed)                     |

| Statement | R/O | Description |
|-----------|-----|-------------|
| /*        | R   | Comment     |
| / &       | R   | End of job  |

<sup>1</sup> Include a JOB statement in all JCL.

<sup>2</sup> Label information can be placed in the standard label area.

## CACCCDBU0 Commands

The following commands are provided with CACCCDBU0 for maintaining CAICUI and CAIHELP and are specifically detailed in the following pages.

| Command            | Function                                                                      |
|--------------------|-------------------------------------------------------------------------------|
| ALTER CMDPROFILE   | Update a command table profile in the CAICUI Product Control data set         |
| ALTER CUIOPTIONS   | Update CAICUI system options                                                  |
| ALTER USERPROFILE  | Update a user profile in the CAICUI Product Control data set                  |
| CONVERT CUI        | Convert the CAICUI Product Control data set to current release record formats |
| DEFINE CMDPROFILE  | Load a new command table profile to the CAICUI Product Control data set       |
| DEFINE USERPROFILE | Load a new user profile to the CAICUI Product Control data set                |
| DELETE CMDPROFILE  | Delete a command table profile from the CAICUI Product Control data set       |
| DELETE USERPROFILE | Delete a user profile from the CAICUI Product Control data set                |
| INITIALIZE CUI     | Initialize the CAICUI Product Control or the CAIHELP data set                 |
| LIST CMDPROFILE    | List command table profiles from the CAICUI Product Control data set          |
| /+                 | End of command table profile data                                             |

**Note:** The operands of these commands are divided into two categories, required and optional. Required operands **must** be specified (no defaults).

## ALTER CMDPROFILE

The ALTER CMDPROFILE command updates command table profiles already defined to the CAICUI Product Control data set. It deletes all existing records from the command table profile and then inserts the new records specified to be added.

The records to be loaded must immediately follow the ALTER command. The last record must be a /+ statement to indicate the end of data. If no data is specified, a command table profile with one blank line is created.

The two keywords must be specified as shown.

```
ALTer CMDProfile ID(profile-id)
 [DESCription(description)]
```

### Required operand

ID(profile-id) Specify the ID of the command table profile to be altered. It can be from 1 to 8 characters in length.

### Optional operand

DESCription(description) Specify a description of the command table profile to be altered. It can be from 1 to 30 characters in length. This field is used for documentation purposes only.

Example The following example updates a command table profile named PFKEYS:

```
// JOB CACCCBU0 UPDATE COMMAND PROFILE
// EXEC CACCCBU0,SIZE=100K
ALTER CMDPROFILE ID(PFKEYS) DESC(DEFAULT PFKEYS)
SET PF1 HELP
SET PF3 QUIT
SET PF7 BACKWARD
SET PF8 FORWARD
SET PF12 EXIT
/+
/*
/&
```

## ALTER CUIOPTIONS

The ALTER CUIOPTIONS command updates CAICUI system options, which are located in the CAICUI Product Control data set.

If specifying the ICCF interface option, CICS must be shut down and brought up again. The user ID and date format options take effect immediately, and an IPL must be performed for the XFCS options to take effect.

The two keywords must be specified as shown.

```
ALter CUIOptions [DATEformat(1|2)]
 [ICCFinterface(NO|YES)]
 [USERid(CUI|CICSOPID|CICSTERM|USER|SSF)]
 [XFCSConnections(nnnn)]
 [XFCSSubtasks(nn)]
```

### Optional operands

**DATEformat(1 | 2)** Specify the format in which all dates will be displayed and processed throughout the CAICUI session and its applications. Specify one of the following:

- 1** MMDDYY (month-day-year format)
- 2** DDMMYY (day-month-year format)

**ICCFinterface(NO | YES)**

Specify whether to enable the ICCF interface during installation. Choose one of the following:

**NO** Do not enable the ICCF interface.

**YES** Enable the ICCF interface.

**USERid(CUI | CICSOPID | CICSTERM | USER | SSF)**

Specify the user identification method to be used by the CUI transaction. Choose one of the following:

#### **CUI**

The CUI transaction prompts the user to enter his or her user ID and password.

#### **CICSOPID**

Use the three-character CICS operator ID as the CAICUI user ID. It is set when the user signs on to CICS using the IBM supplied CSSN transaction.

#### **CICSTERM**

Use the four-character CICS terminal ID of the current user as the CAICUI user ID.

#### **USER**

Call a user-written Sign-on Exit program to provide the userid. See the *CA-CIS Systems Programmer Guide* for more information on writing Sign-on Exit programs.

#### **SSF**

Call the Standard Security Facility (CAISSE) to provide the current user's CA-Top Secret or CA-ACF2 userid.

**XFCSConnections(nnnn)** Specify the number of subtask connections that XFCSS should make. It can be any number from 1 to 8192. The default is 1.

XFCSSubtasks(nn) Specify the number of subtasks XFCS should attach in the CICS partition currently running. It can be any number from 1 to 32. The default is 1.

Example The following example alters CAICUI system options:

```
// JOB CACDDBU0 UPDATE CUI CONTROL OPTIONS
// EXEC CACDDBU0,SIZE=100K
 ALTER CUIOPTIONS -
 ICCF(NO) USER(CUI) DATE(1)-
 XFCSS(15) XFCSC(100)
/*
/&
```

## ALTER USERPROFILE

The ALTER USERPROFILE command updates user profiles already defined to the CAICUI Product Control data set.

The two keywords must be specified as shown.

```
Alter USERProfile ID(user-id)
 [ADMinistrator(NO|YES)]
 [BYPASSMenu(NO|YES)]
 [COMmandprofile(profile-id)]
 [EXECuteprofile(NO|YES)]
 [LONGcommand(NO|YES)]
 [MENUpanel-id(nnn,panel-id,...)]
 [NAME(user-profile-name)]
 [OVERType(NO|YES)]
 [PASSword(signon-password)]
 [SHORTcommand(NO|YES)]
 [TYPE(USER|terminal)]
```

### Required operand

ID(user-id) Specify the ID of the user whose profile is to be altered. It can be from 1 to 8 characters in length.

### Optional operands

ADMinistrator(NO | YES) Specify whether the user is a System Administrator. Only users defined as System Administrators have access to the product maintenance panels. Choose one of the following:

**NO** The user is a normal user.

**YES** The user is a System Administrator.

BYPASSMenu(NO | YES) Specify whether or not the QUIT command will bypass the Primary Selection Panel.

**NO** Do not bypass the Primary Selection Panel.

**YES** Bypass the Primary Selection Panel.

|                                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |           |                                                           |            |                                                        |
|--------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------|-----------------------------------------------------------|------------|--------------------------------------------------------|
| COMmandprofile(profile-id)     | Specify the ID of the command table profile to be executed every time the user initiates a CAICUI session. It can be from 1 to 8 characters in length.                                                                                                                                                                                                                                                                                                                               |           |                                                           |            |                                                        |
| EXECuteprofile(NO   YES)       | Specify whether the user can use the EXECUTE and SET PROFILE commands. Choose one of the following:<br><br><table><tr><td><b>NO</b></td><td>The user cannot use the EXECUTE and SET PROFILE commands.</td></tr><tr><td><b>YES</b></td><td>The user can use the EXECUTE and SET PROFILE commands.</td></tr></table>                                                                                                                                                                   | <b>NO</b> | The user cannot use the EXECUTE and SET PROFILE commands. | <b>YES</b> | The user can use the EXECUTE and SET PROFILE commands. |
| <b>NO</b>                      | The user cannot use the EXECUTE and SET PROFILE commands.                                                                                                                                                                                                                                                                                                                                                                                                                            |           |                                                           |            |                                                        |
| <b>YES</b>                     | The user can use the EXECUTE and SET PROFILE commands.                                                                                                                                                                                                                                                                                                                                                                                                                               |           |                                                           |            |                                                        |
| LONGcommand(NO   YES)          | Specify whether the user can use internal long commands as described in the chapter "Common User Interface." Choose one of the following:<br><br><table><tr><td><b>NO</b></td><td>The user can use only user-defined long commands.</td></tr><tr><td><b>YES</b></td><td>The user can use internal long commands.</td></tr></table>                                                                                                                                                   | <b>NO</b> | The user can use only user-defined long commands.         | <b>YES</b> | The user can use internal long commands.               |
| <b>NO</b>                      | The user can use only user-defined long commands.                                                                                                                                                                                                                                                                                                                                                                                                                                    |           |                                                           |            |                                                        |
| <b>YES</b>                     | The user can use internal long commands.                                                                                                                                                                                                                                                                                                                                                                                                                                             |           |                                                           |            |                                                        |
| MENUpanel-id(nnn,panel-id,...) | <p>Specify the panel ID of a specific product's main menu to be associated with the corresponding menu number. A user cannot display a product's panels if its panel ID is not specified on this list. This list can be different for every user and can be in any order. If no panel IDs are specified for a user, the user is unable to do anything within the CUI transaction.</p> <p>For a list of valid menu panel IDs for CAICUI, see the appendix "Valid Menu Panel IDs."</p> |           |                                                           |            |                                                        |
| NAME(user-profile-name)        | Specify the name of the user profile to be altered. It is treated as a comment by CAICUI and can contain any information. It can be from 1 to 30 characters in length and must be enclosed in quotes if it contains imbedded blanks.                                                                                                                                                                                                                                                 |           |                                                           |            |                                                        |
| OVERType(NO   YES)             | Specify whether the user can alter records by overtyping fields on directory type panels. Choose one of the following:<br><br><table><tr><td><b>NO</b></td><td>The user cannot overtype fields.</td></tr><tr><td><b>YES</b></td><td>The user can overtype fields.</td></tr></table>                                                                                                                                                                                                  | <b>NO</b> | The user cannot overtype fields.                          | <b>YES</b> | The user can overtype fields.                          |
| <b>NO</b>                      | The user cannot overtype fields.                                                                                                                                                                                                                                                                                                                                                                                                                                                     |           |                                                           |            |                                                        |
| <b>YES</b>                     | The user can overtype fields.                                                                                                                                                                                                                                                                                                                                                                                                                                                        |           |                                                           |            |                                                        |
| PASSword(signon-password)      | Specify the signon password of the user whose profile is to be altered. It can be from 1 to 8 characters in length.                                                                                                                                                                                                                                                                                                                                                                  |           |                                                           |            |                                                        |

SHORTcommand(NO  
| YES) Specify whether the user can use short commands on the queue file display panels. Choose one of the following:

**NO** The user cannot use short commands.

**YES** The user can use short commands.

TYPE(USER | terminal) Specify the type of the user profile to be altered.

Example The following example updates a user profile:

```
// JOB CACCCDBU0 UPDATE USER PROFILE
// EXEC CACCCDBU0,SIZE=100K
ALTER USERPROFILE ID(USERID01) -
TYPE(USER) NAME('user profile number 1') -
PASS(READPWD) -
COM(comp1) -
ADM(YES) EXEC(YES) LONG(YES) SHORT(YES) OVER(YES) -
MENU(1,CUI-5000,2,CUI-0000,3,AUDT-0000,4,AUDM-0000)
/*
/ &
```

## CONVERT CUI

The CONVERT CUI command converts the records in the CAICUI Product Control data set to current release formats. It automatically detects the release level of the data set records and reformats them only if necessary.

The two keywords must be specified as shown.

```
CONvert CUI DATaset(dataset-id)
```

### Required operand

DATaset(dataset-id) Specify the ID of the data set to be converted. It can be from 1 to 7 characters in length. **The CAICUI Product Control data set is the only data set that can be converted at this time.**

Example The following example converts the CAICUI Product Control data set:

```
// JOB CACCCDBU0 CONVERT CUI DATA SET
// EXEC CACCCDBU0,SIZE=100K
CONVERT CUI DAT(CAICUI)
/*
/ &
```

## DEFINE CMDPROFILE

The DEFINE CMDPROFILE command adds a new command table profile to the CAICUI Product Control data set.

The records to be loaded must immediately follow the DEFINE command. The last record must be a /+ statement to indicate the end of data. If no data is specified, a command table profile with one blank line is created.

The two keywords must be specified as shown.

```
DEfIne CMDProfile ID(profile-id)
 [DESCription(description)]
```

### Required operand

ID(profile-id) Specify the ID of the command table profile to be added. It can be from 1 to 8 characters in length.

### Optional operand

DESCription(description) Specify a description of the command table profile to be added. It can be from 1 to 30 characters in length. This field is used for documentation purposes only.

Example The following example adds a new command table profile named CUIMENU:

```
// JOB CACDDBU0 CREATE MASTER COMMAND TABLE PROFILE
// EXEC CACDDBU0,SIZE=128K
DEFINE CMDPROFILE ID(CUIMENU)
SET CASE UPPER
SET TOGGLE PF13
SESSION AUDIT START
SESSION SADAPT START
SET LCMD USR 'CUI DISPLAY USERDIRECTORY'
SET LCMD CMD 'CUI DISPLAY CMDDIRECTORY '
SET LCMD QP 'QUERY PF'
SET LCMD QL 'QUERY LCMD'
SET LCMD QS 'QUERY SCMD'

* AUDIT PFKEY SETTINGS *

SET PF01(AUDM-*) 'HELP'
SET PF02(AUDM-*) 'AUDIT DISPLAY AUDITMAINT'
SET PF03(AUDM-*) 'QUIT'
SET PF04(AUDM-*) 'DISPLAY AUDIT'
SET PF05(AUDM-*) 'SWITCH FORWARD'
SET PF06(AUDM-*) 'SWITCH BACKWARD'
SET PF07(AUDM-*) 'BACKWARD'
SET PF08(AUDM-*) 'FORWARD'
SET PF09(AUDM-*) 'AUDIT MENU'
SET PF12(AUDM-*) 'EXIT'
SET PF13(AUDM-*) 'HELP'
SET PF14(AUDM-*) 'ADD'
SET PF15(AUDM-*) 'QUIT'
SET PF19(AUDM-*) 'BACKWARD'
SET PF24(AUDM-*) 'EXIT'
SET PF20(AUDM-*) 'FORWARD'
```

```

* AUDIT HELP LINES *

SET HELP ON
SET HELP(AUDM-*) -
 LINE1 '1=HELP 2=AUDT MAINT 3=QUIT 4=D AUDIT -
5=SW FORWARD 6=SW BACKWARD '
SET HELP(AUDM-*) -
 LINE2 '7=BACKWARD 8=FORWARD 9=AUDIT MENU 10= -
11= 12=EXIT '

* CUI PFKEY SETTINGS *

SET PF01(CUI-*) 'HELP'
SET PF02(CUI-*) 'CUI QUERY USERS'
SET PF03(CUI-*) 'QUIT'
SET PF04(CUI-*) 'Q STATUS'
SET PF05(CUI-*) 'SWITCH FORWARD'
SET PF06(CUI-*) 'SWITCH BACKWARD'
SET PF07(CUI-*) 'BACKWARD'
SET PF08(CUI-*) 'FORWARD'
SET PF09(CUI-*) 'SET AUTOT 2'
SET PF10(CUI-*) 'TOGGLE'
SET PF11(CUI-*) 'CMDMODE'
SET PF12(CUI-*) 'EXIT'
SET PF13(CUI-*) 'HELP'
SET PF14(CUI-*) 'ADD'
SET PF15(CUI-*) 'QUIT'
SET PF19(CUI-*) 'BACKWARD'
SET PF20(CUI-*) 'FORWARD'
SET PF24(CUI-*) 'EXIT'

* CUI HELP LINES *

SET HELP ON
SET HELP(CUI-*) -
 LINE1 '1=HELP 2=Q USERS 3=QUIT 4=Q STATUS -
5=SW FORWARD 6=SW BACKWARD '
SET HELP(CUI-*) -
 LINE2 '7=BACKWARD 8=FORWARD 9=AUTOR 2 10=TOGGLE -
11=CMDMODE 12=EXIT '
/+
/*
/&
```

### DEFINE USERPROFILE

The DEFINE USERPROFILE command adds a new user profile to the CAICUI Product Control data set.

The two keywords must be specified as shown.

```

DEFINE USERProfile ID(profile-id)
 [ADMINistrator(NO|YES)]
 [BYPASSMenu(NO|YES)]
 [COMmandprofile(profile-id)]
 [EXECuteprofile(NO|YES)]
 [LONGcommand(NO|YES)]
 [MENUpanel-id(nnn,panel-id,...)]
 [NAME(user-profile-name)]
 [OVERType(NO|YES)]
 [PASSword(signon-password)]
 [SHORTcommand(NO|YES)]
 [TYPE(USER|terminal)]

```

#### Required operand

ID(profile-id) Specify the ID of the user profile to be added. It can be from 1 to 8 characters in length.

#### Optional operands

ADMINistrator(NO | YES) Specify whether the user is a System Administrator. Only users defined as System Administrators have access to the product maintenance panels. Choose one of the following:

- NO** Default. The user is a normal user.
- YES** The user is a System Administrator.

BYPASSMenu(NO | YES) Specify whether or not the QUIT command will bypass the Primary Selection Panel.

- NO** Do not bypass the Primary Selection Panel.
- YES** Default. Bypass the Primary Selection Panel.

COMmandprofile(profile-id) Specify the ID of the command table profile to be executed every time the user initiates a CAICUI session. It can be from 1 to 8 characters in length.

EXECuteprofile(NO | YES) Specify whether the user is authorized to use the EXECUTE and SET PROFILE commands. Choose one of the following:

- |            |                                                                    |
|------------|--------------------------------------------------------------------|
| <b>NO</b>  | Default. The user cannot use the EXECUTE and SET PROFILE commands. |
| <b>YES</b> | The user can use the EXECUTE and SET PROFILE commands.             |

LONGcommand(NO | YES) Specify whether the user is authorized to use the CAICUI long commands as described in the chapter “Common User Interface.” Choose one of the following:

- |            |                                                            |
|------------|------------------------------------------------------------|
| <b>NO</b>  | Default. The user can use only user-defined long commands. |
| <b>YES</b> | The user can use internal long commands.                   |

MENUpanel-id(nnn,panel-id,...) Specify the panel ID of a specific product's main menu to be associated with the corresponding menu number. A user cannot display a product's panels if its panel ID is not specified on this list. This list can be different for every user and can be in any order. If no panel IDs are specified for a user, the user is unable to do anything within the CUI transaction. The default panel ID, CUI-5000 (Session Status Selection), will automatically be added if you **do not** code this operand.

For a list of valid menu panel IDs for CAICUI, see the appendix “Valid Menu Panel IDs.”

NAME(user-profile-name) Specify the name of the user profile to be added. It is treated as a comment by CAICUI and can contain any information. It can be from 1 to 30 characters in length and must be enclosed in quotes if it contains imbedded blanks.

OVERType(NO | YES) Specify whether the user can alter records by overtyping fields on directory panels. Choose one of the following:

- |            |                                           |
|------------|-------------------------------------------|
| <b>NO</b>  | Default. The user cannot overtype fields. |
| <b>YES</b> | The user can overtype fields.             |

PASSword(signon-password) Specify the signon password of the user for whom the user profile is being created. It can be from 1 to 8 characters in length.

SHORTcommand(NO  
| YES) Specify whether the user is authorized to use the short commands on the queue  
file display panels. Choose one of the following:

**NO** Default. The user cannot use short commands.

**YES** The user can use short commands.

TYPE(USER | terminal) Specify the type of user profile to be added.

Example The following example adds a new user profile:

```
// JOB CACCCDBU0 ADD A USER PROFILE
// EXEC CACCCDBU0,SIZE=100K
DEFINE USERPROFILE ID(USERID01) -
TYPE(USER) NAME('user profile number 1') -
PASS(READPWD) -
COM(comp1) -
ADM(YES) EXEC(YES) LONG(YES) SHORT(YES) OVER(YES) -
MENU(1,CUI-5000,2,CUI-0000,3,AUDT-0000,4,AUDM-0000)
/*
/ &
```

## DELETE CMDPROFILE

The DELETE CMDPROFILE command deletes a command table profile from the CAICUI Product Control data set.

The two keywords must be specified as shown.

```
DELeTe CMDProfile ID(profile-id)
```

### Required operand

ID(profile-id) Specify the ID of the command table profile to be deleted. It can be from 1 to 8 characters in length.

Example The following example deletes a command table profile named \$DEFAULT:

```
// JOB CACCCDBU0 DELETE COMMAND PROFILE
// EXEC CACCCDBU0,SIZE=100K
DELETE CMDPROFILE ID($DEFAULT)
/*
/ &
```

## DELETE USERPROFILE

The DELETE USERPROFILE command deletes a user profile from the CAICUI Product Control data set.

The two keywords must be specified as shown.

```
DELeTe USERProfile ID(profile-id)
```

### Required operand

ID(profile-id) Specify the ID of the user profile to be deleted. It can be from 1 to 8 characters in length.

The following example deletes a user profile:

```
// JOB CACCCBU0 DELETE USER PROFILE
// EXEC CACCCBU0,SIZE=100K
 DELETE USERPROFILE ID(USERID01)
/*
/ &
```

## INITIALIZE CUI

The INITIALIZE CUI command initializes the CAICUI Product Control data set or the CAIHELP data set. It must be used **after** the data set to be initialized is defined to VSAM.

The two keywords must be specified as shown.

```
INITialize CUI DATaset(CAICUI|CAIHLPV)
 [DUPREC(BYPASS|DELETE|PROMPT)]
 [PRINT(NO|YES)]
 [PRODuCt(ALL|CUI|AUDIT|product-name)]
```

**Note:** PRINT(NO | YES) is valid only with DATaset(CAIHLPV).

### Required operands

DATaset(CAICUI | CAI HLPV) Specify the data set to be initialized. It can be from 1 to 7 characters in length. Choose one of the following:

**CAICUI** CAICUI Product Control data set

**CAIHLPV** CAIHELP data set

**Optional operands**

DUPREC(BYPASS |  
DELETE | PROMPT)

If a duplicate record condition is encountered, choose one of the following:

**Bypass**

Default. Leaves the record in the database.

**Delete**

Deletes the record from the database and then attempts to add the new record.

**Prompt**

Sends messages to the system console to have the operator respond BYPASS or DELETE.

PRINT(NO | YES)

Specify if a hard copy of the CAIHELP records is needed. Choose one of the following:

**NO**

Do not generate a hardcopy of the CAIHELP records.

**YES**

Generate a hardcopy of the CAIHELP records.

**Note:** PRINT(NO | YES) is valid only with DATaset(CAIHLPV).

PRODuct(ALL | CUI |  
AUDIT | product-  
name)

Specify a product to be initialized. It is required if a minimum initialization is to be performed for the CAICUI Product Control data set but is not required for the CAIHELP data set. Choose one of the following:

**ALL**

Initialize all the products in the CAICUI database.

**CUI**

Initialize only the CAICUI records in the CAICUI database.

**AUDIT**

Initialize only the CAIAUDIT records in the CAICUI database.

**product-name**

See the CA product manual for the specific product name.

**Example**

The following example performs a full initialization of the CAICUI Product Control data set:

```
// JOB CACCDU00 INITIALIZE CUI DATASET
// EXEC CACCDU00,SIZE=100K
 INITIALIZE CUI DAT(CAICUI) PRODUCT(ALL)
/*
/ &
```

## LIST CMDPROFILE

The LIST CMDPROFILE command lists command table profiles from the CAICUI Product Control data set.

The two keywords must be specified as shown.

```
LIST CMDProfile ID(profile-id)
```

### Required operand

ID(profile-id) Specify the ID(s) of the command table profile(s) you want to list. Choose one of the following formats:

|                  |                                                                                                                       |
|------------------|-----------------------------------------------------------------------------------------------------------------------|
| <b>profilid</b>  | Lists a specific command table profile, identified by profile ID.                                                     |
| <b>profilid*</b> | Lists all the command table profiles in the CAICUI Product Control data set that begin with the specified characters. |
| <b>*</b>         | Lists all the command table profiles in the CAICUI Product Control data set.                                          |

Example The following example lists all command table profiles in the CAICUI Product Control data set:

```
// JOB CACCDBU0 LIST COMMAND PROFILES
// EXEC CACCDBU0,SIZE=100K
LIST CMDPROFILE ID(*)
/*
/&
```

## CAIAUDIT

### Job Control Statements

The CACCDBU0 JCL required for CAIAUDIT include statements similar to the following. The chart indicates whether each statement is required (R) or optional (O).

| Statement                      | R/O            | Description                     |
|--------------------------------|----------------|---------------------------------|
| // JOB jobname                 | R <sup>1</sup> | Job statement                   |
| // DLBL CAUDPCn,'fileid',,VSAM | R <sup>2</sup> | CAIAUDIT data sets              |
| // DLBL CAICUI,'fileid',,VSAM  | R <sup>2</sup> | CAICUI Product Control data set |

| Statement                      | R/O            | Description               |
|--------------------------------|----------------|---------------------------|
| // DLBL CAUDSTG,'fileid',,VSAM | R <sup>2</sup> | CAIAUDIT Staging data set |
| // TLBL INFILE,'fileid'        | R <sup>3</sup> | CAIAUDIT backup files     |
| // TLBL OUTFILE,'fileid'       | R <sup>3</sup> | CAIAUDIT backup files     |
| // ASSGN SYS004,cuu            | R <sup>4</sup> | Tape drive                |
| // ASSGN SYS005,cuu            | R <sup>4</sup> | Tape drive                |
| // EXEC CACCDBU0,SIZE=100K     | R              | Execute program           |
| Control statements             | R              | (as needed)               |
| /*                             | R              | Comment                   |
| /&                             | R              | End of job                |

<sup>1</sup> Include a JOB statement in all JCL.

<sup>2</sup> Label information can be placed in the standard label area.

<sup>3</sup> Label information is needed only for backup and restore.

<sup>4</sup> Tape assigns are needed only for backup and restore.

## CACCDBU0 Commands

The following commands are provided with CACCDBU0 for maintaining CAIAUDIT and are specifically detailed in the following pages.

| Command             | Function                            |
|---------------------|-------------------------------------|
| ALTER AUDITEVENT    | Update CAIAUDIT event logging       |
| ALTER AUDITOPTIONS  | Update CAIAUDIT system options      |
| BACKUP AUDIT        | Back up select CAIAUDIT records     |
| DELETE AUDITRECORDS | Delete select CAIAUDIT records      |
| INITIALIZE AUDIT    | Initialize CAIAUDIT data sets       |
| RESTORE AUDIT       | Restore select CAIAUDIT records     |
| SHUTDOWN AUDIT      | Bring down the AUDIT runtime system |
| STARTUP AUDIT       | Activate the AUDIT runtime system   |
| SWITCH AUDIT        | Switch CAIAUDIT logging data sets   |

**Note:** The operands of these commands are divided into two categories, required and optional. Required operands **must** be specified (no defaults).

## ALTER AUDITEVENT

The ALTER AUDITEVENT command updates CAIAUDIT event logging options for specific products. These options are located in the CAICUI Product Control data set.

The two keywords must be specified as shown.

```
ALTer AUDITEvent EVENT(event-code)
 PRODUct(product-code)
 [CONsole(NO|YES)]
 [EXIT(NO|YES)]
 [LOGdata(NO|YES)]
```

### Required operands

|                       |                                                                                                                          |
|-----------------------|--------------------------------------------------------------------------------------------------------------------------|
| EVENT(event-code)     | Specify the four-character, CAIAUDIT-assigned event code of the event to be altered.                                     |
| PRODUct(product-code) | Specify the four-character, CAIAUDIT-assigned product code of the product whose event logging options you wish to alter. |

**Note:** See your product specific documentation for a list of valid CAIAUDIT-assigned product and event codes.

### Optional operands

|                   |                                                                                                                                                                                                                                                                                      |    |                                                |     |                                         |
|-------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----|------------------------------------------------|-----|-----------------------------------------|
| CONsole(NO   YES) | Specify whether CAIAUDIT event records are to be logged to the operator console. Choose one of the following:<br><br><table><tr><td>NO</td><td>Do not log this event to the operator console.</td></tr><tr><td>YES</td><td>Log this event to the operator console.</td></tr></table> | NO | Do not log this event to the operator console. | YES | Log this event to the operator console. |
| NO                | Do not log this event to the operator console.                                                                                                                                                                                                                                       |    |                                                |     |                                         |
| YES               | Log this event to the operator console.                                                                                                                                                                                                                                              |    |                                                |     |                                         |
| EXIT(NO   YES)    | Specify whether to notify exit programs of the event being logged. Choose one of the following:<br><br><table><tr><td>NO</td><td>Do not notify any exit programs of this event.</td></tr><tr><td>YES</td><td>Notify exit programs of this event.</td></tr></table>                   | NO | Do not notify any exit programs of this event. | YES | Notify exit programs of this event.     |
| NO                | Do not notify any exit programs of this event.                                                                                                                                                                                                                                       |    |                                                |     |                                         |
| YES               | Notify exit programs of this event.                                                                                                                                                                                                                                                  |    |                                                |     |                                         |

**LOGdata(NO | YES)** Specify whether CAIAUDIT event records are to be logged to a CAUDPCn data set. Choose one of the following:

**NO** Do not log this event to a CAUDPCn data set.

**YES** Log this event to a CAUDPCn data set.

**Example**

The following example updates CA-OPERA AUDIT control options:

```
// JOB CACCD BU0 UPDATE AUDIT CONTROL OPTIONS
// EXEC CACCD BU0,SIZE=100K
 ALTER AUDITEVENT PROD(CAOP) EVENT(ABRT) CON(YES)
/*
/ &
```

## ALTER AUDITOPTIONS

The ALTER AUDITOPTIONS command updates CAIAUDIT control options, which are located in the CAICUI Product Control data set. Shut down the AUDIT runtime system and bring it up again for the altered options to take effect.

The two keywords must be specified as shown.

```
ALTer AUDITOptions [CPUnn(cpu-id)]
 [FULlact(SWITCH|CONSOLE|STOP)]
 [MPOol(nnn)]
 [SHAre(NO|YES)]
 [STAge(NO|YES)]
 [WAITLog(nnn)]
 [WAITMrg(nnn)]
```

### Optional operands

**CPUnn(cpu-id)** Specify a relative CPU number (nn) to correspond to a physical CPU number (cpu-id).

**CPUnn** Specify a number between 1 and 32.

**(cpu-id)** Specify a 16-hex digit CPU ID to correspond to the relative CPU number.

|                                  |                                                                                                                                                                                   |
|----------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| FULLact(SWITCH   CONSOLE   STOP) | Specify what the AUDIT runtime system should do if the CAIAUDIT logging data set becomes full. Choose one of the following:                                                       |
| <b>SWITCH</b>                    | Switch the logging of records to an alternate CAIAUDIT data set and notify the operator console. The alternate CAIAUDIT data set must have been previously defined to VSAM.       |
| <b>CONSOLE</b>                   | Stop logging to the CAIAUDIT data set, and begin logging to the VSE operator console.                                                                                             |
| <b>STOP</b>                      | Stop logging to the CAIAUDIT data set. No CAIAUDIT records are written, and the operator console is notified of the full condition.                                               |
| MPOol(nnn)                       | Specify the size, in 4K increments, of the in-core message pool. It can be any number from 1 to 256.                                                                              |
| SHAre(YES   NO)                  | Specify whether to share the CAUDPCn data sets among multiple CPUs. Choose one of the following:                                                                                  |
| <b>NO</b>                        | Do not share the CAUDPCn data set among multiple CPUs.                                                                                                                            |
| <b>YES</b>                       | Share the CAUDPCn data set among multiple CPUs.                                                                                                                                   |
| STAge(YES   NO)                  | Specify whether to use the Staging data set CAUDSTG and merger task. Choose one of the following:                                                                                 |
| <b>NO</b>                        | Do not use CAUDSTG. The logger task is written directly to a CAUDPCn data set.                                                                                                    |
| <b>YES</b>                       | Use CAUDSTG and attach the merger task when the AUDIT runtime system is activated.                                                                                                |
| WAITLog(nnn)                     | Specify the time interval, in seconds, that the CAIAUDIT logger task is to wait between scans of the in-core message pool. It can be any number from 1 to 999. The default is 30. |
| WAITMrg(nnn)                     | Specify the time interval, in seconds, that the CAIAUDIT merger task is to wait between scans of the Staging data set. It can be any number from 1 to 999. The default is 30.     |

**Example**

The following example updates CAIAUDIT control options:

```
// JOB CACDDBU0 UPDATE AUDIT CONTROL OPTIONS
// EXEC CACDDBU0,SIZE=100K
 ALTER AUDITOPTIONS -
 CPU01(FF00033230900000) -
 CPU02(FF00004430900000) -
 STA(YES)
/*
/ &
```

**BACKUP AUDIT**

The BACKUP AUDIT command selectively backs up records from CAIAUDIT data sets and places them on a backup tape. **The contents of CAUDSTG cannot be backed up using CACDDBU0.** You must use VSE/VSAM Backup/Restore.

**Note:** Each BACKUP command is processed as a separate unit of work. All records that match the criteria specified for that BACKUP command are backed up. Commands are processed in the order in which they are specified.

SYS005 must be assigned to the correct output tape drive. Use a VSE ASSGN statement(s) for the correct output tape drive(s). A // TLBL statement(s) must be provided for the output tape data set(s).

The two keywords must be specified as shown.

```
BACKUP AUDIT DATASET(AUDIT1|AUDIT2)
 [EVENT(event-code)]
 [FROMDate(mmddyy|ddmmyy)]
 [FROMTime(hhmmss)]
 [PRODUCT(product-code)]
 [PURGE(NO|YES)]
 [TODate(mmddyy|ddmmyy)]
 [TOTime(hhmmss)]
 [TYPE(EXTEND|MERGE)]
```

**Required operands**

DATASET(AUDIT1|AUDIT2)

Specify the data set from which records are to be backed up. Choose one of the following:

**AUDIT1**                      CAUDPC1 data set

**AUDIT2**                      CAUDPC2 data set

**Optional operands**

EVENT(event-code)

Specify the four-byte, CAIAUDIT-assigned event code of the records to be backed up. If omitted, all event codes are eligible for backup. For a list of valid event codes, see the appendix "CAIAUDIT Codes" and the appendixes of the applicable products.

|                              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |               |                                                                                                      |              |                                                                                                              |
|------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------|------------------------------------------------------------------------------------------------------|--------------|--------------------------------------------------------------------------------------------------------------|
| FROMDate(mmddyy  <br>ddmmyy) | Specify the starting date from which point records are backed up, up to and including the TODATE (if specified).                                                                                                                                                                                                                                                                                                                                                                   |               |                                                                                                      |              |                                                                                                              |
| FROMTime(hhmmss)             | Specify the starting time from which point records are to be backed up, up to and including the TOTIME (if specified). Specify hours (hh) in 24-hour format.                                                                                                                                                                                                                                                                                                                       |               |                                                                                                      |              |                                                                                                              |
| PRODUct(product-<br>code)    | Specify the four-byte, CAIAUDIT-assigned product code of the records to be backed up. If omitted, all product codes are eligible for backup. For a list of valid product codes, see the appendix “CAIAUDIT Codes” and the appendixes of the applicable products.                                                                                                                                                                                                                   |               |                                                                                                      |              |                                                                                                              |
| PURGE(NO   YES)              | <p>Specify whether to purge the records specified for backup. Choose one of the following:</p> <table><tr><td><b>NO</b></td><td>Do not purge the backed up records from the data set.</td></tr><tr><td><b>YES</b></td><td>Purge the backed up records from the data set after they are successfully written to tape.</td></tr></table> <p><b>Note:</b> This option affects the performance of the BACKUP run because the records are read-for-update, backed up, then deleted.</p> | <b>NO</b>     | Do not purge the backed up records from the data set.                                                | <b>YES</b>   | Purge the backed up records from the data set after they are successfully written to tape.                   |
| <b>NO</b>                    | Do not purge the backed up records from the data set.                                                                                                                                                                                                                                                                                                                                                                                                                              |               |                                                                                                      |              |                                                                                                              |
| <b>YES</b>                   | Purge the backed up records from the data set after they are successfully written to tape.                                                                                                                                                                                                                                                                                                                                                                                         |               |                                                                                                      |              |                                                                                                              |
| TODate(mmddyy  <br>ddmmyy)   | Specify the end date of the range of records to be backed up. This operand is valid only if a FROMDate has been specified. If omitted, the present date is used.                                                                                                                                                                                                                                                                                                                   |               |                                                                                                      |              |                                                                                                              |
| TOTime(hhmmss)               | Specify the end time of the range of records to be backed up. This operand is valid only if a FROMTime has been specified. Specify hours (hh) in 24-hour format.                                                                                                                                                                                                                                                                                                                   |               |                                                                                                      |              |                                                                                                              |
| TYPE(EXTEND   MERGE)         | <p>Specify the type of backup to be performed. Choose one of the following:</p> <table><tr><td><b>EXTEND</b></td><td>Write all backed up records to an additional file on an existing or new CAIAUDIT backup tape volume.</td></tr><tr><td><b>MERGE</b></td><td>Merge the backed up records with an already existing CAIAUDIT backup tape and create a new backup tape file.</td></tr></table>                                                                                     | <b>EXTEND</b> | Write all backed up records to an additional file on an existing or new CAIAUDIT backup tape volume. | <b>MERGE</b> | Merge the backed up records with an already existing CAIAUDIT backup tape and create a new backup tape file. |
| <b>EXTEND</b>                | Write all backed up records to an additional file on an existing or new CAIAUDIT backup tape volume.                                                                                                                                                                                                                                                                                                                                                                               |               |                                                                                                      |              |                                                                                                              |
| <b>MERGE</b>                 | Merge the backed up records with an already existing CAIAUDIT backup tape and create a new backup tape file.                                                                                                                                                                                                                                                                                                                                                                       |               |                                                                                                      |              |                                                                                                              |
| Example                      | <p>The following example backs up records from CAUDPC1, merges them with an existing backup tape and then purges them:</p> <pre>// JOB CACCCDBU0 BACKUP AUDIT RECORDS // TLBL INFILE, 'AUDIT.OLD.BACKUP' // ASSGN SYS004, tape // TLBL OUTFILE, 'AUDIT.NEW.BACKUP' // ASSGN SYS005, tape // EXEC CACCCDBU0, SIZE=100K       BACKUP AUDIT DATASET(AUDIT1) TYPE(MERGE) PURGE(YES) /* / &amp;</pre>                                                                                   |               |                                                                                                      |              |                                                                                                              |

## DELETE AUDITRECORDS

The DELETE AUDITRECORDS command selectively removes records from a CAIAUDIT data set.

The two keywords must be specified as shown.

```
DELeTe AUDITReCords DATaset(AUDIT1|AUDIT2)
 [EVENT(event-code)]
 [FROMDate(mmddyy|ddmmyy)]
 [FROMTime(hhmmss)]
 [PRODuct(product-code)]
 [TODate(mmddyy|ddmmyy)]
 [TOTime(hhmmss)]
```

### Required operand

**DATaset(AUDIT1 | AUDIT2)** Specify the data set from which records are to be deleted. Choose one of the following:

**AUDIT1** CAUDPC1 data set

**AUDIT2** CAUDPC2 data set

### Optional operands

|                                  |                                                                                                                                                                                                                                                                         |
|----------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>EVENT(event-code)</b>         | Specify the four-byte, CAIAUDIT-assigned event code of the records to be deleted. If omitted, all event codes are eligible for deletion. For a list of valid CA-CIS event codes, see the appendix “CAIAUDIT Codes” and the appendixes of the applicable products.       |
| <b>FROMDate(mmddyy   ddmmyy)</b> | Specify the starting date from which point records are to be deleted, up to and including the TODATE (if specified).                                                                                                                                                    |
| <b>FROMTime(hhmmss)</b>          | Specify the starting time from which point records are to be deleted, up to and including the TOTIME (if specified). Specify hours (hh) in 24-hour format.                                                                                                              |
| <b>PRODuct(product-code)</b>     | Specify the four-byte, CAIAUDIT-assigned product code of the records to be deleted. If omitted, all product codes are eligible for deletion. For a list of valid CA-CIS product codes, see the appendix “CAIAUDIT Codes” and the appendixes of the applicable products. |
| <b>TODate(mmddyy   ddmmyy)</b>   | Specify the end date of the range of records to be deleted. This operand is valid only if a FROMDate has been specified. If omitted, the present date is used.                                                                                                          |
| <b>TOTime(hhmmss)</b>            | Specify the end time of the records to be deleted. This operand is valid only if a FROMTime has been specified. Specify hours (hh) in 24-hour format.                                                                                                                   |

**Example**

The following example deletes CA-SYSTEM/SCHEDULER records from CAUDPC1:

```
// JOB CACDDBU0 DELETE AUDIT RECORDS
// EXEC CACDDBU0,SIZE=100K
 DELETE AUDITRECORDS DAT(AUDIT1) PROD(CASS)
/*
/ &
```

**Note:** After running the DELETE function against one or more entries, the VSAM file's dataspace may be reclaimed. If the space does not get reclaimed by VSAM, the AUDIT "file full" message may appear. Running periodic VSAM BACKUP/RESTORES, to reorganize the file, will reclaim the VSAM dataspace.

If you are running the DELETE function to remove **all** entries, the following steps will perform the same function while reclaiming lost dataspace.

1. VSAM IDCAMS 'DELETE' and 'DEFINE' of the file, then
2. Run the INITIALIZE step.

The file will be ready for processing.

## INITIALIZE AUDIT

The INITIALIZE AUDIT command initializes the CAIAUDIT data sets. It must be used after the data sets are defined to VSAM.

The two keywords must be specified as shown.

```
INITIALIZE AUDIT DATASET(AUDIT1|AUDIT2|STAGE)
```

**Required operand**

DATASET(AUDIT1|AUDIT2|STAGE)

Specify the CAIAUDIT data set to be initialized. It can be from 1 to 7 characters in length. Choose one of the following:

**AUDIT1**                      CAUDPC1 data set

**AUDIT2**                      CAUDPC2 data set

**STAGE**                        CAUDSTG data set

**Example**

The following example initializes CAUDSTG:

```
// JOB CACDDBU0 INITIALIZE AUDIT DATASET
// EXEC CACDDBU0,SIZE=100K
 INITIALIZE AUDIT DAT(STAGE)
/*
/ &
```

## RESTORE AUDIT

The RESTORE AUDIT command selectively moves records from a backup tape to a CAIAUDIT data set.

The two keywords must be specified as shown.

```
RESTore AUDIT DATaset(AUDIT1|AUDIT2)
[DUPkey(DROP|UNIQUE)]
[EVENT(event-code)]
[FROMDate(mmddyy|ddmmyy)]
[FROMTime(hhmmss)]
[PRODuct(product-code)]
[TODate(mmddyy|ddmmyy)]
[TOTime(hhmmss)]
```

### Required operand

**DATaset(AUDIT1 | AUDIT2)** Specify the CAIAUDIT data set to which records are to be restored. Choose one of the following:

**AUDIT1** CAUDPC1 data set

**AUDIT2** CAUDPC2 data set

### Optional operands

**DUPkey(DROP | UNIQUE)** Specify the action to be taken if a duplicate key condition occurs while a record is being restored. Choose one of the following:

**DROP** Do not restore the record and continue processing the next record.

**UNIQUE** Restore the record even though a record with the same key already exists in the CAUDPCn data set. An internal CAIAUDIT sequence number built into the record structure is incremented in order to force the key to be unique.

**EVENT(event-code)** Specify the four-byte, CAIAUDIT-assigned event code of the records to be restored. If omitted, all event codes are eligible for restoration. For a list of valid event codes, see the appendix "CAIAUDIT Codes" and the appendixes of the applicable products.

**FROMDate(mmddyy | ddmmyy)** Specify the starting date from which point records are to be restored, up to and including the TODATE (if specified).

**FROMTime(hhmmss)** Specify the starting time from which point records are to be restored, up to and including the TOTIME (if specified). Specify hours (hh) in 24-hour format.

**PRODuct(product-** Specify the four-byte, CAIAUDIT-assigned product code of the records to be

|                            |                                                                                                                                                                                                                                                                                                                                                                             |
|----------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| code)                      | restored. If omitted, all product codes are eligible for restoration. For a list of valid CA-CIS product codes, see the appendix “CAIAUDIT Codes” and the appendixes of the applicable products.                                                                                                                                                                            |
| TODate(mmddyy  <br>ddmmyy) | Specify the end date of the range of records to be restored. This operand is valid only if a FROMDate has been specified. If omitted, the present date is used.                                                                                                                                                                                                             |
| TOTime(hhmmss)             | Specify the end time of the records to be restored. This operand is valid only if a FROMTime has been specified. Specify hours (hh) in 24-hour format.                                                                                                                                                                                                                      |
| Example                    | <p>The following example restores records from a CAIAUDIT backup tape and places them in the CAUDPC1 data set. If a record with the same key exists, it will not be restored.</p> <pre>// JOB CACCCDBU0 RESTORE AUDIT RECORDS // TLBL INFILE, 'AUDIT.BACKUP' // ASSGN SYS004, tape // EXEC CACCCDBU0, SIZE=100K // RESTORE AUDIT DATASET(AUDIT1) DUP(DROP) /* / &amp;</pre> |

## SHUTDOWN AUDIT

The SHUTDOWN AUDIT command deactivates the AUDIT runtime system.

The two keywords must be specified as shown.

```
SHUTdown AUDIT [IMMEDIATE(NO|YES)]
```

### Optional operand

|                     |                                                                                                                   |
|---------------------|-------------------------------------------------------------------------------------------------------------------|
| IMMEDIATE(NO   YES) | Specify whether CAIAUDIT is to process the in-core Message Queue before terminating. Choose one of the following: |
| <b>NO</b>           | Process the in-core Message Queue before terminating.                                                             |
| <b>YES</b>          | Terminate without processing the in-core Message Queue.                                                           |

|         |                                                                                                                                                                                                                                      |
|---------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Example | <p>The following example shuts down the AUDIT runtime system without processing the in-core Message Queue:</p> <pre>// JOB CACCCDBU0 SHUTDOWN AUDIT RUNTIME // EXEC CACCCDBU0, SIZE=100K // SHUTDOWN AUDIT IMM(YES) /* / &amp;</pre> |
|---------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

## STARTUP AUDIT

The STARTUP AUDIT command activates the AUDIT runtime system.

The two keywords must be specified as shown.

```
STARTup AUDIT SUBsys(POWER|VTAM)
[TIMEout(nnn)]
```

### Required operand

SUBsys(POWER | VTAM) Specify the subsystem in whose partition the AUDIT runtime system is to execute. Choose one of the following:

**POWER** The POWER subsystem.

**Note:** When starting the system with this option, the "SHUTDOWN AUDIT" procedure should be run before shutting down POWER. If this is not done, error message CAAU201E will be displayed with an "RC=0702".

**VTAM** The VTAM subsystem.

### Optional operand

TIMEout(nnn) Specify the time interval, in seconds, that the CAIAUDIT startup program should wait for the designated subsystem to become available.

When this interval expires, the VSE console operator is asked whether to continue waiting or to terminate startup. The default is 15 seconds.

### Examples

The following example activates the AUDIT runtime system:

```
// JOB CACCCBU0 START AUDIT RUNTIME
// EXEC CACCCBU0,SIZE=100K
 START AUDIT SUB(POWER)
/*
/ &
```

The following example activates the AUDIT runtime system through the System Adapter CASAUTIL program:

```
// JOB CASAUTIL START AUDIT RUNTIME
// UPSI 01
// EXEC CASAUTIL
 START AUDIT SUB(POWER)
/*
/ &
```

## SWITCH AUDIT

The SWITCH AUDIT command forces the AUDIT runtime system to switch logging to an alternate output data set, either CAUDPC1 or CAUDPC2.

The two keywords must be specified as shown.

```
SWITCh AUDIT [DSN(1|2)]
```

### Optional operand

DSN(1 | 2)

Specify the data set to which the AUDIT runtime system is to switch. If not specified, logging switches to the data set not currently active.

**1** CAUDPC1 data set

**2** CAUDPC2 data set

Example

The following example switches logging to CAUDPC2:

```
// JOB CACCD BU0 SWITCH AUDIT DATA SETS
// EXEC CACCD BU0,SIZE=100K
 SWITCH AUDIT DSN(2)
/*
/ &
```

## Catalog Management

### Job Control Statements

The CACCDBU0 JCL required for Catalog Management include statements similar to the following. The chart indicates whether each statement is required (R) or optional (O).

| Statement                     | R/O            | Description                     |
|-------------------------------|----------------|---------------------------------|
| // JOB jobname                | R <sup>1</sup> | Job statement                   |
| // DLBL CAICUI,'fileid',,VSAM | R <sup>2</sup> | CAICUI Product Control data set |
| // EXEC CACCDBU0,SIZE=100K    | R              | Execute program                 |
| Control statements            | R              | (as needed)                     |
| /*                            | R              | Comment                         |
| /&.                           | R              | End of job                      |

<sup>1</sup> Include a JOB statement in all JCL.

<sup>2</sup> Label information can be placed in the standard label area.

### CACCDBU0 Commands

The following commands are provided with CACCDBU0 for maintaining the Catalog Management service and are specifically detailed in the following pages.

| Command                  | Function                                         |
|--------------------------|--------------------------------------------------|
| ALTER CATMANOPTIONS      | Update Catalog Management processing options     |
| INITIALIZE CATMANOPTIONS | Initialize Catalog Management processing options |

**Note:** The operands of these commands are divided into two categories, required and optional. Required operands **must** be specified (no defaults).

## ALTER CATMANOPTIONS

The ALTER CATMANOPTIONS command updates Catalog Management processing options in the CAICUI Product Control data set.

The two keywords must be specified as shown.

```
ALTER CATmanoptions [BUFNumber(nnn)]
 [BUFSpace(nnn)]
 [CISize(nnn)]
 [DESCRiption(1-50 CHARACTER DESCRIPTION)]
 [ENQWait(nnn)]
 [JCOMPRESS(YES|NO)]
 [JOURNa1(YES|NO)]
 [RECOvery(YES|NO)]
 [RETRYLIMIT1(nnnn)]
 [RETRYLIMIT2(nnnn)]
```

### Optional operands

|                                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
|-----------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| BUFNumber(nnn)                          | Displays the maximum number of buffers to be requested when accessing Catalog data sets. It can be any number from 1 to 999. The default is 4, which is the minimum number required for Catalog Access functions and provides 4K for the Catalog Access buffers. The size of each buffer depends on the CISize specified.<br><br>You can specify a greater number of buffers for faster access; however, this requires more partition GETVIS storage. Values greater than 6 have no apparent effects. |
| BUFSpace(nnn)                           | Displays the total amount of buffer space available for the Catalog Manager and serves as a limit for the Max No. of Buffs parameter. It can be any number from 0 to 999, but should be specified as 0 unless instructed otherwise by CA Technical Support personnel ( <a href="http://ca.com/support">http://ca.com/support</a> ).                                                                                                                                                                   |
| CISize(nnn)                             | Displays the CISizes of the data sets in multiples of K (1024 bytes). It can be any number from 1 to 999. The default is 1.                                                                                                                                                                                                                                                                                                                                                                           |
| DESCRiption(1-50 CHARACTER DESCRIPTION) | Specify a description of the Catalog Management processing option record. It can be from 1 to 50 characters in length and must be enclosed in quotes if it contains imbedded blanks. This field is used for documentation purposes only.                                                                                                                                                                                                                                                              |
| ENQWait(nnn)                            | Displays the number of seconds the system should wait before attempting to enqueue the Catalog file again in a multi-CPU environment. While waiting, the partition requesting the enqueue is stopped so that other processing can continue. It can be any number from 1 to 999. The default is 5 seconds. In a multi-CPU environment of mismatched speeds, this value can be adjusted to decrease the wait time for the slower CPU, allowing the Catalog to be accessed more frequently.              |
| JCOMPRESS(YES NO)                       | Specify YES if Journal Compression is to be supported. Journal Compression eliminates the need of a large journal data set. The default is YES.                                                                                                                                                                                                                                                                                                                                                       |

|                    |                                                                                                                                                                                                                                                                                                                            |
|--------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| JOURNaI(YES   NO)  | Specify YES if Physical Journaling is to be supported. The default is YES.                                                                                                                                                                                                                                                 |
| RECOvery(YES   NO) | Specify YES if Catalog Recovery is to be supported.                                                                                                                                                                                                                                                                        |
| RETRYLIMIT1(nnnn)  | Displays the number of external enqueues to be attempted on the Catalog Management data set in a multi-CPU environment before an error message is issued. It can be any number from 1 to 9999. The default is 10. Increase this value if the error message appears too often.                                              |
| RETRYLIMIT2(nnnn)  | Specify the number of external enqueues to be attempted on the Catalog Management data set in a multi-CPU environment before an error message is issued and the enqueue is considered to have failed. It can be any number from 1 to 9999. The default is 255. Increase this value if the error message appears too often. |

**Note:** The following options -- CISize(nnnn), BUFNumber, and BUFSpace -- are Catalog Management default values **only**. Specific products (for example, CA-Scheduler) may provide product-level options which then override these defaults.

#### Example

The following example alters Catalog Management processing options:

```
// JOB CACCD BU0 ALTER CATMAN PROCESSING OPTIONS
// EXEC CACCD BU0,SIZE=100K
 ALTER CATMANOPTIONS -
 DESC('MYCATMANOPTIONS')
/*
/ &
```

## INITIALIZE CATMANOPTIONS

The INITIALIZE CATMANOPTIONS command adds Catalog Management processing options to the CAICUI Product Control data set.

The two keywords must be specified as shown.

```
INITIALize CATmanoptions [BUFNumber(nnn)]
 [BUFSpace(nnn)]
 [CISize(nnn)]
 [DESCRiption(1-50 CHARACTER DESCRIPTION)]
 [ENQWait(nnn)]
 [JCOMPRESS(YES|NO)]
 [JOURNaI(YES|NO)]
 [RECOvery(YES|NO)]
 [RETRYLIMIT1(nnnn)]
 [RETRYLIMIT2(nnnn)]
```

**Optional operands**

|                                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
|-----------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| BUFNumber(nnn)                          | <p>Displays the maximum number of buffers to be requested when accessing Catalog data sets. It can be any number from 1 to 999. The default is 4.</p> <p>You can specify a greater number of buffers for faster access; however, this requires more partition GETVIS storage. Values greater than 6 have no apparent effects.</p>                                                                                                                                                               |
| BUFSpace(nnn)                           | <p>Displays the total maximum amount of buffer space available for the Catalog Manager and serves as a limit for the Max No. of Buffs parameter. It can be any number from 0 to 999, but should be specified as 0 unless instructed otherwise by CA Technical Support personnel (<a href="http://ca.com/support">http://ca.com/support</a>). The default is 0.</p>                                                                                                                              |
| CISize(nnn)                             | <p>Displays the CISizes of the data sets in multiples of K (1024 bytes). It can be any number from 1 to 999. The default is 1.</p>                                                                                                                                                                                                                                                                                                                                                              |
| DESCRiption(1-50 CHARACTER DESCRIPTION) | <p>Specify a description of the Catalog Management processing option record. It can be from 1 to 50 characters in length and must be enclosed in quotes if it contains imbedded blanks. This field is used for documentation purposes only.</p>                                                                                                                                                                                                                                                 |
| ENQWait(nnn)                            | <p>Displays the number of seconds the system should wait before attempting to enqueue the Catalog file again in a multi-CPU environment. While waiting, the partition requesting the enqueue is stopped so that other processing can continue. It can be any number from 1 to 999. The default is 5 seconds. In a multi-CPU environment of mismatched speeds, this value can be adjusted to decrease the wait time for the slower CPU, allowing the Catalog to be accessed more frequently.</p> |
| JCOMPRESS(YES   NO)                     | <p>Specify YES if Journal Compression is to be supported. Journal Compression eliminates the need of a large journal data set. The default is YES.</p>                                                                                                                                                                                                                                                                                                                                          |
| JOURNal(YES   NO)                       | <p>Specify YES if Physical Journaling is to be supported. The default is YES.</p>                                                                                                                                                                                                                                                                                                                                                                                                               |
| RECOvery(YES   NO)                      | <p>Specify YES if Catalog Recovery is to be supported. The default is YES.</p>                                                                                                                                                                                                                                                                                                                                                                                                                  |
| RETRYLIMIT1(nnnn)                       | <p>Displays the number of external enqueues to be attempted on the Catalog Management data set in a multi-CPU environment before an error message is issued. It can be any number from 1 to 9999. The default is 10. Increase this value if the error message appears too often.</p>                                                                                                                                                                                                            |
| RETRYLIMIT2(nnnn)                       | <p>Specify the number of external enqueues to be attempted on the Catalog Management data set in a multi-CPU environment before an error message is issued and the enqueue is considered to have failed. It can be any number from 1 to 9999. The default is 255. Increase this value if the error message appears too often.</p>                                                                                                                                                               |

## Example

The following example adds Catalog Management processing options to the CAICUI Product Control data set:

```
// JOB CACCDBU0 INITIALIZE CATMAN PROCESSING OPTIONS
// EXEC CACCDBU0,SIZE=100K
 INITIALIZE CATMANOPTIONS -
 DESC('MYCATMANOPTIONS')
/*
/ &
```

**Note:** The CPU system options are no longer supported through the CPUID macro; they must be maintained through the on-line maintenance or the CUI batch maintenance.

## System Adapter

### Job Control Statements

The CACCDBU0 JCL required for System Adapter includes statements similar to the following. The chart indicates whether each statement is required (R) or optional (O).

| Statement                     | R/<br>O        | Description                     |
|-------------------------------|----------------|---------------------------------|
| // JOB jobname                | R <sup>1</sup> | Job statement                   |
| // DLBL CAICUI,'fileid',,VSAM | R <sup>2</sup> | CAICUI Product Control data set |
| // EXEC CACCDBU0,SIZE=100K    | R              | Execute program                 |
| Control statements            | R              | (as needed)                     |
| /*                            | R              | Comment                         |
| / &.                          | R              | End of job                      |

<sup>1</sup> Include a JOB statement in all JCL.

<sup>2</sup> Label information can be placed in the standard label area.

CACCDBU0 Commands

The following commands are provided with CACCDBU0 for maintaining the System Adapter service and are specifically detailed in the following pages.

| Command                            | Function                                     |
|------------------------------------|----------------------------------------------|
| ALTER SYSTEMADAPTEROPTIONS         | Update System Adapter processing options     |
| INITIALIZE<br>SYSTEMADAPTEROPTIONS | Initialize System Adapter processing options |
| /+                                 | End of command table profile data            |

**Note:** The operands of these commands are divided into two categories, required and optional. Required operands **must** be specified (no defaults).

ALTER SYSTEMADAPTEROPTIONS

The ALTER SYSTEMADAPTEROPTIONS command alters System Adapter processing options in the CAICUI Product Control data set.

The two keywords must be specified as shown.

```
ALtEr SYStemadapteRoptions [CPU(n,aabbbbbbbcccd, . . .)]
 [DESCRiption(description)]
 [SVC(nnn)]
 [SYSID=(n,p)]
 [SVRB(nnnnn)]
```

Optional operands

|                             |                                                                                                    |
|-----------------------------|----------------------------------------------------------------------------------------------------|
| CPU(n,aabbbbbbbcccd, . . .) | Specify a CPU identifier and serial number for every CPU to be used. Up to 36 CPUs can be defined. |
| n                           | Specifies the CPU identifier. Valid identifiers are A through Z and 0 through 9.                   |
| aabbbbbbbcccd               | Specifies the serial number of the CPU identifier specified above:                                 |
| aa                          | Version code                                                                                       |
| bbbbbb                      | Processor identification number                                                                    |
| cccc                        | Model number of the processor                                                                      |
| dddd                        | Machine check extended logout (always x'0000')                                                     |

|                          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
|--------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| DESCription(description) | Specify a description of the System Adapter processing option record. It can be from 1 to 50 characters in length and must be enclosed in quotes if it contains imbedded blanks. This field is used for documentation purposes only.                                                                                                                                                                                                                                                                                                    |
| SVC(nnn)                 | Specify the SVC number of the System Adapter. It can be any number from 119 to 140 and 142 to 255.<br><br><b>Caution:</b> Make sure that the value you select does not conflict with IBM usage or other installed software products.                                                                                                                                                                                                                                                                                                    |
| SYSID(n,p)               | Specify a CPU identifier and its POWER sysid. (The CPU identifier is described above in the CPU operand.) The POWER sysid must be a number from 1 to 9.<br><br><b>n</b> Specifies the CPU identifier. Valid identifiers are A through Z and 0 through 9.<br><br><b>p</b> Specifies the POWER sysid.                                                                                                                                                                                                                                     |
| SVRB(nnnnn)              | Displays the number of SVRB blocks for System Adapter. The SVRBs are used to save user PSW and registers during SVC intercept processing, and indicates the maximum concurrent intercepts at any one time. If jobs cancel with IBM message:<br><br>0P78I UNRECOGNIZED CANCEL CODE X'CA'<br><br>then this number must be increased.                                                                                                                                                                                                      |
| Example                  | The following example updates System Adapter processing options in the CAICUI Product Control data set:<br><br><pre>// JOB CACCCBU0 ALTER SYSTEM ADAPTER PROCESSING OPTIONS // EXEC CACCCBU0,SIZE=100K   ALTER SYS -   DESC('MYSYSTEMOPTIONS')   SVC(255) -   SYSID(A,1) -   SVRB(32) -   CPU(A,FF00000130900000,B,FF00000230900000) /* / &amp;</pre> <p><b>Note:</b> The CPU system options are no longer supported through the CPUID macro; they must be maintained through the on-line maintenance or the CUI batch maintenance.</p> |

## INITIALIZE SYSTEMADAPTEROPTIONS

The INITIALIZE SYSTEMADAPTEROPTIONS command adds System Adapter processing options to the CAICUI Product Control data set.

The two keywords must be specified as shown.

```
INITIALize SYStemadapteroptions [CPU(n,aabbbbbbbcccccddd,...)]
 [DESCRiption(description)]
 [SVC(nnn)]
 [SYSID=(n,p)]
 [SVRB(nnnnn)]
```

### Optional operands

|                              |                                                                                                                                                                                                                                                          |
|------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| CPU(n,aabbbbbbbcccccddd,...) | Specify a CPU identifier and serial number for every CPU to be used. Up to 36 CPUs can be defined. All CPU entries by default will be x'0000000000000000'.                                                                                               |
| <b>n</b>                     | Specifies the CPU identifier. Valid identifiers are A through Z and 0 through 9.                                                                                                                                                                         |
| <b>aabbbbbbbcccccddd</b>     | Specifies the serial number of the CPU identifier specified above:                                                                                                                                                                                       |
| <b>aa</b>                    | Version code                                                                                                                                                                                                                                             |
| <b>bbbbbb</b>                | Processor identification number                                                                                                                                                                                                                          |
| <b>cccc</b>                  | Model number of the processor                                                                                                                                                                                                                            |
| <b>dddd</b>                  | Machine check extended logout (always x'0000')                                                                                                                                                                                                           |
| DESCRiption(description)     | Specify a description of the System Adapter processing option record. It can be from 1 to 50 characters in length and must be enclosed in quotes if it contains imbedded blanks. This field is used for documentation purposes only.                     |
| SVC(nnn)                     | Specify the SVC number of the System Adapter. It can be any number from 119 to 140 and 142 to 255. The default is 255.<br><br><b>Caution:</b> Make sure that the value you select does not conflict with IBM usage or other installed software products. |
| SYSID(n,p)                   | Specify a CPU identifier and its POWER sysid. (The CPU identifier is described above in the CPU operand). The POWER sysid must be a number from 1 to 9.                                                                                                  |
| <b>n</b>                     | Specifies the CPU identifier. Valid identifiers are A through Z and 0 through 9.                                                                                                                                                                         |
| <b>p</b>                     | Specifies the POWER sysid.                                                                                                                                                                                                                               |

SVRB(nnnnn)

Displays the number of SVRB blocks for System Adapter. The SVRBs are used to save user PSW and registers during SVC intercept processing, and indicates the maximum concurrent intercepts at any one time. If jobs cancel with IBM message:

```
0P78I UNRECOGNIZED CANCEL CODE X'CA'
```

then, this number must be increased. The default is 25.

Example

The following example adds System Adapter processing options to the CAICUI Product Control data set:

```
// JOB CACDDBU0 INITIALIZE SYSTEM ADAPTER PROCESSING OPTIONS
// EXEC CACDDBU0,SIZE=100K
 INITIALIZE SYS
 DESC('MYSYSTEMOPTIONS') -
 SVC(255) -
 SYSID(A,1) -
 SVRB(10) -
 CPU(A,FF00000130900000,B,FF00000230900000)
/*
/ &
```

**Note:** The CPU system options are no longer supported through the CPUID macro; they must be maintained through the on-line maintenance or the CUI batch maintenance.



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