# CA-IDMS®

## Installation and Maintenance — z/VM and VM/ESA

15.0

Computer Associates™

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# Contents

# How to Use This Manual

**What this manual contains:** This manual provides information on the installation, implementation, and operation of Computer Associates' CA-IDMS, CA-IDMS Tools and CA-IDMS/CMS Option in the VM/ESA and z/VM environments (that is, in an environment where CA-IDMS runs in a CMS virtual machine under the operating system). The CA-IDMS 15.0 documentation set describes procedures and CMS commands for the VM/ESA environment. The same procedures and CMS commands are applicable to the z/VM environment.

The manual supplements the following CA-IDMS documentation for the VM/ESA user:

- *CA-IDMS System Generation*
- *CA-IDMS System Operations*
- *CA-IDMS Database Administration*

**Who should use this manual:** The reader of this manual is assumed to be familiar with information in the above documents that is independent of any particular operating system. The reader is also assumed to be familiar with the basic operating principles and components of VM/ESA and CMS.

**Note:** CA-IDMS operations under a guest operating system in a virtual machine appear the same as when that operating system directly controls the resources of a real computing system. For considerations that apply when CA-IDMS runs in a virtual machine controlled by a guest operating system, refer to *CA-IDMS System Operations*.

**How this manual is organized:** The information in this manual is presented in nine chapters:

- Chapter 1, “Introduction” provides an overview of the install procedures and the products available on the tape.
- Chapter 2, “System Requirements” details the system components required for proper installation of CA-IDMS.
- Chapter 3, “Installing CA-IDMS” takes you step-by-step through the CA-IDMS installation procedure.
- Chapter 4, “Installing CA-IDMS Tools” describes the steps required to install CA-IDMS Tools on a VM/ESA system.
- Chapter 5, “Installing the CA-IDMS/CMS Option” describes the steps required to install the CA-IDMS/CMS Option on a VM/ESA system.
- Chapter 6, “Maintenance Tape Installation Procedures” describes how to install maintenance tapes.
- Chapter 7, “CA-IDMS, CA-IDMS Tools and CA-IDMS/CMS Option APAR Maintenance” describes how to maintain APARs.

- Chapter 8, “Requirements for the DC/UCF Virtual Machine” discusses the configuration of a DC/UCF virtual machine including the use of the CMS Option.
- Chapter 9, “Creating and Accessing CA-IDMS Files” provides information on creating and accessing CA-IDMS files in the VM/ESA environment; includes a discussion of program execution in local mode.
- Chapter 10, “Generating and Operating a DC/UCF System” discusses special considerations for the generation and operation of a DC/UCF system in a CMS virtual machine.
- Chapter 11, “Evaluating and Enhancing DC/UCF System Performance” describes VM/ESA options and monitoring tools that can be used to evaluate and enhance DC/UCF performance in a CMS virtual machine; also discusses CA-IDMS options that affect system performance in the VM/ESA environment.
- Chapter 12, “Migrating CA-IDMS to VM/ESA from a Different Operating System” outlines considerations that apply when CA-IDMS is migrated to a CMS virtual machine either from a guest operating system under VM or from a different host operating system environment.
- Appendix A, “CA-IDMS, CA-IDMS Tools and CA-IDMS/CMS Option LASTING GLOBALV Screens” describes the LASTING GLOBALV screens.
- Appendix B, “CA-IDMS Tools Runtime Options” describes the runtime options for the CA-IDMS Tools products.
- Appendix C, “CA-IDMS/DMLO Security and Access” describes various runtime options for CA-IDMS/DMLO.

**Where to find more information:** For more information related to this manual, see these documents:

- *CA-IDMS Database Administration*
- *CA-IDMS Messages and Codes*
- *CA-IDMS System Generation*
- *CA-IDMS System Operations*
- *CA-IDMS System Tasks and Operator Commands*
- *CA-IDMS/DDS Design and Operations*
- *CA-IDMS Utilities*

**Other documentation:** You may need to reference the documents listed below during the installation process. To order additional documentation, you may visit our support website at *http://esupport.ca.com/* or call *1-800-637-5858*.

# Chapter 1. Introduction

## 1.1 New Install and Installation Guide Features

Several new features are available in CA-IDMS Release 15.0, the installation procedures, and the installation guide, to simplify and aid you while installing and maintaining the CA-IDMS software.

The installation guide contains the installation and maintenance procedures for all of the CA-IDMS product family. Detailed information can be found in 1.2, “Combined Installation Manual” on page 1-4.

Also, there is a detailed discussion of the three *types* of installs available. See 1.4, “CA-IDMS Installation Types” on page 1-7, for more information.

# 1.2 Combined Installation Manual

In Release 15.0 of CA-IDMS product family, the installation procedures for CA-IDMS, CA-IDMS Tools and CA-IDMS/CMS Option are merged into a single installation manual. These product lines and their respective products are listed below:

- CA-IDMS:
  - CA-ADS
  - CA-ADS ASF Option
  - CA-ADS/BATCH
  - CA-IDMS/APPC
  - CA-IDMS/Culprit™
  - CA-IDMS/DB
  - CA-IDMS/DBCS Option
  - CA-IDMS/DC
  - CA-IDMS/DDS (Distributed Database System)
  - CA-IDMS/Dictionary Loader
  - CA-EDP-Auditor™
  - CA-ICMS
  - CA-OLQ™
  - CA-IDMS/Performance Monitor
  - CA-IDMS/Presspack
  - CA-IDMS/SQL Option
  - CA-IDMS/Server
  - CA-IDMS/UCF
  - CA-VTX/PRESTEL
  - CA-VTX/TELETEL
- CA-IDMS Tools:
  - CA-IDMS/ADS Alive
  - CA-IDMS/ADS Trace
  - CA-IDMS/Database Extractor
  - CA-IDMS/DB Analyzer
  - CA-IDMS/DB Audit
  - CA-IDMS/DB Reorg
  - CA-IDMS/DC SORT

  - CA-IDMS/Dictionary Migrator
  - CA-IDMS/Dictionary Migrator Assistant
  - CA-IDMS/Dictionary Module Editor
  - CA-IDMS/Dictionary Query Facility
  - CA-IDMS/DML Online
  - CA-IDMS/Enforcer
  - CA-IDMS/Journal Analyzer
  - CA-IDMS/Log Analyzer
  - CA-IDMS/Master Key
  - CA-IDMS/Online Log Display
  - CA-IDMS/SASO
  - CA-IDMS/Schema Mapper
  - CA-IDMS/Task Analyzer
- CA-IDMS/CMS Option

# 1.3 Separate Installs

While the installation manual is consolidated, the installation procedures are separate. The CA-IDMS core products installation **must be** completed before installing the CA-IDMS Tools products.

**Example:** Suppose you are installing CA-IDMS/DB, CA-IDMS/DC, CA-IDMS/Performance Monitor and CA-IDMS/DML Online.

1. Install the core CA-IDMS products (CA-IDMS/DB, CA-IDMS/DC, CA-IDMS/Performance Monitor), using:
   a. Chapter 2, “System Requirements”
   b. Chapter 3, “Installing CA-IDMS”
2. Install the CA-IDMS Tools products (CA-IDMS/DML Online), using:
   a. Chapter 2, “System Requirements”
   b. Chapter 4, “Installing CA-IDMS Tools”
3. Install the CA-IDMS/CMS Option, using:
   a. Chapter 5, “Installing the CA-IDMS/CMS Option”

# 1.4 CA-IDMS Installation Types

From a base-level install tape, you can perform one of the following mutually exclusive installations:

- Complete Base Installation
- Upgrade Installation
- Add-On Installation

| | **Complete Base Installation** | **Upgrade Installation** | **Add-On Installation** |
|---|---|---|---|
| Creates New Install Libraries | Yes | Yes | Depends on product |
| Allocates/Formats Database Areas | Yes | No | Depends on product |
| Updates Existing Database Areas | No | Yes | Depends on product |
| Requires Previous Base Install | No | No | Yes |
| Prior Install Must Be Same Genlevel | N/A | No | Yes |
| Base Tape Required | Yes | Yes | Yes |
| Available on Maintenance Tape | No | No | No |

Base tapes are not mass mailed; they are available only on individual order. Since prior-genlevel base tapes are expired, only the latest genlevel base tape can be ordered.

## 1.4.1 Complete Base Installation

Any site may execute a Complete Base Installation, although it is best suited for sites that have never installed CA-IDMS Release 12.0 or later. A Complete Base Installation:

- Creates new CA-IDMS software libraries
- Allocates, formats, and initializes new dictionaries
- Creates new DMCL and DB name table load modules
- Creates a new DC system

A complete installation can be performed for CA-IDMS or CA-IDMS Tools.

## 1.4.2 Upgrade Installation

If you have already installed CA-IDMS Release 12.0 or later, you may choose to perform an Upgrade Installation. An Upgrade installation updates the CA-IDMS environment with the latest software and operates with your existing dictionaries and database files. It upgrades the products currently installed.

An Upgrade installation does not allocate, format, or initialize database or dictionary files. It *does* update dictionaries with new entities, such as:

- Messages and Codes
- System Records
- CA-IDMS Protocols
- System Classes and Attributes
- Built-in Functions
- CA-IDMS Reports
- CA-IDMS Load Modules

A new set of libraries is allocated and populated with the new software. New software is created in the loadlibs. The startup load module *must* be created from the new software.

Load modules, such as the DB name table and the DMCL, that are created by punching and linking source from your dictionaries do not need to be recreated.

An Upgrade install ignores allocation and page range parameters for database files. When you specify the customized values in the Select Miscellaneous Parameters screen you do not have to modify the defaults for these items.

**Note:** Upgrade installations are valid for Release 12.0 and later CA-IDMS systems.

## 1.4.3 Add-On Installation

An Add-On installation allows you to install additional CA-IDMS or CA-IDMS Tools products into an existing CA-IDMS environment. Add-On installations must be performed on same-genlevel systems; bring your system up to the current service pack level by installing all necessary maintenance before adding the new product.

In the **Product Selection** screen, specify **S** for the product(s) you are adding. Depending on the product, new minidisks may be required. For example, if you are installing CA-IDMS/SQL Option a minidisk is required for the SQL database files.

# Chapter 2. System Requirements

This chapter details the system components required for proper installation of CA-IDMS.

# 2.1 CA-CIS Requirements for CA-IDMS

The following CA-CIS (CA-Common Infrastructure Services) components must be installed prior to the installation of CA-IDMS 15.0:

- CAISSF Standard Security Facility
  - Required by CA-IDMS security implementation
  - Required during installation as well as runtime
- CAICCI Common Communications Interface
  - Required if installing CA-IDMS/DDS (Distributed Database System)
- CAI CA C Runtime System
  - Required if installing CA-ADS

The CA-CIS software is installed using CA-Activator. If this is the first time you have installed CA-CIS, the initial installation process **only** offloads the CA-Activator software; it will not install any of the actual CA-CIS applications.

CA-CIS expects all other software packages on the VM platform to also use CA-Activator for their installation. Each package would then 'request' CA-Activator to tell CA-CIS which of its products were required.

CA-IDMS does **not** use CA-Activator for its installation. In order to simulate this 'request', an EXEC, CAE5ACT, is provided on the installation file which is downloaded at the beginning of the installation process. Please see 3.5, “Complete Installation of CA-CIS Software” on page 3-7 for information on when to run this EXEC.

## 2.2 CA-IDMS System Requirements

The following list contains the CA-IDMS system requirements:

- DASD requirements
  - 472 cylinders (default configuration)
  - More or less depending on products installed
  - Each site may tailor database disk sizes but should not make smaller
- Tape drive requirement
  - 3480 cartridge tape drive
  - Any release of COBOL and TXTLIB (optional)

    **Note:** TXTLIB is required only for the installation of the demonstration database.
- Assembler
- Separate user ID for CA-IDMS CV machine
  - 16M+ region

    (default SYSGEN requires 20M)
  - MAXCONN should be at least 50M for database access
  - IUCV authorization for ALLOW and ANY

# 2.3 Environments Supported

These lists contain the IBM mainframe computer systems and IBM operating systems supported by the CA-IDMS installation.

**Mainframe systems:**

- 30xx
- Or any mainframe computer system that is plug-compatible with the above
- ES9000
- S/390
- zSeries 900 enterprise server

**Operating systems:**

- VM/ESA Release V2R3 or higher
- z/VM Release V3R1 or higher

# 2.4 Minidisk Space Requirements

## 2.4.1 Product Install Minidisk

The product install minidisk requires approximately 200-225 cylinders depending on the products selected. The following files reside on the install disk:

- IDMSLIB MACLIB
- DBALIB LOADLIB
- IDMSLIB LOADLIB
- TEXT modules
- SYSLIN members
- Install EXECs
- APARs and APAR control files

**Note:** If you plan to install CA-IDMS Tools on the same minidisk as CA-IDMS, it should be taken into account in your initial allocation.

## 2.4.2 Database Minidisks

- Minidisk parameters are customized for ALL files:
  - Page size - 1024, 2048, 4096, or FBA
  - File name - used for FILEDEFS or dynamic allocation
  - Starting page number
  - Number of pages
- Total cylinders required (using defaults) if all products installed - 272 cylinders

**Note:** If you change the number of pages, the installation verifies there are no page overlaps before creating your DMCL. If page overlaps are reported, you must correct them. This includes:

- 2.4.2.1, “Required Database Files”
- 2.4.2.2, “Demo Database Files (only if installing the demonstration database)”
- 2.4.2.3, “ASF Database Files (ASF Option only)”
- 2.4.2.4, “SQL Database Files (SQL Option only)”

### 2.4.2.1 Required Database Files

This table contains space requirements for required database files. You may change:

- Minidisk addresses
- Page ranges
- And/or the number of pages

for all files during the install process as dictated by your site requirements.

| File name | Disk address | Page size | Starting page number | Number pages (3380) | Number pages (3390) | Number cylinders |
|---|---|---|---|---|---|---|
| DCCAT | 500 | 4096 | 1 | 592 | 712 | 4 |
| DCCATX | 501 | 4096 | 801 | 142 | 172 | 1 |
| DCCATL | 502 | 4096 | 1001 | 142 | 172 | 1 |
| DCDML | 503 | 4096 | 2001 | 1040 | 1250 | 7 |
| DCLOD | 504 | 4096 | 3501 | 142 | 172 | 1 |
| DCLOG | 505 | 4096 | 30001 | 4038 | 4847 | 27 |
| DCRUN | 506 | 2048 | 40001 | 1069 | 1250 | 4 |
| DCSCR | 507 | 2048 | 50001 | 2147 | 2505 | 8 |
| DIRLDB | 508 | 4096 | 5001 | 2089 | 2509 | 14 |
| DIRLLOD | 509 | 4096 | 4001 | 142 | 172 | 1 |
| DCMSG | 50A | 4096 | 10001 | 4038 | 4847 | 27 |
| DICTDB | 50B | 4096 | 60001 | 2089 | 2509 | 14 |
| DLODDB | 50C | 4096 | 70001 | 592 | 712 | 4 |
| SECDD | 50D | 4096 | 90001 | 592 | 712 | 4 |
| DCLSCR | 520 | 2048 | 95001 | 2147 | 2505 | 8 |
| Subtotal: | | | | | | 125 |

### 2.4.2.2 Demo Database Files (only if installing the demonstration database)

The following table contains minidisk space requirements for the Commonweather database files.

| File name | Disk address | Page size | Starting page number | Number pages (3380) | Number pages (3390) | Number cylinders |
|---|---|---|---|---|---|---|
| EMPDEMO | 511 | 4096 | 75001 | 142 | 172 | 1 |

| File name | Disk address | Page size | Starting page number | Number pages (3380) | Number pages (3390) | Number cylinders |
|---|---|---|---|---|---|---|
| INSDEMO | 512 | 4096 | 75201 | 142 | 172 | 1 |
| ORGDEMO | 513 | 4096 | 75401 | 142 | 172 | 1 |
| Subtotal: | | | | | | 3 |

### 2.4.2.3 ASF Database Files (ASF Option only)

The following table contains minidisk space requirements for ASF database files.

**Note:** Allocation of new ASF files is optional. ASF users may choose to use existing files and only install the ASF software.

| File name | Disk address | Page size | Starting page number | Number pages (3380) | Number pages (3390) | Number cylinders |
|---|---|---|---|---|---|---|
| ASFDML | 518 | 4096 | 80001 | 2089 | 2509 | 14 |
| ASFLOD | 519 | 4096 | 83001 | 1040 | 1250 | 7 |
| ADEFN | 51A | 4096 | 85001 | 1040 | 1250 | 7 |
| ADATA | 51B | 4096 | 87001 | 2089 | 2509 | 14 |
| Subtotal: | | | | | | 42 |

### 2.4.2.4 SQL Database Files (SQL Option only)

The following table contains minidisk space requirements for SQL database files.

| File name | Disk address | Page size | Starting page number | Number pages (3380) | Number pages (3390) | Number cylinders |
|---|---|---|---|---|---|---|
| SQLDD | 50E | 4096 | 20001 | 2089 | 2509 | 14 |
| SQLLOD | 50F | 4096 | 28001 | 592 | 712 | 4 |
| SQLXDD | 510 | 4096 | 27001 | 592 | 712 | 4 |
| EMPLDEMO | 514 | 4096 | 77001 | 142 | 172 | 1 |
| INFODEMO | 515 | 4096 | 77201 | 142 | 172 | 1 |
| INDXDEMO | 516 | 4096 | 77401 | 142 | 172 | 1 |
| PROJDEMO | 517 | 4096 | 77601 | 142 | 172 | 1 |
| Subtotal: | | | | | | 26 |

### 2.4.2.5 Journal Database Files

A minimum of two journal files are required. The following table contains minidisk space requirements for journal database files.

| File name | Disk address | Page size | Starting page number | Number pages (3380) | Number pages (3390) | Number cylinders |
|---|---|---|---|---|---|---|
| J1JRNL | 51C | 2048 | N/A | 5112 | 5964 | 19 |
| J2JRNL | 51D | 2048 | N/A | 5112 | 5964 | 19 |
| J3JRNL | 51E | 2048 | N/A | 5112 | 5964 | 19 |
| J4JRNL | 51F | 2048 | N/A | 5112 | 5964 | 19 |
| Subtotal: | | | | | | 76 |

# Chapter 3. Installing CA-IDMS

## 3.1 Overview of Installation Steps

This chapter takes you step-by-step through the CA-IDMS 15.0 installation procedure. Each screen that you use during the install is presented. The chapter is designed to allow you to follow along as you install CA-IDMS 15.0.

**Before you begin:** Before you begin the install procedure, make sure that you have:

- Reviewed cover letters and PMLs (Product Maintenance Letters)
- Reviewed the Installation and Maintenance chapters
- Reviewed and verified system requirements
- Installed required CA-CIS components

**Installation steps:** During the installation, you perform these steps:

| Step | Description |
|---|---|
| 1 | Allocate minidisks |
| 2 | Offload installation material from tape |
| 3 | Run IDMS150 EXEC to initiate installation |
| 4 | Set installation parameters |
| 5 | Execute install job steps |
| 6 | Create new startup module |
| 7 | Create startup EXEC |

**Obtaining help:** To obtain field-level help on any of the installation screens, press PF1.

**Function keys:** The updates are controlled through the use of PF keys on all screens. The use of the ENTER key does not cause updates to occur, but can invoke read-only type functions on some screens.

# 3.2 Review Cover Letters or PMLs

Review any cover letters or Product Maintenance Letters (PMLs) in your installation package. Review this information for any additional steps or site-relevant information required to complete your CA-IDMS installation.

Additionally, review the topics below before installing CA-IDMS. These topics may have an impact on the parameters you select when installing CA-IDMS.

## 3.2.1 Dynamic or Static PDE Support

CA-IDMS and CA-IDMS Tools can be installed to dynamically allocate program definition elements (PDEs) at runtime or at system startup (static). The PROGRAM statements for a CA-IDMS product using maps, dialogs, or tables are now included in two separate dictionary modules: one module containing the required PROGRAM statements and the other module containing the PROGRAM statements for the maps, dialogs, and tables.

For example, the PROGRAM statements for the CA-IDMS programs defining OLQ menu mode are stored in the dictionary module ONLINE-QUERY. The PROGRAM statements for the dialogs, maps, and tables defining OLQ menu mode are stored in the dictionary module ONLINE-QUERY-DYN.

During the installation process, PROGRAM statements defining the maps, dialogs, and tables for CA-IDMS and the CA-IDMS Tools are *not* included in the system 99 definition. As a result, PDEs are allocated at startup for those programs requiring them and dynamically for those programs eligible for dynamic PDE allocation.

Dynamic allocation of PDEs makes it possible to load PDEs for maps, dialogs, and tables in AE storage. This option is controlled by the DYNAMIC PDE field on the Selection Miscellaneous Parameters screen for both CA-IDMS and CA-IDMS Tools installation. A field value of Y (Yes) directs CA-IDMS to allocate PDEs for Computer Associates-supplied maps, dialogs, and tables dynamically at runtime (that is, their PROGRAM statements are not included in the system definition). Y (Yes) is the default.

**Note:** If you want to add these PROGRAM definitions to your system definition, add the appropriate INCLUDE statements for the dictionary modules containing the PROGRAM statements for the product-specific maps, dialogs, and tables and then regenerate the system definition. These module names are suffixed with '-DYN'.

A field value of N (No) directs the system to build static PDEs for Computer Associates-supplied maps, dialogs, and tables during the system startup.

# 3.3 Allocate Minidisks

Perform the following steps to allocate minidisks:

1. Allocate and format the CA-IDMS installation disk in CMS format for a Base or Upgrade installation
2. Allocate database minidisks

   **Note:** Perform this step only for a Base installation or an Add-On installation for a product that requires its own database files (for example, CA-IDMS/SQL Option).
3. If this is an Upgrade install, you may need to copy some members from the prior release's installation minidisk. This is documented in the cover letter for each install type.

# 3.4 Offload Installation Material from Tape

**Contents of the installation file:** The installation file has the following contents:

- Installation EXECs, XEDIT profiles, and message file
- Installation HELP files
- Sample EXECs to run CA-IDMS programs
- Sample system startup EXEC - STARTUP
- Sample archive journal EXEC - RUNAJNL
- Sample archive log EXEC - RUNPLOG
- Sample UCFCMS EXEC
- Optional APARS
- Required APARs (if provided)

**Load file:** Take these steps to load the installation file:

1. Mount the installation tape
2. Type:

   ```
   TAPE FSF n
   ```

   where n is the number of files specified on the cover letter
3. Type:

   ```
   TAPE LOAD * * A (NOPRINT
   ```

# 3.5 Complete Installation of CA-CIS Software

As discussed in 2.1, “CA-CIS Requirements for CA-IDMS” on page 2-4 you must issue a 'request' informing CA-Activator which CA-CIS products are required to install CA-IDMS.

To do this use the CAE5ACT EXEC which simulates the normal CA-Activator product request. To run this EXEC, at the READY prompt type:

```
CAE5ACT
```

**Note:** If you are doing an Upgrade installation, this step is NOT required.

Now, return to the CA-CIS installation process. You should a number of products available for installation. Complete the installation as outlined in the CA-CIS documentation. Afterwards, complete the CA-IDMS installation process.

# 3.6 Execute IDMS150 to Initiate Installation

The IDMS150 EXEC invokes all the installation and maintenance tasks that must be performed. Take the following steps to run IDMS150:

1. Type IDMS150.
2. The installation process determines if this is an Upgrade install by checking the LASTING GLOBALV to see if a prior release of CA-IDMS is installed. The install type (Base or Upgrade), determines what is displayed on the screen.
   - If this is the first time invoking the install, this screen is displayed.

```
CAE5LODV          C O M P U T E R   A S S O C I A T E S     USER: userid
 DATE: 09/23/01          CA-IDMS VM/ESA INSTALLATION
 TIME: 08:49:39            LOAD DEFAULT PARAMETERS


 ************************************************************
 * THE DEFAULT INSTALLATION PARAMETERS FOR A FULL BASE    *
 * INSTALL WILL NOW BE LOADED INTO YOUR LASTING GLOBALV   *
 * USING THE CAE5LODF EXEC.                               *
 ************************************************************

     PLEASE PRESS  ENTER  TO CONTINUE
```

   - If a prior release of CA-IDMS is installed, this screen is displayed.

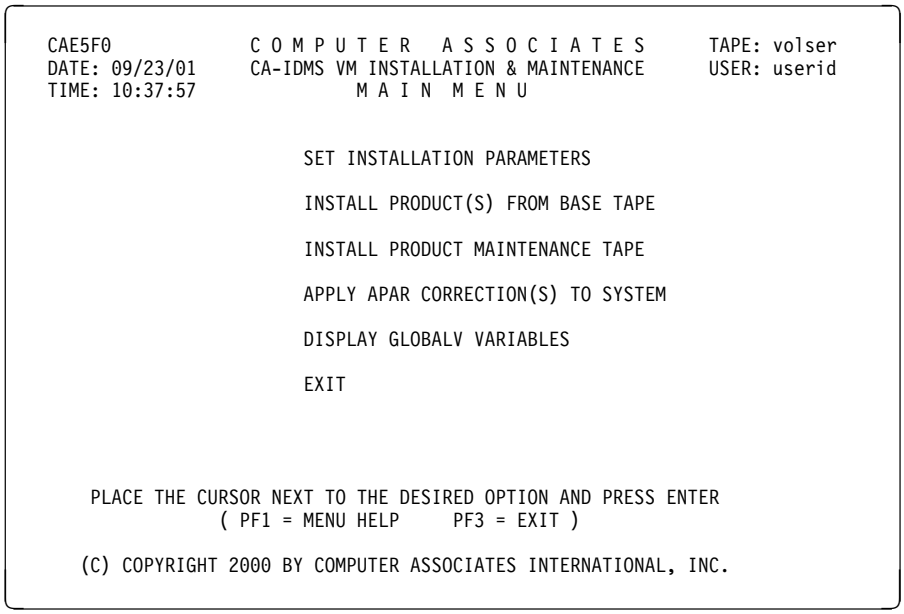
```
CAE5LODV          C O M P U T E R   A S S O C I A T E S     USER: userid
 DATE: 09/23/01          CA-IDMS VM/ESA INSTALLATION
 TIME: 08:49:39            LOAD DEFAULT PARAMETERS


 ************************************************************
 * NEW INSTALL PARAMETERS FOR THIS RELEASE WILL BE LOADED *
 * INTO YOUR LASTING GLOBALV FOR THIS UPGRADE INSTALL     *
 * USING THE CAE5LODU EXEC.                               *
 ************************************************************

     PLEASE PRESS  ENTER  TO CONTINUE
```

   For both installs, your only choice is to press ENTER.

The Main menu displays on your terminal.




**Main menu options:** The following table describes the Main menu installation options. Please note that you don't use all the options.

| Option | Description |
|---|---|
| Set installation parameters | This option accesses a menu that allows you to set the parameters used during the installation procedure. These parameters apply to Base, Add-on, and maintenance installs. |
| Install product(s) from Base tape | This option displays a menu presenting you with all the job steps required to complete either a Base, Upgrade or Add-on installation. A Base install must be completed an Add-on or Maintenance installation can be attempted. Add-on installs may be done after a Base installation is successfully completed. |
| Install product maintenance tape | This option displays a menu presenting you with all the job steps required to install a Maintenance tape. You must have completed a prior Base install or Add-on install before a Maintenance install can be started. |
| Apply APAR corrections to system | This option displays a menu which allows you to apply or remove APARs to your system. You are able to specify control parameters, select required or optional APARs to apply or show those already applied, or review the APAR control files. |

| Option | Description |
|---|---|
| Display GLOBALV variables | This option displays a menu that allows you to display installation values in the LASTING GLOBALV that are not displayed on other panels. These screens may be useful in debugging installation problems. For more information regarding the LASTING GLOBALV screens, please see A.2, “The CA-IDMS GLOBALV Menu” on page A-4. |

# 3.7 Set Installation Parameters

You set installation parameters from the Set Install Parameters menu. Take the following steps to display the Set Install Parameters menu:

1. Tab to the **SET INSTALLATION PARAMETERS** on the Main menu
2. Press ENTER

The Set Installation Variables menu shown displays on your terminal.

```
CAE5SPRM          C O M P U T E R   A S S O C I A T E S      TAPE: volser
DATE: 09/23/01          CA-IDMS VM/ESA INSTALLATION          USER: userid
TIME: 09:10:41          SET INSTALL PARAMETERS MENU


                        CHOOSE PRODUCTS TO INSTALL
                        SET PRODUCT PASSWORDS

                        SET MISCELLANEOUS PARAMETERS
                        SET TAPE SELECTION PARAMETERS

                        SET MINIDISK PARAMETERS - ALL MINIDISKS
                        SET MINIDISK PARAMETERS - BY SEGMENT
                        VALIDATE PAGE RANGES FOR UNIQUENESS

                        SET MINIDISK PARAMETERS - JOURNALS

                        EXIT


    PLACE THE CURSOR NEXT TO THE DESIRED OPTION AND PRESS ENTER
                ( PF1 = MENU HELP     PF3 = EXIT )
```

The following pages present the steps necessary to complete setting the installation parameters.

## 3.7.1 Choose Products to Install

Take the following steps to choose products to install:

1. Tab to the **CHOOSE PRODUCTS TO INSTALL** option on the Set Install Parameters menu
2. Press ENTER

   The Product Selection screen displays on your terminal:

```
 CAE5SPRD          C O M P U T E R   A S S O C I A T E S      TAPE: volser
 DATE: 09/23/01          CA-IDMS VM/CMS INSTALLATION          USER: userid
 TIME: 10:45:10               PRODUCT SELECTION

STAT PRODUCT NAME        STAT PRODUCT NAME        STAT PRODUCT NAME
 S   CA-ADS               N   CA-IDMS/DBCS OPTION  S   CA-VTX/PRESTEL
 S   CA-ADS/APPC OPTION   S   CA-IDMS/DC           S   CA-VTX/TELETEL
 S   CA-ADS/ASF OPTION    S   CA-IDMS/DDS
 S   CA-ADS/BATCH         S   CA-IDMS/DICT. LOADER
 S   CA-EDP/AUDITOR       S   CA-IDMS/PERF MONITOR
 S   CA-ICMS              S   CA-IDMS/PRESSPACK
 S   CA-IDMS/CULPRIT      S   CA-IDMS/SERVER
 S   CA-IDMS/DB           S   CA-IDMS/UCF
 S   CA-IDMS/DB SQL       S   CA-OLQ




TO INSTALL A PRODUCT, ENTER AN  S  NEXT TO THE PRODUCT NAME
+-------------------------------------------------------------------------+
| STATUS  I= INSTALLED N= NOT INSTALLED S= TO BE INSTALLED                |
| PF1 =  FIELD HELP    PF3= RETURN (NO SELECT)     PF9= SELECT PRODUCTS   |
+-------------------------------------------------------------------------+
```

3. Type **S** next to each product you want to install
4. Press PF9 when you have completed selecting products to save your selections

## 3.7.2 Provide CA-IDMS Passwords

Take the following steps to set product passwords:

1. Tab to **SET PRODUCT PASSWORDS** on the Set Install Parameters menu
2. Press ENTER

   The Provide Product Passwords screen displays on your terminal.

```
CAE5SPWD          C O M P U T E R   A S S O C I A T E S      TAPE: volser
DATE: 09/23/01          CA-IDMS VM/ESA INSTALLATION          USER: userid
TIME: 09:25:56           PROVIDE PRODUCT PASSWORDS

       PASSWORD           PASSWORD           PASSWORD
PW1                PW2                PW3
PW4                PW5                PW6
PW7                PW8                PW9
PW10               PW11               PW12
PW13               PW14               PW15
PW16               PW17               PW18
PW19               PW20               PW21
PW22               PW23               PW24
PW25               PW26               PW27
PW28               PW29               PW30




+-------------------------------------------------------------------------+
| PF1= FIELD HELP    PF3= RETURN (NO CHANGES)    PF9= UPDATE PASSWORDS    |
+-------------------------------------------------------------------------+
```

3. Enter passwords for those products requiring passwords
4. Press PF9 when you are done entering passwords to update passwords

## 3.7.3 Select Miscellaneous Parameters

Take the following steps to set miscellaneous parameters:

1. Place the cursor next to **SET MISCELLANEOUS PARAMETERS** on the Set Install Parameters menu
2. Press ENTER
   The Select Miscellaneous Parameters screen displays on your terminal.

```
 CAE5SMSC          C O M P U T E R   A S S O C I A T E S      TAPE: volser
 DATE: 09/23/01          CA-IDMS VM/CMS INSTALLATION          USER: userid
 TIME: 10:46:16        SELECT MISCELLANEOUS PARAMETERS

FIELD          VALUE     FIELD           VALUE     FIELD           VALUE
 INSTALL TYPE: BASE      CVMACH ID:      userid    EXIT21 FIELDS
 USER TYPE:    PRIMARY   ASSEMBLER NAME: ASMAHL     BATCH CLASS:   09
  (PRIMARY OR SECONDARY) DBA LOAD NAME:  DBALIB     BATCH MACHINE: IDMSBTCH
 DMCL NAME:    R150DMCL  SAVE DMCL NAME:           CA90S USERID:
 DBTABLE NAME: R150DBTB  SAVE DBTB NAME:           CA90S ADDRESS:
 DYNAMIC PDE:  Y         COBOL INST:     Y         LE INST:        N
 CASE MODE:    UPLOW     COBOL NAME:     COBOL2    DISK DEVICE:    3390
  (UPLOW OR UPPER)       COBOL TXTLIB:   VSC2LTXT   MODIFY PAGES:  N
 NETWORK DEMO: Y         COBOL LOADLIB:  VSC2LOAD  ALLOC NEW ASF:  Y
 SECURITY ON:  N          (COBOL/II OR LATER)
  (CA-CULPRIT ONLY)      STOR. PROTECT:  Y
 COMPANY NAME: company_name
  (CA-IDMS/PM ONLY)



+------------------------------------------------------------------------------+
|  PF1= FIELD HELP    PF3= RETURN (NO CHANGES)     PF9= UPDATE PARAMETERS      |
+------------------------------------------------------------------------------+
```

3. Type new information in any field on the screen
4. Press PF9 when you are done entering information to update the miscellaneous parameters

**Note:** The default disk device is 3380, and the default page ranges are set to use all the space on each cylinder. If you change the device to 3390, the default number of pages is changed to use all the space on a 3390 cylinder without creating any page overlaps.

## 3.7.4 Set Tape Processing Parameters

Take the following steps to set tape selection parameters:

1. Place the cursor next to **SET TAPE SELECTION PARAMETERS** on the Set Install Parameters menu
2. Press ENTER

   The Select Tape Processing Parameters screen displays on your terminal.

```
 CAE5STAP           C O M P U T E R   A S S O C I A T E S      TAPE: volser
 DATE: 09/23/01          CA-IDMS VM/CMS INSTALLATION           USER: userid
 TIME: 13:15:51       SELECT TAPE PROCESSING PARAMETERS

FIELD          VALUE       FIELD          VALUE   FIELD          VALUE
INSTALLATION               BACKUPS                DBDEMO SYSJRNL
 TAPE ADDRESS: 181          TAPE ADDRESS: 182      TAPE ADDRESS: 183
 VOLSER:       volser       AFTER JOB5:   Y        RUN TO TAPE:  N
 GENLEVEL:     F00109DBA00   VOLSER:      BKUP01   VOLSER:       DBDEMO
                             FILE NUMBER: 01
                            FINAL BACKUP: Y
                             VOLSER:      BKUP01
                             FILE NUMBER: 02









+-------------------------------------------------------------------------------+
|  PF1= FIELD HELP    PF3= RETURN (NO CHANGES)     PF9= UPDATE PARAMETERS       |
+-------------------------------------------------------------------------------+
```

3. Type new information in any field on the screen
4. Press PF9 when you are done entering information to update the tape selection parameters

## 3.7.5 Set Minidisk Parameters

You can set minidisk parameters for all minidisks or set minidisk parameters by segment. When you initially set the values you should set minidisk parameters for all minidisks. Later, when you want to change parameters on one or more minidisks you should set minidisk parameters by segment.

### 3.7.5.1 Set Minidisk Parameters for All Minidisks

Take the following steps to set minidisk parameters for all minidisks:

1. Place the cursor next to **SET MINIDISK PARAMETERS - ALL MINIDISKS** on the Set Install Parameters menu.
2. Press ENTER.

   A Select System Segment Parameters screen similar to the one shown here displays on your terminal.

```
 CAE5SSYS          C O M P U T E R   A S S O C I A T E S      TAPE: volser
 DATE: 09/23/01         CA-IDMS VM/CMS INSTALLATION           USER: userid
 TIME: 13:16:59       SELECT SYSTEM SEGMENT PARAMETERS

FILE NAME:      DCDML        DCLOD        DCLOG        DCRUN        DCSCR
 FORMAT:        Y            Y            Y            Y            Y
  (Y OR N)
 FILE NAME:     DCDML        DCLOD        DCLOG        DCRUN        DCSCR
 DISK ADDRESS:  0503         0504         0505         0506         0507
 DEVICE TYPE:   3390         3390         3390         3390         3390
  (DISK TYPE OR FBA)
 STARTING PAGE: 2001         3501         30001        40001        50001
  (1 - 1073741821)
 NUM. OF PAGES: 1250         172          4847         1249         2505
 PAGE SIZE:     4096         4096         4096         2048         2048
  (512 (FBA ONLY)
   1024, 2048, 4096)



+-------------------------------------------------------------------------+
| PF1= FIELD HELP    PF3= RETURN (NO CHANGES)    PF9= UPDATE PARAMETERS   |
+-------------------------------------------------------------------------+
```

3. You can now change the parameters for any file where you do not want to use the default values.
4. Press PF9 when you are done entering segment parameters to update the segment parameters. Then press PF3 and you are taken to another segment screen. When all segments have been reviewed, you are returned to the Set Install Parameters menu.

### 3.7.5.2 Set Minidisk Parameters by Segment

This option:

- Allows modification at the segment level
- Only shows segments for products being installed

Take the following steps to set minidisk parameters by segment:

1. Place the cursor next to **SET MINIDISK PARAMETERS - BY SEGMENT** on the Set Install Parameters menu
2. Press ENTER

   The Select Minidisks by Segment screen displays on your terminal.

```
CAE5PDSK          C O M P U T E R   A S S O C I A T E S      TAPE: volser
DATE: 09/23/01         CA-IDMS VM/ESA INSTALLATION           USER: userid
TIME: 10:37:18         SELECT MINIDISKS BY SEGMENT

            STAT   SEGMENT     FILES IN SEGMENT

             D     APPLDICT    DICTDB, DLODDB
             D     ASFDICT     ASFDML, ASFLOD, ADEFN, ADATA
             D     CATSYS      DCAT, DCCATX, DCCATL
             D     EMPDEMO     EMPDEMO, INSDEMO, ORGDEMO
             D     PROJSEG     PROJDEMO
             D     SQLDEMO     EMPLDEMO, INFODEMO, INDXDEMO
             D     SYSDIRL     DIRLDB, DIRLOD
             D     SYSLOC      DCLSCR
             D     SYSMSG      DCMSG
             D     SYSSQL      SQLDD, SQLXDD, SQLLOD
             D     SYSTEM      DCDML, DCLOD, DCLOG, DCRUN, DCSCR
             D     SYSUSER     SECDD
                   EXIT


   STATUS VALUES: D= DEFAULTS  E= EDITED
   PLACE THE CURSOR NEXT TO THE DESIRED SEGMENT AND PRESS ENTER  ( PF3=EXIT )
```

3. Place the cursor next to the desired segment
4. Press ENTER

**Note:** If you modify any values for a database file in a segment, the STAT column for that segment displays an "E" (edited) in place of the "D" (default).

## 3.7.6 Validate Page Ranges

The installation validates your database page ranges to ensure that there are no page range overlaps before DMCL generation. Optionally, you can provide a file containing all of the user database file page ranges that can be used during this validation. This prevents page range overlaps with user database files. The file must be named PAGE USERLIST and must be stored on the A disk. The format of the file is:

| Column | Field Description |
|---|---|
| 1 - 8 | Database file name (for example, DICTDB) |
| 9 | Blank |
| 10 - 19 | Starting page, zero filled (for example, 0000001001) |
| 20 | Blank |
| 21 - 30 | Number of pages, zero filled (for example, 0000001001) |
| 31 | Blank |
| 32 - 41 | Ending page, zero filled (for example, 00000020000) |
| 42 - 80 | Blank |

Take the following steps to validate page ranges:

1. Place the cursor next to **VALIDATE PAGE RANGES FOR UNIQUENESS** on the Set Install Parameters menu
2. Press ENTER

**Validate page ranges with no errors found:** The Database Page Range Verification screen displays when no errors are found.

```
 CAE5VPAG          C O M P U T E R   A S S O C I A T E S      TAPE: volser
 DATE: 09/23/01          CA-IDMS VM/ESA INSTALLATION          USER: userid
 TIME: 10:57:25       DATABASE PAGE RANGE VERIFICATION

DBAVPG070I 14:57:26 ALL MINIDISK PAGE RANGES HAVE BEEN EXAMINED AND NO PAGE
DBAVPG070I 14:57:26 RANGE OVERLAPS HAVE BEEN FOUND IN THE DATABASE AREAS WHICH
DBAVPG070I 14:57:26 ARE PART OF THE BASE INSTALLATION PROCESS.
DBAVPG070I 14:57:26




+-------------------------------------------------------------+
|  ====>   HIT ANY PFKEY OR PRESS ENTER TO CONTINUE   <====   |
+-------------------------------------------------------------+
```

**Validate page ranges with errors found:** The following Database Page Range Verification screen displays when errors are found.

```
 CAE5VPG1          C O M P U T E R   A S S O C I A T E S      TAPE: volser
 DATE: 09/23/01          CA-IDMS VM/ESA INSTALLATION          USER: userid
 TIME: 11:25:22      DATABASE PAGE VERIFICATION - ERRORS

FILE        STARTING      NUMBER       ENDING     PAGE
NAME          PAGE       OF PAGES       PAGE     OVERLAP
DCCAT            1          292          292     *
DICTDB           1         2089         2089     *
DCCATL         601          142          742     *
DCCATX         801          142          942     *
DCDML         1001         1040         2040     *
DCLOD         3001          142         3142
DIRLLOD       4001          142         4142
DIRLDB        5001         2089         7089
DCMSG        10001         4038        14038
SQLDD        20001         2089        22089
SQLLOD       27001          592        27592
SQLXDD       28001          592        28592
DCLOG        30001         4038        34038
DCRUN        40001         1069        41069

+-------------------------------------------------------------+
|     PF3= RETURN    PF7= SCROLL UP    PF8= SCROLL DOWN       |
+-------------------------------------------------------------+
```

## 3.7.7 Set Minidisk Parameters for Journals

Take the following steps to set minidisk parameters for journals:

1. Place the cursor next to **SET MINIDISK PARAMETERS - JOURNALS** on the Set Install Parameters menu
2. Press ENTER

   The Select Journal Parameters screen displays on your terminal.

```
 CAE5SJNL          C O M P U T E R   A S S O C I A T E S      TAPE: volser
 DATE: 09/23/01          CA-IDMS VM/CMS INSTALLATION          USER: userid
 TIME: 13:18:49           SELECT JOURNAL PARAMETERS

FILE NAME:      J1JRNL       J2JRNL       J3JRNL       J4JRNL
 ALLOCATE:                                N            N
  (Y OR N)
 FORMAT:         Y            Y            Y            Y
  (Y OR N)
 FILE NAME:      J1JRNL       J2JRNL       J3JRNL       J4JRNL
 DISK ADDRESS:   051C         051D         051E         051F
 DEVICE TYPE:    3390         3390         3390         3390
  (DISK TYPE OR FBA)
 NUM. OF PAGES: 5964          5964         5964         5964
  (1 - 1073741821)
 PAGE SIZE:     2048
  (512 (FBA ONLY)
   1024, 2048, 4096)



+-------------------------------------------------------------------------+
| PF1= FIELD HELP    PF3= RETURN (NO CHANGES)    PF9= UPDATE PARAMETERS   |
+-------------------------------------------------------------------------+
```

3. Type journal parameters
4. Press PF9 when you are done entering journal parameters to update the journal parameters

# 3.8 Execute Install Job Steps

The install job steps are run in sequence to finalize the installation. Please note these guidelines before running a job step:

- A check is made to ensure that in-progress installs are not jeopardized
- An Add-On or Upgrade installation tailors the screen so that only the required job steps are displayed
- Each job step verifies the required prior job steps have been run
- Most jobs are restartable
- If you try to rerun a job step and it is completed, the system asks you to verify your action
- Rerun of a job step resets subsequent jobs that need to be rerun as a result of this rerun

Take the following steps to run a job step:

1. Place the cursor next to **INSTALL PRODUCT(S) FROM BASE TAPE** on the Main menu
2. Press ENTER

   The Select Product Install Jobs screen displays on your terminal.

```
CAE5INST          C O M P U T E R   A S S O C I A T E S      TAPE: volser
DATE: 09/23/01         CA-IDMS VM/ESA INSTALLATION           USER: userid
TIME: 11:45:55         SELECT PRODUCT INSTALL JOBS

           DONE  STEP       DESCRIPTION OF STEP PROCESSING

            N    JOB1       FORMAT AND RESERVE DATABASE MINIDISKS
            N    JOB2       OFFLOAD CONTENTS OF INSTALL TAPE
            N    JOB3       SITE SPECIFIC ASSEMBLIES
            N    JOB4       LINKEDITS
            N    JOB5       BUILD THE CA-IDMS RUNTIME ENVIRONMENT
            N    JOB6       BUILD THE APPLICATION DICTIONARIES
            N    JOB7       RUN THE CA-IDMS/DB DEMONSTRATION
            N    JOB8       RUN THE CA-IDMS/SQL DEMONSTRATION
            N    JOB9       RUN THE CA-IDMS/DC DEMONSTRATION
            N    JOB10      FULL DATABASE BACKUP
            N    JOB11      FINAL INSTALLATION PROCESSING

                 READER     REVIEW OUTPUT IN READER QUEUE
                 EXIT


PLACE THE CURSOR NEXT TO THE DESIRED JOB STEP AND PRESS ENTER
               ( PF1 = MENU HELP     PF3 = EXIT )
```

3. Place the cursor next to the desired job
4. Press ENTER

**Description of job steps:** The following table describes each job step available on the Select Product Install Jobs screen.

| Job ID | Description |
|---|---|
| Job1 | Format database minidisks:<br>■ Format (CMS) and reserve database disks<br>■ Validate disk large enough for database pages specified<br>■ Error screen returned if minidisk is too small |
| Job2 | Offload contents of install tape:<br>■ TEXT modules<br>■ Link edit SYSLIN members<br>■ Source entities<br>■ Rename non-MACLIB entities (for example, DICTDATA)<br>■ Create or update IDMSLIB MACLIB |
| Job3 | Site specific assemblies:<br>■ Common modules for CA-IDMS/DB install<br>– IDMSOPTI<br>– RHDCPARM - update DMCL name<br>– #SVCOPT<br>— USVCOPT<br>— VMCFOPT<br>– Print exit - RHDCUX21 and RDHCUXIT<br>– Tailor RUNAJNL and RUNPLOG for DMCL name<br>– WTOEXIT<br>■ CA-IDMS/Culprit™ - CULXPROF<br>■ CA-IDMS/Performance Monitor - #PMOPT<br>■ CA-IDMS/UCF - RHDCUCMS (assemble #UCFCMS) |
| Job4 | Link edits:<br>■ Create or update IDMSLIB LOADLIB<br>■ Link only products currently being installed<br>■ Link output is broken out by product |

| Job ID | Description |
|---|---|
| Job5 | Build the runtime environment:<br>■ Validate Page Range step **must** have been previously run<br>■ Create user DMCL and DBTABLE modules<br>■ Create dba_loadlib for non-product modules using the value specified on the SET MISCELLANEOUS PARAMETERS screen<br>■ Format system database minidisks using IDMSBCF<br>■ Populate system catalog with DMCL and DBTABLE<br>■ Populate system dictionary with all sysgen entities<br>■ Load all reports into SYSDIRL dictionary<br>■ Load DC messages<br>■ Create or update system 99 and 90 for products being installed<br>■ Run IDMSDIRL against SYSDIRL dictionary<br>■ Backup system databases (optional) |
| Job6 | Build user dictionaries:<br>■ Create application dictionary if CA-IDMS/DB is being installed<br>■ Create ASF dictionary if ASF-Option is being installed and ALLOC NEW ASF flag was specified as Y on the Select Miscellaneous Parameters screen |
| Job7 | Run the network demo (optional - COBOL required):<br>■ Only run if INSTALL DEMO flag was Y on the Select Miscellaneous Parameters screen<br>■ Load application dictionary<br>■ Populate Commonweather demo database |
| Job8 | Build the SQL databases (only if SQL is installed):<br>■ Format SQL database files<br>■ Populate SQL demo tables |
| Job9 | Run CA-IDMS/DC demos |
| Job10 | Backup all database files (optional):<br>■ Specified on Set Tape Parameters screen<br>■ Validates that tape VOLSER is not the install tape<br>■ Uses IDMSBCF BACKUP function |
| Job11 | Final installation review and update:<br>■ Validates that all jobs were run<br>■ Sets all flags indicating the install is complete |

# 3.9 Create New STARTUP Module

Take the following steps to create a new startup module:

1. Use STARTUP SYSLIN member:
   - System 90 was generated during installation Job5
   - RHDCPARM module was assembled during Job3
2. Change the name of the startup module
3. Link WTOEXIT with startup
4. Type the following command to link edit into DBA LOADLIB using the CAE5LNKB EXEC:

   ```
   CAE5LNKB STARTUP SYSLIN dba_loadlib NORENT
   ```

# 3.10 Create STARTUP EXEC

- STARTUP EXEC
- Specify SYSCTL FILEDEF information
- System database files are dynamically allocated - VM USERID and VM VIRTUAL ADDRESS in DMCL specify
- FILEDEFS not required
- If included, overrides DMCL defaults

### Sample STARTUP EXEC

```
/*-------------------------------------------------
             CENTRAL VERSION STARTUP
          USING DYNAMIC MINIDISK ALLOCATION
-------------------------------------------------*/

FILEDEF '*' CLEAR;

/*-------------------------------------------------
  DISK JOURNAL FILE FILEDEFS - REQUIRED
-------------------------------------------------*/

FILEDEF J1JRNL   DISK 51C;
FILEDEF J2JRNL   DISK 51D;
FILEDEF J3JRNL   DISK 51E;
FILEDEF J4JRNL   DISK 51F;
FILEDEF SYSPCH   DUMMY;
FILEDEF SYSLST   PRINTER;
FILEDEF SYSPRINT PRINTER;
FILEDEF SYSUDUMP PRINTER;
FILEDEF SYSJRNL  DUMMY;

/*-------------------------------------------------
  SYSCTL FILEDEF - REQUIRED FOR BATCH TO CV JOBS
-------------------------------------------------*/

FILEDEF SYSCTL   DISK cv-userid SYSCTL A;
```

```
/*-------------------------------------------------
  LOCAL BTAM (DIAL) LINE DEFINITION
-------------------------------------------------*/

FILEDEF L32701 GRAF 580;
CP DEF GRAF 580;
CP DEF GRAF 581;
CP DEF GRAF 582;
CP DEF GRAF 583;
CP DEF GRAF 584;
CP DEF GRAF 585;
CP DEF GRAF 586;
CP DEF GRAF 587;
GLOBAL LOADLIB;

/*-------------------------------------------------
  FILEDEFS FOR CDMSLIB AND GLOBAL LOADLIB
-------------------------------------------------*/

FILEDEF CDMSLIB DISK dba_loadlib LOADLIB A '('RECFM U;
FILEDEF CDMSLIB DISK IDMSLIB LOADLIB A '('RECFM U CONCAT;
GLOBAL LOADLIB dba_loadlib IDMSLIB;

/*-------------------------------------------------
  ISSUE A MESSAGE THAT CV IS STARTING AND EXECUTE.
-------------------------------------------------*/

SAY '-------------------------------------------------'
SAY '-       CENTRAL VERSION IS NOW STARTING.         -'
SAY '-            CA-IDMS RELEASE 15.0               -'
SAY '-           MAINTENANCE LEVEL 0109              -'
SAY '- USING DYNAMIC ALLOCATION OF THE DATABASE FILES  -'
SAY '-------------------------------------------------'

EXECOS OSRUN startup_name
```

# Chapter 4. Installing CA-IDMS Tools

## 4.1 Overview of Installation Steps

This chapter describes the steps required to install CA-IDMS Tools in a VM/ESA system and takes you step-by-step through the CA-IDMS 15.0 installation procedure. Each screen that you use during the install is presented. The chapter is designed to allow you to follow along as you install CA-IDMS Tools 15.0.

**Before you begin:** Before you begin the install procedure, make sure that you have:

- Reviewed cover letters and PMLs (Product Maintenance Letters)
- Reviewed the Installation and Maintenance chapters
- Reviewed and verified the CA-IDMS and the CA-IDMS Tools system requirements
- Installed required CA-CIS components

**Installation steps:** During the installation, these steps are performed:

| Step | Description |
|---|---|
| 1 | Allocate and format minidisks |
| 2 | Offload installation material from tape |
| 3 | Run TOOL150 EXEC to initiate installation |
| 4 | Set installation parameters |
| 5 | Execute installation job steps |
| 6 | Install user exits |
| 7 | Convert your CA-IDMS/TEST DATABASE BUILDER database. |
| 8 | Update the dictionary |
| 9 | Modify the sysgen SYSTEM statement for CA-IDMS/Log Analyzer and CA-IDMS/Task Analyzer |
| 10 | Modify start-up JCL |
| 11 | Cycle CA-IDMS system |
| 12 | Install default JCL for CA-IDMS/Database Extractor and CA-IDMS/Dictionary Migrator Assistant |

**Obtaining help:** To obtain field-level help on any of the installation screens, press PF1.

**Function keys:** All updates are controlled through the use of PF keys on all screens. The use of the ENTER key does not cause updates to occur, but can invoke read-only type functions on some screens.

The remainder of this chapter describes each installation step in detail.

## 4.2 Review Cover Letters or PMLs

Review any cover letters or Product Maintenance Letters (PMLs) in your installation package. Review this information for any additional steps or site-relevant information required to complete your CA-IDMS Tools installation.

Additionally, review the topics below before installing CA-IDMS Tools. These topics may have an impact on the parameters you select when installing CA-IDMS Tools.

### 4.2.1 CA-IDMS Considerations

The installation process for the CA-IDMS Tools is in the same format as the CA-IDMS installation.

## 4.3 Review System Requirements

Review Chapter 2, “System Requirements.” Be sure that all system requirements are met before beginning the installation process.

# 4.4 Allocate and Format (CMS) Product Install Minidisk

You must allocate and format a minidisk for the CA-IDMS Tools product installation. You only need to allocate minidisks for database files because they are formatted during the installation process.

You can install the CA-IDMS Tools into the same product disk as CA-IDMS, but are not required to do so. Either way, you need 100-120 cylinders of space to install all of the CA-IDMS Tools.

The following chart contains the minidisk space requirements for the CA-IDMS Tools database files, together with the default page size and number of pages for each file. You can change any of these variables during the installation to suit the requirements at your site.

| Product | File Name | Disk Addr | Page Size | Start Page | Number of Pages (3380) | Number of Pages (3390) | Num of Cyl |
|---|---|---|---|---|---|---|---|
| All Users | TOOLDML | 60F | 4096 | 390001 | 2089 | 2509 | 14 |
| All Users | TOOLLOD | 610 | 4096 | 395001 | 592 | 712 | 4 |
| CA-IDMS/SASO | ESSFIL1 | 601 | 4096 | 8100001 | 2239 | 2689 | 15 |
| CA-IDMS/SASO | ESSFIL2 | 602 | 4096 | 8200001 | 1190 | 1430 | 8 |
| CA-IDMS/SASO | ESSFIL3 | 603 | 4096 | 8300001 | 142 | 172 | 1 |
| CA-IDMS/Enforcer | ESXFIL1 | 604 | 4096 | 310001 | 1190 | 1430 | 8 |
| CA-IDMS/Enforcer | ESXFIL2 | 605 | 4096 | 315001 | 442 | 532 | 3 |
| CA-IDMS/Enforcer | ESXFIL3 | 606 | 4096 | 320001 | 292 | 352 | 2 |
| CA-IDMS/Dictionary Migrator | XDMFIL1 | 607 | 4096 | 300001 | 742 | 892 | 5 |
| CA-IDMS/Database Extractor | USVFIL1 | 608 | 4096 | 370001 | 3730 | 4488 | 25 |
| CA-IDMS/DML Online | USDFIL1 | 609 | 4096 | 360001 | 742 | 892 | 5 |
| CA-IDMS/Master Key | SSKFIL1 | 60A | 4096 | 330001 | 742 | 892 | 5 |
| Total: | | | | | | | 95 |

# 4.5 Offload Installation Material from Tape

To begin the CA-IDMS Tools installation process, offload the installation material from the installation tape.

The installation file contains:

- Installation EXECs
- Installation help files
- Sample EXECs to run Release 15.0 CA-IDMS Tools.

**Load file:** Take these steps to load the installation file:

1. Mount the installation tape
2. Type:

   ```
   TAPE FSF n
   ```

   where n is the number of files specified on the cover letter
3. Type:

   ```
   TAPE LOAD * * A (NOPRINT
   ```

# 4.6 Execute TOOL150 to Initiate Installation

The TOOL150 EXEC invokes the installation and maintenance tasks that you need to perform. To run TOOL150 follow these steps:

1. Type TOOL150
2. Press ENTER

The Main menu is displayed on your terminal.

- If this is your first time invoking the install, this screen displays:

```
CAR9LODV          C O M P U T E R   A S S O C I A T E S      TAPE:
DATE: 11/26/01      CA-IDMS TOOLS VM/CMS INSTALLATION        USER: IDMSQA02
TIME: 15:47:41           LOAD DEFAULT PARAMETERS



**********************************************************
* THE DEFAULT INSTALLATION PARAMETERS FOR A FULL BASE    *
* INSTALL WILL NOW BE LOADED INTO YOUR LASTING GLOBALV   *
* USING THE CAR9LODF EXEC.                               *
**********************************************************




   PLEASE PRESS  ENTER  TO CONTINUE
```

- If a prior release of CA-IDMS Tools is installed, this screen displays:

```
CAR9LODV          C O M P U T E R   A S S O C I A T E S      TAPE:
DATE: 11/26/01      CA-IDMS TOOLS VM/CMS INSTALLATION        USER: IDMSQA02
TIME: 15:47:41           LOAD DEFAULT PARAMETERS

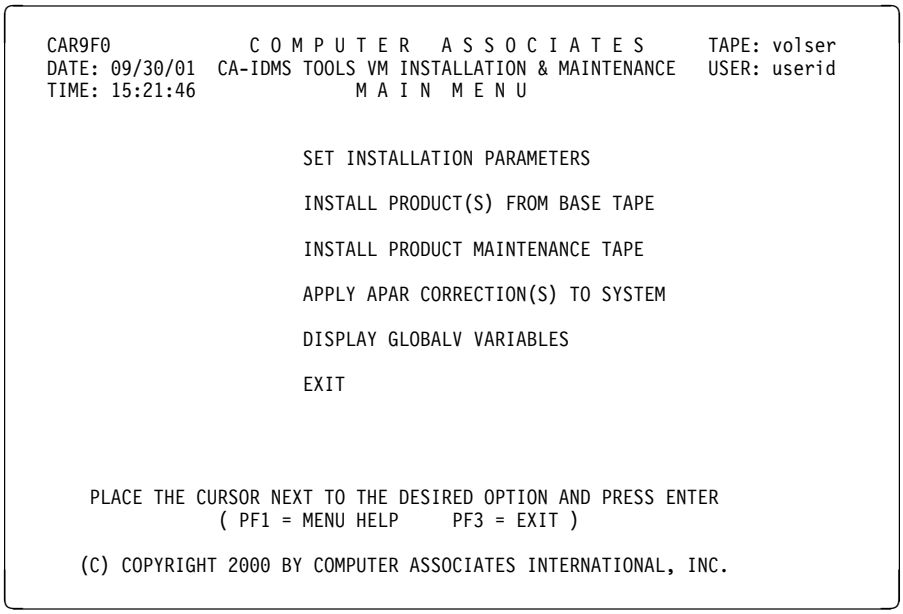


**********************************************************
* NEW INSTALL PARAMETERS FOR THIS RELEASE WILL BE LOADED *
* INTO YOUR LASTING GLOBALV FOR THIS UPGRADE INSTALL     *
* USING THE CAR9LODU EXEC.                               *
**********************************************************




   PLEASE PRESS  ENTER  TO CONTINUE
```

For both installs, your only choice is to press ENTER.




**Main menu options:** The following table describes the Main menu installation options. Please note that you don't use all the options.

| Option | Description |
|---|---|
| Set installation parameters | This option accesses a menu that allows you to set the parameters used during the installation procedure. These parameters apply to Base, Add-on, and Maintenance installs. |
| Install product(s) from Base tape | This option displays a menu presenting you with all the job steps required to complete either a Base, Upgrade or Add-on installation. A Base install must be completed an Add-on Mr maintenance installation can be attempted. Add-on installs may be done after a Base installation is successfully completed. |
| Install product maintenance tape | This option displays a menu presenting you with all the job steps required to install a Maintenance tape. You must have completed a prior Base install or Add-on install before a Maintenance install can be started. |
| Apply APAR corrections to system | This option displays a menu which allows you to apply or remove APARs required or optional APARs to apply or show those already applied, or review the APAR control files. |
| Display GLOBALV variables | This option displays a menu that allows you to display installation values in the LASTING GLOBALV that are not displayed on other panels. These screens may be useful in debugging installation problems. For more information regarding the LASTING GLOBALV screens, please see A.3, “The CA-IDMS Tools GLOBALV Menu” on page A-9. |

For online help while using the VM online installation and maintenance utility, press PF1.

# 4.7 Set Installation Parameters

You set installation parameters from the Set Install Parameters menu. Take the following steps to display the Set Install Parameters menu:

1. Tab to the **SET INSTALLATION PARAMETERS** on the Main menu
2. Press ENTER

The Set Installation Variables menu shown displays on your terminal.

```
CAR9SPRM          C O M P U T E R   A S S O C I A T E S      TAPE: volser
DATE: 09/30/01      CA-IDMS TOOLS VM/CMS INSTALLATION        USER: userid
TIME: 09:10:00         SET INSTALL PARAMETERS MENU


                       CHOOSE PRODUCTS TO INSTALL

                       SET PRODUCT PASSWORDS
                       SET PRODUCT RUNTIME PARAMETERS

                       SET MISCELLANEOUS PARAMETERS
                       SET TAPE SELECTION PARAMETERS

                       SET MINIDISK PARAMETERS - ALL MINIDISKS
                       SET MINIDISK PARAMETERS - BY SEGMENT
                       VALIDATE PAGE RANGES FOR UNIQUENESS

                       EXIT

    PLACE THE CURSOR NEXT TO THE DESIRED OPTION AND PRESS ENTER
                ( PF1 = MENU HELP     PF3 = EXIT )
```

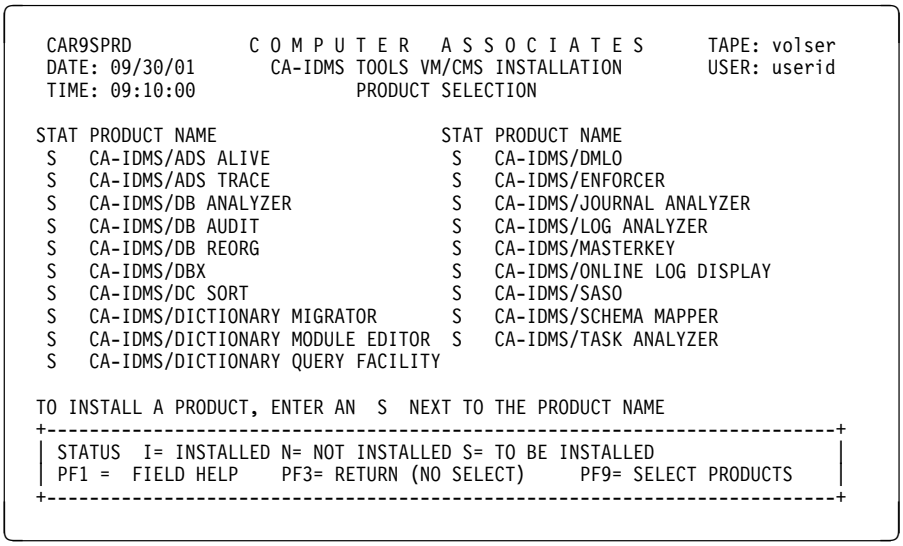
The following pages present the steps necessary to complete setting the installation parameters.

## 4.7.1 Choose Products to Install

Take the following steps to choose products to install:

1. Tab to the **CHOOSE PRODUCTS TO INSTALL** option on the Set Install Parameters menu
2. Press ENTER

   The Product Selection screen displays on your terminal:



```
 CAR9SPRD           C O M P U T E R   A S S O C I A T E S      TAPE: volser
 DATE: 09/30/01       CA-IDMS TOOLS VM/CMS INSTALLATION        USER: userid
 TIME: 09:10:00               PRODUCT SELECTION

STAT PRODUCT NAME                     STAT PRODUCT NAME
 S   CA-IDMS/ADS ALIVE                 S   CA-IDMS/DMLO
 S   CA-IDMS/ADS TRACE                 S   CA-IDMS/ENFORCER
 S   CA-IDMS/DB ANALYZER               S   CA-IDMS/JOURNAL ANALYZER
 S   CA-IDMS/DB AUDIT                 S   CA-IDMS/LOG ANALYZER
 S   CA-IDMS/DB REORG                 S   CA-IDMS/MASTERKEY
 S   CA-IDMS/DBX                      S   CA-IDMS/ONLINE LOG DISPLAY
 S   CA-IDMS/DC SORT                  S   CA-IDMS/SASO
 S   CA-IDMS/DICTIONARY MIGRATOR      S   CA-IDMS/SCHEMA MAPPER
 S   CA-IDMS/DICTIONARY MODULE EDITOR  S   CA-IDMS/TASK ANALYZER
 S   CA-IDMS/DICTIONARY QUERY FACILITY

TO INSTALL A PRODUCT, ENTER AN  S  NEXT TO THE PRODUCT NAME
+-------------------------------------------------------------------------+
| STATUS  I= INSTALLED N= NOT INSTALLED S= TO BE INSTALLED                |
| PF1 =  FIELD HELP    PF3= RETURN (NO SELECT)     PF9= SELECT PRODUCTS   |
+-------------------------------------------------------------------------+
```

3. Type **S** next to each product you want to install
4. Press PF9 when you have completed selecting products to save your selections

**Note:** If this is an Upgrade from an earlier release, the flag is set to S for the products you currently have installed, and you **cannot** change the settings. If you need to install additional products, complete the Upgrade install followed by an Add-on install to specify the new products.

## 4.7.2 Provide CA-IDMS Tools Passwords

Take the following steps to set product passwords:

1. Tab to **SET PRODUCT PASSWORDS** on the Set Install Parameters menu
2. Press ENTER

   The Provide Product Passwords screen displays on your terminal.

```
CAR9SPWD           C O M P U T E R   A S S O C I A T E S      TAPE: volser
DATE: 09/30/01       CA-IDMS TOOLS VM/CMS INSTALLATION        USER: userid
TIME: 09:10:00           PROVIDE PRODUCT PASSWORDS

       PASSWORD           PASSWORD           PASSWORD
PW1    nnnnnnnn   PW2     nnnnnnnn   PW3     nnnnnnnn
PW4    nnnnnnnn   PW5     nnnnnnnn   PW6     nnnnnnnn
PW7    nnnnnnnn   PW8     nnnnnnnn   PW9     nnnnnnnn
PW10   nnnnnnnn   PW11    nnnnnnnn   PW12    nnnnnnnn
PW13   nnnnnnnn   PW14    nnnnnnnn   PW15    nnnnnnnn
PW16   nnnnnnnn   PW17    nnnnnnnn   PW18    nnnnnnnn
PW19               PW20               PW21
PW22               PW23               PW24
PW25               PW26               PW27
PW28               PW29               PW30


+-------------------------------------------------------------------------+
| PF1= FIELD HELP    PF3= RETURN (NO CHANGES)    PF9= UPDATE PASSWORDS    |
+-------------------------------------------------------------------------+
```

3. Enter passwords for those products requiring passwords
4. Press PF9 when you are done entering passwords to update passwords

## 4.7.3 Set Product Runtime Parameters

Certain CA-IDMS Tools incorporate customization modules distributed with default options. These products may be customized during installation or at a later date for your installation.

- CA-IDMS/ADS Alive
- CA-IDMS/Database Extractor
- CA-IDMS/Dictionary Migrator
- CA-IDMS/Dictionary Migrator Assistant
- CA-IDMS/DML Online
- CA-IDMS/Enforcer
- CA-IDMS/Master Key
- CA-IDMS/Online Log Display
- CA-IDMS/SASO

To change the runtime options for the CA-IDMS Tools you are installing:

1. Position the cursor next to **SET PRODUCT RUNTIME PARAMETERS** on the Set Install Parameters screen
2. Press the Enter key

   A tailored Runtime Parameters screen is displayed. This example shows the CA-IDMS/ADS Alive Runtime Parameters screen.

```
 CAR9SADS           C O M P U T E R   A S S O C I A T E S      TAPE: volser
 DATE: 09/30/01       CA-IDMS TOOLS VM/CMS INSTALLATION        USER: userid
 TIME: 09:10:00          ADS-ALIVE RUNTIME PARAMETERS

FIELD           VALUE
 TASKID:        ADSALIVE
 HELP DICTNAME: TOOLDICT
 HELP DICTNODE:
 HELP VERSION:  1
 IMPL. OFFSET:  3800
 AREA SWEEP:    Y
 NON-INTERRUPT: Y
 QUEUE KEEP:    3
 PROFILE KEEP: 10
 DICT. DEFAULT: P



+-------------------------------------------------------------------------+
| PF1= FIELD HELP    PF3= RETURN (NO CHANGES)    PF9= UPDATE VALUES       |
+-------------------------------------------------------------------------+
```

3. Press PF9 to save the changes you have made. The runtime parameter screen for the next product is displayed.

   **Note:** To exit the Runtime Parameters screen without saving your modifications, press PF3.

For a complete description of the CA-IDMS Tools runtime options and for instructions on changing CA-IDMS Tools runtime options after initial installation, see the Appendix C, “CA-IDMS/DMLO Security and Access.”

### 4.7.3.1 Additional Customization for CA-IDMS/DML Online

In addition to the CA-IDMS/DML Online runtime options that can be changed during the online installation process, there are six customization modules that allows you to further tailor CA-IDMS/DML Online for your site.

These CA-IDMS Tools TPARM ASSEMBLE modules and the session characteristics that they control:

- **USD@DSPC** — Indicates which characters are considered displayable on your terminal devices; that is, any characters not specified here result in 'INVALID DATA' condition.
- **USD@SSEX** — Specifies which subschemas are excluded from access by CA-IDMS/DML Online. This exclusion is unconditional, and independent of any other security constraints.
- **USD@KYWD** — Defines standard abbreviations recognized by CA-IDMS/DML Online.
- **USD@MOPS** — Redefines the DML command codes recognized by the Menu/Assist mode of CA-IDMS/DML Online.
- **USD@MSTL** — Reformats the static area of the Menu/Assist Mode screen.
- **USD@MTXT** — Specifies the instructional text appearing in the data area of the Menu/Assist Mode screen when this mode is first specified for the session.

These modules are assembled as part of the CA-IDMS/DMLO TPARM module. To change these values:

1. Change the appropriate module in the IDMSTOOL MACLIB.
2. Re-assemble and link edit the CA-IDMS/DMLO TPARM module.

   **Note:** See the Appendix C, “CA-IDMS/DMLO Security and Access” for detailed instructions on how to re-assemble and link edit TPARM ASSEMBLE modules after initial installation.

### 4.7.3.2 Additional Considerations for CA-IDMS/DC SORT

At installation time, the MAIN STORAGE and AUXILIARY STORAGE fields are each assigned a value of 10000 bytes, unless you changed the default values during the installation process.

During each sort session in an application, CA-IDMS/DC SORT acquires the main and auxiliary storage as necessary, up to the value assigned. (A session is defined by the session number in a SETSORT statement.) For the most efficient sorts possible, consider the following points:

The **most efficient** sort is one in which:

- There are many small records in a buffer
- All of the buffers reside in main storage

To **increase efficiency** in a given sort session, use a work record containing only the fields needed for sorting. This ensures the work record is as small as possible to meet the requirements

In an ideal situation:

- Main storage is slightly larger than the space needed for an average sort.
- Auxiliary storage adds the extra space needed for large sorts.

Increasing the proportion of auxiliary storage to main storage may affect response time.

### 4.7.3.3 Examples of CA-IDMS/DC SORT Customization

At execution time, CA-IDMS/DC SORT allocates sort buffers in multiples of 2000 bytes. To determine the size of a sort buffer:

1. Multiply the MINRBUF * Record Length
2. Round the result up to the next multiple of 2000 bytes
3. Add 12 bytes for CA-IDMS/DC SORT overhead

Maximum: Sort buffer size can be no greater that 32K.

**Note:** CA-IDMS/DC SORT will not split a buffer between main and auxiliary storage. Therefore, it is necessary to make efficient use of main and auxiliary storage.

The product of the MINRBUF value and the Record Length cannot exceed the MAIN value or the AUX value, whichever is larger, because there would not be enough space to store one sort buffer.

In the following four examples, The MAIN and AUX parameters are not changed. The default for each is 10000 bytes.

#### Example 1

```
MINRBUF=20
Record Length=100
```

The sort buffer used by CA-IDMS/DC SORT is 2012 bytes:

```
20 * 100 = 2000
2000 is a multiple of 2000
2000 + 12 = 2012
```

CA-IDMS/DC SORT can store four sort buffers (80 records) in main storage and four sort buffers (80 records) in auxiliary storage.

### Example 2

```
MINRBUF=20
Record Length=150
```

The sort buffer used by CA-IDMS/DC SORT is 4012 bytes:

```
20 * 150 = 3000
The next multiple of 2000 is 4000
4000 + 12 = 4012
```

CA-IDMS/DC SORT can store two sort buffers (40 records) in main storage and two sort buffers (40 records) in auxiliary storage.

### Example 3:

```
MINRBUF=100         (default)
Record Length=31
```

The sort buffer used by CA-IDMS/DC SORT is 4012 bytes:

```
31 * 100 = 3100
The next multiple of 2000 is 4000
4000 + 12 = 4012
```

CA-IDMS/DC SORT can store two sort buffers (200 records) in main storage and two sort buffers (200 records) in auxiliary storage.

### Example 4

```
MINRBUF=100            (default)
Record Length=51
```

The sort buffer used by CA-IDMS/DC SORT is 6012 bytes:

```
51 * 100 = 5100
The next multiple of 2000 is 6000
6000 + 12 = 6012
```

CA-IDMS/DC SORT can store one sort buffer (100 records) in main storage and one sort buffer (100 records) in auxiliary storage.

## 4.7.4 Select Miscellaneous Parameters

Take the following steps to set miscellaneous parameters:

1. Place the cursor next to **SET MISCELLANEOUS PARAMETERS** on the Set Install Parameters menu
2. Press ENTER
   The Select Miscellaneous Parameters screen displays on your terminal.

```
 CAR9SMSC          C O M P U T E R   A S S O C I A T E S      TAPE: volser
 DATE: 09/30/01      CA-IDMS TOOLS VM/CMS INSTALLATION        USER: userid
 TIME: 15:36:44       SELECT MISCELLANEOUS PARAMETERS

FIELD          VALUE     FIELD           VALUE
 INSTALL TYPE: BASE      CVMACH ID:      userid
 USER TYPE     PRIMARY   ASSEMBLER NAME: ASMAHL
  (PRIMARY OR SECONDARY) SYSTEM NUMBER:  90
 DMCL NAME:    R150DMCL  SAVE DMCL NAME:
 DBTABLE NAME: R150DBTB  SAVE DBTB NAME:
 DYNAMIC PDE:  Y         DISK DEVICE:    3380
 STOR. PROT:   Y          MODIFY PAGES:  N









+-------------------------------------------------------------------------------+
|  PF1= FIELD HELP    PF3= RETURN (NO CHANGES)     PF9= UPDATE PARAMETERS     |
+-------------------------------------------------------------------------------+
```

3. Type new information in any field on the screen
4. Press PF9 when you are done entering information to update the miscellaneous parameters

**Note:**

- INSTALL TYPE — Specifies the type of install - Base, Upgrade, or maintenance. The installation procedure examines the LASTING GLOBALV file to determine if CA-IDMS Tools are installed. If a prior release is installed, the INSTALL TYPE is automatically set to UPGRADE.
- USER TYPE — Specifies whether a copy of the CA-IDMS Tools libraries installed on a single machine can be shared with CVs on other machines. If you specified a value of SECONDARY when CA-IDMS was installed, the USER TYPE for CA-IDMS Tools is automatically set to SECONDARY. The USER TYPE for CA-IDMS and CA-IDMS Tools must be the same.

For sites with multiple CVs, this option minimizes the disk space used and ensures all systems have the same maintenance applied.

## 4.7.5 Set Tape Processing Parameters

Take the following steps to set tape selection parameters:

1. Place the cursor next to **SET TAPE SELECTION PARAMETERS** on the Set Install Parameters menu
2. Press ENTER

   The Select Tape Processing Parameters screen displays on your terminal.

```
 CAR9STAP          C O M P U T E R   A S S O C I A T E S      TAPE: volser
 DATE: 09/30/01      CA-IDMS TOOLS VM/CMS INSTALLATION        USER: userid
 TIME: 15:37:48      SELECT TAPE PROCESSING PARAMETERS

FIELD          VALUE       FIELD          VALUE
INSTALLATION               BACKUPS
 TAPE ADDRESS: 181          TAPE ADDRESS: 182
 VOLSER:       volser       FINAL BACKUP: Y
 GENLEVEL:     F00109DBA00   VOLSER:      BKUP01
                             FILE NUMBER: 03









+-------------------------------------------------------------------------------+
|  PF1= FIELD HELP    PF3= RETURN (NO CHANGES)     PF9= UPDATE PARAMETERS     |
+-------------------------------------------------------------------------------+
```

3. Type new information in any field on the screen
4. Press PF9 when you are done entering information to update the tape selection parameters

## 4.7.6 Set Minidisks Parameters

You can set minidisk parameters for all minidisks or set minidisk parameters by segment. When you initially set the values you should set minidisk parameters for all minidisks. Later, when you want to change parameters on one or more minidisks you should set minidisk parameters by segment.

### 4.7.6.1 Set Minidisk Parameters for All Minidisks

Take the following steps to set minidisk parameters for all minidisks:

1. Place the cursor next to **SET MINIDISK PARAMETERS - ALL MINIDISKS** on the Set Install Parameters menu.
2. Press ENTER.

   The Segment Parameter screen for the first product you are installing displays on your terminal. The Select DBX (CA-IDMS/Database Extractor) Segment Parameters screen below is shown as an example.

```
 CAR9DDBX           C O M P U T E R   A S S O C I A T E S      TAPE: volser
 DATE: 09/30/01       CA-IDMS TOOLS VM/CMS INSTALLATION        USER: userid
 TIME: 09:10:00         SELECT DBX SEGMENT PARAMETERS

FILE NAME:      USVFIL1
 FORMAT:        C
  (Y OR N)
 FILE NAME:     USVFIL1
 DISK ADDRESS:  0608
 DEVICE TYPE:   3380
  (DISK TYPE OR FBA)
 STARTING PAGE: 370001
  (1 - 1073741821)
 NUM. OF PAGES: 592
 PAGE SIZE:     4096
  (512 (FBA ONLY)
   1024, 2048, 4096)

+-------------------------------------------------------------------------+
| PF1= FIELD HELP    PF3= RETURN (NO CHANGES)    PF9= UPDATE PARAMETERS   |
+-------------------------------------------------------------------------+
```

3. You can now change the parameters for any file where you do not want to use the default values.
4. Press PF9 when you are done entering segment parameters to update the segment parameters. Then press PF3 and you are taken to another segment screen. When all segments have been reviewed, you are returned to the Set Install Parameters menu.

### 4.7.6.2 Set Minidisk Parameters by Segment

This option:

- Allows modification at the segment level
- Only shows segments for products being installed

Take these steps to set minidisk parameters by segment:

1. Place the cursor next to **SET MINIDISK PARAMETERS - BY SEGMENT** on the Set Install Parameters menu
2. Press ENTER

   The Select Minidisks by Segment screen displays on your terminal.

```
CAR9PDSK          C O M P U T E R   A S S O C I A T E S      TAPE: volser
DATE: 09/30/01      CA-IDMS TOOLS VM/CMS INSTALLATION        USER: userid
TIME: 09:10:00         SELECT MINIDISKS BY SEGMENT
            STAT   SEGMENT     FILES IN SEGMENT

             E     DBX          USVFIL1
             E     DMA          XDM-FILE1
             E     DMLO         PROFILE
             E     ENFORCER     CTRL, LOAD, INDEX
             E     MASTRKEY     DATASEG
             D     SASODOC      DOCUMENT
             E     SASOSTR      PRIMARY, RELEASE
             E     TOOLDICT     TOOLDML, TOOLLOD
                   EXIT

   STATUS VALUES: D= DEFAULTS  E= EDITED
   PLACE THE CURSOR NEXT TO THE DESIRED SEGMENT AND PRESS ENTER  ( PF3=EXIT )
```

3. Place the cursor next to the desired segment
4. Press ENTER

   The Select DBX (CA-IDMS/Database Extractor) Segment Parameters screen below is shown as an example.

**Note:** If you modify any values for a database file in a segment, the STAT column for that segment displays an "E" (edited) in place of the "D" (default).

```
 CAR9DDBX           C O M P U T E R   A S S O C I A T E S      TAPE: volser
 DATE: 09/30/01       CA-IDMS TOOLS VM/CMS INSTALLATION        USER: userid
 TIME: 09:10:00         SELECT DBX SEGMENT PARAMETERS

FILE NAME:      USVFIL1
 FORMAT:        C
  (Y OR N)
 FILE NAME:     USVFIL1
 DISK ADDRESS:  0608
 DEVICE TYPE:   3380
  (DISK TYPE OR FBA)
 STARTING PAGE: 370001
  (1 - 1073741821)
 NUM. OF PAGES: 592
 PAGE SIZE:     4096
  (512 (FBA ONLY)
   1024, 2048, 4096)

+-------------------------------------------------------------------------+
| PF1= FIELD HELP    PF3= RETURN (NO CHANGES)    PF9= UPDATE PARAMETERS   |
+-------------------------------------------------------------------------+
```

## 4.7.7 Validate Page Ranges

The installation validates your database page ranges to ensure that there are no page range overlaps before DMCL generation. Optionally, you can provide a file containing all of the user database file page ranges that can be used during this validation. This prevents page range overlaps with user database files. The file must be named PAGE USERLIST and must be stored on the A disk. The format of the file is:

| Column | Field Description |
|---|---|
| 1 - 8 | Database file name (for example, DICTDB) |
| 9 | Blank |
| 10 - 19 | Starting page, zero filled (for example, 0000001001) |
| 20 | Blank |
| 21 - 30 | Number of pages, zero filled (for example, 0000001001) |
| 31 | Blank |
| 32 - 41 | Ending page, zero filled (for example, 00000020000) |
| 42 - 80 | Blank |

Take the following steps to validate page ranges:

1. Place the cursor next to **VALIDATE PAGE RANGES FOR UNIQUENESS** on the Set Install Parameters menu
2. Press ENTER

**Validate page ranges with no errors found:** The Database Page Range Verification screen displays when no errors are found.

```
 CAE5VPAG          C O M P U T E R   A S S O C I A T E S      TAPE: volser
 DATE: 09/30/01          CA-IDMS VM/CMS INSTALLATION          USER: userid
 TIME: 09:10:00       DATABASE PAGE RANGE VERIFICATION
DBAVPG070I 14:10:46 ALL MINIDISK PAGE RANGES HAVE BEEN EXAMINED AND NO PAGE
DBAVPG070I 14:10:46 RANGE OVERLAPS HAVE BEEN FOUND IN THE DATABASE AREAS WHICH
DBAVPG070I 14:10:46 ARE PART OF THE BASE INSTALLATION PROCESS.
DBAVPG070I 14:10:46




 +-------------------------------------------------------------+
 |  ====>   HIT ANY PFKEY OR PRESS ENTER TO CONTINUE   <====   |
 +-------------------------------------------------------------+
```

**Validate page ranges with errors found:** The following Database Page Range Verification screen displays when errors are found.

```
 CAE5VPG1          C O M P U T E R   A S S O C I A T E S      TAPE: volser
 DATE: 09/23/01          CA-IDMS VM/ESA INSTALLATION          USER: userid
 TIME: 11:25:22      DATABASE PAGE VERIFICATION - ERRORS

FILE        STARTING      NUMBER       ENDING     PAGE
NAME          PAGE       OF PAGES       PAGE     OVERLAP
DCCAT            1          292          292     *
DICTDB           1         2089         2089     *
DCCATL         601          142          742     *
DCCATX         801          142          942     *
DCDML         1001         1040         2040     *
DCLOD         3001          142         3142
DIRLLOD       4001          142         4142
DIRLDB        5001         2089         7089
DCMSG        10001         4038        14038
SQLDD        20001         2089        22089
SQLLOD       27001          592        27592
SQLXDD       28001          592        28592
DCLOG        30001         4038        34038
DCRUN        40001         1069        41069

 +-------------------------------------------------------------+
 |     PF3= RETURN    PF7= SCROLL UP    PF8= SCROLL DOWN       |
 +-------------------------------------------------------------+
```

If there are overlap errors, return to 4.7.6, “Set Minidisks Parameters” on page 4-21 and correct the error.

# 4.8 Execute Install Job Steps

The install job steps are run in sequence to finalize the installation. Please note these guidelines before running a job step:

- A check is made to ensure that in-progress installs are not jeopardized
- An Add-On or Upgrade installation tailors the screen so that only the required job steps are displayed
- Each job step verifies the required prior job steps have been run
- Most jobs are restartable
- If you try to rerun a job step and it is completed, the system asks you to verify your action
- Rerun of a job step resets subsequent jobs that need to be rerun as a result of this rerun

Take the following steps to run a job step:

1. Place the cursor next to **INSTALL PRODUCT(S) FROM BASE TAPE** on the Main menu
2. Press ENTER

   The Select Product Install Jobs screen displays on your terminal.

```
CAR9INST          C O M P U T E R   A S S O C I A T E S      TAPE: volser
DATE: 09/30/01      CA-IDMS TOOLS VM/CMS INSTALLATION        USER: userid
TIME: 09:10:00         SELECT PRODUCT INSTALL JOBS
           DONE  STEP       DESCRIPTION OF STEP PROCESSING

             N   JOB1       FORMAT AND RESERVE DATABASE MINIDISKS
             N   JOB2       OFFLOAD CONTENTS OF INSTALL TAPE
             N   JOB3       SITE SPECIFIC ASSEMBLIES
             N   JOB4       LINKEDITS
             N   JOB5       UPDATE THE CA-IDMS RUNTIME ENVIRONMENT
             N   JOB6       BASE TOOLDICT DICTIONARY LOAD
             N   JOB7       BUILD PRODUCT DATABASE FILES
             N   JOB8       FULL DATABASE BACKUP
             N   JOB9       FINAL INSTALLATION PROCESSING
                 READER     REVIEW OUTPUT IN READER QUEUE
                 EXIT

PLACE THE CURSOR NEXT TO THE DESIRED JOB STEP AND PRESS ENTER
               ( PF1 = MENU HELP     PF3 = EXIT )
```

3. Place the cursor next to the desired job
4. Press ENTER

   **Note:** The jobs must be run in order.

**Description of job steps** This table describes each job step available on the Select Product Install Jobs screen.

| Job ID | Description |
|---|---|
| Job1 **1** | Format database minidisks:<br>■ Format (CMS) and reserve database disks<br>■ Validate disk large enough for database pages specified<br>■ Error screen returned if minidisk is too small |
| Job2 | Offload contents of install tape:<br>■ TEXT modules<br>■ Link edit SYSLIN members<br>■ Source entities<br>■ Rename non-MACLIB entities (for example, DICTDATA)<br>■ Create or update IDMSTOOL MACLIB |
| Job3 | Site specific assemblies: |
| Job4 | Link edits:<br>■ Create or update IDMSTOOL LOADLIB<br>■ Link only products currently being installed<br>■ Link output is broken out by product |
| Job5 **1** | Update the runtime environment:<br>■ Validate Page Range step **must** have been previously run<br>■ Update DMCL, DBTABLE, and SYSGEN modules<br>■ Create DBALIB LOADLIB for non-product modules<br>■ Format system database minidisks using IDMSBCF<br>■ Populate system catalog with DMCL and DBTABLE<br>■ Update system dictionary with all sysgen entities<br>■ Update system 99 and 90 for products being installed |
| Job6 | Populate TOOLDICT dictionary<br>■ Updates dictionary with records, maps, etc.<br>■ Provides a PRINT SPACE report on the TOOLDICT dictionary |
| Job7 **1** | Populate the CA-IDMS Tools database files |
| Job8 | Backup all database files (optional):<br>■ Specified on Set Tape Parameters screen<br>■ Validates that tape VOLSER is not the install tape<br>■ Uses IDMSBCF BACKUP function |
| Job9 | Final installation review and update:<br>■ Validates that all jobs were run<br>■ Sets all flags indicating the install is complete |

**Note:** **1** These jobs are not run if an Upgrade installation is performed.

The job steps are described in more detail below.

## 4.8.1 Format and Reserve Database

This job executes the CMS FORMAT and RESERVE commands for all minidisks which are used as database files for the tool(s) you are installing. If this is a Base (initial) installation, the TOOLDICT dictionary and load area allocated.

The installation EXECs validates the minidisk for each file contains enough CMS blocks to contain the number of CA-IDMS pages for the database files which reside on that disk.

If the minidisk is too small, an error screen is displayed informing you of the:

- Minidisk address
- Number of blocks on the disk
- Number of blocks required for the disk in error

Determine if the minidisk is incorrectly allocated or if the page information provided is in error.

If the minidisk is incorrectly allocated:

- Redefine the minidisk

If the page information provided is in error:

- Select the SET INSTALLATION PARAMETERS function
- Select SET MINIDISK PARAMETERS-BY SEGMENT screen
- Correct the minidisk definition
- Return to the INSTALL PRODUCTS FROM BASE TAPE screen and select JOB 1.

The job begins with the erroneous disk, skipping disks that are successfully formatted.

## 4.8.2 Offload Contents of Install Tape

Job 2 executes the CAIIPDS program which:

- Creates or updates IDMSTOOL MACLIB. The IDMSTOOL MACLIB is created when a Base or Upgrade install is performed. The IDMSTOOL MACLIB is updated for an Add-on installation.
- Offloads source modules. These are renamed and placed on the A disk or may be added to the IDMSTOOL MACLIB.
- Offloads text modules. The text members are placed individually on the installer's A disk.
- Offloads all general service products. These services are only offloaded during a Base or Upgrade install.

- Downloads sample EXECs. The sample EXECs are downloaded as filetype SAMPEXEC to the installer's A disk.

The individual modules are password protected on the installation tape, as well as being encrypted. If you receive a **USER 0012** abend when running this step, This **always** indicates a password error. Review the product passwords supplied by Computer Associates for the products that you are installing. Any of the following may be the cause:

- a wrong password
- a missing password
- typing the letter *O* instead of the number *0*
- typing the letter *I* or *L* instead of the number *1*
- accidentally over-typing a product code

## 4.8.3 Site Specific Assemblies

This job assembles the runtime parameter modules for each product being installed. The parameters used are the ones set during the SET PRODUCT RUNTIME Parameters screens under the SET INSTALLATION PARAMETERS menu. If any assembly errors occur, a screen indicating which module has a problem is returned.

See the Appendix B, “CA-IDMS Tools Runtime Options” for detailed information on re-assembling and link editing the TPARM ASSEMBLE modules after initial installation.

| CA-IDMS Tools Product | TPARM ASSEMBLE Member |
|---|---|
| CA-IDMS/ADS Alive | USGTPARM |
| CA-IDMS/Database Extractor | USVTPARM |
| CA-IDMS/Dictionary Migrator | USMTPARM |
| CA-IDMS/Dictionary Migrator Assistant | XDMTPARM |
| CA-IDMS/Dictionary Module Editor | USETPARM |
| CA-IDMS/Dictionary Query Facility | DADTPARM |
| CA-IDMS/DML Online | USDTPARM<br>USDMLXIT |
| CA-IDMS/Enforcer | ESXTPARM |
| CA-IDMS/Master Key | SSKTPARM |
| CA-IDMS/ONLINE LOG DISPLAY | USKTPARM |
| CA-IDMS/SASO | ESSTPARM |

| | |
|---|---|
| GENERAL SORT | TPSPARM |

## 4.8.4 Link edits

This job link edits each of the products being installed.

For Base or Upgrade installs:

- The IDMSTOOL LOADLIB is created on the installer's A disk for a Base or Upgrade install.
- All general service products for the CA-IDMS Tools are link edited.

**Note:** The IDMSTOOL LOADLIB is only updated during an Add-on installation.

## 4.8.5 Update the CA-IDMS Runtime Environment

This job modifies (if required) and provides:

- DMCL - Updated with database definitions for CA-IDMS Tools that have database files. **1**
- DBTABLE - Updated with database definitions for CA-IDMS Tools that have database files. **1**
- SYSGEN - SYSTEM 90 and SYSTEM 99 are updated with program and task definitions for the products selected in this run. For Base installs, all of the general service modules' SYSGEN definitions are added to the systems.
- PRINT SPACE report - Allows you to monitor the space usage in the dictionary.

**1** - A copy of the DMCL and DBTABLE modules is saved for recovery purposes.

## 4.8.6 Base TOOLDICT Dictionary Load

This job populates the TOOLDICT dictionary with data for the CA-IDMS Tools selected for installation, including tutorials, records, and maps.

This job runs a PRINT SPACE report of the TOOLDICT dictionary segment so you can monitor the space usage in the dictionary.

## 4.8.7 Build Product Database Files

This job populates the individual CA-IDMS Tools database files based on the CA-IDMS Tools selected for this installation. This includes such things as elements, records, schemas, and subschemas for individual CA-IDMS Tools.

### 4.8.8 Full Database Backup (Optional)

This is an optional job. Whether this job is run is determined on the Select Tape Processing Parameters screen under the Set Installation Parameters menu. If the FINAL BACKUP parameter is set to **Y** (Yes), this job is executed.

Whether this is a Base or Add-on installation, the TOOLDICT SEGMENT is backed up. The other database files are only backed up based on the CA-IDMS Tools selection for this installation.

### 4.8.9 Final Installation Processing

This job goes through the various installation utility flags and fields and updates them to show that the installation is now complete for the CA-IDMS Tools which you are installing.

**Note:** Once is job is run, the installation may NOT be restarted except at the beginning job step. Wait to run this step if you want to rerun some jobs.

# 4.9 Install User Exits

You must install user exits for the following CA-IDMS Tools:

- CA-IDMS/Master Key
- CA-IDMS/ADS Alive
- CA-IDMS/Task Analyzer.

The following discussion describes how to create a customized RHDCUXIT module for the CA-IDMS Tools mix you are installing. However, the MACLIB library that is downloaded during the installation process contains members that incorporate all the types of changes described below. You simply need to select the correct module names and insert them into JCL supplied in the sample EXECs to generate an appropriate RHDCUXIT. See 4.8.1, “Format and Reserve Database” on page 4-28 for how to select the correct members from the MACLIB library.

Although the specific modifications described below depend on the combination of products being installed, the following is the basic sequence of steps required for user exit definition:

1. Copy RHDCUXIT source from the source library of the installed CA-IDMS system into a working version.

   If you have already added numbered exits to RHDCUXIT for other software products, you must update that version of RHDCUXIT with the required exits for the CA-IDMS Tools.

   **Note:** The version of RHDCUXIT used by those other software products must be fully compatible with the version of RHDCUXIT distributed with CA-IDMS.

2. Update the copy of RHDCUXIT with appropriate #DEFXIT commands based on the combination of products being installed.

   **Note:** The #DEFXIT entries are positional; that is, #DEFXIT for exit 04 must be the fifth sequential #DEFXIT within RHDCUXIT.

   See the discussion of “Numbered Exits” in the *CA-IDMS System Operations* for a more detailed explanation of RHDCUXIT coding conventions.

   If you added #DEFXIT entries for other products, and if any of those exits conflict with the exits required for the CA-IDMS Tools you are installing, consult the installation guides for the other products to determine the method for resolving the problem of multiple users for a given numbered exit.

If CA-IDMS/ADS Alive is to be installed, the following macro statements for the user-invoked exits are required:

```
#DEFXIT ,                                          256
#DEFXIT ,                                          257
#DEFXIT ,                                          258
.....................................................
     ......... repeated for 259 through 330 .........
.....................................................
#DEFXIT ,                                          331
#DEFXIT ,                                          332
#DEFXIT MODE=SYSTEM,CALL=DC,EP=USGX333E,AMODE=ANY  333
```

If CA-IDMS/Master Key is to be installed without CA-IDMS/Task Analyzer, two system-invoked exits are required:

```
#DEFXIT MODE=SYSTEM,CALL=DC,EP=SSKXT04E,AMODE=ANY   EXIT 04
#DEFXIT MODE=SYSTEM,CALL=DC,EP=SSKXT06E,AMODE=ANY   EXIT 06
```

These macro statements define the following exits:

```
Exit 4  -- New Task Exit
Exit 6  -- Task Termination Exit II
```

If CA-IDMS/Task Analyzer is to be installed without CA-IDMS/Master Key, six system-invoked exits are required:

```
#DEFXIT MODE=SYSTEM,CALL=DC,EP=USFEXT0E,AMODE=ANY   EXIT 00
#DEFXIT MODE=SYSTEM,CALL=DC,EP=USFEXT4E,AMODE=ANY   EXIT 04
#DEFXIT MODE=SYSTEM,CALL=DC,EP=USFEXT5E,AMODE=ANY   EXIT 05
#DEFXIT MODE=SYSTEM,CALL=DC,EP=USFEXTDE,AMODE=ANY   EXIT 13
#DEFXIT MODE=SYSTEM,CALL=DC,EP=USFEXTFE,AMODE=ANY   EXIT 15
#DEFXIT MODE=SYSTEM,CALL=DC,EP=USFEXT3E,AMODE=ANY   EXIT 33
```

These macro statements define the following exits:

```
Exit 0  -- System Initialization Exit
Exit 4  -- New Task Exit
Exit 5  -- Task Termination Exit I
Exit 13 -- Shutdown Exit
Exit 15 -- VIB Statistics Exit
Exit 33 -- Task Analyzer Exit
```

If both CA-IDMS/Task Analyzer and CA-IDMS/Master Key are to be installed, seven system-invoked exits are required:

```
#DEFXIT MODE=SYSTEM,CALL=DC,EP=USFEXT0E,AMODE=ANY   EXIT 00
#DEFXIT MODE=SYSTEM,CALL=DC,EP=USFEXT4E,AMODE=ANY   EXIT 04
#DEFXIT MODE=SYSTEM,CALL=DC,EP=USFEXT5E,AMODE=ANY   EXIT 05
#DEFXIT MODE=SYSTEM,CALL=DC,EP=SSKXT06E,AMODE=ANY   EXIT 06
#DEFXIT MODE=SYSTEM,CALL=DC,EP=USFEXTDE,AMODE=ANY   EXIT 13
#DEFXIT MODE=SYSTEM,CALL=DC,EP=USFEXTFE,AMODE=ANY   EXIT 15
#DEFXIT MODE=SYSTEM,CALL=DC,EP=USFEXT3E,AMODE=ANY   EXIT 33
```

These macro statements define the following exits:

```
Exit 0  -- System Initialization Exit
Exit 4  -- New Task Exit
Exit 5  -- Task Termination Exit I
Exit 6  -- Task Termination Exit II
Exit 13 -- Shutdown Exit
Exit 15 -- VIB Statistics Exit
Exit 33 -- Task Analyzer Exit
```

3. If both CA-IDMS/Task Analyzer and CA-IDMS/Master Key are being installed, copy MACLIB member USFUEXTX into a working version and update it as follows:

```
USFUEXTM TYPE=CSECT,                          X
      USREXT0=(NO,,),                         X
      USREXT4=(YES,SSKXT04E,D),               X
      USREXT5=(NO,,),                         X
      USREXTD=(NO,,),                         X
      USREXTF=(NO,,)
```

4. Assemble the updated RHDCUXIT and USFUEXTX. See the table under 4.8.1, “Format and Reserve Database” on page 4-28 for a key to finding the correct sample JCL.

5. Link edit RHDCUXIT as assembled in step 8d with user exit routines appropriate for the CA-IDMS Tools being installed. See SAMPEXEC's TOOLASM for model JCL to accomplish the assembly and link edit.

| CA-IDMS Tools | Exit Routine |
|---|---|
| CA-IDMS/Master Key | SSK2IT04<br>SSK2IT06 |
| CA-IDMS/ADS Alive | USG2333 |
| CA-IDMS/Task Analyzer | USFEXT0<br>USFEXT4<br>USFEXT5<br>USFEXTD<br>USFEXTF<br>USFEXT3<br>USFEXTW<br>USFUEXT |

**Exit Routines Required for CA-IDMS Tools**

## 4.9.1 Additional Considerations

To determine the appropriate sample EXEC needed to generate an RHDCUXIT module, use the table below to determine a value for *n* based on your CA-IDMS Tools mix and substitute that number for *n* in the following procedure:

| | TOOLASMA | | | TOOLASMB | | TOOLASMC | |
|---|---|---|---|---|---|---|---|
| **n** <===> | 1 | 2 | 3 | 4 | 6 | 5 | 7 |
| CA-IDMS/MASTERKEY | Y | | Y | | | Y | Y |
| CA-IDMS/ADS ALIVE | | Y | Y | | Y | | Y |
| CA-IDMS/TASK ANALYZER | | | | Y | Y | Y | Y |

1. Select the correct sample EXEC member to assemble and link RHDCUXIT.
   - If *n* is 1, 2, or 3, select TOOLASMA SAMPEXEC.
   - If *n* is 4 or 6, select TOOLASMB SAMPEXEC.
   - If *n* is 5 or 7, select TOOLASMC SAMPEXEC.
2. Edit the selected SAMPEXEC by replacing the *n* in TOOLXIT*n* and TOOLLNK*n* with the value of *n* as shown in the table above and renaming the member from filetype SAMPEXEC to filetype EXEC.
3. Update the library names and other variables as indicated in the SAMPJCL member you selected from the table above.
4. Execute the EXEC.

#### 4.9.1.1 Example

For example, if you are installing CA-IDMS/Master Key and CA-IDMS/ADS Alive, you should do the following:

1. Edit TOOLASMA.
2. Replace TOOLXIT*n* with TOOLXIT3.
3. Replace TOOLLNK*n* with TOOLLNK3.
4. Update library names and other variables as indicated in TOOLASMA SAMPEXEC and rename this TOOLASMA EXEC.
5. Execute the TOOLASMA EXEC.

**Note:** The destination load library for the new RHDCUXIT must be placed in the startup JCL for your CA-IDMS/DC system such that it supersedes any pre-existing versions of RHDCUXIT.

# 4.10 Convert the CA-IDMS/Database Extractor Database

If you are using CA-IDMS/Test Database Builder Release 3.5 or 3.6 and want to preserve the Selection Criteria Specifications for use by CA-IDMS/Database Extractor Release 15.0, you must convert the Release 3.5 or 3.6 database to Release 15.0.

Detailed instructions for converting the database are contained in the “Converting to CA-IDMS/Database Extractor Release 15.0” appendix of the *CA-IDMS/Database Extractor User Guide*.

# 4.11 Update the Dictionary

The CA-IDMS Tools products are tightly integrated with the data dictionary; this means updating all dictionaries in which you wish to:

- Execute CA-IDMS/ADS Trace
- Execute CA-IDMS/DML Online (CA-IDMS/DMLO) with extended security and/or access restrictions
- Execute CA-IDMS/Dictionary Query Facility (CA-IDMS/DQF)

The default dictionary for each system under which you intend to run CA-IDMS/DC SORT must also be updated.

## 4.11.1 CA-IDMS/ADS Trace Dictionary Updates

All application dictionaries using CA-IDMS/ADS Trace must be updated with the attributes, records and elements for CA-IDMS/ADS Trace. To update each dictionary:

1. Create an IDMSDDDL job with ATDDDL DICTDATA as input.
2. Execute the job.
3. Review the output and verify the entities were successfully added to the dictionary.

## 4.11.2 CA-IDMS/DC SORT Dictionary Updates

All application dictionaries using CA-IDMS/DC SORT must be updated with the records and modules for CA-IDMS/DC SORT. To update each dictionary:

1. Create an IDMSDDDL job with TPSDDL DICTDATA as input.
2. Submit the job.
3. Review the output and verify the entities were successfully added to the dictionary.

## 4.11.3 CA-IDMS/DMLO Dictionary Updates

For a full discussion of updating the dictionary(ies) for CA-IDMS/DMLO, see Appendix C, “CA-IDMS/DMLO Security and Access.”

## 4.11.4 CA-IDMS/DQF Dictionary Updates

CA-IDMS/DQF is a CA-ADS application; the installation process adds the CA-IDMS/DQF application to the CA-IDMS Task Application Table (TAT) in the TOOLDICT dictionary. Each application dictionary using CA-IDMS/DQF must be updated with the CA-IDMS/DQF ADS application.

To update the dictionary:

1. In the CA-IDMS Tools MACRO library, find the member DADBTAT.
2. Use the ADSOBTAT EXEC with DADBTAT as input.
3. Review the output and verify the application was successfully added to the dictionary.

# 4.12 Modifying the Sysgen

If you installed CA-IDMS/Log Analyzer and CA-IDMS/Task Analyzer, the sysgen SYSTEM statement must be modified to accommodate:

- Storage requirements for CA-IDMS/Task Analyzer.
- CA-IDMS/Log Analyzer and CA-IDMS/Task Analyzer statistics gathering.

1. Storage Requirements

   a. Before starting CA-IDMS/DC, consider the storage requirements of CA-IDMS/Task Analyzer that can affect the sysgen. These requirements include:

      - Storage pool
      - Program pool
      - Stacksize

      See the "Operations" chapter of the *CA-IDMS/Task Analyzer User Guide*

      **Note:** These requirements may be critical to the proper functioning of your environment.

   b. Modify the SYSTEM statement to incorporate the required changes.

2. Statistics Gathering

   CA-IDMS/Log Analyzer and CA-IDMS/Task Analyzer get their data for all activities except dialogs from the by-task statistics records. Statistical information for dialogs is gathered from the transaction statistics records. For CA-IDMS to capture this data, the statistics must be requested at the system level.

   a. **By-task Statistics** are controlled through the STATISTIC subparameter of the SYSTEM statement. The minimum specification required is:

```
                          WRITE
STATISTICS TASK { COLLECT }
```

      **Note:** If you are installing CA-IDMS/Log Analyzer, you must specify WRITE; otherwise COLLECT is sufficient.

      Normally, CV writes the by-task statistic records to the log statistics records to the log. With CA-IDMS/Task Analyzer, this action is controlled by the DC STATISTICS option field of the CA-IDMS/Task Analyzer Statistics Plan screen. See the "Operations" chapter of the *CA-IDMS/Task Analyzer User Guide*.

   b. **Dialog Statistics** are specified in the ADSO statement of the sysgen. The DIALOG STATISTICS subparameter of the ADSO statement generates the transaction statistics. The specification required is:

```
                                ALL
DIALOG STATISTICS ON { SELECTED }
```

**Note:** If you specify SELECTED, CA-IDMS/Log Analyzer, and CA-IDMS/Task Analyzer can only report dialogs defined with a PROGRAM statement specifying ADSO DIALOG STATISTICS ON.

See the appropriate CA-IDMS guides for complete information on gathering statistics.

# 4.13 Modify Your Start-up JCL

To modify the start-up JCL for your systems:

- **For all CA-IDMS Tools**, identify the CA-IDMS systems in which the online CA-IDMS Tools are installed. Add the installation libraries to CDMSLIB for the identified CA-IDMS systems.
- **If you are installing the following CA-IDMS Tools**, add the JCL for the databases used by:
  - CA-IDMS TOOL DICTIONARY
  - CA-IDMS/Database Extractor
  - CA-IDMS/Dictionary Migrator
  - CA-IDMS/DML Online
  - CA-IDMS/Enforcer
  - CA-IDMS/Master Key
  - CA-IDMS/SASO

  **Note:** CA-IDMS supports dynamic file allocation.
- **If you are installing CA-IDMS/Enforcer**, identify the CA-IDMS systems in which you want CA-IDMS/Enforcer to run. Add the CA-IDMS/Enforcer load library to the CDMSLIB(s) before the library(ies) that contains the following CA-IDMS utilities:
  - IDMSDDDL
  - IDMSCHDC
  - IDMSCHEM
  - RHDCSGDC
  - RHDCSGEN
  - IDMSUBSC
  - IDMSDDDC
  - IDMSUBDC

The CA-IDMS/Enforcer load library is the ENFRLOAD LOADLIB where CA-IDMS/Enforcer was installed.

# 4.14 Cycle Your CA-IDMS System

Cycle your CA-IDMS system.

# 4.15 Install Default JCL

At the initial installation, you must install the default EXECs used by CA-IDMS/Database Extractor and CA-IDMS/Dictionary Migrator Assistant (DMA). These EXECs allow you to submit jobs to the internal reader from a CA-IDMS system.

The CA-IDMS/Database Extractor EXECs are used to execute the batch components of CA-IDMS/Database Extractor. The default CA-IDMS/Database Extractor EXECs are contained in members:

- CMSBEXEC EXEC - Extracts and loads a database
- CMSBPSC EXEC - Prints extract specifications
- CMSBPJCL EXEC - Prints extract and load JCL

The DMA EXEC is used for the online job submission of CA-IDMS/Dictionary Migrator jobs by DMA. The DMA EXEC is any EXEC for CA-IDMS/Dictionary Migrator that you are already using or the member USMXTRCT EXEC. Edit USMXTRCT EXEC to remove all parameter statements.

**Note:** The EXEC to upload CA-IDMS/Database Extractor and DMA is included as members USVUJCL EXEC and XDMBJCL EXEC respectively.

# Chapter 5. Installing the CA-IDMS/CMS Option

## 5.1 Overview of Installation Steps

This chapter takes you step-by-step through the CA-IDMS/CMS Option 15.0 installation procedure. Each screen that you use during the install is presented. The chapter is designed to allow you to follow along as you install CA-IDMS/CMS Option 15.0.

**Before you begin:** Before you begin the install procedure, make sure that you have:

- Reviewed cover letters and PMLs (Product Maintenance Letters)
- Reviewed the Installation and Maintenance chapters
- Reviewed and verified system requirements
- Installed required CA-CIS components

**Installation steps:** During the installation, you perform these steps:

| Step | Description |
|---|---|
| 1 | Allocate minidisks |
| 2 | Offload installation material from tape |
| 3 | Run CMSO150 EXEC to initiate installation |
| 4 | Set installation parameters |
| 5 | Execute install job steps |
| 6 | Create new startup module |
| 7 | Create startup EXEC |

**Obtaining help:** To obtain field-level help on any of the installation screens, press PF1.

**Function keys:** The updates are controlled through the use of PF keys on all screens. The use of the ENTER key does not cause updates to occur, but can invoke read-only type functions on some screens.

## 5.2 Review Cover Letters or PMLs

Review any cover letters or Product Maintenance Letters (PMLs) in your installation package. Review this information for any additional steps or site-relevant information required to complete your CA-IDMS/CMS Option installation.

## 5.3 Allocate Minidisks

Perform the following steps to allocate minidisks:

1. Allocate and format the CA-IDMS/CMS Option installation disk in CMS format.

# 5.4 Offload Installation Material from Tape

**Contents of the installation file:** The installation file has the following contents:

- Installation EXECs, XEDIT profiles, and message file
- Installation HELP files
- Sample EXECs to run CA-IDMS programs
- Sample UCFCMS EXEC
- Optional APARS
- Required APARs (if provided)

**Load file:** Take these steps to load the installation file:

1. Mount the installation tape
2. Type:

   ```
   TAPE FSF n
   ```

   where n is the number of files specified on the cover letter
3. Type:

   ```
   TAPE LOAD * * A (NOPRINT
   ```

## 5.5 Complete Installation of CA-CIS Software

As discussed in 2.1, “CA-CIS Requirements for CA-IDMS” on page 2-4 you must issue a 'request' informing CA-Activator which CA-CIS products are required to install CA-IDMS.

To do this use the CAE5ACT EXEC which simulates the normal CA-Activator product request. To run this EXEC, at the READY prompt type:

```
CAE5ACT
```

Now, return to the CA-CIS installation process. You should a number of products available for installation. Complete the installation as outlined in the CA-CIS documentation. Afterwards, complete the CA-IDMS/CMS Option installation process.

# 5.6 Execute CMSO150 to Initiate Installation

The CMSO150 EXEC invokes all the installation and maintenance tasks that must be performed. Take the following steps to run CMSO150:

1. Type CMSO150.
   - If this is the first time invoking the install, this screen is displayed.

```
CAE5LODV          C O M P U T E R   A S S O C I A T E S      USER: IDMSQA02
DATE: 11/20/01    CA-IDMS/CMS OPTION  VM/CMS INSTALLATION
TIME: 09:11:26           LOAD DEFAULT PARAMETERS


**********************************************************
* THE DEFAULT INSTALLATION PARAMETERS FOR A CMS OPTION   *
* INSTALL WILL NOW BE LOADED INTO YOUR LASTING GLOBALV   *
* USING THE CAQ6LODF EXEC.                               *
**********************************************************





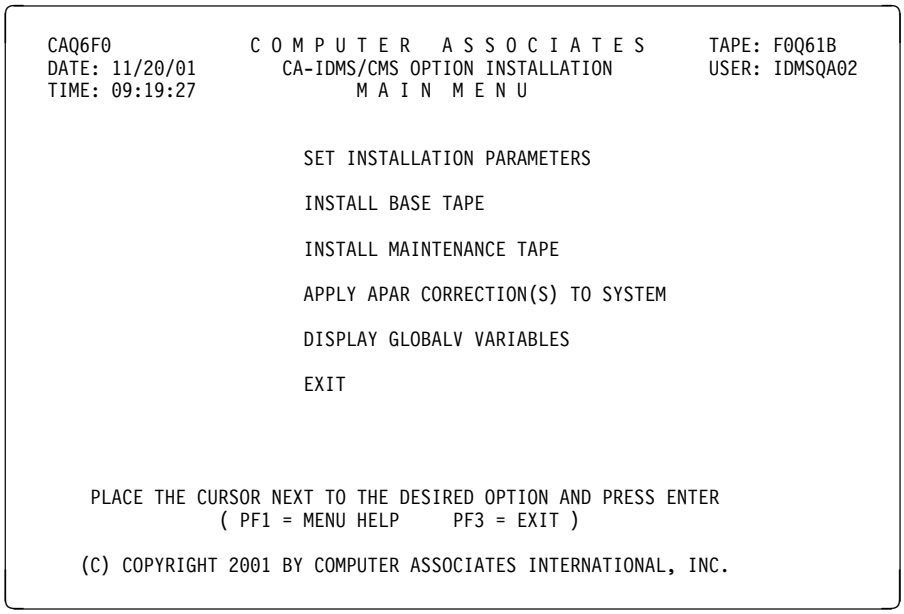




    PLEASE PRESS  ENTER  TO CONTINUE
```

2. Press ENTER.

The Main menu displays on your terminal.




**Main menu options:** The following table describes the Main menu installation options. Please note that you don't use all the options.

| Option | Description |
|---|---|
| Set installation parameters | This option accesses a menu that allows you to set the parameters used during the installation procedure. These parameters apply to Base and maintenance installs. |
| Install product(s) from Base tape | This option displays a menu presenting you with all the job steps required to complete a Base install. A Base install must be completed before a Maintenance installation can be attempted. |
| Install product maintenance tape | This option displays a menu presenting you with all the job steps required to install a Maintenance tape. You must have completed a prior Base install before a Maintenance install can be started. |
| Apply APAR corrections to system | This option displays a menu which allows you to apply or remove APARs to your system. You are able to specify control parameters, select required or optional APARs to apply or show those already applied, or review the APAR control files. |
| Display GLOBALV variables | This option displays a menu that allows you to display installation values in the LASTING GLOBALV that are not displayed on other panels. These screens may be useful in debugging installation problems. For more information regarding the LASTING GLOBALV screens, please see A.2, “The CA-IDMS GLOBALV Menu” on page A-4. |

# 5.7 Set Installation Parameters

You set installation parameters from the Set Install Parameters menu. Take the following steps to display the Set Install Parameters menu:

1. Tab to the **SET INSTALLATION PARAMETERS** on the Main menu
2. Press ENTER

The Set Installation Variables menu shown displays on your terminal.

```
CAE5SPRM          C O M P U T E R   A S S O C I A T E S      TAPE: F0Q61B
DATE: 11/20/01    CA-IDMS/CMS OPTION  VM/CMS INSTALLATION     USER: IDMSQA02
TIME: 09:21:41          SET INSTALL PARAMETERS MENU



                        SET PRODUCT PASSWORDS

                        SET MISCELLANEOUS PARAMETERS
                        SET TAPE SELECTION PARAMETERS









                        EXIT


    PLACE THE CURSOR NEXT TO THE DESIRED OPTION AND PRESS ENTER
                ( PF1 = MENU HELP     PF3 = EXIT )
```

The following pages present the steps necessary to complete setting the installation parameters.

## 5.7.1 Provide CA-IDMS/CMS Option Passwords

Take the following steps to set product passwords:

1. Tab to **SET PRODUCT PASSWORDS** on the Set Install Parameters menu
2. Press ENTER

   The Provide Product Passwords screen displays on your terminal.

```
CAE5SPWD          C O M P U T E R   A S S O C I A T E S      TAPE: F0Q61B
DATE: 11/20/01    CA-IDMS/CMS OPTION  VM/CMS INSTALLATION     USER: IDMSQA02
TIME: 09:26:22           PROVIDE PRODUCT PASSWORDS

       PASSWORD           PASSWORD           PASSWORD
PW1    00000000   PW2     00000000   PW3     00000000

+-------------------------------------------------------------------------+
| PF1= FIELD HELP    PF3= RETURN (NO CHANGES)    PF9= UPDATE PASSWORDS    |
+-------------------------------------------------------------------------+
```

3. Enter passwords for those products requiring passwords.
4. Press PF9 when you are done entering passwords to update passwords.

## 5.7.2 Select Miscellaneous Parameters

Take the following steps to set miscellaneous parameters:

1. Place the cursor next to **SET MISCELLANEOUS PARAMETERS** on the Set Install Parameters menu
2. Press ENTER

   The Select Miscellaneous Parameters screen displays on your terminal.

```
 CAE5SMCO          C O M P U T E R   A S S O C I A T E S      TAPE: F0Q61B
 DATE: 11/20/01    CA-IDMS/CMS OPTION  VM/CMS INSTALLATION    USER: IDMSQA02
 TIME: 09:28:50        SELECT MISCELLANEOUS PARAMETERS

FIELD            VALUE
 INSTALL TYPE:   BASE
 CVMACH ID:      IDMSQA02
 ASSEMBLER NAME: ASMAHL
 CA90S USERID:
 CA90S ADDRESS:

+-------------------------------------------------------------------------------+
|  PF1= FIELD HELP    PF3= RETURN (NO CHANGES)     PF9= UPDATE PARAMETERS     |
+-------------------------------------------------------------------------------+
```

3. Type new information in any field on the screen
4. Press PF9 when you are done entering information to update the miscellaneous parameters

**Note:** The default disk device is 3380, and the default page ranges are set to use all the space on each cylinder. If you change the device to 3390, the default number of pages is changed to use all the space on a 3390 cylinder without creating any page overlaps.

## 5.7.3 Set Tape Processing Parameters

Take the following steps to set tape selection parameters:

1. Place the cursor next to **SET TAPE SELECTION PARAMETERS** on the Set Install Parameters menu
2. Press ENTER

   The Select Tape Processing Parameters screen displays on your terminal.

```
 CAE5STCO           C O M P U T E R   A S S O C I A T E S      TAPE: F0Q61B
 DATE: 11/20/01    CA-IDMS/CMS OPTION  VM/CMS INSTALLATION     USER: IDMSQA02
 TIME: 09:29:14       SELECT TAPE PROCESSING PARAMETERS

FIELD          VALUE
INSTALLATION
 TAPE ADDRESS: 181
 VOLSER:       F0Q61B
 GENLEVEL:     F00109CBN00









+-------------------------------------------------------------------------------+
|  PF1= FIELD HELP    PF3= RETURN (NO CHANGES)     PF9= UPDATE PARAMETERS       |
+-------------------------------------------------------------------------------+
```

3. Type new information in any field on the screen
4. Press PF9 when you are done entering information to update the tape selection parameters

# 5.8 Execute Install Job Steps

The install job steps are run in sequence to finalize the installation. Please note these guidelines before running a job step:

- A check is made to ensure that in-progress installs are not jeopardized
- Each job step verifies the required prior job steps have been run
- Most jobs are restartable
- If you try to rerun a job step and it is completed, the system asks you to verify your action
- Rerun of a job step resets subsequent jobs that need to be rerun as a result of this rerun

Take the following steps to run a job step:

1. Place the cursor next to **INSTALL PRODUCT(S) FROM BASE TAPE** on the Main menu
2. Press ENTER

   The Select Product Install Jobs screen displays on your terminal.

```
CAE5INST          C O M P U T E R   A S S O C I A T E S      TAPE: F0Q61B
DATE: 11/20/01    CA-IDMS/CMS OPTION  VM/CMS INSTALLATION    USER: IDMSQA02
TIME: 09:29:40          SELECT PRODUCT INSTALL JOBS

           DONE  STEP       DESCRIPTION OF STEP PROCESSING


            N    JOB2       OFFLOAD CONTENTS OF INSTALL TAPE
            N    JOB3       SITE SPECIFIC ASSEMBLIES
            N    JOB4       LINKEDITS









            N    JOB11      FINAL INSTALLATION PROCESSING

                 READER     REVIEW OUTPUT IN READER QUEUE
                 EXIT


PLACE THE CURSOR NEXT TO THE DESIRED JOB STEP AND PRESS ENTER
               ( PF1 = MENU HELP     PF3 = EXIT )
```

3. Place the cursor next to the desired job
4. Press ENTER

**Description of job steps:** The following table describes each job step available on the Select Product Install Jobs screen.

| Job ID | Description |
|---|---|
| Job2 | Offload contents of install tape:<br>■ TEXT modules<br>■ Link edit SYSLIN members<br>■ Source entities<br>■ Rename non-MACLIB entities<br>■ Create or update IDMSLIB MACLIB |
| Job3 | Site specific assemblies:<br>■ Common modules for CA-IDMS/DB install<br>– #SVCOPT<br>— SVCOPT<br>— VMCFOPT<br>■ CA-IDMS/UCF - RHDCUCMS (assemble #UCFCMS) |
| Job4 | Link edits:<br>■ Create or update IDMSLIB LOADLIB<br>■ Link only products currently being installed<br>■ Link output is broken out by product |
| Job11 | Final installation review and update:<br>■ Validates that all jobs were run<br>■ Sets all flags indicating the install is complete |

# Chapter 6. Maintenance Tape Installation Procedures

# 6.1 Introduction

The Maintenance Tape facility allows the VM/ESA user to apply maintenance tapes to their CA-IDMS, CA-IDMS Tools or CA-IDMS/CMS Option environment in an easy-to-understand, controlled, and documented manner. The procedures for all of these products are the same and are presented only once. The screens displayed for each product are similar, but the product name is different.

The maintenance tapes deliver updated TEXT modules that have all of the published APARs already applied. The process relinks affected load modules using the updated TEXT modules. This process ensures that all APARs for each module are applied and makes it easier to keep your startup modules up to date. It also allows you to relink your startup module(s) for site-specific changes (for example, an updated RHDCPARM module) without having to reapply APARs to each startup module after it has been relinked.

**Before you begin:** Prior to starting the install procedure, make sure that your have:

- Reviewed the Product Maintenance Letter (PML is the cover letter), any Product Error Alerts (PEAs) and Product Documentation Change (PDCs).
- Reviewed the Maintenance Installation chapter.

**Installation Steps:** During the installation you perform these steps:

| Step | Description |
|---|---|
| 1 | Review installation materials |
| 2 | Offload installation materials from tape |
| 3 | Execute appropriate EXEC (IDMS150, TOOL150, CMSO150) to initiate installation |
| 4 | Set installation parameters |
| 5 | Execute install job steps |
| 6 | Create new startup module |
| 7 | Update startup EXEC |

**Obtaining help:** To obtain menu or field help on any of the installation screens, press PF1.

**Function keys:** The updates are controlled through the use of PF keys on all screens. The use of the ENTER key does not cause updates to occur, but can invoke read-only type functions on some screens.

# 6.2 Review Installation Materials

Review the cover letter (PML), any Product Error Alerts (PEAs) and Product Documentation Changes (PDCs) in your installation package. PEAs and PDCs may be added to the installation package during the life of a Service Pack. Review this information carefully for any additional steps, corrective actions or site-relevant information required to complete your maintenance install.

## 6.2.1 Offload Installation Material from Tape

**Contents of the installation file:** The installation file may contain the following:

- Updated installation EXECs, XEDIT profiles, and message file
- Updated HELP files
- Updated or new optional APARs
- Documentation members describing the contents of the tape
- Descriptions of Required APARs applied on this tape
- Cross-reference showing published and test APAR numbers
- Cross-reference showing what APARs are applied to each module
- Descriptions of Optional APARs

**Load file:** Take these steps to load the installation materials:

1. Mount the maintenance tape
2. Type:

   ```
   TAPE FSF n
   ```

   where n is the number of files specified on the cover letter
3. Type:

   ```
   TAPE LOAD * * A (NOPRINT
   ```
4. Once you have offloaded this file, review the cross-reference documents to see if any APARs you applied to your environment are included in the updated TEXT modules on this tape. If they are not and the module(s) they affect have been updated on this tape, you will need to reapply some or all of them after the maintenance install has been completed.

# 6.3 Execute Installation EXEC

To begin the maintenance tape installation, you need to execute the appropriate EXEC for the product being processed.

1. Type the name of the EXEC and press ENTER:

   - IDMS150 - CA-IDMS
   - TOOL150 - CA-IDMS Tools
   - CMSO150 - CA-IDMS/CMS Option

   The Main Menu for the appropriate product displays on your screen.

```
CAE5F0            C O M P U T E R   A S S O C I A T E S      TAPE: volser
DATE: 11/20/01         CA-IDMS VM/ESA INSTALLATION           USER: userid
TIME: 09:19:27              M A I N  M E N U


                       SET INSTALLATION PARAMETERS

                       INSTALL BASE TAPE

                       INSTALL MAINTENANCE TAPE

                       APPLY APAR CORRECTION(S) TO SYSTEM

                       DISPLAY GLOBALV VARIABLES

                       EXIT



    PLACE THE CURSOR NEXT TO THE DESIRED OPTION AND PRESS ENTER
               ( PF1 = MENU HELP     PF3 = EXIT )

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```

2. To select the INSTALL PRODUCT MAINTENANCE TAPE option perform the following steps:

   a. Tab to the INSTALL PRODUCT MAINTENANCE TAPE on the Main Menu

   b. Press ENTER

      If this is the first time invoking the maintenance install process, a screen similar to this displays:

```
CAE5LODV          C O M P U T E R   A S S O C I A T E S     USER: userid
DATE: 11/15/01          CA-IDMS VM/CMS INSTALLATION
TIME: 14:54:01            LOAD DEFAULT PARAMETERS


**********************************************************
* ANY NEW INSTALL PARAMETERS FOR THIS MAINTENANCE TAPE   *
* WILL NOW BE LOADED INTO YOUR LASTING GLOBALV USING     *
* THE CAE5LODM EXEC.                                     *
**********************************************************









     PLEASE PRESS  ENTER  TO CONTINUE
```

c. Press ENTER.

The Main Menu for the Maintenance Tape Install displays on your terminal.

```
CAE5MNT           C O M P U T E R   A S S O C I A T E S      TAPE: volser
DATE: 11/15/01      CA-IDMS VM MAINTENANCE TAPE INSTALL      USER: userid
TIME: 14:54:27               M A I N  M E N U


                       SET MAINTENANCE INSTALLATION PARAMETERS

                       SET MAINTENANCE PRODUCT PASSWORDS

                       RUN MAINTENANCE INSTALLATION JOBS

                       EXIT









    PLACE THE CURSOR NEXT TO THE DESIRED OPTION AND PRESS ENTER
               ( PF1 = MENU HELP     PF3 = EXIT )

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```

**Main menu options:** The following table describes the Main Menu installation options. Please note that you may not need to use all the options for every maintenance tape (for example, some tapes may not require passwords).

| Option | Description |
|---|---|
| Set maintenance installation parameters | This option accesses a menu that allows you to specify if you want to allocate a new load and/or maclib for this maintenance tape. This is not required. The option allows you to segregate the maintenance until you want it combined with your main libraries after it has been tested and accepted at your site. |
| Set maintenance product passwords | This option displays a screen that allows you to enter any passwords that may be required to install the maintenance tape. |
| Run maintenance installation jobs | This option accesses a menu that displays the jobs needed to run the install on the maintenance tape. |

# 6.4 Set Maintenance Installation Parameters

You set maintenance parameters from the Set Maintenance Installation Parameters menu. To access this screen:

1. Tab to the SET MAINTENANCE INSTALLATION PARAMETERS on the Main Menu.
2. Press ENTER.

   The Set Installation Parameters screen displays on your terminal.

```
 CAE5MPRM          C O M P U T E R   A S S O C I A T E S      TAPE: volser
 DATE: 11/15/01     CA-IDMS VM MAINTENANCE TAPE INSTALL       USER: userid
 TIME: 14:54:41        SELECT INSTALLATION PARAMETERS

FIELD          VALUE

 LOADLIB PARAMETERS:
  ALLOCATE NEW:        N
  LOADLIB NAME:        IDMSLIB
 MACLIB PARAMETERS:
  ALLOCATE NEW:        N
  MACLIB NAME:         IDMSLIB
 TAPE CUU:             181

 LAST GENLEVEL:       F00109DBA00
 LAST TAPE VOLSER:
 CURRENT GENLEVEL:    F00109DBA00
 CURRENT TAPE VOLSER: F0Q41B



+-------------------------------------------------------------------------------+
|  PF1= FIELD HELP    PF3= RETURN (NO CHANGES)     PF9= UPDATE PARAMETERS     |
+-------------------------------------------------------------------------------+
```

3. Update the LOADLIB and/or MACLIB parameters you need to change.
4. Press PF9 when you are done to update the parameters in the LASTING GLOBAV.

# 6.5 Set Maintenance Product Passwords

You may be required to provide product passwords on some maintenance tapes. To set the product passwords:

1. Tab to the SET MAINTENANCE PRODUCT PASSWORDS on the Main Menu.
2. Press ENTER.

   The Provide Product Passwords screen displays on your terminal.

```
CAE5MPWD           C O M P U T E R   A S S O C I A T E S      TAPE: volser
DATE: 11/15/01      CA-IDMS VM MAINTENANCE TAPE INSTALL       USER: userid
TIME: 14:54:55           PROVIDE PRODUCT PASSWORDS


       PASSWORD
PW1    00000000
PW2    00000000
PW3    00000000
PW4    00000000
PW5    00000000









+-------------------------------------------------------------------------+
| PF1= FIELD HELP    PF3= RETURN (NO CHANGES)    PF9= UPDATE PASSWORDS    |
+-------------------------------------------------------------------------+
```

3. Enter the passwords provided on the Product Authorization sheet(s) for the products installed at your site. You received the Product Authorization sheet(s) with your tape.
4. Press PF9 when you are done entering passwords to update them in the LASTING GLOBALV.

# 6.6 Run Maintenance Installation Jobs

The maintenance jobs steps are run in sequence to install the updated software. Please note these guidelines before running a job step:

- A check is made to ensure that any in-process installs are not jeopardized. Any BASE, ADDON or prior MAINTENANCE installations MUST be completed before a maintenance install can begin.
- Only those jobs that are required for the current tape display. If a job is not required for a particular tape, then the line where that step normally displays is left blank.
- Each job step verifies that prior job steps are complete before it proceeds.
- You can restart most jobs.
- If you try to rerun a job step after its completion, the system asks you to verify your action.
- Rerunning a job step resets any subsequent jobs that need to be rerun.

To run the job steps:

1. Place the cursor next to RUN MAINTENANCE INSTALLATION JOBS on the Main Menu.
2. Press ENTER.

   The SELECT MAINTENANCE INSTALL JOBS screen displays on your terminal.

```
CAE5MINS          C O M P U T E R   A S S O C I A T E S      TAPE: volser
DATE: 11/15/01     CA-IDMS VM MAINTENANCE TAPE INSTALL       USER: userid
TIME: 14:58:59       SELECT MAINTENANCE INSTALL JOBS


           DONE  STEP       DESCRIPTION OF STEP PROCESSING

            N    JOB1       OFFLOAD CONTENTS OF MAINTENANCE TAPE
            N    JOB2       ASSEMBLIES
            N    JOB3       LINKEDITS
            N    JOB4       UPDATE THE CA-IDMS RUNTIME ENVIRONMENT
            N    JOB5       FINAL INSTALLATION PROCESSING

                 READER     REVIEW OUTPUT IN READER QUEUE
                 EXIT




PLACE THE CURSOR NEXT TO THE DESIRED JOB STEP AND PRESS ENTER
               ( PF1 = MENU HELP     PF3 = EXIT )
```

3. Place the cursor next to the desired job and press ENTER.

### Description of job steps

| Job ID | Description |
|---|---|
| JOB1 | Offload contents of maintenance tape:<br>■ TEXT modules<br>■ Updated link edit SYSLIN members<br>■ Source entities<br>■ Update existing MACLIB or optionally create a new MACLIB |
| JOB2 | Site specific assemblies:<br>■ Assemble modules if source/macros have changed |
| JOB3 | Link edits:<br>■ Updates existing load library or optionally creates a new load library<br>■ Only links products installed at each site |
| JOB4 | Update database files:<br>■ Update existing databases<br>■ May not be run for every tape |
| JOB5 | Final installation review and update:<br>■ Validates that all jobs were run<br>■ Sets all flags indicating that the install is complete |

# 6.7 Create New Startup module

Depending on what modules have been delivered on a maintenance tape, CA-IDMS sites may be required to relink their startup module(s). The cover letter should indicate if this is required but you should also check.

To create a new startup module:

1. Use the SYSLIN member for your current system.
2. Optionally change the name of the startup module.
3. Type the following command to link edit into the appropriate load library using the CAE5LNKB EXEC:

   ```
   CAE5LNKB startup SYSLIN loadlib NORENT
   ```

# 6.8 Update Your Startup EXEC

If you define a new load library for the modules from the maintenance tape, you should update your startup EXEC and add the new load library to the CDMSLIB concatenation.

# Chapter 7. CA-IDMS, CA-IDMS Tools and CA-IDMS/CMS Option APAR Maintenance

# 7.1 Introduction

The Online APAR Maintenance Facility is designed to allow the VM/ESA user to apply corrective maintenance to their CA-IDMS, CA-IDMS Tools or CA-IDMS/CMS Option runtime environment in an easy-to-understand, controlled, and documented manner.

The APAR procedures for CA-IDMS, CA-IDMS Tools and the CA-IDMS/CMS Option are identical, but are presented once. In this section, substitute **prod** with the appropriate value. The product name in the screen headings are different for each product:

1. IDMS - CA-IDMS
2. TOOL - CA-IDMS Tools
3. CMSO - CA-IDMS/CMS Option

As in the software install procedures, the APAR maintenance is driven by a series of online menus and EXECs. Online menu and field help is available for each screen.

Separate log files are maintained for CA-IDMS and CA-IDMS Tools to provide an audit trail of all activity processed against your system, both successful and unsuccessful. These log files can be viewed online at any time.

**Applying APARs:** To apply APARs, you must:

- Obtain the APAR source
- Display the APAR menu
- Set your site parameters
- List and apply required and optional APARs
- Reverse an APAR if necessary
- List required and optional APARs that have been applied
- Review APAR history
- Review output in reader queue

This chapter discusses each of the topics listed.

## 7.2 Obtaining the APAR Source

APAR source can be obtained from these sources:

- Via the Total Client Care (TCC) online system
- From APARs delivered on an APAR tape
- Over the telephone from a Computer Associates technical support representative

To ensure correct processing by the online system, you must follow these naming conventions:

- The FILE NAME should be either the temporary APAR number (for example, TC01001) received from a TSR if the APAR is unpublished or the actual published APAR number (for example, LO12345)
- The FILE TYPE should be
  - **prod**APAR - required APARs
  - **prod**OPT - optional APARs

**Note:** For clients who have installed the CA-IDMS/CMS Option, the value for **prod** should be **IDMS**.

Regardless of the source, the format of the APAR is consistent and is provided in a form specific to the VM/ESA environment, not in some standard format that requires editing.

## 7.3 Displaying the APAR Menu

Take the following steps to display the APAR menu:

1. Execute **prod**150

   The Main menu displays on your terminal.

```
CAE5F0            C O M P U T E R   A S S O C I A T E S      TAPE: volser
DATE: 09/23/01    CA-IDMS VM INSTALLATION & MAINTENANCE      USER: userid
TIME: 10:37:57              M A I N  M E N U


                      SET INSTALLATION PARAMETERS

                      INSTALL PRODUCT(S) FROM BASE TAPE

                      INSTALL PRODUCT MAINTENANCE TAPE

                      APPLY APAR CORRECTION(S) TO SYSTEM

                      DISPLAY GLOBALV VARIABLES

                      EXIT



    PLACE THE CURSOR NEXT TO THE DESIRED OPTION AND PRESS ENTER
                ( PF1 = MENU HELP     PF3 = EXIT )

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```

2. Place the cursor next to **APPLY APAR CORRECTION(S) TO SYSTEM**
3. Press ENTER

The APAR menu shown below displays on your terminal.

```
CAE5APAR          C O M P U T E R   A S S O C I A T E S      TAPE: volser
DATE: 09/23/01    CA-IDMS VM INSTALLATION & MAINTENANCE      USER: userid
TIME: 09:44:36              A P A R  M E N U


                     SET APAR MAINTENANCE PARAMETERS

                     LIST REQUIRED APARS AVAILABLE FOR APPLICATION
                     LIST OPTIONAL APARS AVAILABLE FOR APPLICATION

                     LIST REQUIRED APARS WHICH HAVE BEEN APPLIED
                     LIST OPTIONAL APARS WHICH HAVE BEEN APPLIED

                     REVIEW APAR HISTORY LOG FILE
                     REVIEW APAR ERROR LOG FILE

                     REVIEW OUTPUT IN READER QUEUE
                     EXIT


   PLACE THE CURSOR NEXT TO THE DESIRED OPTION AND PRESS ENTER
               ( PF1 = MENU HELP     PF3 = EXIT )
```

# 7.4 Setting Your Site Parameters

After displaying the APAR menu, you must set your site specific parameters. Take these steps to set your site specific parameters:

1. Place the cursor next to **SET APAR MAINTENANCE PARAMETERS** on the APAR menu.
2. Press ENTER.

   The Set APAR Maintenance Parameters screen displays on your terminal.

```
CAE5SALD          C O M P U T E R   A S S O C I A T E S      TAPE: volser
DATE: 09/23/01    CA-IDMS VM INSTALLATION & MAINTENANCE      USER: userid
TIME: 09:44:59       SET APAR MAINTENANCE PARAMETERS


LOADLIB FILE NAME: IDMSLIB
LOADLIB FILE MODE: A
 NEW CREATION ONLY
APAR SOURCE FM:    A









+-------------------------------------------------------------------------------+
|  PF1= FIELD HELP    PF3= RETURN (NO CHANGES)     PF9= UPDATE PARAMETERS     |
+-------------------------------------------------------------------------------+
```

3. Update the fields described in the table below to determine where APARs are applied and where the APAR source members are located. Type the new information in each field and press PF9 to update the parameters.

   Pressing ENTER has no affect on the saved values. Press PF3 to exit and return to the APAR menu.

| Field | Description |
|---|---|
| LOADLIB FILE NAME | This field specifies the CMS LOADLIB where the selected APARs are applied. This field can be changed at any time. The installation default is **prod**LIB, the base install library. See the description below of the processing flow based on what you choose here. |
| LOADLIB FILE MODE | This field specifies the minidisk where the load library exists, or is created if it does not exist. The installation default is 'A'. |
| APAR SOURCE FM | This field specifies the minidisk containing the APAR source members. The installation default is 'A'. |

**LOADLIB Processing:** Many users do **not** want to apply maintenance to their base load library, **prod**LIB. They want to remain 'clean' with the contents unchanged. You can specify a library name that does not exist.

When an APAR is applied, the software checks to see if the library exists. If the library does not exist, it is created and modules are copied from **prod**LIB LOADLIB into the new library. In an existing library, the software checks to see if the affected module is in the library. This indicates prior maintenance has been applied to the module. If the module is **not** present, it is automatically copied from **prod**LIB LOADLIB automatically.

**Note:** Modules are **only** copied from **prod**LIB. If you have updated modules in a library not currently specified, the EXECs cannot find them and your maintenance is out of sync.

# 7.5 Listing and Applying Required APARs

To see a list of the required APARs (all files with FILE TYPE **prod**APAR) available for applications, take the following steps to display the List Required APARs Available To Be Applied screen:

1. Place the cursor next to **LIST REQUIRED APARS AVAILABLE FOR APPLICATION** on the APAR menu
2. Press ENTER

   The List Required APARs Available To Be Applied screen displays on your terminal.

```
 CAE5LAPR          C O M P U T E R   A S S O C I A T E S      TAPE: volser
 DATE: 09/23/01    CA-IDMS VM INSTALLATION & MAINTENANCE      USER: userid
 TIME: 09:47:18  LIST REQUIRED APARS AVAILABLE TO BE APPLIED   LIB:  IDMSLIB
 PAGE: 1 OF 1

ACTION  APAR NUMBER
  _     LO36265









  TO BROWSE AN APAR, ENTER A B NEXT TO THE APAR(S) AND HIT ENTER
  TO APPLY ANY APARS, ENTER AN X NEXT TO THE APAR(S) AND HIT PF9
  TO LOCATE AN APAR, ENTER THE APAR NUMBER AND HIT PF1:
+---------------------------------------------------------------------+
| PF1= LOCATE   PF3= RETURN     PF5= TOP          PF6=  BOTTOM        |
| PF7= PAGE UP  PF8= PAGE DOWN  PF9= APPLY APARS  PF10= VERIFY ONLY   |
+---------------------------------------------------------------------+
```

You are presented with a list, it may span several screens, of all required APARs that were found on the minidisk specified in the SOURCE FM parameter of the Set APAR Maintenance Parameters screen. The system displays a message if no APARs are available.

**Note:** If you believe some APARs should be listed and none are displayed, check to verify the APAR SOURCE FM on the Set APAR Maintenance Parameters screen is correct. Next, check the disk to ensure the files have a FILE TYPE of **prod**APAR.

**Browsing an APAR:** You can browse an APAR by placing a 'B' in the ACTION column next to one or more APARs and pressing ENTER. This allows you to browse each APAR selected. To exit each APAR, press PF3. If more than one APAR is selected, each one is processed in order.

For multiple screens, indicated by the PAGE 1 of x on line 4 in the left corner of the screen, use the PF keys to move through the list. PF key assignments are listed at the

bottom of the screen. To search for a specific APAR, enter the number in the field provided and press PF1. If the specified APAR is not found, an error message is displayed on line 5 of the screen; otherwise, you are positioned on the appropriate screen.

**Selecting an APAR(s):** To select one or more APARs, enter an 'X' in the ACTION column next to the appropriate APAR(s).

**Verifying APAR(s):** To verify the APAR(s) actually applies on your system, press PF10. In this case, **no** updates occur and only the VER statements in the APAR(s) are processed. Also, no entries are made in the log file, CA**prod**15 APARLOG. For each APAR that verifies, the system displays a 'V' in the ACTION column. If the verify was unsuccessful, the system displays an 'F' in the ACTION column.

**Applying APAR(s):** To apply the APAR(s) to your system, press PF9. Updates are applied to the appropriate load library using the ZAP utility. For each APAR that is successfully applied, the system displays an 'A' in the ACTION column and makes an entry in the APAR log file, CA**prod**15 APARLOG. If the apply was unsuccessful, the system displays an 'F' in the ACTION column and makes an entry in the APAR error log file, CA**prod**15 ERRLOG.

For information regarding the log file contents, see 7.10, “Reviewing APAR History” on page 7-17.

**Results of APAR Processing:** For each APAR processed, either verify only or actually applying, a member is created in your reader list with a FILENAME of the APAR number and a FILETYPE of ZAPLOG. Review these by returning to the APAR menu and selecting REVIEW OUTPUT IN READER QUEUE.

Once an APAR is successfully applied, the source member is renamed. The FILE NAME remains the same but the FILE TYPE is changed to **prod**APLY. This APAR can now be displayed using the LIST REQUIRED APARS WHICH HAVE BEEN APPLIED option on the APAR menu.

# 7.6 Listing and Applying Optional APARs

To see a list of optional APARs (all files with FILE TYPE **prod**OPT) available for applications, take the following steps to display the List Optional APARs Available To Be Applied screen:

1. Place the cursor next to **LIST OPTIONAL APARS AVAILABLE FOR APPLICATION** on the APAR menu
2. Press ENTER

   The List Optional APARs Available To Be Applied screen displays on your terminal.

```
 CAE5LAPR          C O M P U T E R   A S S O C I A T E S      TAPE: volser
 DATE: 09/23/01    CA-IDMS VM INSTALLATION & MAINTENANCE      USER: userid
 TIME: 09:45:48  LIST OPTIONAL APARS AVAILABLE TO BE APPLIED  LIB:  DBALIB
 PAGE: 1 OF 8

ACTION  APAR NUMBER
  _     CS74316
  _     CS76640
  _     CS76649
  _     CS81862
  _     CS81905
  _     CS81906
  _     CS81907
  _     CS82065
  _     CS82230
  _     CS82257

  TO BROWSE AN APAR, ENTER A B NEXT TO THE APAR(S) AND HIT ENTER
  TO APPLY ANY APARS, ENTER AN X NEXT TO THE APAR(S) AND HIT PF9
  TO LOCATE AN APAR, ENTER THE APAR NUMBER AND HIT PF1:
+---------------------------------------------------------------------+
| PF1= LOCATE   PF3= RETURN     PF5= TOP          PF6=  BOTTOM        |
| PF7= PAGE UP  PF8= PAGE DOWN  PF9= APPLY APARS  PF10= VERIFY ONLY   |
+---------------------------------------------------------------------+
```

You are presented with a list, it may span several screens, of all optional APARs found on the minidisk specified in the SOURCE FM parameter of the Set APAR Maintenance Parameters screen. The system displays a message if no APARs are available.

**Note:** If you believe some APARs should be listed and none are displayed, verify the APAR SOURCE FM on the Set APAR Maintenance Parameters screen is correct. Next, check the disk to ensure the files have a FILE TYPE of **prod**OPT.

**Browsing an APAR:** You can browse an APAR by placing a 'B' in the ACTION column next to one or more APARs and pressing ENTER. You can then browse each APAR selected. To exit each APAR, press PF3. If more than one APAR was selected, each one is processed in order.

For multiple screens, indicated by the PAGE 1 of x on line 4 in the left corner of the screen, use the PF keys to move through the list. PF key assignments are listed at the

bottom of the screen. To search for a specific APAR, enter the number in the field provided and press PF1. If no APAR with the requested number is found, an error message is displayed on line 5 of the screen; otherwise, you are positioned on the appropriate screen.

**Selecting an APAR(s):** To select one or more APARs, enter an 'X' in the ACTION column next to the appropriate APAR(s).

**Verifying APAR(s):** To verify the APAR(s) applies to your system, press PF10. In this case, **no** updates occur and only the VER statements in the APAR(s) are processed. Also, no entries are made in the log file, CA**prod**15 APARLOG. For each APAR that verifies, the system displays a 'V' in the ACTION column. If the verify was unsuccessful, the system displays an 'F' in the ACTION column.

**Applying APAR(s):** To apply the APAR(s) to your system, press PF9. Updates are applied to the appropriate load library using the ZAP utility. For each APAR that is successfully applied, the system displays an 'A' in the ACTION column and makes an entry in the APAR log file, CA**prod**15 APARLOG. If the apply was unsuccessful, the system displays an 'F' in the ACTION column and makes an entry in the APAR error log file, CA**prod**15 ERRLOG.

For information regarding the log file contents, see 7.10, “Reviewing APAR History” on page 7-17.

**Results of APAR Processing:** For each APAR processed, either verify only or actually applying, a member is created in your reader list with a FILENAME of the APAR number and a FILETYPE of ZAPLOG. These can be reviewed by returning to the APAR menu and selecting REVIEW OUTPUT IN READER QUEUE.

Once an APAR is successfully applied, the source member is renamed. The FILE NAME remains the same but the FILE TYPE is changed to **prod**AOPT. This APAR can now be displayed using the LIST OPTIONAL APARS WHICH HAVE BEEN APPLIED option on the APAR menu.

# 7.7 Reversing APARs Already Applied

It may be necessary to remove or 'back off' an APAR that has been applied to your system. Functions are provided to allow you to execute this function in the same manner as applying the APAR.

The process used to remove APARs is to take the VERs and REPs and reverse them (for example, make the VERs into REPs and vice versa). This is done internally and does **not** require modification by the user. The actual APAR source is **never** modified by the online system so that an APAR may be applied, tested, reversed, modified by the user, and then re-applied with a minimum of intervention.

# 7.8 Listing Required APARs Already Applied

To see which required APARs (all files with FILE TYPE **prod**APLY) have been applied, follow these steps to display the List Required APARs That Have Been Applied screen:

1. Place the cursor next to **LIST REQUIRED APARS WHICH HAVE BEEN APPLIED** on the APAR menu
2. Press ENTER

   The List Required APARs That Have Been Applied screen displays on your terminal.

```
 CAE5RAPR          C O M P U T E R   A S S O C I A T E S      TAPE: volser
 DATE: 09/23/01    CA-IDMS VM INSTALLATION & MAINTENANCE      USER: userid
 TIME: 09:47:44  LIST REQUIRED APARS THAT HAVE BEEN APPLIED   LIB:  IDMSLIB
 PAGE: 1 OF 3

ACTION  APAR NUMBER
  _     LO36295
  _     LO36311
  _     LO36315
  _     LO36327
  _     LO36334
  _     LO36350
  _     LO36351
  _     LO36361
  _     LO36397
  _     LO36399

  TO BROWSE AN APAR, ENTER A B NEXT TO THE APAR(S) AND HIT ENTER
  TO REVERSE ANY APAR(S), ENTER AN X NEXT TO THE APAR(S) AND HIT PF9
  TO LOCATE AN APAR, ENTER THE APAR NUMBER AND HIT PF1:
+-------------------------------------------------------------------------+
| PF1= LOCATE   PF3= RETURN     PF5= TOP           PF6=  BOTTOM           |
| PF7= PAGE UP  PF8= PAGE DOWN  PF9= REVERSE APARS PF10= VERIFY ONLY      |
+-------------------------------------------------------------------------+
```

You are presented with a list, possibly spanning several screens, of all required APARs on the minidisk specified as the SOURCE FM in the Set APAR Maintenance Parameters screen. The system displays a message if no APARs are available.

**Note:** If you believe some APARs should be listed and none are displayed, verify the APAR SOURCE FM on the Set APAR Maintenance Parameters screen is correct. Next, check the minidisk to ensure the files have a FILE TYPE of **prod**APLY.

**Browsing an APAR:** You can browse an APAR by placing a 'B' in the ACTION column next to one or more APARs and pressing ENTER. You can then browse each APAR selected. To exit each APAR, press PF3. If more than one APAR was selected, each one is processed in order.

For multiple screens, indicated by the PAGE 1 of x on line 4 in the left corner of the screen, use the PF keys to move through the list. PF key assignments are listed at the bottom of the screen. To search for a specific APAR, enter the number in the field

provided and press PF1. If no APAR with the requested number is found, an error message is displayed on line 5 of the screen; otherwise, you are positioned on the appropriate screen.

**Selecting an APAR(s):** To select one or more APARs, enter an 'X' in the ACTION column next to the appropriate APAR(s).

**Verifying reversal of an APAR:** If you want to verify the APAR(s) will reverse correctly on your system, press PF10.

In this case **no** updates occur, only the REP statements in the APAR(s) are processed and made into VERs. Also, no entries are made in the log file, CA**prod**15 APARLOG. For each APAR that is verified, the system displays a 'V' in the ACTION column. If the verify is unsuccessful, the system displays an 'F' in the ACTION column.

**Removing APARs:** To remove the APAR(s) from your system, press PF9. Updates are applied to the appropriate load library using the ZAP utility. For each APAR that is successfully removed, the system displays an 'R' in the ACTION column and makes an entry in in the APAR log file, CA**prod**15 APARLOG. If the removal is unsuccessful, the system displays an 'F' in the ACTION column and makes an entry in the APAR error log file, CA**prod**15 ERRLOG.

To see what information is contained in the log file, see 7.11, “Reviewing Output in the Reader Queue” on page 7-18.

**Results of APAR Processing:** For each APAR processed, either verify only or actually removing, a member is created in your reader list with a FILENAME of the APAR number and a FILETYPE of ZAPLOG. These can be reviewed by returning to the APAR menu and selecting the REVIEW OUTPUT IN READER QUEUE option.

Once an APAR has been successfully removed, the source member is renamed. The FILE NAME remains the same but the FILE TYPE is changed to **prod**APAR, the same as it looked before it was applied. This APAR now displays on the List Required APARs Available for Application screen.

# 7.9 Listing Optional APARs Already Applied

To see which optional APARs (all files with FILE TYPE **prod**AOPT) are applied, follow these steps to display the List Optional APARs That Have Been Applied screen:

1. Place the cursor next to **LIST OPTIONAL APARS WHICH HAVE BEEN APPLIED** on the APAR menu
2. Press ENTER

   The List Optional APARs That Have Been Applied screen displays on your terminal.

```
 CAE5RAPR          C O M P U T E R   A S S O C I A T E S      TAPE: volser
 DATE: 09/23/01    CA-IDMS VM INSTALLATION & MAINTENANCE      USER: userid
 TIME: 09:48:12  LIST OPTIONAL APARS THAT HAVE BEEN APPLIED   LIB:  IDMSLIB
 PAGE: 1 OF 1
    THERE ARE NO OPTIONAL APARS THAT HAVE BEEN APPLIED!
ACTION  APAR NUMBER









  TO BROWSE AN APAR, ENTER A B NEXT TO THE APAR(S) AND HIT ENTER
  TO REVERSE ANY APAR(S), ENTER AN X NEXT TO THE APAR(S) AND HIT PF9
  TO LOCATE AN APAR, ENTER THE APAR NUMBER AND HIT PF1:
+-------------------------------------------------------------------------+
| PF1= LOCATE   PF3= RETURN     PF5= TOP           PF6=  BOTTOM           |
| PF7= PAGE UP  PF8= PAGE DOWN  PF9= REVERSE APARS PF10= VERIFY ONLY      |
+-------------------------------------------------------------------------+
```

You are presented with a list, possibly spanning several screens, of all optional APARs that were found on the minidisk specified as the SOURCE FM in the Set APAR Maintenance Parameters screen. The system displays a message if no APARs are available.

**Note:** If you believe that some APARs should be listed and none are displayed, check to make sure that the APAR SOURCE FM on the Set APAR Maintenance Parameters screen is correct. Next, check the disk to make sure the files you expect have a FILE TYPE of **prod**AOPT.

**Browsing an APAR:** You can browse an APAR by placing a 'B' in the ACTION column next to one or more APARs and pressing ENTER. You can then browse each APAR selected. To exit each APAR, press PF3. If more than one APAR was selected, each one is processed in order.

For multiple screens, indicated by the PAGE 1 of x on line 4 in the left corner of the screen, you can use PF keys to move through the list. PF key assignments are listed at

the bottom of the screen. To search for a specific APAR, enter the number in the field provided and press PF1. If an APAR with the requested number is not found, an error message is displayed on line 5 of the screen; otherwise, you are positioned on the appropriate screen.

**Selecting an APAR(s):** To select one or more APARs, enter an 'X' in the ACTION column next to the appropriate APAR(s).

**Verifying Reversal of an APAR:** If you want to verify the APAR(s) will reverse correctly on your system, press PF10.

In this case **no** updates occur and only the REP statements in the APAR(s) are processed and made into VERs. Also, no entries are made in the log file, CA**prod**15 APARLOG. For each APAR that verifies, the system displays a 'V' in the ACTION column. If the verify is unsuccessful, the system displays an 'F' in the ACTION column.

**Removing APARs:** To remove the APAR(s) from your system, press PF9. Updates are applied to the appropriate load library using the ZAP utility. For each APAR that is successfully removed, the system displays an 'R' in the ACTION column and makes an entry in in the APAR log file, CA**prod**15 APARLOG. If the removal is unsuccessful, the system displays an 'F' in the ACTION column and makes an entry in the APAR error log file, CA**prod**15 ERRLOG.

To see what information is contained in the log file, see 7.11, “Reviewing Output in the Reader Queue” on page 7-18.

**Results of APAR Processing:** For each APAR processed, either verify only or actually removing, a member is created in your reader list with a FILENAME of the APAR number and a FILETYPE of ZAPLOG. These can be reviewed by returning to the APAR menu and selecting the REVIEW OUTPUT IN READER QUEUE option.

Once an APAR has been successfully removed, the source member is renamed. The FILE NAME remains the same but the FILE TYPE is changed to **prod**OPT, the same as it looked before it was applied. This APAR now displays on the List Optional APARs Available for Application screen.

## 7.10 Reviewing APAR History

You can review either of the history files online. You are placed in BROWSE and can execute any function supported by BROWSE. You cannot modify the files.

To review the log file of successfully applied APARs, CA**prod**15 APARLOG, place the cursor next to the **REVIEW APAR HISTORY LOG FILE** on the APAR menu and press ENTER. To review the log file of unsuccessfully applied APARs, CA**prod**15 ERRLOG, place the cursor next to the **REVIEW APAR ERROR LOG FILE** option on the APAR menu and press ENTER.

The log files contain an entry for each separate correction that was contained in the APAR. Each entry contains the following information:

- APAR number
- Activity - is blank for application of an APAR, REV for reversal
- Load module name
- CSECT name within the load module
- User who applied the APAR
- Date the APAR was applied
- Loadlib name
- Current tape VOLSER (from CA**prod**15 BASEVOL)
- Current installed genlevel (from CA**prod**15 BASEGEN)

# 7.11 Reviewing Output in the Reader Queue

This option is provided to give the user the ability to review the output of the application process without having to exit the EXEC. To select this option, place the cursor next to the **REVIEW OUTPUT IN READER QUEUE** option on the APAR menu and press ENTER. You are placed into RDRLIST and can execute any function normally available. Press PF3 to return to the APAR system.

# Chapter 8. Requirements for the DC/UCF Virtual Machine

### 8.1.1 Required VM/ESA facilities

**Virtual Machine:** Central version operations in the VM/ESA environment require that a DC/UCF system be executing in a CMS virtual machine.

**Note:** Throughout this manual, references to the DC/UCF system apply equally to CA-IDMS/DC systems and to systems that include the Universal Communications Facility (UCF) but not CA-IDMS/DC.

Both batch and online programs access CA-IDMS files through the DC/UCF system.

**Note:** CA-IDMS/DB can be used in local mode in a CMS virtual machine.

To install CA-IDMS for central version operations in a CMS virtual machine, you must be running VM/ESA.

**VM/ESA Communications Facilities:** The following VM/ESA facilities are used for central version operations when CA-IDMS is installed in a CMS virtual machine:

- The **Virtual Machine Communication Facility (VMCF)** is used for communication between virtual machines when batch processing or UCF is used to request central version operations.
- The **Inter-User Communications Vehicle (IUCV)** is used by the DASD Block I/O System Service to perform asynchronous I/O operations on CA-IDMS database, dictionary, and journal files.

# 8.2 CMS Option

**About the CMS Option:** The CMS Option is a product that allows CA-IDMS/DC to run under the operating system CMS. In all circumstances the user must install the CMS Option. The only time the CMS Option is *not* required is when CA-IDMS/DC is running in either a guest operating system (for example MVS or VSE) or as a CMS/CV and where all access to the database is directly via dial-up (that is through the CP DIAL command).

The CMS Option makes communication possible from one virtual machine to another in a VM environment by taking advantage of the VMCF communication facility.

## 8.2.1 CMS Option Components

**Systems:** Technically, the CMS Option consists of the following components:

- CMS - Conversational Monitor System
- UCF - Universal Communication Facility
- CV - Central Version
- SVC - Supervisor Call

**CMS Component Modules:** The CMS component consists of these modules:

- IDMSVMCF
- IDMSUSVC
- #SVCOPT
- RHDCOCMS
- #UCFCMS
- #UCFUFT
- Several other CA-IDMS modules found in the CMS Option LOADLIB are also required during initial batch execution

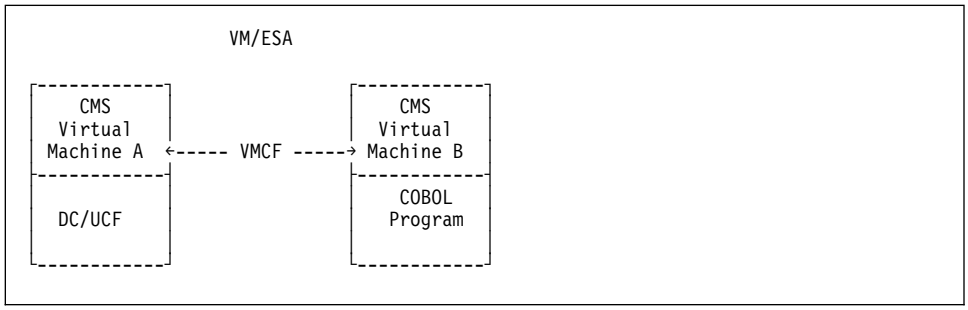
IDMSVMCF is CA-IDMS/DB's interface to VM's communication facility, VMCF which allows communication from one virtual machine to another. IDMSVMCF is located on the front-end CMS user machine. IDMSUSVC is also needed to run under CMS Central Version and provides the same function as IDMSMSVC under MVS and IDMSDSVC under VSE. The #SVCOPT macro defines the operating environment for the IDMSUSVC module. IDMSUSVC and #SVCOPT are located on the back-end CMS Central Version machine. RHDCOCMS is the operating system dependent module for CMS Central Version which supports the CMS access method and SVC simulation. RHDCOCMS is located both on the front-end CMS user machine and the back-end CMS Central Version machine. The two UCF macros form the front-end to UCF on the CMS side.

## 8.2.2 When the CMS Option is needed

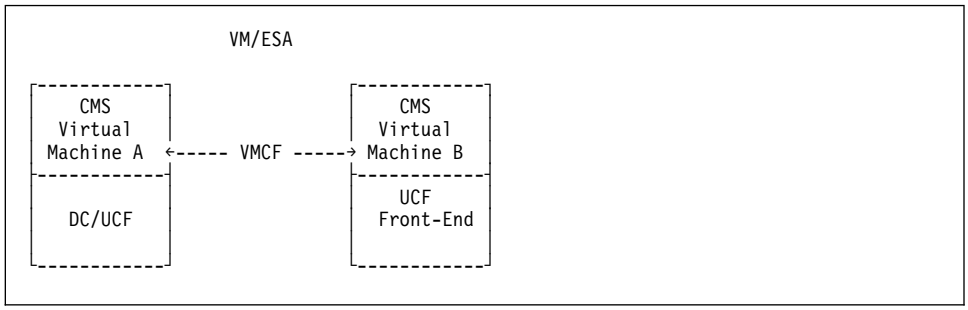
The CMS Option is needed to be able to run CA-IDMS under CMS with or without batch or online communication to other CMS machines. It is also required to run batch or online tasks submitted from a CMS machine to communicate with CA-IDMS running on a guest machine.

The CMS Option must be installed for the following scenarios to be possible under VM.

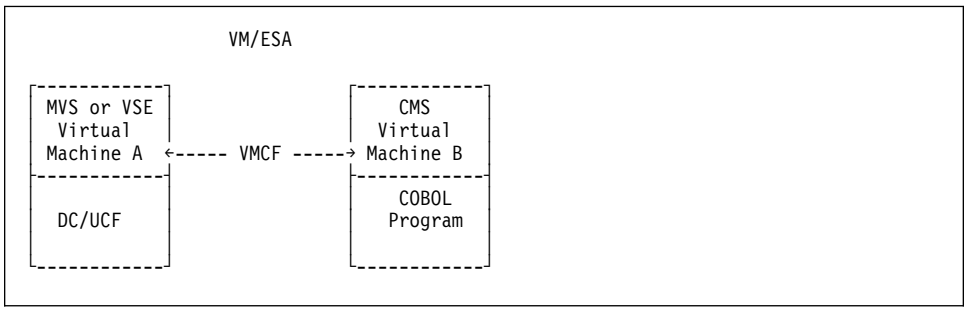
**Batch External Communication:** The CMS Option allows you to run the central version under CMS allowing batch external communication to other CMS machines:




**UCF Communication:** The CMS Option allows you to run the central version under CMS allowing communication from another CMS machine via UCF:

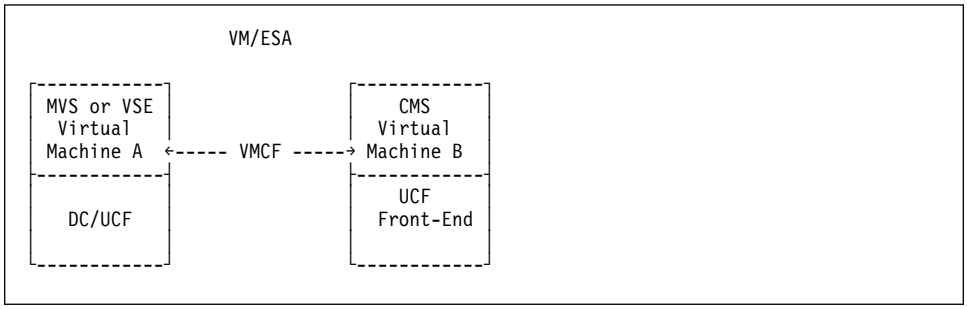



**Batch to Guest System from a CMS Virtual Machine:** The CMS Option allows you to run the central version under a guest operating system and allow batch jobs submitted from a CMS machine to communicate:




**Note:** This is a common development/testing environment.

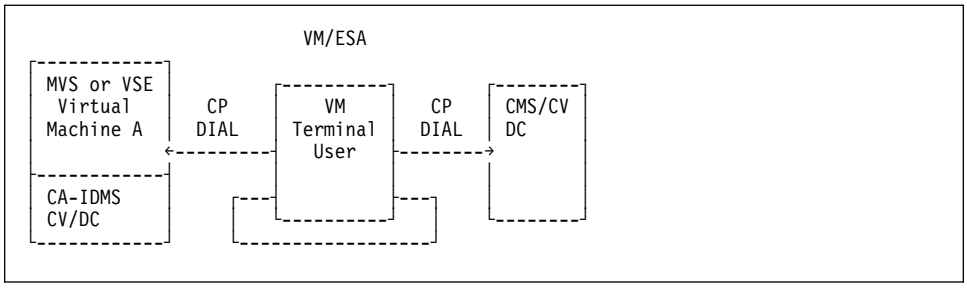
**UCF Communication to a Guest System:** The CMS Option allows you to run the central version under a guest operating system and allow communication from another CMS machine via UCF:




## 8.2.3 When the CMS Option is not needed

**CP DIAL Communication:** The only time the CMS Option need *not* be installed is when the user intends to run CA-IDMS under a guest operating system (which in turn is running under VM) and allow online communication using the CP DIAL command to access the TP monitor (including CA-IDMS/DC).

**Online Processing Only:** The restriction is that only online communication is possible. It would not be possible to compile a program on a CMS machine against the central version running on the guest operating system without the CMS Option present.



## 8.3 Directory Entry for the DC/UCF Virtual Machine

Each virtual machine in the VM/ESA environment is defined by a directory entry. Considerations for coding the VM/ESA directory entry that defines the DC/UCF virtual machine are listed in the table below:

| Control statement | Coding consideration |
|---|---|
| USER | Includes the specifications for the following:<br>■ The **user ID** assigned to the virtual machine is the name through which users access the DC/UCF system.<br>■ The **storage size** of the DC/UCF virtual machine must be at least 8 megabytes (8M). If ESA dataspaces are used, the storage size must be at least 20 megabytes (20M).<br>■ The **privilege classes** assigned to the DC/UCF virtual machine must include class G. |
| IPL | Should specify CMSL rather than CMS as the system to be loaded if the VM/ESA environment includes a CMSL saved segment. When CMSL is used, the DC/UCF system can grow, if necessary, without overlapping the saved segment containing the CMS nucleus.<br>If the DC/UCF virtual machine uses other program products that are stored in saved segments, you must ensure that the segments are located high enough in virtual storage to prevent overlapping by the DC/UCF system. |
| OPTION | The MAXCONN parameter must specify a maximum number of IUCV connections that is equal to or greater than the number of MDISK control statements for CA-IDMS files |
| CONSOLE | The virtual console identified becomes the DC/UCF operator's console when you log on to the DC/UCF virtual machine while the DC/UCF system is executing. |
| SPOOL | The VM/ESA directory entry for the DC/UCF virtual machine can include one or more SPOOL control statements for printers receiving spooled output. |
| DEDICATE | The VM/ESA directory entry for the DC/UCF virtual machine should include DEDICATE control statements for:<br>■ **Terminals** dedicated to the DC/UCF system<br>■ **Printers** dedicated to the DC/UCF system |
| SPECIAL | The VM/ESA directory entry for the DC/UCF virtual machine should include SPECIAL control statements for **terminals** that can be used for DIAL access to the DC/UCF system. |

| Control statement | Coding consideration |
|---|---|
| MDISK | The VM/ESA directory entry for the DC/UCF virtual machine must include one MDISK control statement for each CA-IDMS database, dictionary, and journal file to be known to the DC/UCF system. The access mode in the statements for the journal files and for the file containing the DDLDCLOG area of the dictionary should be specified as multiple write (MW). The access mode in the statements for the other dictionary files and for the database files should be specified as multiple read (MR). The minidisk identified by each statement is allocated to the appropriate CA-IDMS file by means of the CMS RESERVE command during the installation procedure. |
| Dataspace Support Options (requires ES9000 model computer or compatible) | |
| XCONFIG ADDRSPACE | (Required) The XCONFIG ADDRSPACE entry controls the number and size of dataspaces.<br><br>The MAXNUMBER parameter defines the maximum number of non-primary address spaces that a virtual machine can create and have exist concurrently.<br><br>The TOTSIZE parameter which can be defined in megabytes or gigabytes is the total virtual storage of all non-primary address spaces.<br><br>The SHARE/NOSHARE parameter specifies whether the CA-IDMS virtual machine can authorize other virtual machines to access its primary address space or its dataspaces. |
| XCONFIG ACCESSLIST | (Optional) The XCONFIG ACCESSLIST entry identifies the maximum number of dataspaces that can be simultaneously accessed.<br><br>The ALSIZE parameter specifies the maximum number of dataspaces that can be accessed. |
| MACHINE XC | (Optional) Prior to creating a dataspace, the CA-IDMS virtual machine must be running in XC mode. This can also be done by issuing the CP command SET MACHINE XC. |

**Sample directory**

A sample directory entry for the CMS virtual machine in which DC/UCF is to execute follows:

### CMS Virtual Machine Directory Entry

```
USER CVDC CVDCPASS 8M 17M G                                 > 16M for ESA storage
ACCOUNT CORP0004 BLDG2
IPL CMSL PARM AUTOCR
XCONFIG ADDRSPACE MAXNUMBER 62 TOTSIZE 124G SHARE           ES9000 processor only
XCONFIG ACCESSLIST ALSIZE 62                                ES9000 processor only
OPTION MAXCONN 50
CONSOLE 009 3215 A
SPOOL 00C 2540 READER *
SPOOL 00D 2540 PUNCH A
SPOOL 00E 1403 A
DEDICATE 460 300                                            Dedicated printer
DEDICATE NETWORK 490 0102                                   Remote dedicated printer
DEDICATE 470 39A                                            Dedicated terminal
DEDICATE 471 39B                                            Dedicated terminal
DEDICATE 472 39C                                            Dedicated terminal
DEDICATE 473 39D                                            Dedicated terminal
DEDICATE 474 39E                                            Dedicated terminal
SPECIAL 420 3270                                            Terminal for DIAL access
SPECIAL 421 3270                                            Terminal for DIAL access
SPECIAL 422 3270                                            Terminal for DIAL access
SPECIAL 423 3270                                            Terminal for DIAL access
SPECIAL 424 3270                                            Terminal for DIAL access
LINK MAINT 190 190 RR                                       S disk
LINK MAINT 19E 19E RR                                       Y disk
MDISK 191 3380 480 200 VOL106 MR ALL WA MA                  A disk
MDISK 503 3380 220 007 VOL403 MR RDML  WDML  MDML           For file DCDML
MDISK 50A 3380 252 027 VOL403 MR RDMSG WDMSG MDMSG          For file DCMSG
MDISK 504 3380 269 001 VOL403 MR RDLOD WDLOD MDLOD          For file DCLOD
MDISK 506 3380 274 004 VOL403 MR RDRUN WDRUN MDRUN          For file DCRUN
MDISK 507 3380 279 008 VOL403 MR RDSCR WDSCR MDSCR          For file DCSCR
MDISK 505 3380 284 027 VOL403 MW RDLOG WDLOG MDLOG          For file DCLOG
MDISK 500 3380 289 002 VOL403 MR RCAT  WCAT  MCAT           For file DCCAT
MDISK 502 3380 290 001 VOL403 MR RCATL WCATL MCATL          For file DCCATL
MDISK 501 3380 291 001 VOL403 MR RCATX WCATX MCATX          For file DCCATX
MDISK 50D 3380 299 004 VOL403 MR RDSEC WDSEC MDSEC          For file SECDD
MDISK 508 3380 044 014 VOL401 MR RDIRL WDIRL MDIRL          For file DIRLDB
MDISK 509 3380 046 001 VOL401 MR RDDLO WDDLO MDDLO          For file DIRLOD
MDISK 51C 3380 046 019 VOL401 MW RJNL1 WJNL1 MJNL1          For file J1JRNL
MDISK 51D 3380 050 019 VOL401 MW RJNL2 WJNL2 MJNL2          For file J2JRNL
MDISK 511 3380 600 001 VOL417 MR REMP WEMP MEMP             For file EMPDEMO
MDISK 512 3380 602 001 VOL417 MR RINS WINS MINS             For file INSDEMO
MDISK 513 3380 604 001 VOL417 MR RORG WORG MORG             For file ORGDEMO
MDISK 50E 3380 168 014 VOL404 MR RSQL  WSQL  MSQL           For file SQLDD
MDISK 50F 3380 169 004 VOL404 MR RSQLL WSQLL MSQLL          For file SQLLOD
```

```
MDISK 510 3380 171 004 VOL404 MR RSQLX WSQLX MSQLX     For file SQLXDD
MDISK 514 3380 174 001 VOL404 MR REMPL WEMPL MEMPL     For file EMPLDEMO
MDISK 515 3380 183 001 VOL404 MR RINFO WINFO MINFO     For file INFODEMO
MDISK 516 3380 195 001 VOL404 MR RINDX WINDX MINDX     For file INDXDEMO
MDISK 517 3380     001                                 For file PROJDEMO
MDISK 50B 3380     014                                 For file DICTDB
MDISK 50C 3380     004                                 For file DLODDB
MDISK 518 3380     014                                 For file ASFDML
MDISK 519 3380     017                                 For file ASFLOD
MDISK 51A 3380     007                                 For file ADEFN
MDISK 51B 3380     007                                 For file ADATA
MDISK 51E 3380     019                                 For file J3JRNL
MDISK 51F 3380     019                                 For file J4JRNL
```

►► For a description of the CA-IDMS files created during the installation procedure, refer to 2.4, “Minidisk Space Requirements” on page 2-7.

# 8.4 Standard CMS Environment

**Real Rime Requirement:** For VM/ESA users executing in 370 mode, the CMS virtual machine in which the DC/UCF system is to execute must operate in the standard CMS environment and in *real time*.

The virtual machine executing in 370 mode must be operating in real time to ensure that DC/UCF handles time-related events accurately. Real time is established either by the REALTIMER parameter of the OPTION control statement in the VM/ESA directory entry for the virtual machine or by the CP SET TIMER REAL command. The RHDCOCMS module, which is part of the DC/UCF system startup routine, issues the SET TIMER REAL command during the startup process.

**OS Simulation:** The virtual machine must be operating in the standard CMS environment because CA-IDMS uses the OS simulation capabilities of CMS. As a result of this condition, the following restrictions apply:

- **CA-IDMS does not support the CMS/DOS environment.** If the DC/UCF virtual machine is used for other purposes that establish the CMS/DOS environment, you must issue the CMS SET DOS OFF command before starting up the DC/UCF system.
- **CA-IDMS does not support VSAM files**. VSAM files are available only under DOS simulation.
- **CA-IDMS accepts only OS object code in the VM/ESA environment.** To compile a program for execution under CA-IDMS, you should use the CMS version of the appropriate language compiler; the CMS versions of the compilers create OS object code. You can use the OS versions of the compilers if OS is running as a guest operating system under VM/ESA. You must then make the object modules created by the compilers available to the DC/UCF virtual machine.

  **Note:** When using the CMS version of the COBOL or PL/I compiler to compile a program that is loaded into a DC/UCF program pool, you must include the OSDECK parameter in the command to execute the compiler. Additionally, if the language level default for the COBOL compiler is other than 1, you must also include the LANGLVL(1) parameter.
- **The user-supplied sort program required to run certain reports and utilities must be OS-compatible.** An example is CA-Culprit reports.

  ►► If a CA-IDMS report or utility requires a sort program, it is indicated in the sample JCL provided in *CA-IDMS Utilities* and *CA-Culprit Reference Guide*.

# Chapter 9. Creating and Accessing CA-IDMS Files

# 9.1 Operating Mode Considerations

**CA-IDMS File Creation under VM/ESA:** In the VM/ESA environment, CA-IDMS database, dictionary, and journal files reside in standard CMS format on CMS virtual disks (minidisks); VSAM files are not supported. As you expand your CA-IDMS processing environment, you must create new CA-IDMS files.

The procedure used to create CA-IDMS files in the VM/ESA environment is the same regardless of operating mode.

**Central Version/Local Mode File Access:** How CA-IDMS files are accessed depends on the operating mode:

| Operating mode | File access |
|---|---|
| Under the central version | An application program uses the services of a DC/UCF system to access CA-IDMS files. The files are owned by the CMS virtual machine in which the system executes. |
| In local mode | An application program accesses CA-IDMS files through database management modules that are loaded at program runtime. The files can be owned by the CMS virtual machine in which a DC/UCF system executes or by a CMS virtual machine in which only local mode programs execute. |

# 9.2 Creating CA-IDMS Database Files

**Separate Minidisk for Each File:** Each CA-IDMS file *must* reside on a separate minidisk. The minidisks are defined in the VM/ESA directory entry for the DC/UCF virtual machine.

Since all CA-IDMS databases are accessed through DASD Block IO, any EXEC may access any number of CA-IDMS files up to the limit of virtual addresses that can be attached to a single user ID.

**Overview of File Definition:** To create a CA-IDMS file in a VM/ESA environment, you define the file and its characteristics to VM/ESA, and you define the file and its associated database areas to CA-IDMS. To use the file, you define and generate a DMCL that includes the file.

The individual steps in this process are described below.

## 9.2.1 Steps to Define a Database File in VM/ESA

**MDISK Control Statement:** Add an MDISK control statement for the file to the VM/ESA directory entry for the DC/UCF virtual machine. In the MDISK statement, specify the access mode as multiple read (MR), as in this example:

```
MDISK 312 3380 466 015 VOL212 MR RDBFILE WDBFILE MDBFILE
```

**CMS FORMAT Command:** Issue the CMS FORMAT command for the minidisk on which the file resides. In the FORMAT command, you specify a block size for the file.

The sample FORMAT command shown below formats the minidisk identified by the above MDISK statement for a CA-IDMS file:

```
FORMAT 312 D 15 (BLKSIZE 4K
```

**CMS RESERVE Command:** Issue the CMS RESERVE command to allocate all available blocks on the minidisk to the file. The actual number of blocks are available for data is equal to the number of blocks on the minidisk minus the number of blocks used for CMS overhead.

Files created with the RESERVE command can be accessed through the DASD Block I/O System Service. With this method of file access, the virtual machine can continue executing while awaiting completion of an asynchronous I/O operation. The DC/UCF system uses DASD Block I/O to access CA-IDMS files so that the system can continue to dispatch tasks that are ready while other tasks wait for database services.

By default, files allocated by means of the RESERVE command have a filemode number of 6. CA-IDMS files to be accessed using central version operations must be defined with a filemode number of 6 because files with filemode 6 can be updated in

place; this allows the automatic and manual database recovery procedures provided with DC/UCF to function reliably.

The sample RESERVE command shown below allocates the minidisk formatted by the above FORMAT command to a CA-IDMS file with filename CUSTDB, filetype DBFILE, and filemode D:

```
RESERVE CUSTDB DBFILE D
```

**CMS FILEDEF Command:** You can optionally add a CMS FILEDEF command for the file to the commands used to execute the DC/UCF startup routine. In the FILEDEF command, identify the file by the virtual address of the minidisk.

**Note:** You can omit the FILEDEF step in VM/ESA by supplying the information in the CA-IDMS file definition. For details, see 9.2.2, "Steps to Define a Database File in CA-IDMS" below. This is the recommended method.

►► For information about the startup routine for DC/UCF in the VM/ESA environment, see 10.2, "System startup" on page 10-5.

This sample FILEDEF command defines the CA-IDMS file on the formatted and reserved minidisk identified by the MDISK statement above; the file is assigned a ddname of CUSTFILE:

```
FILEDEF CUSTFILE DISK 312
```

## 9.2.2 Steps to Define a Database File in CA-IDMS

**CA-IDMS Segment Definition:** A segment represents a physical database. It is usually defined by a single schema and describes the physical implementation of the database. Associated with a segment are the files and areas that contain the data in the database. Here is an example:

```
ADD SEGMENT SYSTEM FOR
  NONSQL
 PAGE GROUP 0
MAXIMUM RECORDS PER PAGE 255;
```

►► For more information about CA-IDMS segment definition, refer to *CA-IDMS Database Administration.*

**CA-IDMS File Definitions:** You define the file specified in the VM/ESA RESERVE command to CA-IDMS with a CREATE FILE statement. Here is a sample CREATE FILE statement:

```
CREATE FILE SYSTEM.DCDML
  ASSIGN TO DCDML;
```

**Dynamic File Allocation:** If you specify the VM VIRTUAL ADDRESS and VM USER ID parameters in the file definition and associated the file with the DMCL, the file is dynamically allocated when the DMCL module is loaded. Dynamic file allocation eliminates the need to define the files manually in VM/ESA, as described in "CMS FILEDEF commands" above. Here is an example:

```
CREATE FILE SYSTEM.DCDML
  ASSIGN TO DCDML
  VM USERID CAIDMS
  VM VIRTUAL ADDRESS '0500';
```

▸▸ For information about CA-IDMS file definition statements, refer to *CA-IDMS Database Administration*.

**IDMS Dataspaces: CAUTION:**
**This feature is available only on IBM's ES/9000 or compatible line of computers executing VM/ESA 1.1 or higher.**

You can cache database files in a dataspace by using a file override on an ALTER DMCL statement. At runtime, CA-IDMS reads database pages from the dataspace into the database buffer. If it modifies the database page, CA-IDMS writes the modified page back to disk and to the dataspace cache. By using dataspaces, you can reduce the number of pages in the buffer associated with the file because the dataspace provides the caching necessary to minimize the number of I/Os.

Depending on its VM directory options, CA-IDMS running in an XC virtual machine can create multiple address spaces in addition to its primary address space of up to two gigabytes (2GB) each for storing data. These address spaces are called dataspaces because they can be used only for storing and manipulating data. Dataspaces created by CA-IDMS are identified by the eight (8) byte dataspace name: IDMSnnnn

where nnnn is a decimal value from 0001 through 8192.

To cache a database file into a dataspace, use the file override on the ALTER DMCL statement. Here is an example:

```
ALTER DMCL R150DMCL
ADD FILE SYSTEM.DCRUN
ASSIGN TO DCRUN
DATASPACE YES;
```

**CA-IDMS Area Definitions:** Each CA-IDMS database or dictionary file is associated with one or more areas that you define with a CREATE AREA statement. The page size of each area associated with a CA-IDMS database or dictionary file must be 4K. Here is an example:

```
ADD AREA SYSTEM.DDLDML
  PRIMARY SPACE 2000 PAGES FROM 1001
  PAGE SIZE 4096
   WITHIN FILE DCDML FROM 1 FOR ALL BLOCKS;
```

▸▸ For information about CA-IDMS area definition statements, refer to *CA-IDMS Database Administration*.

**CA-IDMS Journal File:** The block size specified in the VM/ESA FORMAT command for a CA-IDMS journal file should be equal to the block size specified for the file in the DMCL. Here is an example:

```
FORMAT 500 D (BLKSIZE 4096
```

**CA-IDMS DMCL:** Create the DMCL and modify it to include the segment with which you associated the database file when you defined it. Here is an example:

```
ADD SEGMENT SYSTEM FOR
  NONSQL
  PAGE GROUP 0
MAXIMUM RECORDS PER PAGE 255;
```

**Creating the DMCL and including the segment**

```
MODIFY DMCL R150DMCL
  INCLUDE SEGMENT SYSTEM

  FILE SYSTEM.DCSCR
    BUFFER DEFAULT_BUFFER

  FILE SYSTEM.DCLOG
    BUFFER LOG_BUFFER

  AREA SYSTEM DCLOG
    ON STARTUP SET STATUS TO UPDATE
     .
     .
     .
     add other segments as appropriate

GENERATE DMCL R150DMCL;
```

►► For information about DMCL statements, refer to *CA-IDMS Database Administration*.

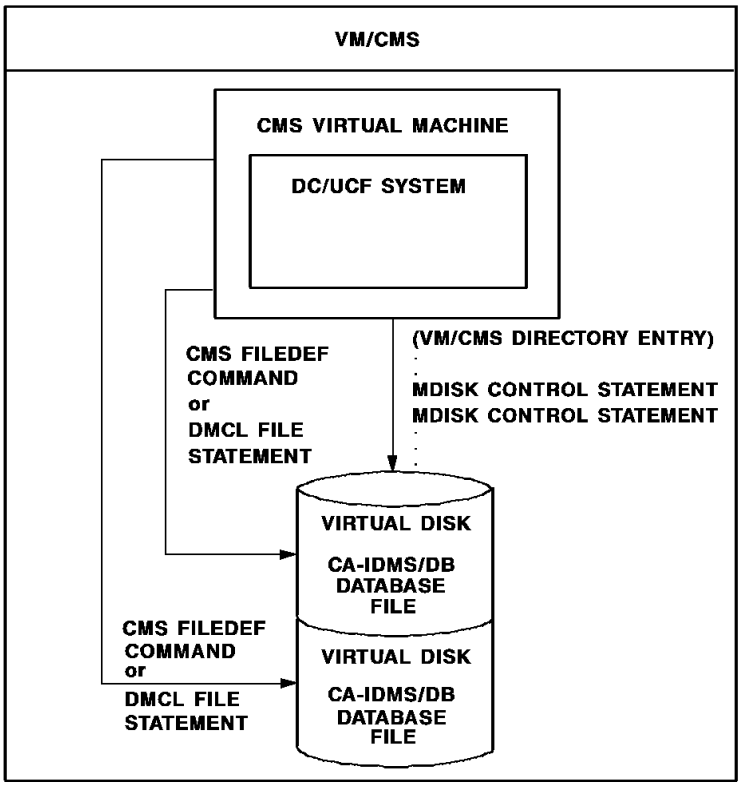
**CA-IDMS FORMAT Utility:** Run the CA-IDMS FORMAT utility to format the VM/ESA file into database pages. Here is a sample FORMAT statement:

```
FORMAT FILE SYSTEM.DDLDML;
```

►► For documentation on the FORMAT utility, refer to *CA-IDMS Utilities*.

**Database Files under the Central Version:** This figure shows a DC/UCF system with two CA-IDMS files. To use central version operations, you access the DC/UCF system either by executing a batch application program or by establishing online communication with the system.

►► For information about ways to access the DC/UCF system, see 10.3, “System Access” on page 10-11.


VM/CMS
CMS VIRTUAL MACHINE
DC/UCF SYSTEM
CMS FILEDEF
COMMAND
or
DMCL FILE
STATEMENT
(VM/CMS DIRECTORY ENTRY)
MDISK CONTROL STATEMENT
MDISK CONTROL STATEMENT
VIRTUAL DISK
CA-IDMS/DB
DATABASE
FILE
CMS FILEDEF
COMMAND
or
DMCL FILE
STATEMENT
VIRTUAL DISK
CA-IDMS/DB
DATABASE
FILE

# 9.3 Executing Local Mode Programs

**Requirements:** To execute a local mode program, you meet the following requirements:

- Link edit the application program to the IDMS module
- Specify environment information
- Issue appropriate CMS commands

**Link with IDMS Module:** User application programs that run in local mode must be link edited with the the CA-IDMS interface module, IDMS, which is stored in the CA-IDMS LOADLIB library during installation. It is also delivered as IDMS TEXT on the installation minidisk.

**Specifying Environment Information:** You identify the processing environment for the local mode application using the CA-IDMS SYSIDMS parameter file. You specify the DMCL name on the DMCL= parameter and set the LOCAL parameter to ON in the SYSIDMS parameter file.

You can also use the CVMACH parameter to specify the VM virtual machine in which the DC/UCF system is executing and the CVNUM parameter to specify the number of the central version that is accessible by CMS and routes database requests through the IDMSVMCF facility.

►► See the *CA-IDMS Database Administration* guide for a complete description of the SYSIDMS parameter file.

**Program Execution:** After completing the above steps, you execute the program as follows:

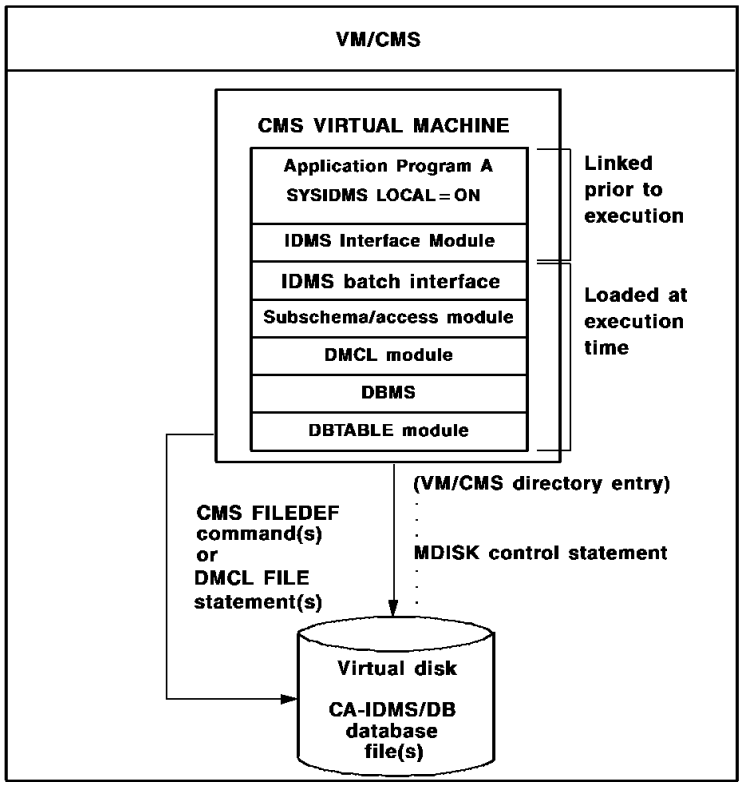
1. Issue the necessary FILEDEF commands.

   **Note:** File definitions for most CA-IDMS files are set up to use the dynamic file allocation facility. You need to issue FILEDEF commands for those files which can't be allocated dynamically such as, journals, SYSIPT, and SYSIDMS. You can also issue FILEDEFS for using minidisks other than the CV-owned disk. The FILEDEF overrides the default disk definition in the DMCL.

2. Issue the CMS GLOBAL LOADLIB command to identify the LOADLIB libraries to be searched for the program load module.
3. Issue the CMS OSRUN command with the name of the LOADLIB library member.

**Note:** You can also issue the above commands using an EXEC. See the IDMSBCF EXEC delivered as part of the CA-IDMS installation for a sample.

**VM/ESA Configuration for Local Mode Access:** This figure shows local mode access to CA-IDMS files in the VM/ESA environment. Application Program A accesses CA-IDMS files that reside on a minidisk owned by the CMS virtual machine in which the application executes.



# Chapter 10. Generating and Operating a DC/UCF System

# 10.1 System Generation Parameters

**Defining the System:** To define a DC/UCF system, you submit source system generation statements to the system generation compiler. This section presents considerations that apply to coding system generation statements for a DC/UCF system that runs in a CMS virtual machine.

►► For complete syntax of system generation statements, refer to *CA-IDMS System Generation*.

**Required SYSTEM Statement Parameters:** The system generation SYSTEM statement for the VM/ESA environment must include these parameters:

- CHKUSER TASKS IS 0
- CVNUMBER IS 0
- OPERATING SYSTEM IS CMS
- SVC IS NO

**Unsupported SYSTEM Statement Parameters:** The following system generation SYSTEM statement parameters are *not* supported for the VM/ESA environment:

- DESCRIPTION CODES
- ROUTE CODES

**LINE Statement:** The LINE statement supports the following line types:

- **CCI** defines the Common Communications Interface (CCI) line driver. **1**

  PTERM statements associated with CCI lines must specify TYPE as BULK.
- **CONSOLE** defines the line for the operator's console.
- **INOUTL** defines lines for reading input from and writing output to non-3270-type devices. **2**
- **L3270B** defines lines for access to the system through the CP DIAL command and through dedicated terminals. **2**

  **Note:** If the DIAL command is implemented through a program product that uses the Logical Device Support Facility (for example, the VM/Pass-Through Facility), the PTERM statements associated with the L3270B line must specify TYPE as L3277.
- **L3280B** defines lines for dedicated printers. **2**
- **SYSOUTL** defines lines for printers that receive spooled output. The system generation statements must include at least one SYSOUTL LINE statement if user exit 21 is implemented. **2**

  ►► For more information about user exit 21, see 10.4, “Printer Support” on page 10-28.

- **S3270Q** defines input and output files for the batch simulator. **2**

  ►► For instructions to use the batch simulator, refer to *CA-IDMS System Operations*.

- **UCFLINE** defines the UCF line.

  ►► For more information on the LINE statements that you should code for a DC/UCF system in the VM/ESA environment, see 10.3, "System Access" on page 10-11.

**Note:**

1. DDS users only
2. CA-IDMS/DC users only

# 10.2 System startup

To run a DC/UCF system, you create and execute the DC/UCF startup routine. Creating and executing the startup routine in the VM/ESA environment are discussed separately below.

►► For more information on DC/UCF system startup, refer to *CA-IDMS System Operations*.

## 10.2.1 Creating the DC/UCF Startup Routine

**Required Modules:** To create the DC/UCF startup routine, you link edit the following text modules from the CA-IDMS installation minidisk:

| Module | Description |
|---|---|
| CA$IOS | Handles all BTAM terminal communications with the DC/UCF system via the CA VM I/O Subsystem. |
| IDMSUSVC | Is used for communication between virtual machines when batch processing or UCF is used to access the DC/UCF system.<br>►► For more information on the IDMSUSVC module, see 10.3.1, "Batch Processing" on page 10-14. |
| USVCOPT | Contains options used by IDMSUSVC (such as the operating system environment and PSWMODE of the DC/UCF system) in VMCF communications with other virtual machines.<br>A #SVCOPT module was assembled in JOB3 of the installation process. The source is SVCOPT ASSEMBLE. |
| RHDCPARM | Contains information used during DC/UCF startup processing (such as the version number of the system to be started up and the name of the global DMCL module to be used by the system). RHDCPARM is assembled from the #DCPARM macro.<br>An RHDCPARM module is assembled during JOB3 of the installation process that was tailored to include your default DMCL module name. The source is RHDCPARM ASSEMBLE.<br>►► For #DCPARM macro syntax, refer to *CA-IDMS System Operations*. |
| RHDCOMVS | Is the operating system dependent module for the VM/ESA environment. |

**WTOEXIT User Exit:** If appropriate, you can also include a WTOEXIT user exit in the link edit of the startup routine. If included, WTOEXIT must be the first module named in the INCLUDE statements.

►► For more information on the WTOEXIT user exit, see 10.3.6, "Archiving the Journal and Log Files" on page 10-21.

A sample WTOEXIT module is assembled during JOB3 of the installation process and was specified in the STARTUP SYSLIN member delivered on the install tape. The source is WTOEXIT ASSEMBLE.

**CAE5LNKB EXEC:** To link edit the startup routine, you should use the CAE5LNKB EXEC provided during CA-IDMS installation. When you invoke CAE5LNKB, you must supply the filename of the file that contains the linkage editor control statements. For the EXEC To make the appropriate ddname substitutions in the INCLUDE statements, you must also supply a filetype; the filetype must be other than TEXT. After resolving the DDnames, CAE5LNKB changes the filetype of the modified file to TEXT.

You must supply the filename of the load library containing the module and indicate whether it is a re-entrant (RENT) or nonre-entrant (NORENT) module.

**Sample Linkage Editor Control Statements:** These are sample linkage editor control statements for creating the DC/UCF startup routine:

```
INCLUDE WTOEXIT
INCLUDE RHDCOCMS
INCLUDE CA$IOS
INCLUDE USVCOPT
INCLUDE IDMSCMSO
INCLUDE IDMSUSVM
INCLUDE RHDCACHE
INCLUDE RHDCOCOC
INCLUDE RHDCOCWP
INCLUDE RHDCPARM
ENTRY STARTUP
NAME idmscvdc (R)  1
```

**1** *idmscvdc* is the user-supplied name for the startup module.

Assuming that the above statements are stored in a file with filename LINKCVDC and filetype LINKCTL, you can issue the following commands to link edit the startup routine:

```
CAE5LNKB LINKCVDC LINKCTL dba_loadlib NORENT
```

►► For more information on CAE5LNKB, refer to 3.9, "Create New STARTUP Module" on page 3-24.

## 10.2.2 Executing the DC/UCF Startup Routine

**Commands:** To start up the DC/UCF system, you issue:

- CMS FILEDEF commands
- CP DEFINE commands
- CP ATTACH commands
- CP LINK commands
- Additional CMS commands

These commands are described in this section.

**CMS FILEDEF Commands:** Define CMS FILEDEF commands for:

- **The CA-IDMS database, dictionary, and journal files that are defined to the DC/UCF system**. Specify the device type as DISK and identify each file by the virtual address of the minidisk on which the file resides.

  Dynamic allocation should be used whenever possible by specifying file information in the DMCL. Dynamic allocation **cannot** be used for journal files. FILEDEFS are required for these disks.

  **Note:** FILEDEF commands for most CA-IDMS files are set up to use dynamic file allocation. You need to issue FILEDEF commands for those files which can't be dynamically allocated such as, journals, SYSIPT, and SYSIDMS.

- **The SYSCTL file**. The SYSCTL file defines the system control file that batch programs and UCF users requesting database services from the DC/UCF system use.
- **Lines for terminals for CP DIAL access to the DC/UCF system, for dedicated terminals, and for dedicated printers**. Specify the device type as GRAF.
- **Printers for spooled output**. Specify the device type as PRINTER and include the RECFM, LRECL, and BLKSIZE parameters.
- **Input and output files for sequential I/O devices**. Specify the device type as PRINTER, PUNCH, READER, or DISK.
- **Input and output files for the batch simulator**. Specify the device type as PRINTER, PUNCH, READER, or DISK.
- **The SYSUDUMP file**. Specify the device type as PRINTER. A FILEDEF command for SYSUDUMP is required only when DUMP is specified in the system generation SYSTEM statement.

**CP DEFINE Commands:** Define CP DEFINE commands for:

- **Terminals for CP DIAL access** that are not defined by SPECIAL control statements in the VM/ESA directory entry for the DC/UCF virtual machine.

- **Printers for spooled output** that are not defined by SPOOL control statements in the VM/ESA directory entry for the DC/UCF virtual machine. Each DEFINE command can be accompanied by a CP SPOOL command to establish spooling options (for example, the spool class) for the printer.

**CP ATTACH Commands:** Define CP ATTACH commands (class B) for:

- **Dedicated terminals** that are not defined by DEDICATE control statements in the VM/ESA directory entry for the DC/UCF virtual machine.
- **Dedicated printers** that are not defined by DEDICATE control statements in the VM/ESA directory entry for the DC/UCF virtual machine.
- **CP LINK commands** defined to link to the appropriate USERID which can own minidisks required for central version execution, but are not defined in the VM directory for the DC/UCF virtual machine.

**Additional CMS Commands:** Also define these commands:

- A **CMS GLOBAL LOADLIB command** to identify the LOADLIB libraries to be searched for the DC/UCF startup routine.
- A **CMS OSRUN command** to execute the DC/UCF startup routine. If appropriate, you can use the PARM option in the OSRUN command to pass system generation overrides (up to 100 characters) to the startup routine. The PARM option is not allowed if the OSRUN command is issued from a CMS EXEC program; however, it is allowed if the OSRUN command is issued from a System Product interpreter (REXX) or EXEC 2 program.

  **Note:** Overrides specified in response to prompts issued during the startup process take precedence over overrides passed using the PARM option.

  ►► For more information on startup overrides, refer to *CA-IDMS System Operations*.

**Sample Startup Commands:** This table shows sample commands for starting up a DC/UCF system and in the left-hand column the function of each command:

| Entity defined | Definition statement |
|---|---|
| CA-IDMS database, dictionary, and journal files<br><br>(These statements are optional when they are defined in the DMCL File statement.)<br><br>JOURNAL file statements are required. | FILEDEF DICTDB DISK 50B<br>FILEDEF DLODDB DISK 50C<br>FILEDEF DCCAT DISK 500<br>FILEDEF DCCATL DISK 502<br>FILEDEF DCCATX DISK 501<br>FILEDEF SECDD DISK 50D<br>FILEDEF DIRLDB DISK 508<br>FILEDEF DIRLOD DISK 509<br>FILEDEF EMPDEMO DISK 511<br>FILEDEF INSDEMO DISK 512<br>FILEDEF ORGDEMO DISK 513<br>FILEDEF SQLDD DISK 50E<br>FILEDEF SQLLOD DISK 50F<br>FILEDEF SQLXDD DISK 510<br>FILEDEF EMPLDEMO DISK 514<br>FILEDEF INFODEMO DISK 515<br>FILEDEF INDXDEMO DISK 516<br>FILEDEF ASFDML DISK 518<br>FILEDEF ASFLOD DISK 519<br>FILEDEF ADEFN DISK 51A<br>FILEDEF ADATA DISK 51B<br>FILEDEF DCDML DISK 503<br>FILEDEF DCLOD DISK 504<br>FILEDEF DCLOC DISK 505<br>FILEDEF DCRUN DISK 506<br>FILEDEF DCSCR DISK 507<br>FILEDEF DCMSG DISK 50A<br>FILEDEF PROJDEMO DISK 517<br>FILEDEF J1JRNL DISK 51C<br>FILEDEF J2JRNL DISK 51D<br>FILEDEF J3JRNL DISK 51E<br>FILEDEF J4JRNL DISK 51F |
| SYSCTL File for batch and UCF access to DC/UCF | FILEDEF SYSCTL DISK IDMSCVDC SYSCTL A1 |
| Line for DIAL access (directory entry contains SPECIAL statements for the terminals on the line) | FILEDEF DIALINE1 GRAF 420 |
| Line for DIAL access (directory entry does not contain SPECIAL statements for the terminals on the line) | CP DEFINE GRAF 430 3270<br>CP DEFINE GRAF 431 3270<br>CP DEFINE GRAF 432 3270<br>FILEDEF DIALINE2 GRAF 430 |
| Line for dedicated terminals (directory entry contains DEDICATE statements for the terminals on the line) | FILEDEF DEDLINE1 GRAF 470 |
| Line for a dedicated printer (directory entry contains a DEDICATE statement for the printer) | FILEDEF DEDLINE2 GRAF 460 |

| Entity defined | Definition statement |
|---|---|
| Line for a remote dedicated printer (directory entry contains a DEDICATE statement for the printer) | `FILEDEF DEDLINE3 GRAF 490` |
| Printers for spooled output (directory entry does not contain SPOOL statements for the printers) | `CP DEFINE PRINTER 030`<br>`CP SPOOL 030 CLASS B`<br>`FILEDEF SYSOUT1 PRINTER (RECFM FA LRECL 133 BLKSIZE 133`<br>`CP DEFINE PRINTER 031`<br>`CP SPOOL 031 CLASS K`<br>`FILEDEF SYSOUT2 PRINTER (RECFM FA LRECL 133 BLKSIZE 133` |
| Input and output files for an INOUTL line | `FILEDEF INPUT1 DISK INPUT INOUTL A`<br>`FILEDEF OUTPUT1 PRINTER (RECFM FA LRECL 133 BLKSIZE 133` |
| SYSUDUMP file | `FILEDEF SYSUDUMP PRINTER` |
| Global LOADLIB library | `GLOBAL LOADLIB IDMSLIB` |
| Execution command (with overrides for the journaling of retrieval run units and the size of the storage pool) | `OSRUN IDMSCVDC PARM='JOURRET,STGPOOL=2400'` |

**Storing Startup Commands as an EXEC:** Typically, the commands for starting up the DC/UCF system are stored as an EXEC. The EXEC can be invoked either automatically from the PROFILE EXEC for the DC/UCF virtual machine or manually from the virtual console at any time after the DC/UCF virtual machine is logged on. After the DC/UCF system is started up, the virtual machine in which the system is executing can be considered a service virtual machine.

**Issuing CP Commands from the Console:** While the DC/UCF system is executing in a logged-on virtual machine, the virtual console functions as the DC/UCF operator's console. You can issue CP commands from the DC/UCF operator's console by prefacing each command with the CP terminal line end character in effect when the central version was started under CMS.

**Disconnecting the DC/UCF Virtual Machine:** To disconnect the DC/UCF virtual machine without shutting down the DC/UCF system, you issue the CP DISC command. While the virtual machine is disconnected, the terminal that was functioning as the DC/UCF operator's console can be used for other purposes. When the disconnected DC/UCF virtual machine is logged on again, the terminal from which the CP LOGON command is issued becomes the DC/UCF operator's console.

**Initiating the DC/UCF Virtual Machine in Disconnected Mode:** The DC/UCF virtual machine can be initiated in disconnected mode by means of the CP AUTOLOG command. If the EXEC for starting up the DC/UCF system is invoked from the PROFILE EXEC for the DC/UCF virtual machine, the system is started up automatically in the disconnected virtual machine when the virtual machine is logged on. Additionally, if the CP AUTOLOG command to initiate the DC/UCF virtual machine is included in the PROFILE EXEC for the AUTOLOG1 virtual machine, the DC/UCF system is started up automatically at VM/ESA system startup.

# 10.3 System Access

**Ways to Access the DC/UCF System Under the Central Version:** To use CA-IDMS central version operations in the VM/ESA environment, you access the DC/UCF system through one of the following methods:

- Batch processing
- The Universal Communications Facility
- The CP DIAL command (CA-IDMS/DC users only)
- A dedicated terminal (CA-IDMS/DC users only)

**Other Methods:** In addition to the above methods, communication with the DC/UCF system can occur through the DC/UCF operator's console, through sequential I/O devices, and through batch simulation of 3270-type terminals. Communication from the system can also be directed to dedicated printers and to printers for spooled output.

**Requirements for each Access Method:** The following table outlines the DC/UCF system generation statements, the VM/ESA directory entry statements, the startup routine execution commands, and the modules and facilities required for each method of communicating with a DC/UCF system.

►► For more information about DC/UCF system generation statements, see 10.1, "System Generation Parameters" on page 10-3.

For more information about VM/ESA directory entry statements, see 8.3, "Directory Entry for the DC/UCF Virtual Machine" on page 8-7.

For more information about startup routine execution commands, see 10.2.2, "Executing the DC/UCF Startup Routine" on page 10-7.

| Communication method | System generation statements | VM/ESA directory entry statements | Startup routine execution commands | Other |
|---|---|---|---|---|
| DC/UCF operator's console | LINE statement - TYPE IS CONSOLE<br>Associated PTERM and LTERM statements | CONSOLE | - | - |

| Communication method | System generation statements | VM/ESA directory entry statements | Startup routine execution commands | Other |
|---|---|---|---|---|
| Batch processing | SYSTEM Statement SYSCTL is SYSCTL | - | CMS FILEDEF SYSCTL DISK CV SYSCTL A1 | IDMSVMCF module IDMSUSVC module SYSIDMS, SYSCTL file or IDMSOPTI module VMCF |
| UCF | LINE statement - TYPE IS UCFLINE<br>Associated PTERM and LTERM statements | - | - | IDMSUSVC module SYSCTL file or IDMSOPTI module UCF front-end system (includes IDMSVMCF) VMCF |
| CP DIAL command | LINE statements - TYPE IS L3270B<br>Associated PTERM and LTERM statements | SPECIAL **1** (one for each PTERM/LTERM pair) | CMS FILEDEF GRAF (one for each LINE statement) | - |
| Dedicated terminals | LINE statements - TYPE IS L3270B<br>Associated PTERM and LTERM statements | DEDICATE **2** (one for each PTERM/LTERM pair) | CMS FILEDEF GRAF (one for each LINE statement) | - |
| Dedicated printers | LINE statements - TYPE IS L3280B<br>Associated PTERM and LTERM statements | DEDICATE **2** (one for each PTERM/LTERM pair) | CMS FILEDEF GRAF (one for each LINE statement) | - |
| Printers for spooled output | LINE statements - TYPE IS SYSOUTL<br>Associated PTERM and LTERM statements | SPOOL **3** (one for each PTERM/LTERM pair) | CMS FILEDEF PRINTER (one for each LINE statement) | - |

| Communication method | System generation statements | VM/ESA directory entry statements | Startup routine execution commands | Other |
|---|---|---|---|---|
| Sequential input/output devices | LINE statements - TYPE IS INOUTL<br>Associated PTERM and LTERM statements | - | CMS FILEDEF (two for each LINE statement) | - |
| DDS real communications lines | LINE statements - TYPE IS CCI<br>Associated NODE statements - TYPE IS CCI<br>Associated RESOURCE TABLE statement<br>Associated PTERM and LTERM statements (PTERM TYPE IS BULK) | | | - |
| Batch simulator input/output files | LINE statements - TYPE IS S3270Q<br>Associated PTERM and LTERM statements | - | CMS FILEDEF (two for each LINE statement) | - |

**Note:**
**1** Alternatively, you can issue the CP DEFINE command before executing the DC/UCF startup routine.
**2** Optionally, you can issue the CP ATTACH command (class B) before executing the DC/UCF startup routine.
**3** Alternatively, you can issue the CP DEFINE and SPOOL commands before executing the DC/UCF startup routine.

## 10.3.1 Batch Processing

**IDMS Module:** A batch application program that is to access a DC/UCF system must be link edited with IDMS module, which is stored in the CA-IDMS LOADLIB library during installation.

**SYSCTL File:** You can define a SYSCTL file to provide information for a program that requires CA-IDMS/DB database services while executing in another virtual machine. Before the batch program executes, you must issue the appropriate CP LINK and CMS ACCESS commands to access the minidisk on which the SYSCTL file resides. SYSCTL specifications override those given by batch or teleprocessing monitor interface modules and IDMSOPTI modules.

**SYSIDMS Parameters:** In the EXEC for the batch application program, specify these SYSIDMS parameters:

- CVMACH specifies the VM virtual machine in which the DC/UCF system is executing
- CVNUM specifies the number of the central version that is accessible by CMS and is used to route database requests through the IDMSVMCF facility

**Note:** CA-IDMS Release 15.0 supports programs link edited with the IDMSOPTI module in a CA-IDMS Release 10.2 environment. However, use of the SYSCTL file and SYSIDMS parameters is recommended for controlling batch jobs that are processed under the central version.

**How to Execute the Program:** After completing the above steps, you execute the program as follows:

1. Issue the necessary FILEDEF commands.

   **Note:** FILEDEF commands for most CA-IDMS files are set up to use dynamic file allocation. You need to issue FILEDEF commands for those files which can't be dynamically allocated such as, journals, SYSIPT, and SYSIDMS.

2. Issue the CMS GLOBAL LOADLIB command to identify the LOADLIB libraries to be searched for the program load module.
3. Issue the CMS OSRUN command with the name of the LOADLIB library member.

**Note:** You can use an EXEC to issue the above commands. See the IDMSBCF EXEC provided during the CA-IDMS installation for a sample.

**Components for Virtual Machine Communications:** A batch application program using CA-IDMS/DB central version operations runs in a separate CMS virtual machine from the DC/UCF virtual machine. The application program virtual machine and the DC/UCF virtual machine communicate through the following components:

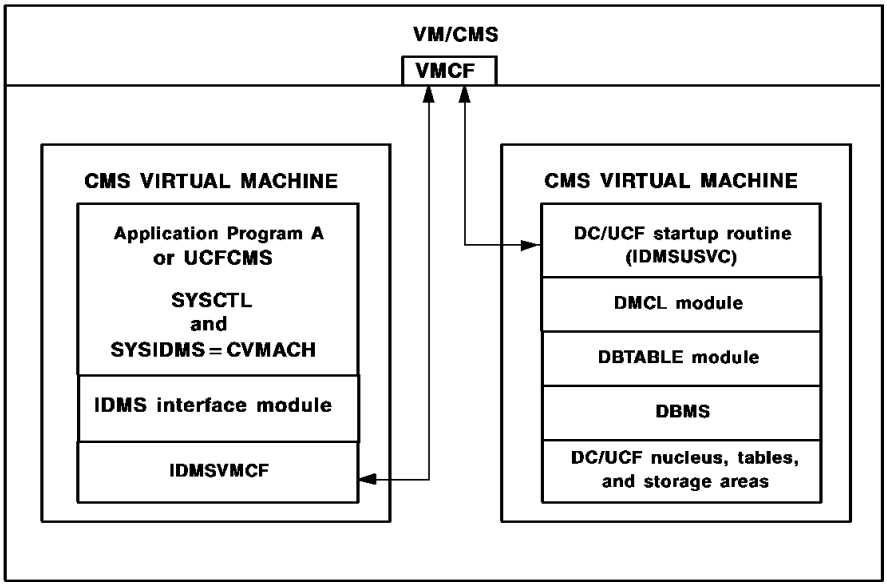
- The **Virtual Machine Communication Facility (VMCF)**, which is part of the VM/ESA Control Program (CP). VMCF passes control and data between the IDMSVMCF and IDMSUSVC modules.
- The CA-IDMS/DB module **IDMSVMCF**, serves as the interface between the application and VMCF. IDMSVMCF intercepts calls for database services from the application program and routes the calls to VMCF.
- The CA-IDMS/DB module **IDMSUSVC**, which is link edited as part of the DC/UCF system startup routine. IDMSUSVC provides VMCF with an entry point into the DC/UCF system. IDMSUSVC also routes to VMCF the calls that are issued by DC/UCF to batch application programs.
- The USVCOPT text file, which is created by the assemble of the #SVCOPT macro.

  ►► For documentation on the #SVCOPT macro, refer to *CA-IDMS System Operations*.

  Next, link edit the assembled object deck as part of the DC/UCF system startup routine. The USVCOPT file contains the SVC options required by the CA-IDMS/DB module IDMSUSVC to communicate with an application program via VMCF.

**Using the CMS Batch Facility Virtual Machine:** If appropriate, batch application programs can be routed to a CMS batch facility virtual machine (or to another virtual machine that has been set up to execute batch programs). This frees the terminal from which the program is submitted for other activities. Because programs submitted in this way do not necessarily execute immediately, you must ensure that the CA-IDMS files to be accessed by the program are available at the time the program does execute. For information on the CMS batch facility, refer to the appropriate IBM documentation.

**Batch Access to the DC/UCF System:** This figure shows batch access to the DC/UCF system. Application A may be IDMSBCF (the Batch Command Facility) or a user-written application program.




## 10.3.2 CA-IDMS/UCF

**Create a UCF Front-End System:** To access the DC/UCF system through UCF (the Universal Communications Facility), you create and execute a UCF front-end system. The UCF front-end system runs as a batch application program in a separate virtual machine from the DC/UCF virtual machine. The UCF front-end virtual machine and the DC/UCF virtual machine communicate through VMCF, IDMSVMCF, IDMSUSVC, and #SVCOPT.

►► For descriptions of these components, see 10.3.1, “Batch Processing” on page 10-14.

**Required Modules:** To create a UCF front-end system, you link edit the following modules:

- A **UCF front-end module**, which is assembled from the #UCFCMS macro. If UCF is installed, a RHDCUCMS module is assembled during the installation process.
- The **IDMSVMCF module**, which is stored as a text module during installation.
- The **IDMS module**, which is stored as a text module during installation.
- The **UCF front-end common module (RHDCUCFC)**, which is stored as a text module during installation.

**Other Requirements:** Specify a SYSCTL file and SYSIDMS parameters as documented in 10.3.1, “Batch Processing” on page 10-14.

To link edit the UCF front-end system with CAE5LNKB, perform the following steps:

1. Prepare a file of linkage editor control statements. Sample linkage editor control statements for creating a UCF front-end system are shown below:

   ```
   INCLUDE RHDCUCMS
   INCLUDE IDMS
   INCLUDE RHDCUCFC
   ENTRY IDMSENTR
   NAME cvdcucf (R)  1
   ```

   **1** *cvdcucf* is the name of the UCF load module used on the OSRUN command to execute UCF communications.

2. If the CA-IDMS text files are not available to your virtual machine, issue the necessary CP LINK and ACCESS commands to make them available.

3. Issue the following command to generate the UCF front-end system as a LOADLIB library member (assuming that the linkage editor control statements are stored in the file with filename LINKUCF and filetype LINKCTL):

   ```
   CAE5LNKB LINKUCF LINKCTL loadlib NORENT
   ```

**Generating the System using CMS GENMOD:** To generate the system using the CMS GENMOD command, perform the following step:

Issue the following commands to generate the UCF front-end system as a MODULE file (assuming that the #UCFCMS macro has been assembled into TEXT files with filename CVDCUCF):

```
LOAD CVDCUCF IDMS RHDCUCFC
   (CLEAR NOAUTO RESET IDMSENTX
GENMOD CVDCUCF (STR
```

**Executing the UCF Front-End System:** After link editing the UCF front-end system, you execute the system as follows:

- **If the front-end system load module exists as a CMS file with filetype MODULE**, enter the filename of the module
- **If the front-end system load module exists as a member of a LOADLIB library:**

  1. Issue the CMS GLOBAL LOADLIB command to identify the LOADLIB libraries to be searched for the system load module
  2. Link to and access the minidisk with the SYSCTL file
  3. Issue the following CMS FILEDEF commands:

     ```
     either FILEDEF SYSCTL DISK fn ft fm or FILEDEF SYSIDMS DISK
     fn ft fm
     ```

     where the SYSCTL *fn ft fm* names the SYSCTL file or

     the SYSIDMS *fn ft fm* names the SYSIDMS file containing the CVMACH parameter
  4. Issue the CMS OSRUN command with the name of the LOADLIB library member

You can use the PARM option to override the function of PA1 as specified in the #UCFCMS macro:

- To indicate that PA1 is to function as defined to CMS, prefix the user ID of the DC/UCF virtual machine with an asterisk (*), as in the following example:

  ```
  OSRUN CVDCUCF PARM='*TESTSYS'
  ```

- To indicate that PA1 is to be forwarded to the DC/UCF system as terminal operator input, prefix the user ID of the DC/UCF virtual machine with a plus sign (+), as in the following example:

  ```
  OSRUN CVDCUCF PARM='+TESTSYS'
  ```

**Need a UCFLINE Line Definition:** A DC/UCF system that is accessed through UCF must include a UCFLINE line definition in the system generation.

►► For syntax to define a UCFLINE line, refer to *CA-IDMS System Generation*.

## 10.3.3 CP DIAL Command

**Does Not Need Separate Virtual Machine:** The CP DIAL command (available to CA-IDMS/DC users only) establishes online access to the CA-IDMS/DC system without requiring the use of a separate virtual machine. You issue the DIAL command in place of the CP LOGON command as the first command in a terminal session. The commands that you must enter before issuing the DIAL command depend on the release of VM/ESA and on the program products in use at your site.

**Define an L3270B Line:** To the CA-IDMS/DC system, the terminal from which the DIAL command is issued appears to be a locally attached 3270; therefore, you must define an L3270B line for a CA-IDMS/DC system that is accessed through the DIAL command.

►► For syntax to define a L3270B line, refer to *CA-IDMS System Generation*.

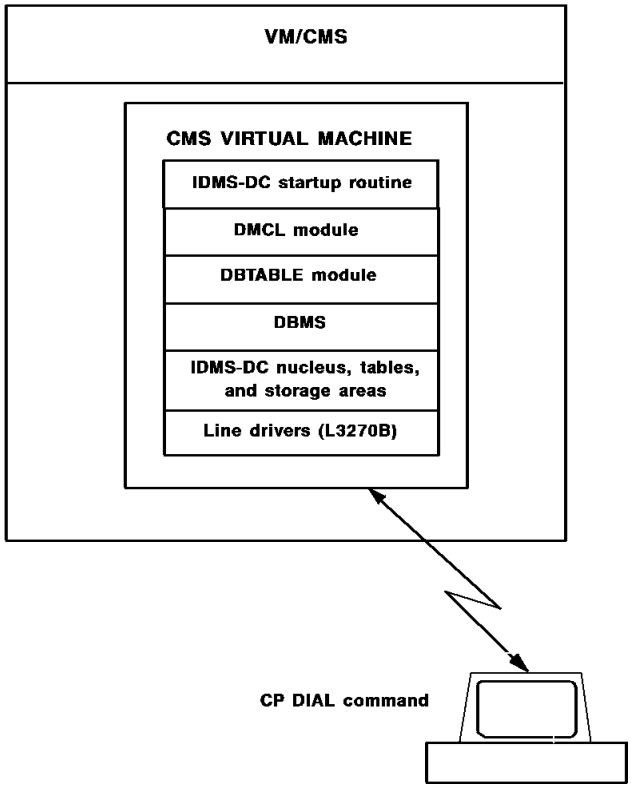
**Other Required Definitions:** The following additional definitions are required to enable the use of the DIAL command:

- For each PTERM/LTERM pair associated with the L3270B line definition during system generation, you must either:
  - Include a SPECIAL control statement in the VM/ESA directory entry for the CA-IDMS/DC virtual machine, or
  - Issue a CP DEFINE command before executing the CA-IDMS/DC startup routine
- For each L3270B line defined for DIAL access during system generation, you must include one CMS FILEDEF command in the commands used to execute the CA-IDMS/DC startup routine

►► For information about the VM/ESA directory entry for the CA-IDMS/DC virtual machine, see 8.3, “Directory Entry for the DC/UCF Virtual Machine” on page 8-7.

For information about the commands used to execute the CA-IDMS/DC startup routine, see 10.2.2, “Executing the DC/UCF Startup Routine” on page 10-7.

**Access to CA-IDMS/DC Through CP DIAL:** This figure shows access to a CA-IDMS/DC system through the CP DIAL command:




## 10.3.4 Dedicated Terminals

**Additional Virtual Machines Not Required:** Dedicated terminals (available to CA-IDMS/DC users only) establish online access to the CA-IDMS/DC system without requiring the use of additional virtual machines. A terminal that is dedicated to the CA-IDMS/DC virtual machine cannot be used unless the CA-IDMS/DC virtual machine is logged on.

**Need L3270B Line Definition:** To the CA-IDMS/DC system, a dedicated terminal appears to be a locally attached 3270; therefore, you must define an L3270B line for a CA-IDMS/DC system that is accessed through a dedicated terminal.

►► For syntax to define an L3270B line, refer to *CA-IDMS System Generation*.

**Other Required Definitions:** The following additional definitions are required to enable the use of dedicated terminals:

- For each PTERM/LTERM pair associated with the L3270B line definition during system generation, you must either:
  - Include a DEDICATE control statement in the VM/ESA directory entry for the CA-IDMS/DC virtual machine

    or

  - Issue a CP ATTACH command (class B) before executing the CA-IDMS/DC startup routine
- For each L3270B line defined for dedicated terminals during system generation, you must include one CMS FILEDEF command in the commands used to execute the CA-IDMS/DC startup routine

►► For information about the VM/ESA directory entry for the CA-IDMS/DC virtual machine, see 8.3, "Directory Entry for the DC/UCF Virtual Machine" on page 8-7.

For information about the commands used to execute the CA-IDMS/DC startup routine, see 10.2.2, "Executing the DC/UCF Startup Routine" on page 10-7.

## 10.3.5 CA-IDMS/DDS

**Communication Between Physically Separate DC/UCF Systems:** The Distributed Database System allows DC/UCF systems that are executing in separate virtual machines to communicate with each other, enabling one DC/UCF system to be accessed through another.

The communicating DC/UCF systems can run under the same operating system or under different operating systems. For example, a DC/UCF system executing in a CMS virtual machine can be accessed through a system executing in another CMS virtual machine or through a system executing in an MVS virtual machine.

**Communication Methods:** The communication between two DC/UCF systems occurs either through VMCF or CAICCI the CA-CIS Common Communication Interface.

If the DC/UCF systems exist on separate mainframe machines, CA-IDMS/DDS is required. If the systems exist on the same mainframe, CAICCI the CA-CIS Common Communication Interface is required.

►► For more information about DDS, refer to *CA-IDMS/DDS Design and Operations*.

**DDS Definition Requirements:** For a DC/UCF system to be accessed through DDS, you must define:

- The appropriate DDS lines in system generation

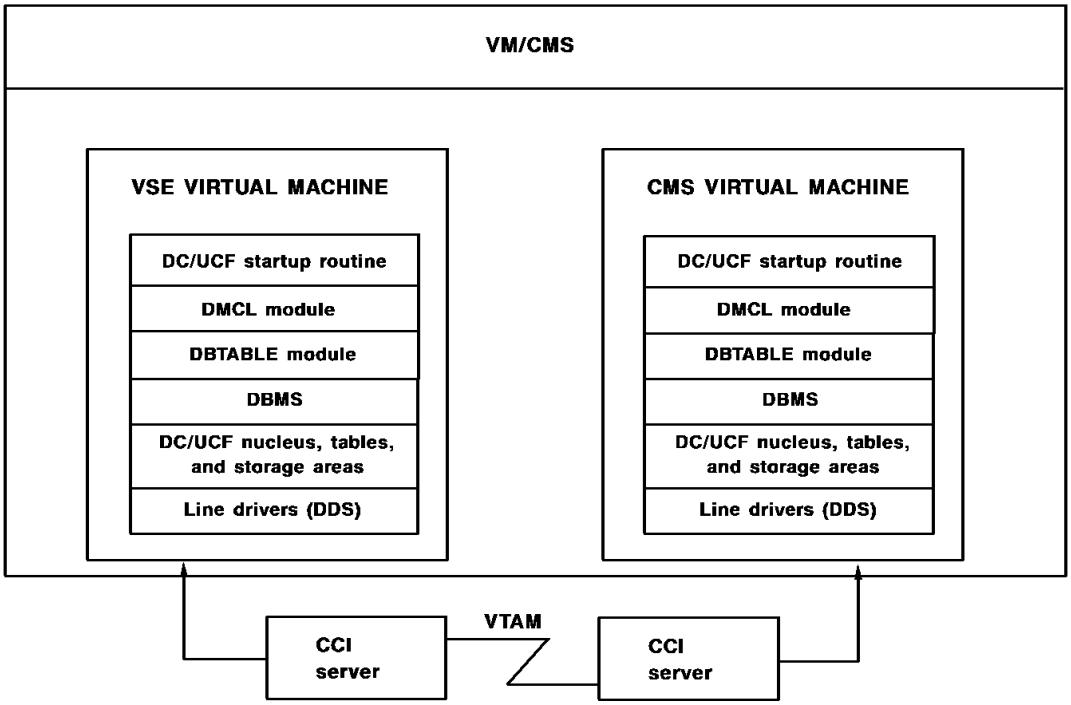
  ►► For syntax to define a DDS line, refer to documentation of the LINE statement in *CA-IDMS System Generation*.

- Definitions required by the CA-CIS Common Communications Interface (CCI)

  ►► For more information, refer to CA-CIS documentation.

- A CCI server

**CA-IDMS/DDS Configuration under VM/ESA:** This figure shows access to a DC/UCF system through DDS. The two DC/UCF virtual machines are executing in the same VM/ESA environment:




## 10.3.6 Archiving the Journal and Log Files

**Archive Journal File:** The DC/UCF system records database activity in a journal file. Typically, the journal file is written to alternate disk files. When one file becomes full, the system automatically begins writing to the other. The system also sends a message to the operator's console indicating that the full journal file needs to be offloaded. The **ARCHIVE JOURNAL utility statement** is used to offload a full disk journal file to an archive tape.

**Archive Log:** The DC/UCF system records system activity in a log file. Typically, the log file is written to the DDLDCLOG area. When the amount of unused space in the DDLDCLOG area is halved, the system sends a message to the operator's console indicating the percentage of used space in the area. The message is issued, for example, when the log is 50% full, 75% full, 88% full, and so forth. When the log is 100% full, the system halts execution and waits for the log file to be offloaded; therefore, to prevent the system from waiting, the log file should be offloaded well

before it becomes full. The **ARCHIVE LOG utility statement** is used to offload the log file from the DDLDCLOG area to an archive tape.

**Route Archive Jobs to Another Virtual Machine:** ARCHIVE JOURNAL and ARCHIVE LOG jobs must be routed to a separate virtual machine from the one in which the DC/UCF system is executing. Typically, a CMS batch facility virtual machine (or another virtual machine that has been set up to execute batch programs) is used for this purpose.

**Considerations:** The following considerations apply to the virtual machine in which the ARCHIVE JOURNAL and ARCHIVE LOG jobs execute:

- The virtual machine must have access to the minidisks that contain:
  - The CA-IDMS LOADLIB library
  - The CA-IDMS journal files (for ARCHIVE JOURNAL)
  - The CA-IDMS dictionary message and log files (for ARCHIVE LOG)
- The virtual machine must have a tape drive attached as virtual address 181
- The limit established for printed lines of output for a CMS batch facility virtual machine must be greater than or equal to the maximum number of lines that can be generated by either ARCHIVE JOURNAL or ARCHIVE LOG

►► For documentation of the ARCHIVE JOURNAL and ARCHIVE LOG utility statements, refer to *CA-IDMS Utilities*.

**Automating Off-Loading:** To automate the off-loading of the journal and log files, you can use the WTOEXIT user exit. The WTOEXIT is called to intercept messages that DC/UCF sends to the operator's console. A sample exit routine is provided on the integrated installation tape used to install CA-IDMS. The routine is stored on the A disk both as source code (file WTOEXIT ASSEMBLE A) and as an object module (file WTOEXIT TEXT A) during CA-IDMS installation.

The sample WTOEXIT exit routine invokes two EXECS:

- The routine invokes the **RUNAJNL EXEC** in response to a system message indicating that the journal file is full. RUNAJNL then submits an ARCHIVE JOURNAL utility statement to a CMS batch facility virtual machine.
- The routine invokes the **RUNPLOG EXEC** in response to a system message indicating that the log file is more than 25% full. RUNPLOG then submits an ARCHIVE LOG utility statement to a CMS batch facility virtual machine.

### Sample Source Code for WTOEXIT

```
         TITLE 'WTOEXIT PROGRAM'                                        WTO00010
WTOEXIT  CSECT WRITE TO OPERATOR EXIT                                   WTO00020
         USING WTOEXIT,R15                                              WTO00030
         STM   R14,R12,12(R13)    SAVE REGISTERS                        WTO00040
         ST    R13,SAVEAREA+4          AND SET BACKWARD                 WTO00050
         LA    R12,SAVEAREA            AND FORWARD CHAINS               WTO00060
         ST    R12,8(R13)                                               WTO00070
         LR    R13,R12                                                  WTO00080
         LR    R3,R15             R3 IS PROGRAM BASE                    WTO00090
         DROP  R15                                                      WTO00100
         USING WTOEXIT,R3                                               WTO00110
         LR    R4,R1              R4 IS MESSAGE CONTROL BLOCK           WTO00120
         USING WTOMCB,R4               BASE                             WTO00130
         CLC   WTOMTEXT(13),=C'IDMS DC205003' IF JOURNAL MESSAGE        WTO00140
         BE    RUNAJNL            RUN RUNAJNL                           WTO00150
         CLC   WTOMTEXT(13),=C'IDMS DC050001' IF LOG MESSAGE            WTO00160
         BE    TSTFULL            DETERMINE HOW FULL                    WTO00170
         B     RETURN             RETURN - NO ACTION REQUIRED           WTO00180
RUNAJNL  LA    R1,RUNJ            LOAD ADDRESS OF RUNAJNL EXEC          WTO00190
         SVC   202                                                      WTO00200
         DC    AL4(1)             IGNORE ANY ERRORS                     WTO00210
         B     RETURN             IF NO ERRORS                          WTO00220
TSTFULL  LA    R6,WTOMTEXT        MESSAGE TEXT                          WTO00230
         LH    R5,WTOMLEN         MESSAGE LENGTH                        WTO00240
         AR    R6,R5              CALCULATE END OF MESSAGE ADDRESS      WTO00250
         LA    R5,WTOMTEXT+10     BYPASS MESSAGE CONSTANT               WTO00260
NEXCHAR  LA    R5,1(R5)           SET SCAN ADDRESS                      WTO00270
         CR    R5,R6              DETERMINE IF WHOLE MESSAGE SCANNED    WTO00280
         BH    RETURN             IF SO GET OUT                         WTO00290
         CLI   0(R5),C'%'         DETERMINE IF AT PERCENT SIGN          WTO00300
         BNE   NEXCHAR            IF NOT CONTINUE SCAN                  WTO00310
         S     R5,=F'2'           DECREMENT TO PERCENTAGE VALUE         WTO00320
         PACK  PNUM,0(2,R5)       PACK THE TEST MASK VALUE FOUND        WTO00330
         CP    PNUM,=P'25'        IS IT GREATER THAN 25%                WTO00340
         BNL   RUNPLOG            YES. THAN RUN RUNPLOG                 WTO00350
         B     RETURN             NO.. DO NOTHING                       WTO00360
RUNPLOG  LA    R1,RUNP            LOAD ADDRESS OF RUNPLOG EXEC          WTO00370
         SVC   202                                                      WTO00380
         DC    AL4(1)             IGNORE ANY ERRORS                     WTO00390
RETURN   L     R13,SAVEAREA+4     RESTORE OLD SAVE AREA                 WTO00400
         LM    R14,R12,12(R13)         ANS REGISTERS                    WTO00410
         XR    R15,R15            CLEAR OUT R15                         WTO00420
         BR    R14                RETURN TO IDMS/CV                     WTO00430
SAVEAREA DC    18F'0'             SAVE AREA                             WTO00440
PNUM     DC    PL2'0'             PACKED WORK AREA                      WTO00450
RUNJ     DC    CL8'EXEC    '      PARM LIST FOR AJNL                    WTO00460
         DC    CL8'RUNAJNL '                                            WTO00470
         DC    8XL1'FF'           END OF PARM LIST                      WTO00480
```

```
 RUNP     DC    CL8'EXEC    '      PARM LIST FOR PLOG                    WTO00490
          DC    CL8'RUNPLOG '                                            WTO00500
          DC    8XL1'FF'           END OF PARM LIST                      WTO00510
          LTORG                                                          WTO00520
          REGEQU                                                         WTO00530
 WTOMCB   DSECT                    WTO MESSAGE CONTROL BLOCK             WTO00540
 WTOMLEN  DS    H                  MESSAGE LENGTH                        WTO00550
 WTOMFLGS DS    H                  MESSAGE CONTROL SYSTEM FLAGS          WTO00560
 WTOMTEXT DS    CL132              MESSAGE TEXT                          WTO00570
 WTOMDESC DS    H                  MESSAGE DESCRIPTOR CODE               WTO00580
 WTOMROUT DS    H                  MESSAGE ROUTE CODE                    WTO00590
          END   WTOEXIT                                                  WTO00600
```

**RUNAJNL EXEC**

```
&TRACE OFF
IDENTIFY (STACK
&READ VARS &WHO
CP SPOOL D TO CMSBATCH CONT
EXECIO 1 PUNCH (ST /*
EXECIO 1 PUNCH (ST /JOB &WHO X RUNAJNL
EXECIO 1 PUNCH (ST CP SPOOL PRINT TO &WHO
EXECIO 1 PUNCH (ST CP SPOOL CONS START TO &WHO
EXECIO 1 PUNCH (ST XEDIT TEMP SYSIDMS A3 (NOPROF
************************************************************
* THE FOLLOWING PARAMETER MAY NOT BE SUITABLE FOR ALL USERS *
************************************************************
EXECIO 1 PUNCH (ST INPUT DMCL=R120DMCL;
EXECIO 1 PUNCH (ST FILE
EXECIO 1 PUNCH (ST FILEDEF SYSIDMS DISK TEMP SYSIDMS
EXECIO 1 PUNCH (ST XEDIT TEMP SYSIPT A3 (NOPROF
EXECIO 1 PUNCH (ST INPUT CONNECT TO SYSTEM;
EXECIO 1 PUNCH (ST INPUT ARCHIVE JOURNAL;
EXECIO 1 PUNCH (ST FILE
EXECIO 1 PUNCH (ST FILEDEF SYSIPT DISK TEMP SYSIPT
******************************************
* A TAPE DRIVE AT 181 MUST BE ATTACHED TO  *
* CMSBATCH AND THE FOLLOWING FILEDEFS MUST *
* BE CHANGED TO MEET YOUR REQUIREMENTS     *
******************************************
EXECIP 1 PUNCH (ST FILEDEF SYSJRNL TAP1 SL (DEN 6250 RECFM F LRECL 4096 BLKSIZE 4906
EXECIO 1 PUNCH (ST FILEDEF SYSJRNL DUMMY
EXECIO 1 PUNCH (ST LABELDEF SYSJRNL FID RUNAJNL
**************************************
* THE FOLLOWING MUST BE CHANGED BY THE  *
* USER TO AGREE WITH WHAT WAS SPECIFIED *
* DURING THE INSTALL                    *
**************************************
EXECIO 1 PUNCH (ST CP LINK &WHO 50C 50C MW ALL
EXECIO 1 PUNCH (ST ACC 50C K
EXECIO 1 PUNCH (ST FILEDEF J1JRNL DISK 50C
```

```
EXECIO 1 PUNCH (ST CP LINK &WHO 50D 50D MW ALL
EXECIO 1 PUNCH (ST ACC 50D L
EXECIO 1 PUNCH (ST FILEDEF J2JRNL DISK 50D
EXECIO 1 PUNCH (ST CP LINK &WHO 191 400 RR ALL
EXECIO 1 PUNCH (ST ACC 400 B
EXECIO 1 PUNCH (ST FILEDEF CDMSLIB DISK IDMSLIB LOADLIB B
EXECIO 1 PUNCH (ST FILEDEF SYSPRT  PRINTER (RECFM FA LRECL 133 BLKSIZE 133
EXECIO 1 PUNCH (ST FILEDEF SYSLST  PRINTER
EXECIO 1 PUNCH (ST FILEDEF SYSOUT  PRINTER
EXECIO 1 PUNCH (ST GLOBAL LOADLIB IDMSLIB
EXECIO 1 PUNCH (ST OSRUN IDMSBCF
EXECIO 1 PUNCH (ST CP SPOOL PRINT CLOSE
************************************************************
* IF YOU WANT TO SPOOL THE CONSOLE, CHANGE THE NEXT STATEMENT *
* FROM 'STOP PUR' TO 'CLOSE STOP'                             *
************************************************************
EXECIO 1 PUNCH (ST CP SPOOL CONS STOP PUR
EXECIO 1 PUNCH (ST /*
CP SPOOL D CLOSE
CP SPOOL D FOR * NOCONT
&EXIT
```

**RUNPLOG EXEC**

```
&TRACE OFF
IDENTIFY (STACK
&READ VARS &WHO
CP SPOOL D TO CMSBATCH CONT
EXECIO 1 PUNCH (ST /*
EXECIO 1 PUNCH (ST /JOB &WHO X RUNPLOG
EXECIO 1 PUNCH (ST CP SPOOL PRINT TO &WHO
EXECIO 1 PUNCH (ST CP SPOOL CONS START TO &WHO
EXECIO 1 PUNCH (ST XEDIT TEMP SYSIDMS A3 (NOPROF
EXECIO 1 PUNCH (ST INPUT DMCL=R120DMCL;
EXECIO 1 PUNCH (ST FILE
EXECIO 1 PUNCH (ST FILEDEF SYSIDMS DISK TEMP SYSIPT A3
EXECIO 1 PUNCH (ST XEDIT TEMP SYSIPT A3 (NOPROF
EXECIO 1 PUNCH (ST INPUT CONNECT TO SYSTEM;
EXECIO 1 PUNCH (ST INPUT ARCHIVE LOG;
EXECIO 1 PUNCH (ST FILE
EXECIO 1 PUNCH (ST FILEDEF SYSIPT DISK TEMP SYSIPT A3
EXECIO 1 PUNCH (ST FILEDEF  SYS001 DUMMY
EXECIO 1 PUNCH (ST FILEDEF  SYS002 DUMMY
```

```
*******************************************
* THE FOLLOWING MUST BE CHANGED BY THE USER *
* TO AGREE WITH WHAT WAS SPECIFIED DURING   *
* THE INSTALL                               *
*******************************************
EXECIO 1 PUNCH (ST CP LINK &WHO 500 500 RR ALL
EXECIO 1 PUNCH (ST ACC 500 D
EXECIO 1 PUNCH (ST FILEDEF DICTDB DISK 500
EXECIO 1 PUNCH (ST CP LINK &WHO 505 505 MW ALL
EXECIO 1 PUNCH (ST ACC 505 J
EXECIO 1 PUNCH (ST FILEDEF DLOGDB DISK 500
EXECIO 1 PUNCH (ST CP LINK &WHO 191 400 RR ALL
EXECIO 1 PUNCH (ST ACC 400 B
EXECIO 1 PUNCH (ST FILEDEF CDMSLIB DISK IDMSLIB LOADLIB B2
EXECIO 1 PUNCH (ST FILEDEF SYSJRNL DUMMY
EXECIO 1 PUNCH (ST FILEDEF J1JRNL  DUMMY
EXECIO 1 PUNCH (ST FILEDEF J2JRNL  DUMMY
EXECIO 1 PUNCH (ST FILEDEF SYSPRT  PRINTER (RECFM FA LRECL 133 BLKSIZE 133
EXECIO 1 PUNCH (ST FILEDEF SYSLST  PRINTER
EXECIO 1 PUNCH (ST FILEDEF SYSOUT  PRINTER
EXECIO 1 PUNCH (ST GLOBAL  LOADLIB IDMSLIB
EXECIO 1 PUNCH (ST OSRUN   IDMSBCF
EXECIO 1 PUNCH (ST CP CLOSE PRT
EXECIO 1 PUNCH (ST CP SPOOL CONS CLOSE STOP
EXECIO 1 PUNCH (ST /*
CP SPOOL D CLOSE
CP SPOOL D FOR * NOCONT
&EXIT
```

**Modifying the EXECS:** If you plan to use the sample WTOEXIT exit routine, you must modify the RUNAJNL and RUNPLOG EXECS as follows:

- If the virtual machine to which you are sending the RUNAJNL or RUNPLOG job has a user ID other than CMSBATCH, specify the appropriate user ID in the first CP SPOOL command
- Modify the CP LINK, CP ACCESS, and CMS FILEDEF commands for the CA-IDMS LOADLIB library, journal files, and dictionary message and log files to reflect the files defined at your site

**Modifying the Sample WTOEXIT:** You can modify the sample WTOEXIT exit routine as follows:

1. Make the appropriate changes to the source code and save the file under a new file identifier (for example, USERWTO ASSEMBLE A).
2. Use the CAE5ASMB EXEC delivered with the install tape. You enter the following command:

   ```
   CAE5ASM fn IDMSLIB
   ```

   where *fn* is the CMS file name of your input source (file type must be ASSEMBLE).

**Implementing the WTOEXIT:** To implement the WTOEXIT user exit include it as the first module in the link edit of the DC/UCF startup routine.

►► For information about link editing the startup routine, see 10.2.1, “Creating the DC/UCF Startup Routine” on page 10-5.

For more information on the WTOEXIT user exit, refer to *CA-IDMS System Operations*.

# 10.4 Printer Support

**Spool File must be Closed to Print:** A CA-IDMS/DC system can include one or more lines for spooled output; such lines are defined in the system generation with a type of SYSOUTL. Reports sent to the spool file for a SYSOUTL line are not printed until the file is closed. The spool file is closed when the SYSOUTL line driver is disabled (for example, at CA-IDMS/DC system shutdown) or when a CP command to close the file is issued from the CA-IDMS/DC operator's console.

**Exit 21 for Printing:** To print spooled output upon completion of each report, you can use user exit 21. Exit 21 is called by the SYSOUTL line driver after the last line of a report is written to the spool file. A CP SPOOL PRINT CLOSE command issued by the exit routine causes the report to be printed. If appropriate, the exit routine can reroute the spool file (for example, through RSCS) before closing the file.

**Parameter Obtains Routing Information:** The SYSOUTL line driver passes one parameter to the exit routine. This parameter, which is the address of the physical terminal element (PTE) associated with the line, can be used to obtain additional information about the report for routing purposes. The PTE points to the logical terminal element (LTE), which points to the report element (RPE). The RPE contains such information as the report identifier and the number of copies to be printed.

►► For the layouts of the PTE, LTE, and RPE, refer to the *CA-IDMS DSECT Reference Guide*.

**Sample Exit 21 Routine:** The sample exit routine for user exit 21 is provided on the integrated installation tape used to install CA-IDMS/DB. During installation, the routine is offloaded onto the A disk as file EXIT21 ASSEMBLE A. Also provided on the tape is an EXEC that can be used to change the sample exit routine. The EXEC is offloaded onto the A disk as file CAE5UX21 EXEC A.

**Steps to Change User Exit 21:** To change user exit 21 follow these steps:

1. Modify the #DEFXIT macro for exit 21 in the RHDCUX21 source module stored in the CA-IDMS/DB MACLIB library
2. Run the CAE5UX21 EXEC

# Chapter 11. Evaluating and Enhancing DC/UCF System Performance

# 11.1 Considerations for Two Environments

DC/UCF system performance in a CMS virtual machine is affected both by the characteristics of the DC/UCF environment and by factors controlled within the VM/ESA environment. Evaluating and enhancing DC/UCF system performance is an iterative process that involves analysis and adjustment in both environments.

This chapter discusses some of the means for evaluating and enhancing DC/UCF system performance within each environment.

# 11.2 DC/UCF Considerations

**Evaluating System Performance:** DC/UCF system performance is evaluated by means of statistics collected by the system during DC/UCF execution.

►► For information about these statistics and the available methods for examining them, refer to *CA-IDMS System Operations*.

For information about characteristics of the DC/UCF environment that can be manipulated to enhance system performance, refer also to *CA-IDMS System Operations*.

**Special Considerations:** The following special considerations apply to enhancing DC/UCF performance when the system runs in a CMS virtual machine:

- DC/UCF uses the CMS file system rather than the DASD Block I/O System Service to access LOADLIB libraries. As a result, after requesting a program from a LOADLIB library, the DC/UCF system remains in a wait state until the load operation is completed. To reduce the amount of time that the system is inactive due to LOADLIB library I/O:
  - Leave subschemas, maps, ADS/OnLine dialogs, and edit and code tables in the dictionary load area rather than moving them to a LOADLIB library.
  - Make both the standard and re-entrant program pools large enough so that frequently used programs, once loaded, are likely to remain in the pools. Program pool size is specified in the SYSTEM statement of the DC/UCF system generation.
  - If appropriate, make frequently used programs resident. A program is designated as resident in the applicable PROGRAM statement of the DC/UCF system generation.

  ►► For system generation SYSTEM and PROGRAM statement syntax, refer to *CA-IDMS System Generation*.
- VM/ESA paging operations are more efficient than DASD Block I/O operations. In a VM/ESA environment with a relatively low overall paging rate, make the CA-IDMS buffer pools large enough so that frequently used database pages are likely to remain in the pools, reducing the amount of database I/O required by DC/UCF. Buffer pool size for the DC/UCF system is specified in the global DMCL module.

  ►► For statement syntax to define DMCL modules, refer to *CA-IDMS Database Administration*.

**Tuning the VM/ESA Environment:** After you have made adjustments within the DC/UCF environment, you may need to tune the VM/ESA environment to further optimize DC/UCF system performance. For example, adjustments to the VM/ESA environment may improve long waits for I/O, low CPU time relative to wall-clock time, and long wall-clock time for tasks.

## 11.3 VM/ESA Considerations

**Tools to Evaluate Performance:** DC/UCF system performance is affected by the performance of the CMS virtual machine in which the system is executing. Virtual machine performance is evaluated within the VM/ESA environment by means of the following tools:

- **VM/ESA Monitor** collects statistics that can be analyzed to determine whether the DC/UCF virtual machine is performing optimally.
- The **CP INDICATE LOAD, INDICATE USER, and INDICATE SPACES commands** display information about the overall load on the VM/ESA system and about the VM/ESA system resources used by the DC/UCF virtual machine.
- The **CP QUERY SRM command** (class A or E) displays the current status of VM/ESA system internal parameters. You can use the displayed values to make adjustments to the VM/ESA environment by means of the CP SET SRM command (class E).
- The **CP QUERY PAGING command** (class A or E) displays information on current VM/ESA paging activity.

**Tuning the Environment:** The information provided by the above tools may indicate the need to tune the VM/ESA environment. Tuning can enhance the performance of the DC/UCF virtual machine in the areas of I/O, CPU time, storage, and paging.

**Increase I/O Efficiency:** To increase the efficiency of I/O for the DC/UCF virtual machine, you must analyze and adjust the configuration of files on real DASD. Various means of increasing CPU time and improving storage and paging for the DC/UCF virtual machine are discussed below. Note that actions taken to enhance the performance of the DC/UCF virtual machine can affect the performance of other virtual machines.

### 11.3.1 Increasing CPU Time

The following VM/ESA performance options can be implemented to enhance the performance of the DC/UCF virtual machine with respect to CPU time:

- The **Virtual Machine Assist Feature**, if present, should be enabled for the DC/UCF virtual machine. When the Virtual Machine Assist Feature is disabled, virtual machine performance is degraded.
- **Extended Control-Program Support**, if present, should be enabled for the DC/UCF virtual machine. When Extended Control-Program Support is disabled, virtual machine performance is degraded.
- The **user priority** of the DC/UCF virtual machine can be raised so that the virtual machine is allocated a larger share of CPU time relative to other virtual machines. User priority is controlled by the CP SET PRIORITY command (class A).

- **Favored execution** status can be assigned to the DC/UCF virtual machine to force more CPU time to be given to the virtual machine. Favored execution is controlled by the CP SET FAVORED command (class A).
- In an attached processor or multiprocessor system, the DC/UCF virtual machine can be assigned an **affinity** for the less used processor so that more CPU time is available to the virtual machine. Affinity is controlled by the AFFINITY parameter of the OPTION control statement in the VM/ESA directory entry and by the CP SET AFFINITY command.

For additional information on VM/ESA performance options that affect CPU utilization, refer to the appropriate IBM documentation.

## 11.3.2 Improving Storage and Paging

The following VM/ESA performance options can be implemented to enhance the performance of the DC/UCF virtual machine with respect to storage and paging:

- **Queue drop elimination** can be established for the DC/UCF virtual machine so that the virtual machine remains active in the queue at all times. While a virtual machine remains active in the queue, its pages are not scanned or flushed. Queue drop elimination is implemented by means of the CP SET QDROP OFF command (class A).

  If the DC/UCF system is heavily accessed through batch processing or UCF, you can extend the queue drop elimination option to the virtual machines in which the batch application programs and UCF front-end systems are executing. Queue drop elimination is extended by means of the CP SET QDROP OFF USERS command (class A).
- **Reserved page frames** can be established for the DC/UCF virtual machine to create a private page pool and, thereby, reduce paging requirements for the virtual machine. Reserved page frames are implemented by means of the CP SET RESERVE command (class A).
- **Locked pages** can be established for the DC/UCF virtual machine to lock into real storage heavily used pages of virtual storage (for example, portions of the DC/UCF nucleus). Locked pages are implemented by means of the CP LOCK command (class A).
- The **IUCV service modules** can be made **resident** to exempt them from paging operations. IUCV service modules are made resident by modifying the CPLOAD loadlist EXEC.

For additional information on VM/ESA performance options that affect storage and paging, refer to the appropriate IBM documentation.

# Chapter 12. Migrating CA-IDMS to VM/ESA from a Different Operating System

## 12.1 About Migration

You can migrate a CA-IDMS production or test system to the VM/ESA environment either from a guest operating system running under VM or from a different host operating system environment. To facilitate the migration process, you install CA-IDMS in a CMS virtual machine. The installed CA-IDMS software can then be used as a base on which to rebuild the CA-IDMS production or test system being migrated.

►► For instructions to install CA-IDMS in the VM/ESA environment, refer to Chapter 2, “System Requirements.”

## 12.2 Migration Process

The migration process includes the following procedures:

- **Migrate the CA-IDMS database files:**
  - Run the IDMSDBAN utility to verify the integrity of each database file to be migrated.
  - If necessary, reconfigure the database files so that they can be accessed through the DASD Block I/O System Service under VM/ESA. The block size of each file (equal to the page size of the areas that map to the file) should not exceed 4K. You can use the UNLOAD and RELOAD utility statements to reduce the block size of a database file.

    **Note:** CA-IDMS cannot access native VSAM files in the VM/ESA environment. If data currently in native VSAM files is to be accessed under CMS, the files must be converted to CA-IDMS database files before being migrated.
  - Run the BACKUP and RESTORE utility statements to transfer the database files to formatted and reserved CMS minidisks.

  ►► For documentation of utility statements, refer to *CA-IDMS Utilities*.

  For information about CA-IDMS database files in the VM/ESA environment, see Chapter 9, "Creating and Accessing CA-IDMS Files."
- **Duplicate the DC/UCF system generation**, making the necessary modifications for the VM/ESA environment.

  ►► For information about system generation considerations for the VM/ESA environment, see 10.1, "System Generation Parameters" on page 10-3.
- **Link edit the DC/UCF startup routine in the CMS virtual machine**, using the operating system dependent module for the VM/ESA environment.

  ►► For instructions to link edit the startup routine, see 10.2, "System startup" on page 10-5.
- **Return to the data dictionary load area any subschemas, maps, ADS/OnLine dialogs, and edit and code tables that have been moved to a load library**. You may need to expand the load area to accommodate these components.
- **Recompile all programs that run under DC/UCF**, using a compiler that generates OS object code (that is, either a CMS or OS compiler).
- **Convert the JCL for executing batch jobs to CMS EXECS**.

  If DDS is installed at your site, you can maintain a minimal DC/UCF system under the original operating system. Jobs submitted through this minimal system can use DDS to access database files owned by the DC/UCF system in the CMS virtual machine. Using DDS removes the immediate need to recompile all programs that run under DC/UCF and to convert the existing JCL to CMS EXECS. Information on DDS in the VM/ESA environment is presented under 10.3, "System Access" on page 10-11.

**Note:** A minimal DC/UCF system includes the operator's console, line drivers, a data dictionary, and the DCMT task.

# Appendix A. CA-IDMS, CA-IDMS Tools and CA-IDMS/CMS Option LASTING GLOBALV Screens

## A.1 Introduction

The DISPLAY GLOBALV VARIABLES option provides you with the ability to display the values for internal variables used during the installation process. These variables are not set by the installer during the course of the install. This functionality is available for CA-IDMS, CA-IDMS Tools and CA-IDMS/CMS Option clients.

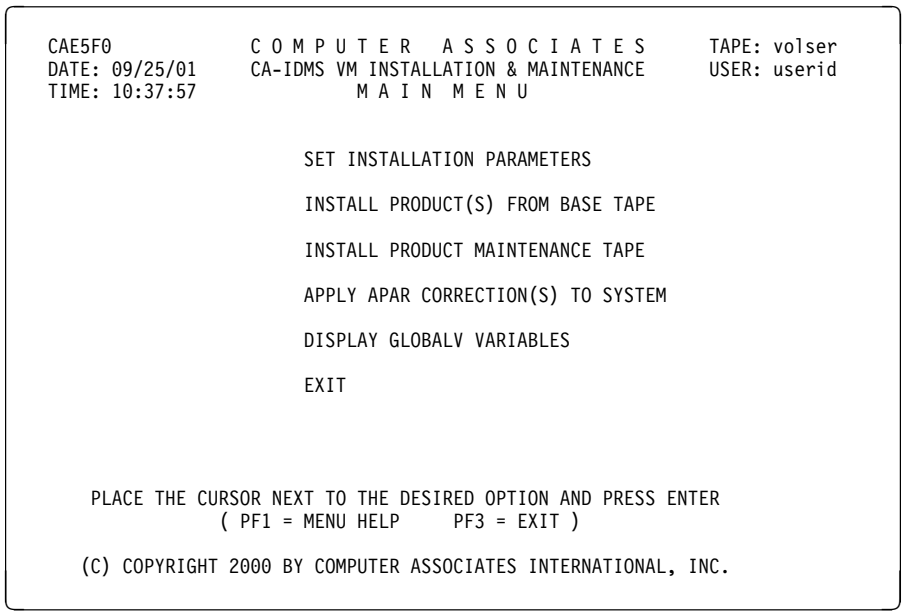
These screens are most useful when a problem occurs during the install process. They provide the user with an online display of all the variable values and will assist a Computer Associates Technical Support representative in resolving the problem.

# A.2 The CA-IDMS GLOBALV Menu

Take these steps to display the DISPLAY GLOBALV VARIABLES main menu:

1. Execute IDMS150

   The main menu appears on your screen.




2. Place the cursor next to **DISPLAY GLOBALV VARIABLES**
3. Press ENTER

   The screen shown below is displayed on your terminal.

```
 CAE5LGLB          C O M P U T E R   A S S O C I A T E S      TAPE: volser
 DATE: 11/15/01         CA-IDMS VM/CMS INSTALLATION           USER: userid
 TIME: 14:51:39          DISPLAY GLOBALV VARIABLES


                        INSTALLATION AND TAPE FIELDS

                        LINKAGE EDITOR STATUS FLAGS

                        JOB STEP STATUS FLAGS

                        EXIT









     PLACE THE CURSOR NEXT TO THE DESIRED OPTION AND PRESS ENTER
                ( PF1 = MENU HELP     PF3 = EXIT )

    (C) COPYRIGHT 2001 BY COMPUTER ASSOCIATES INTERNATIONAL, INC.
```

## A.2.1 Displaying the INSTALLATION AND TAPE FIELDS variables

Take these steps to display the INSTALLATION AND TAPE FIELDS:

1. Place the cursor next to INSTALLATION AND TAPE FIELDS
2. Press ENTER

   The INSTALLATION AND TAPE FIELDS screen displays on your terminal.

```
 CAE5LGLI          C O M P U T E R   A S S O C I A T E S      TAPE: volser
 DATE: 11/15/01         CA-IDMS VM/CMS INSTALLATION           USER: userid
 TIME: 14:52:09        DISPLAY TAPE AND STATUS FIELDS

FIELD                  VALUE
TAPE AND GENLEVEL INFORMATION
 CONTROL FILE PREFIX:    CAIDMS15
 BASE GENLEVEL:          F00109DBA00
 BASE VOLSER:            volser
 CURR. MAINT. GENLEVEL:  F00109DBA00
 CURR. MAINT. VOLSER:    volser
 PREV. MAINT. GENLEVEL:
 PREV. MAINT. VOLSER:

INSTALL STATUS INFORMATION
 BASE INSTALL STATUS:    I
 ADDON INSTALL STATUS:   N
 MAINT. INSTALL STATUS:  N



+-------------------------------------------------------------------------+
|  PF1= SCREEN HELP    PF3= RETURN                                        |
+-------------------------------------------------------------------------+
```

This screen displays information about the tape(s) that have been installed at your site and flags indicating the status of the latest BASE, ADDON and MAINTENANCE install.

Depending on the number of tapes installed, some or all the **TAPE AND GENLEVEL INFORMATION** fields may contain values.

- BASE GENLEVEL - Genlevel of the initial base tape that was installed for this release. This value will not change. It is kept for historical purposes.
- BASE VOLSER- Tape volume serial number of the initial base tape that was installed. This value will not change. It is kept for historical purposes.
- CURR. MAINT. GENLEVEL - Genlevel of the latest base/maintenance tape to be installed. After a base install, this value is the same as the BASE GENLEVEL.
- CURR. MAINT. VOLSER - Tape volume serial number of the latest base/maintenance tape to be installed. After a base install this value is the same as the BASE VOL SER.
- PREV. MAINT. GENLEVEL - Genlevel of the prior base/maintenance tape. When a maintenance tape is installed, the CURR. MAINT. GENLEVEL is rolled into this field.
- PREV. MAINT. VOLSER - Tape volume serial number of the prior base/maintenance tape. When a maintenance tape is installed, the CURR. MAINT. VOLSER is rolled into this field.

The INSTALL STATUS INFORMATION section displays the status of each type of install that is processed. Valid values displayed are:

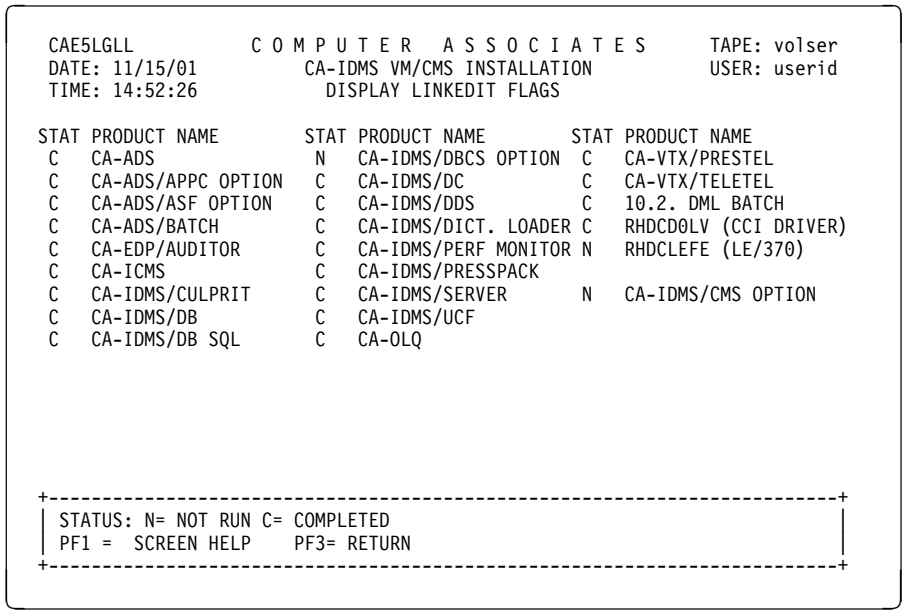
- N - This type of install has never been attempted. Note that for this display an UPGRADE install would be represented by the BASE install flag.
- I - This type of install is currently IN PROGRESS but is not completed.
- C - This type of install is COMPLETED.

## A.2.2 Displaying the LINKAGE EDITOR STATUS FLAGS

Take these steps to display the LINKAGE EDITOR STATUS FLAGS

1. Place the cursor next to LINKAGE EDITOR STATUS FLAGS
2. Press ENTER

   The DISPLAY LINKEDIT FLAGS screen displays on your terminal.




These flags indicate if the link edit for the listed products has been run.

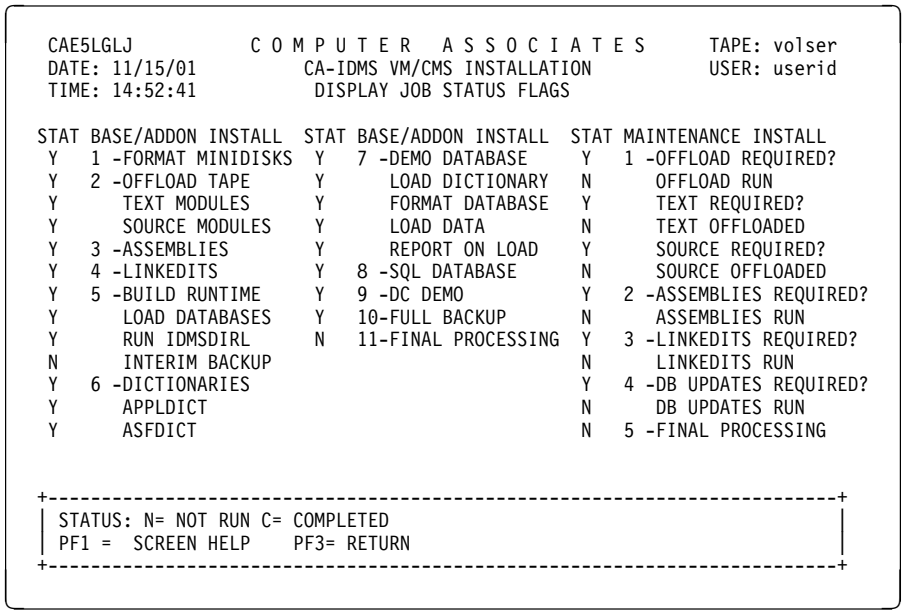
- N - Links for this product/module has not been run.
- C - Links for this product/module are completed.

## A.2.3 Displaying the JOB STEP STATUS FLAGS

Take these steps to display the JOB STEP STATUS FLAGS

1. Place the cursor next to JOB STEP STATUS FLAGS
2. Press ENTER

   The DISPLAY JOB STATUS FLAGS screen displays on your terminal.




These flags indicate the status of the various jobs which have been run. There are columns displaying the flags for a BASE or ADDON installation and columns displaying the flags for a MAINTENANCE install. The main job steps display the job number as it appears on the SELECT PRODUCT INSTALL JOBS screen. Steps without numbers contain sub-jobs within that step and they have separate flags. This prevents sub-jobs from being rerun if a subsequent step within a major job step fails.

- N - This job has not been run or has not been selected. Some steps are optional (e.g. FINAL BACKUP). Even though the install is completed, the flag remains N.
- Y - The job step is successfully completed.

# A.3 The CA-IDMS Tools GLOBALV Menu

Take the following steps to display the DISPLAY GLOBALV VARIABLES main menu:

1. Execute TOOL150

   The main menu displays on your screen.

```
CAR9F0            C O M P U T E R   A S S O C I A T E S      TAPE: volser
DATE: 09/23/01  CA-IDMS TOOLS VM INSTALLATION & MAINTENANCE   USER: userid
TIME: 15:21:46              M A I N  M E N U


                        SET INSTALLATION PARAMETERS

                        INSTALL PRODUCT(S) FROM BASE TAPE

                        INSTALL PRODUCT MAINTENANCE TAPE

                        APPLY APAR CORRECTION(S) TO SYSTEM

                        DISPLAY GLOBALV VARIABLES

                        EXIT



    PLACE THE CURSOR NEXT TO THE DESIRED OPTION AND PRESS ENTER
               ( PF1 = MENU HELP     PF3 = EXIT )

   (C) COPYRIGHT 2000 BY COMPUTER ASSOCIATES INTERNATIONAL, INC.
```

2. Place the cursor next to **DISPLAY GLOBALV VARIABLES**
3. Press ENTER

   The screen shown below is displayed on your terminal.

```
 CAR9LGLB          C O M P U T E R   A S S O C I A T E S      TAPE: volser
 DATE: 11/15/01  CA-IDMS TOOLS VM INSTALLATION & MAINTENANCE   USER: userid
 TIME: 15:22:05           DISPLAY GLOBALV VARIABLES


                         INSTALLATION AND TAPE FIELDS

                         LINKAGE EDIT STATUS FLAGS

                         BASE TAPE JOB STEP STATUS FLAGS

                         MAINTENANCE TAPE JOB STEP STATUS FLAGS

                         EXIT




     PLACE THE CURSOR NEXT TO THE DESIRED OPTION AND PRESS ENTER
                 ( PF1 = MENU HELP     PF3 = EXIT )

    (C) COPYRIGHT 2001 BY COMPUTER ASSOCIATES INTERNATIONAL, INC.
```

## A.3.1 Displaying the INSTALLATION AND TAPE FIELDS variables

Take these steps to display the INSTALLATION AND TAPE FIELDS:

1. Place the cursor next to INSTALLATION AND TAPE FIELDS
2. Press ENTER

   The INSTALLATION AND TAPE FIELDS screen displays on your terminal

```
 CAR9LGLI          C O M P U T E R   A S S O C I A T E S      TAPE: volser
 DATE: 11/15/01       CA-IDMS TOOLS VM/CMS INSTALLATION       USER: userid
 TIME: 15:22:21         DISPLAY TAPE AND STATUS FIELDS

FIELD                   VALUE
TAPE AND GENLEVEL INFORMATION
 BASE GENLEVEL:          F00109DBA00
 BASE VOLSER:            volser
 CURR. MAINT. GENLEVEL:  F00109DBA00
 CURR. MAINT. VOLSER:    volser
 PREV. MAINT. GENLEVEL:
 PREV. MAINT. VOLSER:

INSTALL STATUS INFORMATION
 BASE INSTALL STATUS:    N
 ADDON INSTALL STATUS:   N
 MAINT. INSTALL STATUS:  N




+-------------------------------------------------------------------------------+
|  PF1= SCREEN HELP    PF3= RETURN                                              |
+-------------------------------------------------------------------------------+
```

This screen displays information about the tape(s) that are installed at your site and flags indicating the status of the latest BASE, ADDON and MAINTENANCE install.

Depending on the number of tapes installed, some or all the **TAPE AND GENLEVEL INFORMATION** fields may contain values.

- BASE GENLEVEL - Genlevel of the initial base tape that was installed for this release. This value will not change. It is kept for historical purposes.
- BASE VOLSER- Tape volume serial number of the initial base tape that was installed. This value will not change. It is kept for historical purposes.
- CURR. MAINT. GENLEVEL - Genlevel of the latest base/maintenance tape to be installed. After a base install, this value is the same as the BASE GENLEVEL.
- CURR. MAINT. VOLSER - Tape volume serial number of the latest base/maintenan tape to be installed. After a base install this value is the same as the BASE VOL SER.
- PREV. MAINT. GENLEVEL - Genlevel of the prior base/maintenance tape. When a maintenance tape is installed, the CURR. MAINT. GENLEVEL is rolled into this field.
- PREV. MAINT. VOLSER - Tape volume serial number of the prior base/maintenanc tape. When a maintenance tape is installed, the CURR. MAINT. VOLSER is rolled into this field.

The INSTALL STATUS INFORMATION section displays the status of install type that could be processed. The values displayed are:

- N - This type of install has never been attempted. Note that for this display an UPGRADE install would be represented by the BASE install flag.
- I - This type of install is currently IN PROGRESS, but is not completed.
- C - This type of install is COMPLETED.

## A.3.2 Displaying the LINKAGE EDITOR STATUS FLAGS

Take the following steps to display the LINKAGE EDITOR STATUS FLAGS

1. Place the cursor next to LINKAGE EDITOR STATUS FLAGS
2. Press ENTER

   The DISPLAY LINKEDIT FLAGS screen displays on your terminal.

```
 CAR9LGLL          C O M P U T E R   A S S O C I A T E S      TAPE: volser
 DATE: 11/15/01      CA-IDMS TOOLS VM/CMS INSTALLATION        USER: userid
 TIME: 15:22:37           DISPLAY LINKEDIT FLAGS

STAT PRODUCT NAME                     STAT PRODUCT NAME
 N   CA-IDMS/ADS ALIVE                 N   CA-IDMS/LOG ANALYZER
 N   CA-IDMS/ADS TRACE                 N   CA-IDMS/MASTERKEY
 N   CA-IDMS/DB ANALYZER               N   CA-IDMS/ONLINE LOG DISPLAY
 N   CA-IDMS/DB AUDIT                  N   CA-IDMS/SASO
 N   CA-IDMS/DB REORG                  N   CA-IDMS/SCHEMA MAPPER
 N   CA-IDMS/DBX                       N   CA-IDMS/TASK ANALYZER
 N   CA-IDMS/DC SORT                   N   GENERAL COMPARE MODULES
 N   CA-IDMS/DICTIONARY MIGRATOR       N   GENERAL DBIO MODULES
 N   CA-IDMS/DICTIONARY MIGRATOR ASST  N   GENERAL EDITOR MODULES
 N   CA-IDMS/DICTIONARY MODULE EDITOR  N   GENERAL IDMS MODULES
 N   CA-IDMS/DICTIONARY QUERY FACILITY N   GENERAL MAPPING MODULES
 N   CA-IDMS/DML ONLINE                N   GENERAL SORT MODULES
 N   CA-IDMS/ENFORCER                  N   GENERAL SUBROUTINE MODULES
 N   CA-IDMS/JOURNAL ANALYZER

+------------------------------------------------------------------------------+
| STATUS: N= NOT RUN C= COMPLETED                                              |
| PF1 =  SCREEN HELP    PF3= RETURN                                            |
+------------------------------------------------------------------------------+
```

These flags indicate if the link edits for the listed products have been run.

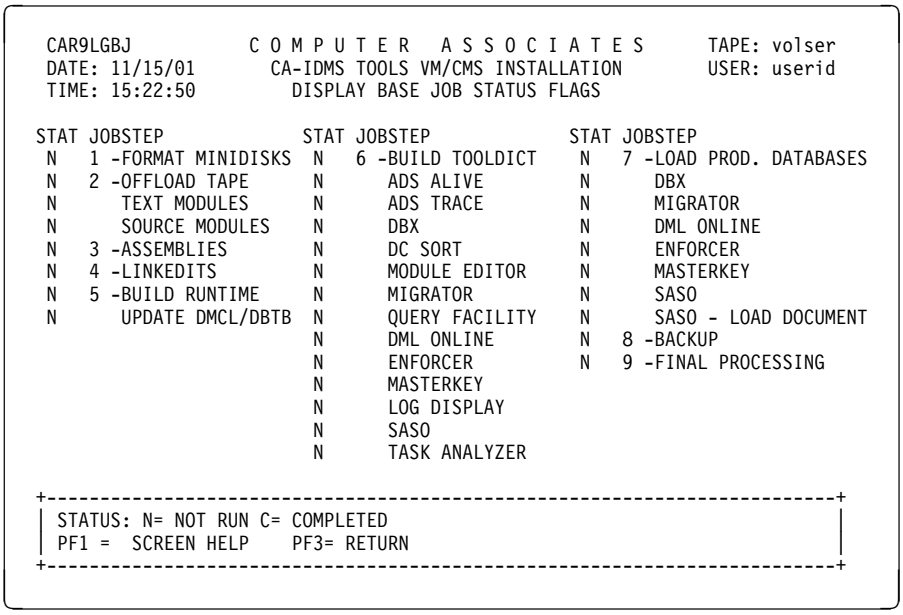
- N - Links for this product/module has not been run.
- C - Links for this product/module are completed.

## A.3.3 Displaying the BASE TAPE JOB STEP STATUS FLAGS

Take the following steps to display the BASE TAPE JOB STEP STATUS FLAGS

1. Place the cursor next to BASE TAPE JOB STEP STATUS FLAGS
2. Press ENTER

   The DISPLAY BASE TAPE JOB STATUS FLAGS screen displays on your terminal.




These flags indicate the status of the various jobs which may be run during a BASE or ADDON install. The main job steps display the job number as it appears on the SELECT PRODUCT INSTALL JOBS screen. Steps without numbers contain sub-jobs within that step and they have separate flags. This prevents sub-jobs from being rerun if a subsequent step within a major job step fails.

- N - This job has not been run or has not been selected. Some steps are optional (e.g. FINAL BACKUP). Although the install is completed, the flag remains N.
- Y - The job step has been successfully completed.

## A.3.4 Displaying the MAINTENANCE TAPE JOB STEP STATUS FLAGS

Take the following steps to display the MAINTENANCE TAPE JOB STEP STATUS FLAGS

1. Place the cursor next to MAINTENANCE TAPE JOB STEP STATUS FLAGS
2. Press ENTER

   The DISPLAY MAINTENANCE TAPE JOB STATUS FLAGS screen displays on your terminal.

```
 CAR9LGMJ           C O M P U T E R   A S S O C I A T E S      TAPE: volser
 DATE: 11/15/01       CA-IDMS TOOLS VM/CMS INSTALLATION        USER: userid
 TIME: 15:23:06     DISPLAY MAINTENANCE JOB STATUS FLAGS

STAT MAINTENANCE INSTALL
 Y   1 -OFFLOAD REQUIRED?
 N      OFFLOAD RUN
 Y      TEXT REQUIRED?
 N      TEXT OFFLOADED
 Y      SOURCE REQUIRED?
 N      SOURCE OFFLOADED
 Y   2 -ASSEMBLIES REQUIRED?
 N      ASSEMBLIES RUN
 Y   3 -LINKEDITS REQUIRED?
 N      LINKEDITS RUN
 Y   4 -DB UPDATES REQUIRED?
 N      DB UPDATES RUN
 N   5 -FINAL PROCESSING


+------------------------------------------------------------------------------+
| STATUS: N= NOT RUN C= COMPLETED                                              |
| PF1 =  SCREEN HELP    PF3= RETURN                                            |
+------------------------------------------------------------------------------+
```

These flags indicate the status of the various jobs which may be run during a maintenance install. The main job steps display the job number as it would appear on the SELECT PRODUCT INSTALL JOBS screen. Steps without numbers contain sub-jobs within that step and they have separate flags. This prevents sub-jobs from being rerun if a subsequent step within a major job step fails.

- N - This job has not been run or has not been selected. Some steps are optional (e.g. FINAL BACKUP). Although the install is completed, the flag remains N.
- Y - The job step has been successfully completed.

# A.4 The CA-IDMS/CMS Option GLOBAV Menu

Take these steps to display the DISPLAY GLOBALV VARIABLES main menu:

1. Execute CMSO150

   The main menu appears on your screen.

```
CAQ6F0            C O M P U T E R   A S S O C I A T E S      TAPE: F0Q61B
DATE: 11/19/01       CA-IDMS/CMS OPTION INSTALLATION         USER: IDMSQA02
TIME: 14:59:02              M A I N  M E N U


                       SET INSTALLATION PARAMETERS

                       INSTALL BASE TAPE

                       INSTALL MAINTENANCE TAPE

                       APPLY APAR CORRECTION(S) TO SYSTEM

                       DISPLAY GLOBALV VARIABLES

                       EXIT



    PLACE THE CURSOR NEXT TO THE DESIRED OPTION AND PRESS ENTER
              ( PF1 = MENU HELP     PF3 = EXIT )

   (C) COPYRIGHT 2001 BY COMPUTER ASSOCIATES INTERNATIONAL, INC.
```

2. Place the cursor next to **DISPLAY GLOBALV VARIABLES**
3. Press ENTER

   The screen shown below is displayed on your terminal.

```
 CAE5LGLB          C O M P U T E R   A S S O C I A T E S      TAPE: F0Q61B
 DATE: 11/19/01    CA-IDMS/CMS OPTION  VM/CMS INSTALLATION    USER: IDMSQA02
 TIME: 14:59:19           DISPLAY GLOBALV VARIABLES


                        INSTALLATION AND TAPE FIELDS

                        LINKAGE EDITOR STATUS FLAGS

                        JOB STEP STATUS FLAGS

                        EXIT









     PLACE THE CURSOR NEXT TO THE DESIRED OPTION AND PRESS ENTER
                ( PF1 = MENU HELP     PF3 = EXIT )

    (C) COPYRIGHT 2001 BY COMPUTER ASSOCIATES INTERNATIONAL, INC.
```

## A.4.1 Displaying the INSTALLATION AND TAPE FIELDS variables

Take these steps to display the INSTALLATION AND TAPE FIELDS:

1. Place the cursor next to INSTALLATION AND TAPE FIELDS
2. Press ENTER

   The INSTALLATION AND TAPE FIELDS screen displays on your terminal.

```
 CAE5LGLI          C O M P U T E R   A S S O C I A T E S      TAPE: F0Q61B
 DATE: 11/19/01    CA-IDMS/CMS OPTION  VM/CMS INSTALLATION    USER: IDMSQA02
 TIME: 15:00:09         DISPLAY TAPE AND STATUS FIELDS

FIELD                   VALUE
TAPE AND GENLEVEL INFORMATION
 BASE GENLEVEL:          F00109CBN00
 BASE VOLSER:            F0Q61B
 CURR. MAINT. GENLEVEL:  F00109CBN00
 CURR. MAINT. VOLSER:    F0Q61B
 PREV. MAINT. GENLEVEL:
 PREV. MAINT. VOLSER:

INSTALL STATUS INFORMATION
 BASE INSTALL STATUS:    I
 ADDON INSTALL STATUS:   N
 MAINT. INSTALL STATUS:  N




+-------------------------------------------------------------------------------+
|  PF1= SCREEN HELP    PF3= RETURN                                              |
+-------------------------------------------------------------------------------+
```

This screen displays information about the tape(s) that have been installed at your site and flags indicating the status of the latest BASE, ADDON and MAINTENANCE install.

Depending on the number of tapes installed, some or all the **TAPE AND GENLEVEL INFORMATION** fields may contain values.

- BASE GENLEVEL - Genlevel of the initial base tape that was installed for this release. This value will not change. It is kept for historical purposes.
- BASE VOLSER- Tape volume serial number of the initial base tape that was installed. This value will not change. It is kept for historical purposes.
- CURR. MAINT. GENLEVEL - Genlevel of the latest base/maintenance tape to be installed. After a base install, this value is the same as the BASE GENLEVEL.
- CURR. MAINT. VOLSER - Tape volume serial number of the latest base/maintenance tape to be installed. After a base install this value is the same as the BASE VOL SER.
- PREV. MAINT. GENLEVEL - Genlevel of the prior base/maintenance tape. When a maintenance tape is installed, the CURR. MAINT. GENLEVEL is rolled into this field.
- PREV. MAINT. VOLSER - Tape volume serial number of the prior base/maintenance tape. When a maintenance tape is installed, the CURR. MAINT. VOLSER is rolled into this field.

The INSTALL STATUS INFORMATION section displays the status of each type of install that is processed. Valid values displayed are:

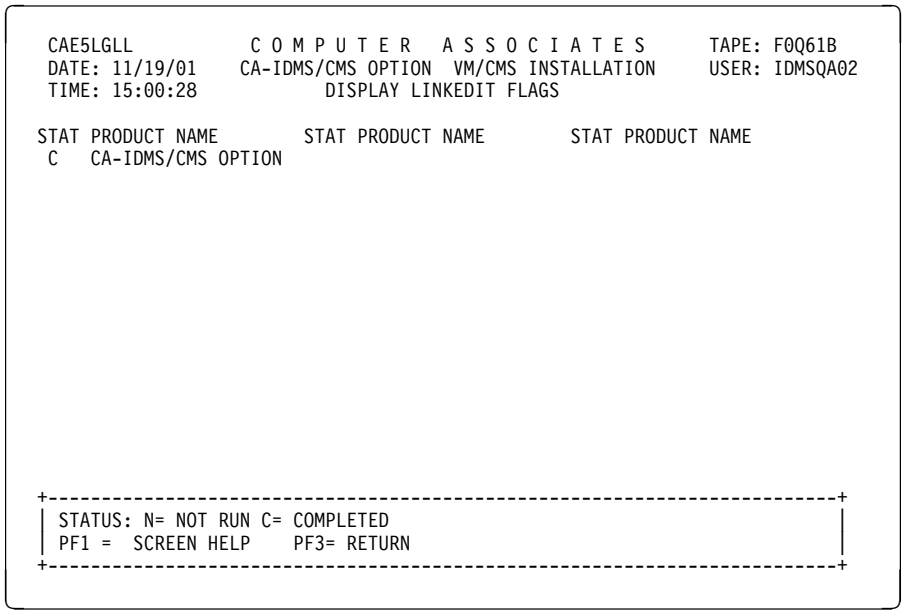
- N - This type of install has never been attempted. Note that for this display an UPGRADE install would be represented by the BASE install flag.
- I - This type of install is currently IN PROGRESS but is not completed.
- C - This type of install is COMPLETED.

## A.4.2 Displaying the LINKAGE EDITOR STATUS FLAGS

Take these steps to display the LINKAGE EDITOR STATUS FLAGS

1. Place the cursor next to LINKAGE EDITOR STATUS FLAGS
2. Press ENTER

   The DISPLAY LINKEDIT FLAGS screen displays on your terminal.




These flags indicate if the link edit for the listed products has been run.

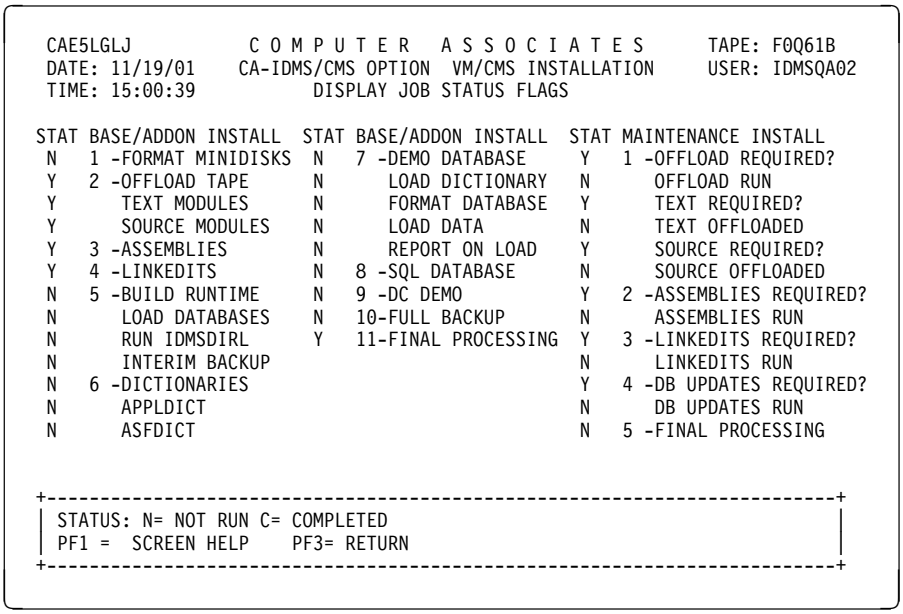
- N - Links for this product/module has not been run.
- C - Links for this product/module are completed.

## A.4.3 Displaying the JOB STEP STATUS FLAGS

Take these steps to display the JOB STEP STATUS FLAGS

1. Place the cursor next to JOB STEP STATUS FLAGS
2. Press ENTER

   The DISPLAY JOB STATUS FLAGS screen displays on your terminal.




These flags indicate the status of the various jobs which have been run. There are columns displaying the flags for a BASE or ADDON installation and columns displaying the flags for a MAINTENANCE install. The main job steps display the job number as it appears on the SELECT PRODUCT INSTALL JOBS screen. Steps without numbers contain sub-jobs within that step and they have separate flags. This prevents sub-jobs from being rerun if a subsequent step within a major job step fails.

- N - This job has not been run or has not been selected. Some steps are optional (e.g. FINAL BACKUP). Even though the install is completed, the flag remains N.
- Y - The job step is successfully completed.

# Appendix B. CA-IDMS Tools Runtime Options

This appendix describes the CA-IDMS Tools runtime parameters. These parameters are supplied with default values and can be modified at installation time by changing the VARBLIST member.

These runtime parameters can also be modified after initial installation by changing selected macro parameters in a particular customization module (xxxTPARM), and re-assembling and re-linking that module.

**Note:** The installation procedure defines, initializes, and loads a dictionary with various product modules. This is the dictionary that is referred to by the HLPDICT and HLPNODE parameters that appear in most of the xxxTPARM modules.

See SAMPJCL member UMOD1 for a USERMOD example of how to change xxxTPARM values.

# B.1 CA-IDMS/ADS Alive Runtime Parameters

```
*--------------------------------------------------------------------
* CA-IDMS/ADS-ALIVE RUNTIME PARAMETERS
*--------------------------------------------------------------------
*
*USGTPARM THIS IS THE INSTALLATION TAILORING MACRO USED BY THE
*USG SYSTEM TO PROVIDE RUN-TIME VALUES.
*OPERANDS:
*                 USGTSK='1-8 CHAR'    TASK USED TO INVOKE USG.
*                 HLPDICT='1-8 CHAR'   ALTERNATE DICTIONARY USED
*                                      FOR GSIHELP.
*                 HLPNODE='1-8 CHAR'   ALTERNATE NODE USED
*                                      FOR GSIHELP.
*
*                 HLPVERS=INTEGER      VERSION NUMBER OF HELP
*                                      MODULES.
*                 PCHOFF= INTEGER      OFFSET FOR IMPLANT
*
*                 SWEEP= (Y OR N)      YES OR NO - AREA SWEEP FOR
*                                      DIALOG WILD CARDS
*                 AUTO=  (Y OR N)      YES OR NO - NON-INTERRUPT
*                                      MODE ALLOWED
*
*                 QKEEP=INTEGER        NUMBER OF DAYS TO RETAIN
*                                      DEBUGQUEUE RECORDS
*
*
*                 PROKEEP=INTEGER      NUMBER OF DAYS TO RETAIN
*                                      ADSALIVE
*                                      PROFILE QUEUE RECORDS
*                                      MUST BE NUMERIC INTEGER
*                                      BETWEEN 0 AND 255
*
*                 DICTDEF= (D OR P)    D = DICTNAME WILL BE FROM
*                                          DEFAULT DICTNAME
*                                      P = DICTNAME WILL BE FROM
*                                          PROFILE.
*                                          (DEFAULT = P)
*                                      NOTE: FIRST TIME WILL
*                                      ALWAYS COME FROM DEFAULT
*                                      DICTNAME
*
*
*ASSEMBLED VALUES AT INSTALLATION:
*       USGTPARM USGTSK='ADSALIVE',
*                HLPDICT='        ',
*                HLPNODE='        ',
*                HLPVERS=1,
*                PCHOFF=3800,
*                SWEEP=Y,
*                AUTO=Y,
*                QKEEP=3,
*                PROKEEP=255,
*                DICTDEF=P
*--------------------------------------------------------------------
```

## B.2 CA-IDMS/Database Extractor Runtime Parameters

```
*--------------------------------------------------------------------
*CA-IDMS/DATABASE EXTRACTOR RUNTIME PARAMETERS
*--------------------------------------------------------------------
*           MODIFY PRODUCT TUNING PARAMETERS
*           ________________________________
*USVTPARM —— THIS MEMBER IS USED TO SPECIFY THE RUNTIME VALUES TO
*           BE USED AS INPUT TO THE INSTALLATION TAILORING MACRO,
*           USVCPARM.
*
*           RUNTIME VARIABLES
*           _________________
*           TASK='1-8 CHAR'      TASK USED TO INVOKE DBX.
*
*           HLPDICT='1-8 CHAR'   DICTNAME OF DICTIONARY INTO WHICH
*                                USVTUTOR MODULES WERE ADDED.  NULL FOR
*                                DEFAULT DICTIONARY.
*
*           HLPNODE='1-8 CHAR'   DICTNODE FOR "HLPDICT" - NULL IF NO DDS.
*
*           HLPVERS=INTEGER      VERSION NUMBER AT WHICH USVTUTOR MODULES
*                                WERE ADDED: MUST BE   1 - 9999
*
*           STKENTS=INTEGER      # OF 8 BYTE ENTRIES TO ALLOCATE FOR DBX
*                                SET STACK: MUST BE 30 - 1000
*                                THE NUMBER OF SETS THAT WILL BE TRAVERSED
*                                IN YOUR EXTRACT PATH BEGINNING AT THE
*                                DATABASE ENTRY POINT. A SAFE NUMBER WOULD
*                                BE ONE FOR EACH SET IN YOUR SUBSCHEMA. FOR
*                                EXAMPLE, 200 IS A SUITABLE VALUE FOR IDMSNWKA.
*
*           COPY='1-8 CHAR'      WHO A USER CAN COPY OTHER JCL MEMBERS
*                                AND SPECIFICATIONS FROM:
*                                  'USER' ——— FROM ONLY HIM/HERSELF;
*                                  'DBXADMIN' - FROM HIM/HERSELF PLUS ANY
*                                               GLOBAL MEMBERS UNDER THE
*                                               'DBXADMIN' USER-ID;
*                                  'ANYONE' —— FROM ANYONE ON THE DBX
*                                               DATABASE.
*
*           RETSEQ=Y|YES|N|NO    DEFAULT 'RETAIN PHYSICAL SEQUENCE OF
*                                MEMBER RECORDS IN THE SET?' VALUE ON
*                                THE RECORD LEVEL SELECTION CRITERIA SCREEN.
*
*           XRECURO=Y|YES|N|NO   DEFAULT 'EXTRACT ALL OWNERS FOR
*                                EXTRACTED RECURSIVE RECORDS?' VALUE ON
*                                THE RECORD LEVEL SELECTION CRITERIA SCREEN.
*
*           BGINMID=Y|YES|N|NO   DEFAULT 'BEGIN VIEWING/EDITING IN THE
*                                MIDDLE OF A PATH DEFINITION' VALUE ON THE
*                                SPECIFY DATABASE EXTRACT SPECIFICATION SCREEN.
*
*           NLYZ008=W|WARNING|   HAVE MESSAGE NLYZ008 AS A WARNING OR
*                   E|ERROR      ERROR MESSAGE.  NLYZ008 IS DISPLAYED
*                                AT EXTRACT TIME WHEN A MANDATORY MEMBER
*                                IS BEING EXTRACTED WITHOUT ITS OWNER.
*                                AN ERROR MESSAGE PREVENTS THE
*                                SPECIFICATION FROM BEING USED.
*--------------------------------------------------------------------
*  DEFAULT VALUES AS SUPPLIED WITH INSTALLATION:
*       USVCPARM TASK=DBX,
*                HLPDICT=,          NULL
*                HLPNODE=,          NULL
*                HLPVERS=1,
*                STKENTS=50,
*                COPY=ANYONE,
*                RETSEQ=YES,
*                XRECURO=YES,
*                BGINMID=YES,
*                NLYZ008=WARNING
*--------------------------------------------------------------------
```

# B.3 CA-IDMS/Dictionary Migrator Runtime Parameters

```
*--------------------------------------------------------------------
* CA-IDMS/DICTIONARY MIGRATOR RUNTIME PARAMETERS
*--------------------------------------------------------------------
*  DICTIONARY MIGRATOR
*  RELEASE 15.0
*  PRODUCT CUSTOMIZATION INSTRUCTIONS
*
*  THE FOLLOWING INSTRUCTIONS EXPLAIN WHAT CUSTOMIZATION OPTIONS ARE
*  AVAILABLE FOR DICTIONARY MIGRATOR AND HOW TO IMPLEMENT ANY OPTION
*  CHOSEN.
*
*  NOTE: THESE CUSTOMIZATION OPTIONS ARE NOT REQUIRED FOR THE PROPER
*  EXECUTION OF DICTIONARY MIGRATOR.  IF THE MODULE PROVIDED ON THE
*  INSTALLATION TAPE OR ALL DEFAULT VALUES ARE USED, DICTIONARY
*  MIGRATOR WILL EXECUTE A CORRECT MIGRATION FOR THE ENTITY(S) NAMED IN
*  THE PARAMETER STATEMENTS.  THESE OPTIONS ARE PROVIDED FOR USERS
*  WHOSE SHOP STANDARDS MANDATE SOME DEVIATION FROM THE BASIC MIGRATION
*  STRATEGY.
*
*  GENERAL:
*
*  THE CUSTOMIZATION OPTIONS FOR DICTIONARY MIGRATOR ARE FOUND IN THIS
*  MODULE.  A VERSION OF THIS MODULE WITH ALL DEFAULT VALUES SPECIFIED
*  IS PROVIDED IN LOAD MODULE FORM IN THE INSTALLATION.  IN THIS
*  MEMBER, EACH OPTION IS LISTED WITH ITS DEFAULT VALUE.  TO CHANGE AN
*  OPTION, CHANGE THE VALUE OF THE RELEVANT PARAMETER.  SMP WILL
*  ASSEMBLE AND LINK THIS MODULE.  THE ONLY VALID VALUES FOR ANY
*  PARAMETER IN USMTPARM ARE LISTED IN THIS SUPPLEMENT;  ANY OTHER
*  VALUE WILL RESULT IN A LEVEL 8 ERROR DURING ASSEMBLY.
*
*  ASSEMBLY AND LINKAGE:
*  ANY LEVEL OF IBM ASSEMBLER AND LINKAGE EDITOR CAN BE USED TO CREATE
*  THE USMTPARM MODULE.
*--------------------------------------------------------------------
```

```
*-----------------------------------------------------------------------
*  A NOTE ON NUMBERING IN THESE INSTRUCTIONS:
*
*  THE NUMBERS WHICH PRECEDE THE OPTIONS LISTED IN THESE INSTRUCTIONS
*  CAN ALSO BE USED AS THE OFFSET TO THE RELEVANT BYTE WITHIN THE
*  LOAD MODULE.  THIS IS USEFUL WHEN VERIFYING WHICH OPTIONS ARE IN
*  EFFECT.
*
*  WHEN AN OPTION HAS NO NUMBER PRECEDING IT, THE OPTION DOES NOT
*  AFFECT A SINGLE BYTE, BUT RATHER AFFECTS THE VALUES OF SEVERAL
*  BYTES. XUDNREF AND XUDNXRT ARE THE PRIMARY OCCURRENCES OF SUCH
*  "GROUP" OPTIONS.
*
*-----------------------------------------------------------------------
*  INDIVIDUAL OPTIONS
*-----------------------------------------------------------------------
*  1. XPICOVR (EXCLUDE PICTURE OVERRIDES)
*  -  PURPOSE: PRODUCE ADD RECORD SYNTAX WITHOUT PICTURE OVERRIDE
*     CLAUSES FOR RECORD ELEMENTS.
*  -  DEFAULT: RECORD SYNTAX IS CREATED INCLUDING PICTURE OVERRIDE
*     CLAUSES FOR ALL RECORD ELEMENTS.
*  -  TO INVOKE THIS OPTION, CODE: XPICOVR=Y
*  -  TO USE THE DEFAULT, CODE: XPICOVR=N
*  -  COMMENTS: PICTURE OVERRIDES ARE NEEDED FOR CORRECT MIGRATION ANY
*     TIME THAT THE ELEMENT PICTURE AND THE PICTURE AS USED IN THE
*     RECORD ARE NOT IDENTICAL.  USING THE DEFAULT VALUE INSURES THAT
*     THE RECORD ADDED TO THE OBJECT DICTIONARY WILL BE IDENTICAL TO
*     THE SOURCE DICTIONARY WITHOUT AN ADDED STEP OF MANUAL
*     VERIFICATION.
*-----------------------------------------------------------------------
*
*  2.      XSUBEL   (EXCLUDE SUBORDINATE ELEMENTS)
*  -   PURPOSE: PRODUCE ADD RECORD SYNTAX WITHOUT SUBORDINATE ELEMENT
*      IS CLAUSE.
*  -   DEFAULT: RECORD SYNTAX IS CREATED INCLUDING SUBORDINATE
*      ELEMENTS CLAUSES FOR ALL RECORD ELEMENTS.
*  -   TO INVOKE THIS OPTION, CODE: EXSUBEL=Y
*  -   TO USE THE DEFAULT, CODE: EXSUBEL=N
*  -   COMMENTS: THE SUBORDINATE ELEMENT CLAUSE PROVIDES MORE COMPLETE
*      DOCUMENTATION OF THE STRUCTURE OF THE RECORD AND ALSO VERIFIES
*      THAT GROUP ELEMENTS DEFINITIONS ARE IDENTICAL TO THE USE OF
*      THE GROUP ELEMENT WITHIN THE RECORD.
*-----------------------------------------------------------------------
```

```
*------------------------------------------------------------------------
*
*  3.      MAPDCMP   (MAP DECOMPILE)
*  -   PURPOSE: USE THE BATCH MAPPING FACILITY OPTION PROCESS=DECOMPILE
*      WHEN PRODUCING MAP (RHDCUPD) SYNTAX.
*  -   DEFAULT: MAP SYNTAX IS CREATED USING THE PROCESS=TERSE UNLESS
*      EITHER 1) NEWVERSION OR 2) CHANGEONLY AND RUN=AUDIT ARE ELECTED,
*      IN WHICH CASE PROCESS=DECOMPILE IS AUTOMATICALLY USED.
*  -   TO INVOKE THIS OPTION, CODE: MAPDCMP=Y
*  -   TO USE THE DEFAULT, CODE: MAPDCMP=N
*  -   COMMENTS: PROCESS=TERSE PRODUCES MAP SYNTAX WHICH IS MUCH MORE
*      CONCISE THAN PROCESS=DECOMPILE.  NORMALLY, THAT OPTION SHOULD BE
*      USED.  HOWEVER, PROCESS=TERSE OMITS ALL PARAMETERS WHERE THE
*      VALUE IS THE DEFAULT, THUS ERRORS MAY BE INTRODUCED WHEN
*      MIGRATING BETWEEN UNLIKE ENVIRONMENTS.  LIKEWISE, MIGRATION
*      BETWEEN DIFFERENT RELEASE LEVELS OF IDMS MAY BE UNPREDICTABLE
*      USING PROCESS=TERSE.
*------------------------------------------------------------------------
*
*  4.      SHARRDY   (READY IN SHARED UPDATE)
*  5.      EXCLRDY   (READY IN EXCLUSIVE UPDATE)
*  -   PURPOSE: DEFINE THE USAGE MODE TO BE USED IN THE UPLOAD STEPS
*      OF DICTIONARY MIGRATOR.
*  -   DEFAULT: DICTIONARY AREAS ARE READIED IN PROTECTED UPDATE.
*  -   SHARRDY AND EXCLRDY ARE MUTUALLY EXCLUSIVE, AT MOST, ONLY ONE
*      CAN BE CODED AS 'Y'.
*  -   TO READY IN PROTECTED UPDATE (DEFAULT): SHARRDY=N,EXCLRDY=N
*  -   TO READY IN SHARED UPDATE: SHARRDY=N,EXCLRDY=Y
*  -   TO READY IN EXCLUSIVE UPDATE: SHARRDY=N,EXCLRDY=Y
*  -   COMMENTS: REFER TO CA-IDMS PROGRAMMER'S GUIDE FOR AN OVERVIEW OF
*      USAGE MODES.  BECAUSE MIGRATION USUALLY INVOLVES UPDATES TO A
*      LARGE NUMBER OF DICTIONARY RECORDS,  PROTECTED UPDATE IS
*      RECOMMENDED.
*------------------------------------------------------------------------
*
*  6.      DFLTOFF   (DEFAULT IS OFF)
*  -   PURPOSE: SET OPTIONS FOR SESSIONS FOR THE UPLOAD STEPS
*      OF DICTIONARY MIGRATOR TO 'DEFALUT IS OFF'
*  -   DEFAULT: 'DEFAULT IS ON' IS USED.
*  -   TO INVOKE THIS OPTION, CODE: DFLTOFF=Y
*  -   TO USE THE DEFAULT, CODE: DFLTOFF=N
*  -   COMMENTS: THIS OPTION AFFECTS THE DISPOSITION OF ADD STATEMENTS
*      DURING THE UPLOAD STEPS.  WHEN THE DEFAULT IS USED, IF AN ADD
*      STATEMENT IS ENCOUNTERED FOR AN ENTITY OCCURRENCE ALREADY IN
*      THE DICTIONARY, THE ADD WILL BE CHANGED TO A MODIFY.  WITH THE
*      OPTION DFLTOFF=Y, THE ADD WILL BE TREATED AS AN ERROR, AND NO
*      UPDATE WILL OCCUR.
*  -   NOTE: DEFAULT IS OFF IS ALWAYS USED FOR RECORDS AS THE ADD
*      RECORD SYNTAX IS NOT COMPATIBLE WITH THE MODIFY COMMAND.
*------------------------------------------------------------------------
```

```
*
*  7.      PROGALL   (DISPLAY PROGRAM WITH ALL)
*  -   PURPOSE: CREATE DDDLPGM STATEMENTS IN WHICH PROGRAM ENTITIES
*      ARE DISPLAYED WITH ALL RELATIONSHIPS.
*  -   DEFAULT: PROGRAMS ARE DISPLAYED WITH A LIMITED RANGE OF
*      RELATIONSHIPS.
*  -   TO INVOKE THIS OPTION, CODE: PROGALL=Y
*  -   TO USE THE DEFAULT, CODE: PROGALL=N
*  -   COMMENTS: IN AN ADSO ENVIRONMENT, THE DDDLPGM PROGRAM STATEMENTS
*      ARE PRIMARILY FOR DOCUMENTATIONAL ENTRIES.  THE ADSOBGN STEP
*      ESTABLISHED A MAJORITY OF THE PROGRAM'S RELATIONSHIPS AND THEY
*      NEED NOT BE REPEATED IN THIS STEP.
*
*      IN OTHER ENVIRONMENTS, THIS OPTION CAN BE USEFUL IN ELIMINATING
*      THE NEED TO RERUN THE IDMSDMLX PREPROCESSOR TO REESTABLISH
*      PROGRAM STATISTICS.
*-----------------------------------------------------------------------
*  8.      XCLIST    (OMIT CLIST CREATION)
*  -   PURPOSE: ELIMINATE THE CREATION OF THE DCMT VARY NEW COPY CLIST
*  -   DEFAULT: THE CLIST IS CREATED
*  -   TO INVOKE THIS OPTION, CODE: XCLIST=Y
*  -   TO USE THE DEFAULT, CODE: XCLIST=N
*  -   COMMENTS: THE CLIST FEATURE OF DICTIONARY MIGRATOR IS A VERY
*      CONVENIENT METHOD OF IMMEDIATELY IMPLEMENTING A MIGRATED CHANGE.
*      IN SOME ENVIRONMENTS, HOWEVER, CHANGES ARE NOT SCHEDULED TO TAKE
*      EFFECT UNTIL THE SYSTEM IS RECYCLED.  IN SUCH CASES, THE CLIST
*      IS NOT NEEDED AND CAN BE OMITTED.
*-----------------------------------------------------------------------
*  THE NEXT 3 PARAMETERS ALL MAKE MODIFICATIONS TO THE STANDARD CLIST
*  FORMAT OF "DCMT VARY PROGRAM PROGRAM-NAME N C I".
*-----------------------------------------------------------------------
*  9.      XCLIMM    (OMIT IMMEDIATE OPTION FROM CLIST SYNTAX)
*  -   PURPOSE: CREATE THE CLIST SYNTAX WITHOUT IMMEDIATE OPTION
*  -   DEFAULT: THE CLIST IS CREATED WITH COMPLETE SYNTAX
*  -   TO INVOKE THIS OPTION, CODE: XCLIMM=Y
*  -   TO USE THE DEFAULT, CODE: XCLIMM=N
*  -   TO USE QUIESCE RATHER THAN IMMEDIATE, CODE: XCLIMM=Q
*  -   COMMENTS: THE IMMEDIATE OPTION IN VARY NEW COPY CAUSES THE
*      UPDATED LOAD MODULE TO BE LOADED IMMEDIATELY AFTER EXECUTION OF
*      THE COMMAND.  IF AN APPLICATION IS IN USE AT THIS TIME, SOME
*      UNEXPECTED RESULTS MAY OCCUR, INCLUDING ABNORMAL TERMINATION OF
*      USERS' SESSIONS.  OMITTING THE IMMEDIATE PARAMETER WILL CAUSE
*      THE UPDATE LOAD MODULE TO BE LOADED AT THE FIRST OPPORTUNITY
*      WHEN NO ONE IS USING THE MODULE.
*
*      THE QUIESCE OPTION FORMATS THE VARY PRO ... N C QUIESCE.  IN
*      THIS CASE ACTIVITY USING THE PROGRAM NAMED WILL BE QUIESCED.
*      WHEN NO ONE IS USING THE PROGRAM, A NEW COPY WILL BE LOADED.
*-----------------------------------------------------------------------
```

```
*------------------------------------------------------------------------
*  10. XCLDBN        (OMIT DICTNAME FROM  CLIST SYNTAX)
*  -   PURPOSE: CREATE THE CLIST SYNTAX WITHOUT DICTNAME ENTRY
*  -   DEFAULT: THE CLIST IS CREATED WITH COMPLETE SYNTAX
*  -   TO INVOKE THIS OPTION, CODE: XCLDBN=Y
*  -   TO USE THE DEFAULT, CODE: XCLDBN=N
*  -   COMMENTS: THE DICTNAME ENTRY IN THE CLIST IS THE ONE NAMED AS
*      OBJECT DICTIONARY IN THE DICTIONARY MIGRATOR RUN.  HENCE, IT IS
*      ALSO THE DICTIONARY INTO WHICH THE CHANGED LOAD MODULES WERE
*      MOVED OR GENERATED.  OMITTING THIS PARAMETER ALLOWS ANOTHER SET
*      OF LOAD MODULES TO BE NEW COPIED, OR THE USE OF THE DCUF COMMAND
*      TO CONTROL THE DICTNAME USED.
*------------------------------------------------------------------------
*  11. XCLVER        (OMIT VERSION FROM  CLIST SYNTAX)
*  -   PURPOSE: CREATE THE CLIST SYNTAX WITHOUT VERSION ENTRY
*  -   DEFAULT: THE CLIST IS CREATED WITH COMPLETE SYNTAX
*  -   TO INVOKE THIS OPTION, CODE: XCLVER=Y
*  -   TO USE THE DEFAULT, CODE: XCLVER=N
*  -   COMMENTS: THE VERSION ENTRY IN THE CLIST IS THE SPECIFIC VERSION
*      OF THE LOAD MODULE MOVED OR GENERATED IN THE OBJECT DICTIONARY.
*      IT IS NOT RECOMMENDED TO CHANGE THE VALUE OF THE OPTION.
*------------------------------------------------------------------------
*
*  12. NOUDC         (EXCLUDE USER DEFINED COMMENTS)
*  -   PURPOSE: CREATE DDDLUPD AND DDDLPGM FILE SYNTAX WITHOUT ANY USER
*      DEFINED COMMENTS.
*  -   DEFAULT: THE SYNTAX IS CREATED INCLUDING ANY USER DEFINED
*      COMMENT TEXT THAT IS PRESENT IN THE SOURCE DICTIONARY.
*  -   TO INVOKE THIS OPTION, CODE: NOUDC=Y
*  -   TO USE THE DEFAULT, CODE: NOUDC=N
*  -   COMMENTS: USER DEFINED COMMENTS ARE COMMENTS WITH HEADERS OTHER
*      THAN THOSE DEFINED IN THE IDD AS DELIVERED.  THIS OPTION CREATES
*      UPLOAD SYNTAX WHICH DOES NOT INCLUDE THIS CATEGORY OF COMMENTS.
*      REFER TO TECHNICAL BULLETIN UM-9002-0004 FOR ADDITIONAL
*      INFORMATION REGARDING THE SUCCESSFUL MIGRATION OF USER DEFINED
*      COMMENTS.
*------------------------------------------------------------------------
```

```
*-------------------------------------------------------------------
*      XUDNREF   (EXCLUDE ALL USER DEFINED NEST REFERENCES)
*
*  -   PURPOSE: CREATE UPLOAD SYNTAX WITHOUT ANY REFERENCES TO USER
*      DEFINED NESTS.
*  -   DEFAULT: THE SYNTAX IS CREATED INCLUDING ALL REFERENCES TO USER
*      DEFINED NESTS WHICH ARE PRESENT.
*  -   TO INVOKE THIS OPTION, CODE: XUDNREF=Y
*  -   TO USE THE DEFAULT, CODE: XUDNREF=N
*  -   COMMENTS:
*      THIS OPTION SERVES AS A GROUP ELECTION FOR ALL OF THE OPTIONS
*      RELATED TO INCLUDING REFERENCES TO USER DEFINED NESTS IN THE
*      SYNTAX CREATED.  IF THIS OPTION IS 'Y' ALL OF THE FLAGS BEGINNING
*      XUDNR ARE SET TO 'Y'.  IT IS NOT POSSIBLE TO OVERRIDE THIS
*      OPTION ON AN INDIVIDUAL ENTITY BASIS.  IF USER DEFINED NESTS
*      REFERENCES ARE DESIRED FOR SOME ENTITY TYPES, BUT NOT OTHERS,
*      CODE XUDNREF=N AND CODE 'Y' FOR THE PARTICULAR ENTITY TYPES
*      DESIRED.
*      USER DEFINED NESTS ARE NORMALLY DOCUMENTATIONAL ENTRIES WHICH
*      ARE NOT NEEDED FOR AN EXECUTABLE DIALOG OR APPLICATION.  SOME
*      USERS WISH TO ELIMINATE SUCH ENTRIES WHEN MIGRATING.  REVIEW THE
*      OPTIONS TAKEN FOR THE EXTRACTION OF USER DEFINED NESTS (XUDNXRT
*      AND ASSOCIATED PARAMETERS).  IF USER DEFINED NEST FOR AN ENTITY
*      TYPE ARE EXCLUDED FROM EXTRACTION, THEN REFER TO TECHNICAL
*      BULLETIN UM-9002-0003 FOR ADDITIONAL INFORMATION REGARDING THE
*      SUCCESSFUL MIGRATION OF USER DEFINED COMMENTS.
*-------------------------------------------------------------------
*
*  13. XUDNREL       (EXCLUDE USER DEFINED NEST REFERENCES FOR ELEMENTS)
*  -   PURPOSE: CREATE UPLOAD SYNTAX WITHOUT REFERENCES TO USER DEFINED
*      NESTS FOR ELEMENTS.
*  -   DEFAULT: THE SYNTAX IS CREATED INCLUDING REFERENCES TO USER
*      DEFINED NESTS FOR ELEMENTS
*  -   TO INVOKE THIS OPTION, CODE: XUDNREL=Y
*  -   TO USE THE DEFAULT, CODE: XUDNREL=N
*  -   COMMENTS: SEE COMMENTS UNDER XUDNREF.
*-------------------------------------------------------------------
*
*  14. XUDNRAT       (EXCLUDE USER DEFINED NEST REFERENCES FOR ATTRIBUTES)
*  -   PURPOSE: CREATE UPLOAD SYNTAX WITHOUT REFERENCES TO
*      USER DEFINED NESTS FOR ATTRIBUTES.
*  -   DEFAULT: THE SYNTAX IS CREATED INCLUDING REFERENCES TO USER
*      DEFINED NESTS FOR ATTRIBUTES
*  -   TO INVOKE THIS OPTION, CODE: XUDNRAT=Y
*  -   TO USE THE DEFAULT, CODE: XUDNRAT=N
*  -   COMMENTS: SEE COMMENTS UNDER XUDNREF.
*-------------------------------------------------------------------
```

```
*-------------------------------------------------------------------
*
*  15. XUDNRSY       (EXCLUDE USER DEFINED NEST REFERENCES FOR SYSTEMS)
*  -   PURPOSE: CREATE UPLOAD SYNTAX WITHOUT REFERENCES TO USER DEFINED
*      NESTS FOR SYSTEMS.
*  -   DEFAULT: THE SYNTAX IS CREATED INCLUDING REFERENCES TO USER
*      DEFINED NESTS FOR SYSTEMS
*  -   TO INVOKE THIS OPTION, CODE: XUDNRSY=Y
*  -   TO USE THE DEFAULT, CODE: XUDNRSY=N
*  -   COMMENTS: SEE COMMENTS UNDER XUDNREF.
*-------------------------------------------------------------------
*
*  16. XUDNRRC       (EXCLUDE USER DEFINED NEST REFERENCES FOR RECORDS)
*  -   PURPOSE: CREATE UPLOAD SYNTAX WITHOUT REFERENCES TO USER DEFINED
*      NESTS FOR RECORDS.
*  -   DEFAULT: THE SYNTAX IS CREATED INCLUDING REFERENCES TO USER
*      DEFINED NESTS FOR RECORDS
*  -   TO INVOKE THIS OPTION, CODE: XUDNRRC=Y
*  -   TO USE THE DEFAULT, CODE: XUDNRRC=N
*  -   COMMENTS: SEE COMMENTS UNDER XUDNREF.
*-------------------------------------------------------------------
*
*  17. XUDNRMD       (EXCLUDE USER DEFINED NEST REFERENCES FOR MODULES)
*  -   PURPOSE: CREATE UPLOAD SYNTAX WITHOUT REFERENCES TO USER DEFINED
*      NESTS FOR MODULES.
*  -   DEFAULT: THE SYNTAX IS CREATED INCLUDING REFERENCES TO USER
*      DEFINED NESTS FOR MODULES
*  -   TO INVOKE THIS OPTION, CODE: XUDNRMD=Y
*  -   TO USE THE DEFAULT, CODE: XUDNRMD=N
*  -   COMMENTS: SEE COMMENTS UNDER XUDNREF.
*-------------------------------------------------------------------
*
*  18. XUDNRPG       (EXCLUDE USER DEFINED NEST REFERENCES FOR PROGRAMS)
*  -   PURPOSE: CREATE UPLOAD SYNTAX WITHOUT REFERENCES TO USER DEFINED
*      NESTS FOR PROGRAMS.
*  -   DEFAULT: THE SYNTAX IS CREATED INCLUDING REFERENCES TO USER
*      DEFINED NESTS FOR PROGRAMS
*  -   TO INVOKE THIS OPTION, CODE: XUDNRPG=Y
*  -   TO USE THE DEFAULT, CODE: XUDNRPG=N
*  -   COMMENTS: SEE COMMENTS UNDER XUDNREF.
*-------------------------------------------------------------------
*
*  19. XUDNRUS       (EXCLUDE USER DEFINED NEST REFERENCES FOR USERS)
*  -   PURPOSE: CREATE UPLOAD SYNTAX WITHOUT REFERENCES TO USER DEFINED
*      NESTS FOR USERS.
*  -   DEFAULT: THE SYNTAX IS CREATED INCLUDING REFERENCES TO USER
*      DEFINED NESTS FOR USERS
*  -   TO INVOKE THIS OPTION, CODE: XUDNRUS=Y
*  -   TO USE THE DEFAULT, CODE: XUDNRUS=N
*  -   COMMENTS: SEE COMMENTS UNDER XUDNREF.
*-------------------------------------------------------------------
```

```
*-------------------------------------------------------------------
*
*  20. DBQUOTE       (DOUBLE QUOTE)
*  -   PURPOSE: USE A DOUBLE QUOTE (") THROUGHOUT IDD SYNTAX.
*  -   DEFAULT: A SINGLE QUOTE (') IS USED FOR ALL IDD SYNTAX.
*  -   TO INVOKE THIS OPTION, CODE: DBQUOTE=Y
*  -   TO USE THE DEFAULT, CODE: DBQUOTE=N
*  -   COMMENTS: THIS OPTION SHOULD BE USED AT SITES WHERE THE
*      DICTIONARY STANDARD IS A DOUBLE QUOTE.
*-------------------------------------------------------------------
*
*  21. EXNTWK        (EXTRACT IDMSNTWK)
*  -   PURPOSE: EXTRACT THE IDMSNTWK SCHEMA AND RELATED COMPONENT.
*  -   DEFAULT: NO PORTION OF THE IDMSNTWK SCHEMA IS MIGRATED.
*  -   TO INVOKE THIS OPTION, CODE: EXNTWK=Y
*  -   TO USE THE DEFAULT, CODE: EXNTWK=N
*  -   COMMENTS: THIS OPTION SHOULD ONLY BE USED IN VERY SPECIAL
*      CIRCUMSTANCES.  NORMALLY, EXTRACTION OF THE IDMSNTWK SCHEMA AND
*      ITS COMPONENTS WOULD CAUSE INCREASED PROCESSING TIME WITH NO
*      TANGIBLE RESULTS.  THE IDMSNTWK SCHEMA IS AVAILABLE TO EVERY
*      DICTIONARY.  MANY OF THE COMPONENTS CANNOT BE UPLOADED USING
*      IDMS UTILITIES.
*-------------------------------------------------------------------
*
*  22. XELEMNT       (EXCLUDE ELEMENTS)
*  -   PURPOSE: OMIT ALL ELEMENTS FROM MIGRATION.
*  -   DEFAULT: RELEVANT ELEMENTS ARE MIGRATED.
*  -   TO INVOKE THIS OPTION, CODE: XELEMNT=Y
*  -   TO USE THE DEFAULT, CODE: XELEMNT=N
*-------------------------------------------------------------------
*
*  23. XELECOB       (EXCLUDE ELEMENTS WHEN COBOLFORMAT IS USED)
*  -   PURPOSE: OMIT ALL ELEMENTS FROM MIGRATION WHEN COBOLFORMAT IS
*      USED FOR RECORDS.
*  -   DEFAULT: RELEVANT ELEMENTS ARE MIGRATED.
*  -   TO INVOKE THIS OPTION, CODE: XELECOB=Y
*  -   TO USE THE DEFAULT, CODE: XELECOB=N
*  -   COMMENTS: WHEN COBOLFORMAT IS USED, ELEMENTS REFERENCED IN THE
*      RECORDS ARE AUTOMATICALLY DEFINED WHEN THE RECORDS ARE ADDED.
*      THE MIGRATION OF ELEMENTS IS NOT NECESSARY. HOWEVER, IF
*      ADDITIONAL DOCUMENTATION HAS BEEN ADDED TO ELEMENTS, SUCH
*      DOCUMENTATION WOULD BE LOST UNLESS ELEMENTS ARE EXPLICITLY
*      MIGRATED.  IN SUCH CASES, THIS OPTION SHOULD NOT BE USED.
*-------------------------------------------------------------------
```

```
*-----------------------------------------------------------------------
*
*  24. EXSYREC       (EXTRACT SYSTEM RECORDS)
*  -   PURPOSE: EXTRACT CERTAIN SYSTEM RECORDS.
*  -   DEFAULT: THE RECORDS IN QUESTION ARE OMITTED FROM MIGRATION.
*  -   TO INVOKE THIS OPTION, CODE: EXSYREC=Y
*  -   TO USE THE DEFAULT, CODE: EXSYREC=N
*  -   SYSTEM RECORDS ARE:
*           ADSO-APPLICATION-GLOBAL-RECORD
*           ADSO-APPLICATION-MENU-RECORD
*           ADSO-STAT-DEF-REC
*           SUBSCHEMA-CTRL
*  -   COMMENTS: THE SYSTEM RECORDS ARE NORMALLY OMITTED FROM
*      MIGRATION. THESE RECORDS ARE IN EVERY DICTIONARY AND USUALLY
*      HAVE NO CHANGES.  BECAUSE MIGRATION WITHOUT CHANGEONLY WOULD
*      CREATE DELETE RECORD SYNTAX FOR THESE RECORDS AND THUS
*      DISCONNECT THE RECORDS FROM ALL DIALOGS CURRENTLY USING THEM IN
*      THE TARGET DICTIONARY, THEY SHOULD BE OMITTED FROM MIGRATION.
*      THIS OPTION SHOULD ONLY BE USED FOR SPECIAL MIGRATIONS WHEN ONE
*      OF THESE RECORDS HAS CHANGED AND PROCESSING IS PLANNED TO
*      REGENERATE ALL AFFECTED DIALOGS IN THE TARGET DICTIONARY.
*-----------------------------------------------------------------------
*
*      XUDNXRT   (EXCLUDE ALL USER DEFINED NEST FROM EXTRACTION)
*  -   PURPOSE: OMIT ENTITIES RELATED BY USER DEFINED NESTS.
*  -   DEFAULT: ENTITIES RELATED BY USER DEFINED NESTS ARE EXTRACTED.
*  -   TO INVOKE THIS OPTION, CODE: XUDNXRT=Y
*  -   TO USE THE DEFAULT, CODE: XUDNXRT=N
*  -   COMMENTS: IF THIS OPTION IS 'Y' ALL OF THE FLAGS BEGINING XUDNX
*      ARE SET TO 'Y'.  IT IS NOT POSSIBLE TO OVERRIDE THIS OPTON ON AN
*      INDIVIDUAL ENTITY BASIS.  IF USER DEFINED NESTS EXTRACTION IS
*      DESIRED FOR SOME ENTITY TYPES, BUT NOT OTHERS, CODE XUDNXRT=N
*      AND CODE 'Y' FOR THE PARTICULAR ENTITY TYPES DESIRED.
*
*      DURING THE EXTRACTION PHASE OF MIGRATION, DICTIONARY MIGRATOR
*      FOLLOWS USER DEFINED NESTS AS WELL AS SYSTEM DEFINED NESTS TO
*      FIND ALL ENTITIES RELATED TO THE ENTITY NAMED ON THE EXTRACT
*      STATEMENT.  IN SOME CASES, THE RELATIONSHIPS FOUND ARE TENUOUS
*      OR DOCUMENTATION NOT RELATED TO THE PURPOSE OF THE MIGRATION.
*      IN SUCH CASES, USER DEFINED NESTS MAY BE EXCLUDED FROM
*      EXTRACTION IN ORDER TO LIMIT THE NUMBER OF ENTITIES MIGRATED.
*      FURTHERMORE, OCCASIONALLY A SYSTEM NEST AND A USER DEFINED NEST
*      MAY RELATE THE SAME ENTITIES BY DIFFERENT PATHS.  DICTIONARY
*      MIGRATOR MAY THEN PRODUCE A MESSAGE 'ES00514E - ENTIY NEST
*      EXPLOSION TABLE SIZE EXCEEDED'.  THESE OPTIONS MAY BE USED TO
*      CIRCUMVENT THIS CONDITION.
*-----------------------------------------------------------------------
```

```
*-------------------------------------------------------------------
*
*  25. XUDNXEL       (EXCLUDE EXTRACTION OF USER DEFINED NEST - ELEMENTS)
*  -   PURPOSE: OMIT ELEMENTS RELATED BY USER DEFINED NESTS.
*  -   DEFAULT: ELEMENTS RELATED BY USER DEFINED NESTS ARE EXTRACTED.
*  -   TO INVOKE THIS OPTION, CODE: XUDNXEL=Y
*  -   TO USE THE DEFAULT, CODE: XUDNXEL=N
*  -   COMMENTS: SEE COMMENTS UNDER XUDNXRT.
*-------------------------------------------------------------------
*
*  26. XUDNXRC
*  -   PURPOSE: RESERVED BYTE
*  -   CODE:        XUDNXRC=N
*  -   COMMENTS: THIS OPTION IS RESERVED FOR FUTURE USE.
*-------------------------------------------------------------------
*
*  27. XUDNXMD       (EXCLUDE EXTRACTION OF USER DEFINED NEST - MODULES)
*  -   PURPOSE: OMIT MODULES RELATED BY USER DEFINED NESTS.
*  -   DEFAULT: MODULES RELATED BY USER DEFINED NESTS ARE EXTRACTED.
*  -   TO INVOKE THIS OPTION, CODE: XUDNXMD=Y
*  -   TO USE THE DEFAULT, CODE: XUDNXMD=N
*  -   COMMENTS: SEE COMMENTS UNDER XUDNXRT.
*-------------------------------------------------------------------
*
*  28. XUDNXUS       (EXCLUDE EXTRACTION OF USER DEFINED NEST - USERS)
*  -   PURPOSE: OMIT USERS RELATED BY USER DEFINED NESTS.
*  -   DEFAULT: USERS RELATED BY USER DEFINED NESTS ARE EXTRACTED.
*  -   TO INVOKE THIS OPTION, CODE: XUDNXUS=Y
*  -   TO USE THE DEFAULT, CODE: XUDNXUS=N
*  -   COMMENTS: SEE COMMENTS UNDER XUDNXRT.
*-------------------------------------------------------------------
*
*  29. XUDNXAT      (EXCLUDE EXTRACTION OF USER DEFINED NEST - ATTRIBUTES)
*  -   PURPOSE: OMIT ATTRIBUTES RELATED BY USER DEFINED NESTS.
*  -   DEFAULT: ATTRIBUTES RELATED BY USER DEFINED NESTS ARE EXTRACTED.
*  -   TO INVOKE THIS OPTION, CODE: XUDNXAT=Y
*  -   TO USE THE DEFAULT, CODE: XUDNXAT=N
*  -   COMMENTS: SEE COMMENTS UNDER XUDNXRT.
*-------------------------------------------------------------------
*
*  30. XUDNXSY       (EXCLUDE EXTRACTION OF USER DEFINED NEST - SYSTEMS)
*  -   PURPOSE: OMIT SYSTEMS RELATED BY USER DEFINED NESTS.
*  -   DEFAULT: SYSTEMS RELATED BY USER DEFINED NESTS ARE EXTRACTED.
*  -   TO INVOKE THIS OPTION, CODE: XUDNXSY=Y
*  -   TO USE THE DEFAULT, CODE: XUDNXSY=N
*  -   COMMENTS: SEE COMMENTS UNDER XUDNXRT.
*-------------------------------------------------------------------
```

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*-------------------------------------------------------------------
*
*  31. XIMSYNR       (SUPPRESS THE SYNTAX FILE DISPLAY REPORT)
*  -   PURPOSE: SUPPRESS THE SYNTAX FILE DISPLAY REPORT WHEN RUN=IMPORT
*  -   DEFAULT: THE SYNTAX FILE DISPLAY REPORT IS PRODUCED WHEN
*      RUN=IMPORT OR RUN=AUDIT.
*  -   TO INVOKE THIS OPTION, CODE: XIMSYNR=Y
*  -   TO USE THE DEFAULT, CODE: XIMSYNR=N
*  -   COMMENTS: THE SYNTAX FILE DISPLAY REPORT PRINTS THE CONTENTS OF
*      ALL SYNTAX FILES.  WHEN RUN=IMPORT, AND PARTICULARLY WITH
*      CHANGEONLY THIS REPORT IS USEFUL, BUT NOT ESSENTIAL.  IF THE
*      USER BELIEVES THAT THE REPORT IS NOT NEEDED, THIS OPTION MAY BE
*      USED. THE OPTION DOES NOT APPLY TO RUN=AUDIT AS THE ONLY
*      DIFFERENCE BETWEEN RUN=MIGRATE AND RUN=AUDIT IS THE CREATION OF
*      THIS REPORT.
*-------------------------------------------------------------------
*
*  32. DELADDS       (USE DELETE AND ADD VERBS FOR SYNTAX)
*  -   PURPOSE: INSTEAD OF MODIFYING ENTITIES IN THE OBJECT DICTIONARY,
*      DELETE THE ENTITY AND ADD IT LATER.
*  -   DEFAULT: ENITITIES WILL BE MODIFIED WHENEVER POSSIBLE.
*  -   TO INVOKE THIS OPTION, CODE: DELADDS=Y
*  -   TO USE THE DEFAULT, CODE: DELADDS=N
*  -   COMMENTS: THE MODIFY VERB INSURES THAT EXISTING RELATIONSHIPS IN
*      THE OBJECT DICTIONARY WILL NOT BE LOST WHEN A MIGRATION UPDATES
*      AN ENTITY.  IN SOME CIRCUMSTANCES, A USER MAY WISH TO STILL USE
*      DELETE/ADD.  IF THIS OPTION IS USED, SYNTAX IS CREATED WITHOUT
*      ACCESSING THE TARGET DICTIONARY;  ALSO, THE DDDLDEL FILE
*      CONTAINS VALID SYNTAX AND SHOULD BE PART OF THE UPLOAD PROCESS.
*      NOTE: THIS OPTION INVOKES PROCESSING THAT IS THE SAME AS
*      NON-CHANGEONLY PROCESSING PRIOR TO RELEASE 12.0.
*-------------------------------------------------------------------
*
*  33. EXTSAME       (EXTRACT SAME AS RELATIONSHIPS)
*  -   PURPOSE: INCLUDE IN THE EXTRACTION PHASE ENTITIES WHICH ARE
*      RELATED TO EXTRACTED ENTITIES BY A SAME AS RELATIONSHIP.
*  -   DEFAULT: SAME AS RELATIONSHIPS ARE IGNORED.
*  -   TO INVOKE THIS OPTION, CODE: EXTSAME=Y
*  -   TO USE THE DEFAULT, CODE: EXTSAME=N
*  -   COMMENTS: USING THE DEFAULT VALUE LIMITS THE SCOPE OF THE
*      MIGRATION AND ALSO CAN AVOID TABLE OVERFLOW DUE TO MULTIPLE
*      RELATIONSHIPS BETWEEN TWO ENTITIES.
*-------------------------------------------------------------------
*
*  34. DBABEND       (ABEND ON DATABASE ERROR)
*  -   PURPOSE: FORCE AN ABEND (AND A DUMP) IF AN UNEXPECTED ERROR
*      STATUS IS RETURNED FROM A DATABASE CALL.
*  -   DEFAULT: UNEXPECTED ERROR STATUS RESULT IN PROGRAM TERMINATION
*      WITH USER CONDITION CODE 2222.
*  -   TO INVOKE THIS OPTION, CODE: DBABEND=Y
*  -   TO USE THE DEFAULT, CODE: DBABEND=N
*  -   COMMENTS: IF THIS OPTION IS TAKEN, THE SYSTEM COMPLETION CODE
*      WILL BE S0C1.
*      REGARDLESS OF THE VALUE OF THIS OPTION, THE RELEVANT CONTENTS OF
*      SUBSCHEMA-CTRL WILL BE DISPLAYED IN THE AUDIT FILE.
*      IN MOST CASES, THIS INFORMATION IS SUFFICIENT FOR PROBLEM
*      DETERMINATION.
*      THIS OPTION IS ONLY AVAILABLE FOR OS AND VM.  IN A DOS
*      ENVIRONMENT, A UNEXPECTED DATABASE ERROR STATUS WILL ALWAYS
*      PRODUCE AN OPERATION EXCEPTION.
*-------------------------------------------------------------------
```

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*
*  35. NOEXATT       (OMIT EXTRACTION OF CLASS-ATTRIBUTES)
*  -   PURPOSE: MIGRATE ENTITIES INCLUDING ANY REFERENCE TO ATTRIBUTES
*      BUT DO NOT MIGRATE ANY CLASS-ATTRIBUTE STRUCTURES.
*  -   DEFAULT: ALL ENTITY TYPES ARE MIGRATED
*  -   TO INVOKE THIS OPTION, CODE: EXNOATT=Y
*  -   TO USE THE DEFAULT, CODE: EXNOATT=N
*  -   COMMENTS: THIS OPTION SHOULD ONLY BE CONSIDERED WHEN THE
*      CHANGEONLY PARAMETER CANNOT BE USED.  THE EXTRACTION OF
*      CLASS-ATTRIBUTE STRUCTURES MAY SIGNIFICANTLY LENGTHEN RUN TIMES
*      OF MIGRATIONS.  AS ATTRIBUTES ARE A DOCUMENTATIONAL ENTITIES,
*      THEY TEND TO HAVE A LOW VOLATILITY.  HENCE, IT IS NOT NECESSARY
*      TO MIGRATE THEM ON EVERY MIGRATION.  THIS OPTION ELIMINATES THE
*      EXTRACTION OF ATTRIBUTES, BUT ALL REFERENCES TO THE ATTRIBUTES
*      ARE RETAINED IN ALL OTHER ENTITY OCCURRENCES.  IF THE TARGET
*      DICTIONARY CONTAINS THE SAME CLASS-ATTRIBUTE STRUCTURES, ALL
*      DOCUMENTATION WILL BE PRESERVED.
*      WHEN USING THIS OPTION, THE USER MUST INSURE THAT ALL CLASSES
*      TO BE REFERENCED EXIST IN THE TARGET DICTIONARY AND THAT ALL
*      ATTRIBUTES TO BE REFERENCED EITHER EXIST OR WILL BE ADDED
*      AUTOMATICALLY TO THE TARGET DICTIONARY.
*      FOR RELEASE 3.5 USERS, TECHNICAL BULLETIN UM-9012-0014 MUST BE
*      APPLIED.
*-----------------------------------------------------------------------
```

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*-----------------------------------------------------------------------
*
*  36. NOEXCLS       (OMIT EXTRACTION OF CLASS)
*  -   PURPOSE: MIGRATE ATTRIBUTES BUT DO NOT MIGRATE CLASSES.
*      (THE CLASS WILL STILL BE REFERENCED IN THE ATTRIBUTE STATEMENT.)
*  -   DEFAULT: ALL ENTITY TYPES ARE MIGRATED
*  -   TO INVOKE THIS OPTION, CODE: EXNOCLS=Y
*  -   TO USE THE DEFAULT, CODE: EXNOCLS=N
*  -   COMMENTS: THIS OPTION SHOULD ONLY BE CONSIDERED WHEN THE
*      CHANGEONLY PARAMETER CANNOT BE USED.
*      AS CLASS ENTITIES ARE CHANGED INFREQUENTLY, IT MAY NOT BE
*      NECESSARY TO INCLUDE THEM IN EVERY MIGRATION.   USING THIS
*      OPTION WILL CAUSE EXTRACTION OF ATTRIBUTE STRUCTURES, BUT NO
*      CLASSES WILL BE MIGRATED.
*      WHEN USING THIS OPTION, THE USER MUST INSURE THAT ALL CLASSES
*      TO BE REFERENCED EXIST IN THE TARGET DICTIONARY.
*      FOR RELEASE 3.5 USERS, TECHNICAL BULLETIN UM-9012-0014 MUST BE
*      APPLIED.
*-----------------------------------------------------------------------
*
*  37. NOEXSYS       (OMIT EXTRACTION OF SYSTEMS)
*  -   PURPOSE: MIGRATE ENTITIES INCLUDING REFERENCES TO SYSTEMS
*      BUT DO NOT MIGRATE SYSTEM ENTITY OCCURRENCES.
*  -   DEFAULT: ALL ENTITY TYPES ARE MIGRATED
*  -   TO INVOKE THIS OPTION, CODE: EXNOSYS=Y
*  -   TO USE THE DEFAULT, CODE: EXNOSYS=N
*  -   COMMENTS: THIS OPTION SHOULD ONLY BE CONSIDERED WHEN THE
*      CHANGEONLY PARAMETER CANNOT BE USED.
*      AS SYSTEM ENTITIES ARE CHANGED INFREQUENTLY, IT MAY NOT BE
*      NECESSARY TO INCLUDE THEM IN EVERY MIGRATION.   USING THIS
*      OPTION WILL ALL REFERENCES TO SYSTEMS TO BE PRESERVED IN ANY
*      ENTITY OCCURRENCE, BUT NO SYSTEM ENTITIES OCCURRENCES WILL BE
*      MIGRATED.
*      WHEN USING THIS OPTION, THE USER MUST INSURE THAT ALL SYSTEMS
*      TO BE REFERENCED EXIST IN THE TARGET DICTIONARY.
*      FOR RELEASE 3.5 USERS, TECHNICAL BULLETIN UM-9012-0014 MUST BE
*      APPLIED.
*-----------------------------------------------------------------------
```

```
*-------------------------------------------------------------------
*
*  38. STOPVER       (STOP AFTER VALIDATION ERROR)
*  -   PURPOSE: WHEN A CRITICAL LEVEL ERROR IS ENCOUNTERED DURING
*      VALIDATION, STOP EXECUTION AT THE END OF THE VALIDATION PROCESS.
*  -   DEFAULT: EXECUTION CONTINUES UNTIL ALL PROCESSING DEFINED BY THE
*      RUN TYPE IS COMPLETED.
*  -   TO INVOKE THIS OPTION, CODE: STOPVER=Y
*  -   TO USE THE DEFAULT, CODE: STOPVER=N
*  -   COMMENTS: THIS OPTION IS ONLY RELEVANT WHEN THE RUN TYPE IS
*      MIGRATE, AUDIT, OR IMPORT.
*      IF THIS OPTION IS USED, A CRITICAL ERROR WILL TERMINATE
*      PROCESSING BEFORE THE SYNTAX IS CREATED, AND A CONDITION CODE OF
*      8 WILL ALSO BE SET IN MVS.  IF NO ERRORS ARE DETECTED DURING
*      VALIDATION, THE SYNTAX WILL BE CREATED.  THE SAME JOB CAN
*      CONTAIN THE UPLOAD STEPS USING CONDITIONAL PROCESSING WHICH
*      CHECKS THE CC OF THE MIGRATOR STEP. THE UPLOAD STEPS WOULD ONLY
*      BE RUN WHEN THERE ARE NO ERRORS REQUIRING REVIEW.
*      NOTE: NO MESSAGES HAVE A DEFAULT SEVERITY OF CRITICAL.  THE USER
*      MUST DECIDE WHICH ERRORS SHOULD BE CONSIDERED CRITICAL AND
*      UPDATE THE MESSAGE SEVERITY TABLE ACCORDINGLY.
*-------------------------------------------------------------------
*
*  39. NOATRXP       (DO NOT EXPLODE ATTRIBUTE NETWORK IF LEVEL=ONLY)
*  -   PURPOSE: IF LEVEL=ONLY MIGRATION IS SPECIFIED FOR CLASS, CLSATTR
*      OR ATTRIBUTES THE ATTRIBUTE EXPLOSION SET IS FOLLOWED WHICH CAN
*      RESULT IN THE MIGRATION OF A NETWORK OF ATTRIBUTES.
*  -   DEFAULT: EXPLOSION SETS ARE FOLLOWED
*  -   TO INVOKE THIS OPTION, CODE: NOATRXP=Y
*  -   TO USE THE DEFAULT, CODE: NOATRXP=N
*  -   COMMENTS: THIS OPTION ONLY APPLIES IN THE CASE OF A LEVEL=ONLY
*      MIGRATION.
*      IF THIS OPTION IS APPLIED THEN ONLY THE REFERENCED ATTRIBUTE
*      (ATTRIBUTE MIGRATION) OR ATTRIBUTES WITHIN THE CLASS (CLASS
*      MIGRATION) WILL BE EXTRACTED FROM THE SOURCE DICTIONARY.
*-------------------------------------------------------------------
*
*  40. NOSAUTH       (BYPASS SOURCE DICTIONARY SECURITY CHECKING)
*  -   PURPOSE: USERID/PASSWORD ARE VERIFIED AS HAVING DISPLAY
*      AUTHORITY IN THE SOURCE DICTIONARY, FOR SIGNON, OVERRIDE
*      AUTHORIZATION (IF SPECIFIED) AND FOR EACH EXTRACTED ENTITY TYPE.
*      IF THIS AUTHORIZATION CHECK FAILS MIGRATOR WILL ABORT.
*  -   DEFAULT: SECURITY CHECKING WILL BE PERFORMED
*  -   TO INVOKE THIS OPTION, CODE: NOSAUTH=Y
*  -   TO USE THE DEFAULT, CODE: NOSAUTH=N
*-------------------------------------------------------------------
```

```
*-------------------------------------------------------------------
*
*  41. NOTAUTH       (BYPASS TARGET DICTIONARY SECURITY CHECKING)
*  -   PURPOSE: USERID/PASSWORD ARE VERIFIED AS HAVING UPDATE AUTHORITY
*      IN THE TARGET DICTIONARY, FOR SIGNON, OVERRIDE AUTHORIZATION (IF
*      SPECIFIED) AND FOR EACH EXTRACTED ENTITY TYPE. IF THIS
*      AUTHORIZATION CHECK FAILS MIGRATOR WILL ABORT.
*  -   DEFAULT: SECURITY CHECKING WILL BE PERFORMED
*  -   TO INVOKE THIS OPTION, CODE: NOTAUTH=Y
*  -   TO USE THE DEFAULT, CODE: NOTAUTH=N
*-------------------------------------------------------------------
*
*-------------------------------------------------------------------
*
*  43. ABGNSRC       (ADSOBGEN SOURCE FOR DIALOGS)
*  -   PURPOSE: FORMAT THE ADSOBGN FILE SO IT MAY BE USED AS INPUT TO A
*      CULPRIT REPORT WHICH CREATES SYNTAX FOR 'GENERATE FROM SOURCE'
*      FOR THE ADSOBCOM UTILITY.
*  -   DEFAULT: 'GENERATE FROM LOAD ' SYNTAX IS CREATED.
*  -   TO INVOKE THIS OPTION, CODE: ABGNSRC=Y
*  -   TO USE THE DEFAULT, CODE: ABGNSRC=N
*  -   COMMENTS: THIS OPTION IS PRIMARILY FOR CASES WHERE ADSOBGEN
*      SOURCE STATEMENT ARE USEFUL.
*-------------------------------------------------------------------
*
*  44. XSIGNON       (OMIT SIGNON FROM SYNTAX FILES)
*  -   PURPOSE: FORMAT ALL SYNTAX FILES WITHOUT A SIGNON STATEMENT.
*  -   DEFAULT: SIGNON STATEMENTS USING DATA FROM RUN TIME PARAMETERS
*               IS GENERATED FOR AS APPROPRIATE FOR EACH SYNTAX FILE.
*  -   TO INVOKE THIS OPTION, CODE: XSIGNON=Y
*  -   TO USE THE DEFAULT, CODE: XSIGNON=N
*  -   COMMENTS: THIS OPTION ALLOWS A SEPARATE FILE WITH SIGNON
*      INFORMATION TO BE CONCATENATED TO THE SYNTAX FILE AT UPLOAD
*      TIME.
*      WARNING: CERTAIN FILES MAY BE EMPTY IF THIS OPTION IS USED WHEN
*      NO SEPARATE SIGNON STATEMENT FILE IS CONCATENATED AND NO
*      OCCURRENCES OF A GIVEN ENTITY TYPE ARE MIGRATED.  EMPTY FILES
*      WILL CAUSE THE UPLOAD UTILITIES TO ABEND.
*
*-------------------------------------------------------------------
```

```
*------------------------------------------------------------------------
*
*  45. XSIGMAP       (OMIT SIGNON FROM MAP SYNTAX FILES RHDCDEL/RHDCUPD
*  -   PURPOSE: FORMAT MAP COMPILER SYNTAX FILES WITHOUT A SIGNON.
*      DEFAULT: SIGNON STATEMENTS USING DATA FROM RUN TIME PARAMETERS
*               IS GENERATED FOR AS APPROPRIATE FOR MAP SYNTAX FILE.
*  -   TO INVOKE THIS OPTION, CODE:        XSIGMAP=N
*  -   COMMENTS: THE BATCH MAPPING COMPILER RHDCMAP1 HAS BEEN ENHANCED
*      TO ALLOW ACCESS TO A SIGNON-REQUIRED DICTIONARY WHEN NO SIGNON
*      CARD IS PROVIDED IF THE USER-ID OF THE PERSON WHO SUBMITTED THE
*      JOB HAS ACCESS TO THE DICTIONARY. THIS ALLOWS DICTIONARY
*      MIGRATOR USERS TO UTILIZE THIS FACILITY REGARDLESS OF THE FORMAT
*      OF THE OTHER SYNTAX FILES.
*      WARNING: MAP SYNTAX FILES MAY BE EMPTY IF THIS OPTION IS USED
*      WHEN NO SEPARATE SIGNON STATEMENT FILE IS CONCATENATED AND NO
*      OCCURRENCES OF A GIVEN ENTITY TYPE ARE MIGRATED.  EMPTY FILES
*      WILL CAUSE THE UPLOAD UTILITIES TO ABEND.
*------------------------------------------------------------------------
*
*  46. XEQUDAT      (SKIP EXTRACTION OF ENTITIES WITH EQUAL DATES)
*  -   PURPOSE: TO AVOID EXTRACTION OF ENTITIES WITH EQUAL DATES WHERE
*               TIMESTAMPS ARE NOT SUPPORTED IN CHANGEONLY MIGRATION.
*  -   DEFAULT: ENTITIES WITH EQUAL DATES AND NO TIME STAMPS WILL BE
*               MARKED FOR EXTRACTION IN A CHANGEONLY MIGRATION.
*  -   TO INVOKE THIS OPTION, CODE:        XEQUDAT=Y
*  -   TO USE THE DEFAULT, CODE; XEQUDAT=N
*  -   COMMENTS: DATE AND TIMESTAMPS ARE USED ARE THE BASIS FOR
*      COMPARISON IN A CHANGEONLY MIGRATION. WHERE DATES ARE EQUAL AND
*      NO TIMESTAMP IS SUPPORTED, THE ENTITY WILL BE MARKED FOR
*      EXTRACTION. THIS CAN RESULT IN UNNECESSARY MIGRATION OF MANY
*      ENTITIES. ELEMENTS ARE AN EXAMPLE. BY SETTING XEQUDAT=Y YOU WILL
*      AVOID THE MIGRATION OF SUCH ENTITIES.
*------------------------------------------------------------------------
```

# B.4 CA-IDMS/Dictionary Migrator Assistant Runtime Parameters

```
*--------------------------------------------------------------------
* DICTIONARY MIGRATOR ASSISTANT RUNTIME PARAMETERS
*--------------------------------------------------------------------
*
*XDMCPARM THIS IS THE INSTALLATION TAILORING MACRO USED BY THE DMA
*SYSTEM TO PROVIDE RUNTIME VALUES.
*OPERANDS:
*                 DMATSK='1-8 CHAR'    TASK USED TO INVOKE DMA.
*                 HLPDICT='1-8 CHAR'   ALTERNATE DICTIONARY USED FOR
*                                      GSIHELP.
*                 HLPNODE='1-8 CHAR'   ALTERNATE NODE USED FOR GSIHELP.
*
*                 HLPVERS=INTEGER      VERSION NUMBER OF HELP MODULES.
*
*ASSEMBLED VALUES AT INSTALLATION:
*       XDMCPARM DMATSK='DMA    ',
*                HLPDICT='        ',
*                HLPNODE='        ',
*                HLPVERS=0
*
*--------------------------------------------------------------------
```

# B.5 CA-IDMS/Dictionary Module Editor Runtime Parameters

```
 *--------------------------------------------------------------------
 * CA-IDMS/DICTIONARY MODULE EDITOR RUNTIME PARAMETERS
 *--------------------------------------------------------------------
         PRINT OFF
         COPY USECPARM
         PRINT ON
USETPARM CSECT                      CONTROL TABLE FOR DME
 *--------------------------------------------------------------------
 *   LEAVE IN UPPER CASE, MACRO PARAMETERS ARE CASE SENSITIVE MUST USE
 *                        UPPER CASE.
 *--------------------------------------------------------------------
 *            MODIFY PRODUCT TUNING PARAMETERS
 *            -------------------------------
 *USETPARM -- THIS MEMBER IS USED TO SPECIFY THE RUN-TIME VALUES TO BE
 *            USED AS INPUT TO THE INSTALLATION TAILORING MACRO,
 *            USECPARM, WHICH IS DYNAMICALLY LOADED BY ONLINE MENU
 *            USEAMEN, AND THE ACTIVE AND PASSIVE D.M.E. MODULES.
 *
 *            RUN-TIME VARIABLES
 *            ------------------
 *
 *            HLPDICT=(1-8 CHAR)   ALTERNATE DICT FOR ONLINE HELP
 *            HLPNODE=(1-8 CHAR)   ALTERNATE NODE FOR ONLINE HELP
 *            HLPVERS=(1-9999 NUM) VERSION NUMBER OF HELP MODULES.
 *
 *            LOCK=(Y/N)        IDD DB LOCKING  (YES OR NO)
 *                              Y = LONGTERM DBKEY LOCKS ARE SET ON A
 *                                  MODULE WHEN AN EDIT SESSION IS
 *                                  STARTED
 *
 *                              N = LONGTERM DBKEY LOCKS ARE NOT SET,
 *                                  SHOULD ONLY BE DONE ON ADVICE FROM
 *                                  CA TECHNICAL STAFF.
 *
 *            SCROLL=PAGE     SCROLL AMOUNT                          *
 *                                PAGE|HALF|CSR                      *
 *                                                                   *
 *            DELIMIT=;       COMMAND DELIMIT
 *
 *            PAD=            PAD  CHARACTER
 *                                N|B     NULLS|BLANKS
 *
 *            VERSION=HIGHEST  DEFAULT IDD VERSION NUMBER
 *                                HIGHEST - SELECT THE HIGHEST VER
 *                                LOWEST  - SELECT THE LOWEST  VER
 *
 *            SECURTY=I         SECURTY SYSTEM IN FORCE (RESERVED)
 *                                I = IDD (DEFAULT)
 *                                D = DBMS
 *                                B = DBMS AND IDD
 *
```

```
*            USERID =INPUT    ALLOW CHANGES TO USERID FROM WITHIN DME
*                             SESSION
*                                 INPUT = USERID CHANGE ALLOWED
*                                 PROT  = USERID CHANGE NOT ALLOWED
*
*            MODSORT=Y        DEFAULT TO SORTED MODULE LIST
*                                 Y = MODULE SORT ASSUMED
*                                 N = MODULE SORT NOT ASSUMED (LARGE
*                                       SHOP OPTION)
*
*            SETDB=N         RESET DATABASE
*                                 Y = RESET DATABASE/NODE TO ORIGINAL
*                                     VALUE ON DME ENTRY
*                                 N = DO NOT RESET DATABASE/NODE DEFAULT
*
*            CLRKEND=Y        CLEAR KEY = END
*                                 Y = CLEAR KEY = END ORIGINAL VALUE
*                                     ON DME ENTRY DEFAULT
*                                 N = CLEAR KEY = RESHOW
*
*  DEFAULT VALUES AS SUPPLIED WITH INSTALLATION:                    *
*       USECPARM HLPDICT='        ',   HELP DICTIONARY              *
*                HLPNODE='        ',   HELP NODE                    *
*                HLPVERS=1,            VERSION OF HELP TEXT         *
*                   LOCK=Y,            LOCK (YES|NO)                *
*                 SCROLL=PAGE,         SCROLL AMOUNT                *
*                DELIMIT=;,            COMMAND DELIMIT              *
*                    PAD=N,            PAD  CHARACTER               *
*                VERSION=HIGHEST,      DEFAULT IDD VERSION NUMBER   *
*               SECURTY=I,             SECURTY SYSTEM IN FORCE      *
*                 USERID=INPUT,        CHANGE ALLOWED TO USER ID    *
*                MODSORT=Y,            MODULE SORT ON               *
*                  SETDB=Y,            SET DATABASE                 *
*                CLRKEND=Y             CLEAR KEY IS END  COMMAND    *
*-------------------------------------------------------------------*
        USECPARM HLPDICT=TOOLDICT,                                   X
              HLPNODE=,                                              X
              HLPVERS=1,                                             X
              LOCK=Y,                                                X
              SCROLL=PAGE,                                           X
              DELIMIT=;,                                             X
              PAD=N,                                                 X
              VERSION=HIGHEST,                                       X
              SECURTY=I,                                             X
              USERID=INPUT,                                          X
              MODSORT=Y,                                             X
              SETDB=Y,                                               X
              CLRKEND=Y
        END
*-------------------------------------------------------------------
```

# B.6 CA-IDMS/Dictionary Query Facility Runtime Parameters

```
*--------------------------------------------------------------------
* CA-IDMS/DICTIONARY QUERY FACILITY RUNTIME PARAMETERS
*--------------------------------------------------------------------
*
*DADTPARM THIS IS THE INSTALLATION TAILORING MACRO USED BY THE DQF
*SYSTEM TO PROVIDE RUNTIME VALUES.
*OPERANDS:
*                 HLPDICT='1-8 CHAR'   ALTERNATE DICTIONARY USED FOR
*                                      GSIHELP.
*                 HLPNODE='1-8 CHAR'   ALTERNATE NODE USED FOR GSIHELP.
*
*                 HLPVERS=INTEGER      VERSION NUMBER OF HELP MODULES.
*
*ASSEMBLED VALUES AT INSTALLATION:
*       DADCPARM HLPDICT='        ',
*                HLPNODE='        ',
*                HLPVERS=1
*       END
*--------------------------------------------------------------------
```

# B.7 CA-IDMS/DML Online Runtime Parameters

```
 *--------------------------------------------------------------------
 * CA-IDMS/DML-ONLINE RUNTIME PARAMETERS                              *
 *--------------------------------------------------------------------
 *                                                                    *
        PRINT OFF                                                    *
        COPY  USDCPARM                                               *
        PRINT ON                                                     *
USDTPARM CSECT                       CONTROL TABLE FOR DMLO          *
 *------------------------------------------------------------------- *
 * USDTPARM  --  IS THE INSTALLATION TAILORING MODULE USED BY DML/O TO *
 *               PROVIDE CUSTOM RUNTIME AND DEFAULT VALUES            *
 *                                                                    *
 * USDTPARM IS AN INDEPENDENT LOAD MODULE WHICH INCORPORATES VALUES    *
 * GENERATED BY USDCPARM, AS WELL AS VARIOUS TABLES.                  *
 *                                                                    *
 * IT IS LOADED AT RUN TIME BY PROGRAM USDTPIFN.                      *
 *                                                                    *
 * 14.0.1  01/08/99  DEVDE01  ADD SUPPORT FOR DEFENTK PARAMETER (38)  *
 *                                                                    *
 *------------------------------------------------------------------- *
 *                                                                    *
 *       YOUR RESPONSIBILITY AS INSTALLER IS TO :                     *
 *                                                                    *
 *   1.  SELECT APPROPRIATE VALUES FOR THE MACRO PARAMETERS AT THE END *
 *                                                                    *
 *   2.  UPDATE THE FOLLOWING SOURCE MODULES AS APPROPRIATE :         *
 *                                                                    *
 *       .. USD@MOPS            MENU-MODE DML OP CODES                *
 *       .. USD@MTXT            MENU-MODE DESCRIPTIVE TEXT            *
 *       .. USD@MSTL            MENU-MODE STATIC AREA DESCRIPTION     *
 *       .. USD@SSEX            SUBSCHEMA EXCLUSION LIST              *
 *       .. USD@DSPC            DISPLAYABLE CHARACTERS                *
 *       .. USD@KYWD            STANDARD ABBREVIATIONS                *
 *   3.  ASSEMBLE AND LINKEDIT PROGRAM USDTPARM                       *
 *------------------------------------------------------------------**
 * FOLLOWING IS AN EXPLANATION FOR EACH PARAMETER OF MACRO USDCPARM   *
 *                                                                    *
 *------------------------------------------------------------------**
 *                                                                    *
 * (1)  : ==>   HLPDICT    ALTERNATE DICTIONARY USED FOR HELP MODULES  *
 *                                                                    *
 *         DICTIONARY NAME (DICTNAME) OF DICTIONARY INTO WHICH THE ONLINE
 *         DOCUMENTATION / HELP MODULES HAVE BEEN PLACED PARAMETER IS  *
 *         OPTIONAL, DEFAULT VALUE IS '        '.                     *
 *------------------------------------------------------------------**
 *                                                                    *
 * (2)  : ==>   HLPNODE    ALTERNATE DICTNODE   USED FOR HELP MODULES  *
 *                                                                    *
 *         DICTIONARY NODE (DICTNODE) OF DICTIONARY INTO WHICH THE ONLINE
 *         DOCUMENTATION / HELP MODULES HAVE BEEN PLACED PARAMETER IS  *
 *         OPTIONAL, DEFAULT VALUE IS '        '.                     *
 *------------------------------------------------------------------**
```

```
*                                                                     *
* (3)  : ==>   HLPVERS    VERSION NUMBER OF THE HELP MODULES          *
*                                                                     *
*         VERSION OF DICTIONARY ONLINE DOCUMENTATION MODULES. PARAMETER
*         IS OPTIONAL, DEFAULT VALUE IS 1.                            *
*---------------------------------------------------------------------**
*                                                                     *
* (4)  : ==>   LOWCASE    LOWER CASE OPTION  (Y/N)                    *
*                                                                     *
*          INITIAL VALUE "LOWER CASE DATA ACCEPTED" OPTION ON THE DMLO*
*          SIGNON SCREEN.  VALUE IS CHANGEABLE DURING SESSION WITH    *
*          SET LOWCASE  (ON/OFF) COMMAND.                             *
*          ACCEPTABLE VALUES ARE 'Y' OR 'N' PARAMETER IS OPTIONAL,    *
*          DEFAULT VALUE 'N'.                                         *
*---------------------------------------------------------------------**
*                                                                     *
* (5)  : ==>   DPRTCL     DC PRINT CLASS                              *
*          INITIAL SETTING OF "PRINT CLASS" OPTION ON DMLO SIGNON     *
*          SCREEN.  VALUE IS CHANGEABLE DURING SESSION FROM OPTIONS   *
*          SCREEN.  PARAMETER IS OPTIONAL, DEFAULT VALUE '1'.         *
*---------------------------------------------------------------------**
*                                                                     *
* (6)  : ==>   TPRTCL     TSO PRINT CLASS                             *
*                                                                     *
*          INITIAL SETTING OF "PRINT CLASS" OPTION ON DMLO SIGNON     *
*          SCREEN.  VALUE IS CHANGEABLE DURING SESSION FROM OPTIONS   *
*          SCREEN.  PARAMETER IS OPTIONAL, DEFAULT VALUE 'A'.         *
*---------------------------------------------------------------------**
*                                                                     *
* (7)  : ==>   CPRTCL     CICS PRINT CLASS                            *
*                                                                     *
*          INITIAL SETTING OF "PRINT CLASS" OPTION ON DMLO SIGNON     *
*          SCREEN.  VALUE IS CHANGEABLE DURING SESSION FROM OPTIONS   *
*          SCREEN.  PARAMETER IS OPTIONAL, DEFAULT VALUE 'A'.         *
*                                                                     *
*          *** PRINTING IS NOT CURRENTLY AVAILABLE FROM CICS ***      *
*                                                                     *
*---------------------------------------------------------------------**
*                                                                     *
* (8)  : ==>   DISPLAY    DISPLAY FMT  (COBOL/VERTICAL)               *
*                                                                     *
*          INITIAL SETTING OF DISPLAY OPTION FOR DMLO SESSION.        *
*                                                                     *
*          VALUE IS CHANGEABLE DURING SESSION WITH  SET COBOL (ON/OFF)*
*          COMMAND.                                                   *
*                                                                     *
*          ACCEPTABLE VALUES ARE 'COBOL' OR 'VERTICAL'                *
*            WHERE COBOL    = LEVELED, INDENTED, COBOL-LIKE FORMAT    *
*                  VERTICAL = R4.6 AND EARLIER NON-LEVELED FORMAT     *
*                                                                     *
*          PARAMETER IS OPTIONAL, DEFAULT VALUE 'COBOL'.              *
*---------------------------------------------------------------------**
```

```
*                                                                     *
* (9)  : ==>   AUTOHEX    AUTOHEX   OPTION (ON/OFF)                   *
*                                                                     *
*          INITIAL SETTING OF AUTOHEX OPTION FOR DMLO SESSION.        *
*                                                                     *
*          VALUE IS CHANGEABLE DURING SESSION WITH                    *
*          SET AUTOHEX (ON/OFF) COMMAND.                              *
*                                                                     *
*          ACCEPTABLE VALUES ARE 'ON' OR 'OFF'                        *
*            WHERE  ON   ==> FIELDS CONTAINING INVALID DATA WILL BE   *
*                            AUTOMATICALLY DISPLAYED IN HEX FORMAT.   *
*                                                                     *
*          PARAMETER IS OPTIONAL, DEFAULT VALUE 'ON'.                 *
*---------------------------------------------------------------------**
*                                                                     *
* (10) : ==>   AUTOBND    AUTO-BIND OPTION (ON/OFF)                   *
*                                                                     *
*          INITIAL SETTING OF AUTOBIND OPTION FOR DMLO SESSION.       *
*                                                                     *
*          VALUE IS CHANGEABLE DURING SESSION WITH                    *
*          SET AUTOBIND (ON/OFF) COMMAND.                             *
*                                                                     *
*          ACCEPTABLE VALUES ARE 'ON' OR 'OFF'                        *
*            WHERE  ON   ==> RECORDS WILL BE AUTOMATICALLY BOUND      *
*                            AT THE FIRST REFERENCE IN DML COMMANDS   *
*                                                                     *
*          PARAMETER IS OPTIONAL, DEFAULT VALUE 'ON'.                 *
*---------------------------------------------------------------------**
*                                                                     *
* (11) : ==>   MAPIN      DATA/COMMAND INP (FAST/STEP)                *
*                                                                     *
*          INITIAL SETTING OF  MAPIN   OPTION FOR DMLO SESSION.       *
*                                                                     *
*          VALUE IS CHANGEABLE DURING SESSION                         *
*             WITH  SET MAPIN  (FAST/STEP) COMMAND                    *
*                                                                     *
*          ACCEPTABLE VALUES ARE 'FAST' OR 'STEP'                     *
*            WHERE FAST  ==> DATA UPDATES AND COMMAND/PFKEY INPUT     *
*                            WILL BE ACCEPTED IN THE SAME             *
*                            PSEUDO-CONVERSE.                         *
*                                                                     *
*          NOTE THAT RELEASES PRIOR TO R5.5 DMLO ONLY                 *
*               FUNCTIONED IN 'STEP' MODE.                            *
*                                                                     *
*          PARAMETER IS OPTIONAL, DEFAULT VALUE 'FAST'                *
*---------------------------------------------------------------------**
```

```
*                                                                     *
* (12) : ==>   CLIST      CLIST EXECUTION  (FAST/STEP)                *
*                                                                     *
*          INITIAL SETTING OF CLIST EXECUTION OPTION FOR SESSION.     *
*                                                                     *
*          VALUE IS CHANGEABLE DURING SESSION                         *
*             WITH  SET CLIST  (FAST/STEP) COMMAND                    *
*                                                                     *
*          ACCEPTABLE VALUES ARE 'FAST' OR 'STEP'                     *
*            WHERE FAST  ==> CLIST EXECUTION WILL BE IN FAST MODE.    *
*                                                                     *
*          PARAMETER IS OPTIONAL, DEFAULT VALUE 'FAST'                *
*---------------------------------------------------------------------**
*                                                                     *
* (13) : ==>   DSPCMND    COMMAND DISPLAY  (INPUT/USED)               *
*                                                                     *
*          INITIAL SETTING OF COMMAND DISPLAY OPTION FOR SESSION.     *
*                                                                     *
*          VALUE IS CHANGEABLE DURING SESSION                         *
*             WITH  SET CMND (INPUT/USED)  COMMAND                    *
*                                                                     *
*          ACCEPTABLE VALUES ARE 'USED' OR 'INPUT'                    *
*            WHERE USED  ==> COMMAND LINE ECHO WILL BE IN THE EXPANDED*
*                            FORMAT AS USED BY THE COMMAND PROCESSOR  *
*                 INPUT ==> COMMAND LINE ECHO WILL BE AS ENTERED      *
*                                                                     *
*          PARAMETER IS OPTIONAL, DEFAULT VALUE 'INPUT'               *
*---------------------------------------------------------------------**
*                                                                     *
* (14) : ==>   LRFSCRN    LRF SCREEN FMT   (NORM/MAX)                 *
*                                                                     *
*          INITIAL SETTING OF LRF SCREEN FORMAT OPTION.               *
*                                                                     *
*          VALUE IS CHANGEABLE DURING SESSION                         *
*             WITH      SHOW OPTIONS      COMMAND                     *
*                                                                     *
*          ACCEPTABLE VALUES ARE 'NORM' OR 'MAX'                      *
*            WHERE NORM  ==> SCREEN FORMAT FOR LRF SUBSCHEMAS INITIALLY
*                            WILL BE STANDARD 'EXPERT' FORMAT         *
*                                                                     *
*                 MAX   ==> SCREEN FORMAT FOR LRF SUBSCHEMAS INITIALLY
*                            WILL ALLOW FOR MAXIMUM COMMAND LENGTH    *
*                                                                     *
*          PARAMETER IS OPTIONAL, DEFAULT VALUE 'NORM'                *
*---------------------------------------------------------------------**
```

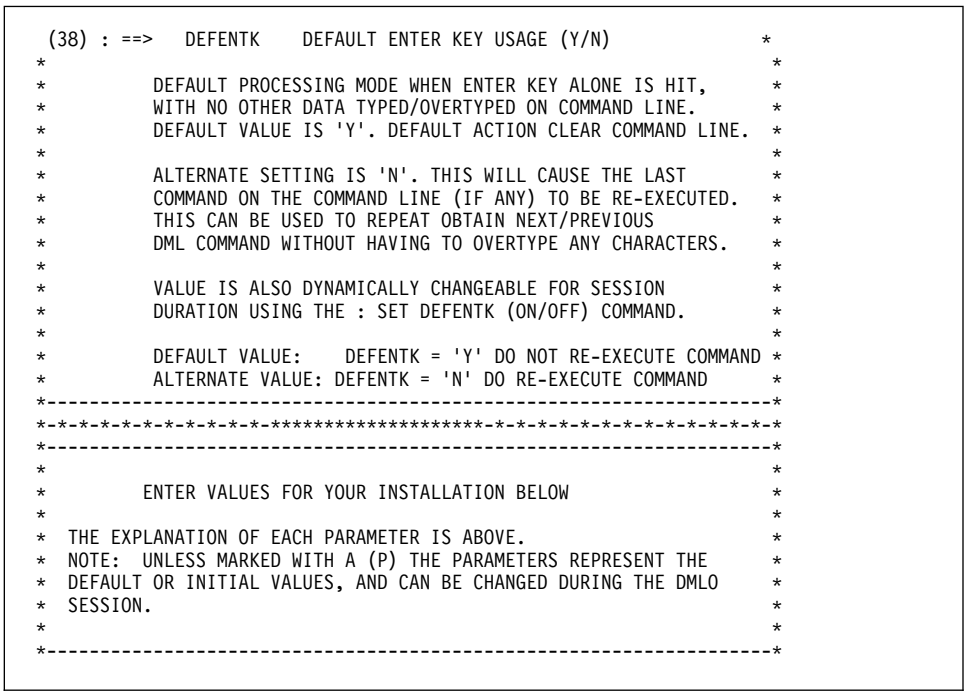
```
*                                                                     *
* (15) : ==>   MODE       SESSION MODE    (EXPERT/MENU)               *
*                                                                     *
*          INITIAL DEFAULT SETTING FOR MENU-MODE OPERATION.           *
*                                                                     *
*          VALUE IS CHANGEABLE DURING SESSION                         *
*             WITH  SET MENU (ON/OFF)      COMMAND                   *
*                                                                     *
*          ACCEPTABLE VALUES ARE 'NEMU' OR 'EXPERT'                   *
*            WHERE MENU   ==> DMLO WILL STARTUP IN MENU-MODE FORMAT   *
*                  EXPERT ==> DMLO WILL STARTUP IN EXPERT    FORMAT   *
*                                                                     *
*          PARAMETER IS OPTIONAL, DEFAULT VALUE 'EXPERT'              *
*---------------------------------------------------------------------**
*                                                                     *
* (16) : ==>   USERXIT    USER EXIT OPTION                            *
*                                                                     *
*          USER EXIT OPTION.                                          *
*          PARAMETER IS OPTIONAL, DEFAULT VALUE 'NO'                  *
*          ACCEPTABLE VALUES ARE :                                    *
*                                                                     *
*            YES           = USER EXIT MODULE IS AVAILABLE, WILL BE   *
*                            INVOKED FOR EACH DML VERB EXECUTED, AND  *
*                            OPTION IS NOT CHANGEABLE BY THE USER DURING
*                            THE DMLO SESSION                         *
*                                                                     *
*            NO            = USER EXIT WILL NOT BE INVOKED, AND OPTION*
*                            IS NOT CHANGEABLE BY THE USER DURING THE *
*                            DMLO SESSION                             *
*                                                                     *
*            (DYNAMIC,OFF) = USER EXIT MODULE IS AVAILABLE, BUT IS    *
*            (DYNAM,OFF)     NOT ACTIVE FOR THE SESSION UNTIL THE SET *
*                            EXIT ON COMMAND IS ISSUED. ALL DML VERBS *
*                            ARE ELIGIBLE FOR THE EXIT UNLESS         *
*                            SPECIFICALLY TURNED OFF DURING THE SESSION.
*                                                                     *
*                                                                     *
*            (DYNAMIC,ON)  = USER EXIT MODULE IS AVAILABLE, AND WILL  *
*            (DYNAM,ON)      BE ACTIVE FOR THE SESSION UNTIL THE SET  *
*                            EXIT OFF COMMAND IS ISSUED. ALL UNLESS   *
*                            SPECIFICALLY TURNED OFF DURING THE SESSION.
*                                                                     *
*            DYNAMIC       = EQUIVALENT TO (DYNAMIC,OFF)              *
*            DYNAM                                                    *
*---------------------------------------------------------------------**
*                                                                     *
* (17) : ==>   GLOBID     GLOBAL (SYS OWNED) PROFILE/CLIST OWNER      *
*                                                                     *
*          INTERNAL OWNER ID FOR GLOBAL (SYSTEM-OWNED)                *
*          PROFILES AND CLISTS                                        *
*                                                                     *
*          VALUE IS CHANGEABLE ONLY BY REASSEMBLY OF USDTPARM         *
*                                                                     *
*          PARAMETER OPTIONAL, DEFAULT VALUE 'DMLOSYS'                *
*                                                                     *
```

```
*-------------------------------------------------------------------**
*                                                                   *
* (18) : ==>   ADMIN      DMLO ADMINISTRATOR SIGNON (1)               *
* (19) : ==>   ADMIN2     DMLO ADMINISTRATOR SIGNON (2)               *
*                                                                   *
*          SIGNON USERIDS FOR WHICH DMLO WILL ALLOW RESTRICTED PROFILE*
*          AND CLIST MAINTENANCE FUNCTIONS                          *
*                                                                   *
*          VALUE IS CHANGEABLE ONLY BY REASSEMBLY OF USDTPARM       *
*                                                                   *
*          PARAMETER OPTIONAL, DEFAULT VALUES 'USERID01' 'USERID02' *
*                                                                   *
*-------------------------------------------------------------------**
*                                                                   *
* (20) : ==>   USERID     CHG USERID ?  (INPUT/PROT)                  *
*                                                                   *
*          INDICATES WHETHER USERID FROM IDMS/DC SIGNON MAY BE BE   *
*          CHANGED AT DMLO SESSION SIGNON.                          *
*                                                                   *
*          VALUES ARE : INPUT   ==>  USERID/PASSWORD MAY BE ENTERED ON*
*                                    THE DMLO SIGNON SCREEN         *
*                       PROT    ==>  USERID/PASSWORD PROTECTED ON THE *
*                                    DMLO SIGNON SCREEN             *
*                                                                   *
*          PARAMETER IS OPTIONAL, DEFAULT VALUE  INPUT              *
*-------------------------------------------------------------------**
*                                                                   *
* (21) : ==>   NONDSPL    NONDISPLAY TRANSLATION                    *
*                                                                   *
*          INITIAL VALUE FOR TRANSLATION OF CHARACTERS WHICH ARE    *
*          CONSIDERED TO BE NON-DISPLAYABLE BASED ON CONTENTS OF TABLE*
*          DESCRIBED BY MEMBER USD@DSPC                             *
*                                                                   *
*          VALUE IS CHANGEABLE DURING SESSION                       *
*             WITH  SET NONDISPLAY X  COMMAND                       *
*                                                                   *
*          PARAMETER IS OPTIONAL, DEFAULT VALUE C'_'                *
*-------------------------------------------------------------------**
*                                                                   *
* (22) : ==>   DEFDICT    DEFAULT SIGNON DICTIONARY                 *
* (23) : ==>   DEFNODE    DEFAULT SIGNON DICT. NODE                 *
*                                                                   *
*         DEFAULT SIGNON SCREEN DICTIONARY NAME.                    *
*         DEFAULT SIGNON SCREEN DICTIONARY NODE.                    *
*                                                                   *
*         ANY VALUES SPECIFIED HERE WILL APPEAR EACH TIME THE DMLO  *
*         SIGNON SCREEN IS PRESENTED                                *
*-------------------------------------------------------------------**
```

```
*                                                                     *
* (24) : ==>   PRFDBNM    PROFILE SEGMENT (DB) NAME                   *
* (25) : ==>   PRFDBND    PROFILE SEGMENT (DB) NODE                   *
*                                                                     *
*         SEGMENT NAME AND NODE (DBNAME/DBNODE) FOR PROFILE/CLIST     *
*         SUBSCHEMA                                                   *
*                                                                     *
*         PARAMETERS SET BY INSTALLATION PROCESS TO MATCH DMCL CHANGES.
*--------------------------------------------------------------------**
*                                                                     *
* (26) : ==>   SBUFNM     DEFAULT SCRATCH REC NAME PREFIX             *
*                                                                     *
*         PREFIX FOR DEFAULT SCRATCH RECORD NAMES                     *
*                                                                     *
*         IF NO OTHER RECORD NAME SPECIFIED FOR SCRATCH I/O REQUESTS, *
*         DMLO WILL CREATE A RECORD/ELEMENT STRUCTURE WHOSE NAME IS   *
*         SSSSN WHERE SSSS IS SPECIFIED BY SBUFNM AND N IS 0-9.       *
*                                                                     *
* (27) : ==>   QBUFNM     DEFAULT QUEUE   REC NAME PREFIX             *
*                                                                     *
*         PREFIX FOR DEFAULT  QUEUE  RECORD NAMES                     *
*                                                                     *
*         IF NO OTHER RECORD NAME SPECIFIED FOR  QUEUE  I/O REQUESTS, *
*         DMLO WILL CREATE A RECORD/ELEMENT STRUCTURE WHOSE NAME IS   *
*         QQQQN WHERE QQQQ IS SPECIFIED BY QBUFNM AND N IS 0-9.       *
*                                                                     *
* (28) : ==>   SQBUFL     DEFAULT SCR/QUE REC MAX LEN                 *
*                                                                     *
*         DEFAULT SCRATCH/QUEUE BUFFER LENGTH                         *
*                                                                     *
*         THIS VALUE IS THE BUFFER LENGTH FOR ALL RECORDS WHICH DMLO  *
*         ALLOCATES USING THE DEFAULT SCRATCH AND QUEUE RECORD NAME   *
*         PREFIXES.                                                   *
*                                                                     *
*--------------------------------------------------------------------**
*                                                                     *
* (29) : ==>   ATTNKEY    ATTENTION/INTERRUPT                         *
*                                                                     *
*         INITIAL VALUE OF "INTERRUPT" KEY WHICH APPEARS ON THE DMLO  *
*         SIGNON SCREEN. NOTE IT IS CHANGEABLE AT THAT TIME.  ACCEPTABLE
*         VALUES ARE PA1-PA3, OR PF1-PF24.                            *
*                                                                     *
*         PARAMETER IS OPTIONAL, DEFAULT VALUE IS 'PA1'.              *
*--------------------------------------------------------------------**
*                                                                     *
* (30-37)   THESE REPRESENT INITIAL VALUES OF PF KEY SETTINGS.        *
*           ALLOWED FORMATS ARE :                                     *
*                  ....KEY=(PFX,PFY)                                  *
*                  ....KEY=(PFX)                                      *
*                  ....KEY=PFX                                        *
*                                                                     *
*           ALL KEYS ARE CHANGEABLE DURING THE SESSION EXCEPT         *
*                  SNONKEY == SIGNON SCREEN HELP                      *
*                  PROFKEY == SIGNON PROFILE LIST                     *
```

```
*-------------------------------------------------------------------**
*                                                                   *
* (30) : ==>   SNONKEY    HELP (SIGNON)                             *
*                                                                   *
*         INITIAL VALUE OF PRIMARY AND ALTERNATE PF KEYS USED TO INVOKE
*         ONLINE DOCUMENTATION FOR SIGNON SCREEN                    *
*                                                                   *
*         KEYS CHANGEABLE ONLY AT INSTALLATION                      *
*                                                                   *
*         ACCEPTABLE VALUES ARE PF1-PF24.                           *
*                                                                   *
*         DEFAULT VALUES : 'PF2'    AND  'PF14'                     *
*-------------------------------------------------------------------**
*                                                                   *
* (31) : ==>   PROFKEY    SIGNON PROFILE LIST                       *
*                                                                   *
*         INITIAL VALUE OF PRIMARY AND ALTERNATE PF KEYS USED TO REQUEST
*         A PROFILE LIST FROM SIGNON SCREEN                         *
*                                                                   *
*         KEYS CHANGEABLE ONLY AT INSTALLATION                      *
*                                                                   *
*         ACCEPTABLE VALUES ARE PF1-PF24.                           *
*                                                                   *
*         DEFAULT VALUES : 'PF4'    AND  'PF16'                     *
*------------------------------------------------------------------- *
*                                                                   *
* (32) : ==>   HELPKEY    HELP (DMLO)                               *
*                                                                   *
*          INITIAL VALUE OF PRIMARY AND ALTERNATE PF KEYS USED TO   *
*          INVOKE DMLO ONLINE DOCUMENTATION (HELP) DISPLAYS.        *
*                                                                   *
*          KEYS CHANGEABLE DURING SESSION.                          *
*                                                                   *
*          ACCEPTABLE VALUES ARE PF1-PF24.                          *
*                                                                   *
*          DEFAULT VALUES : 'PF1'    AND  'PF13'                    *
*------------------------------------------------------------------- *
*                                                                   *
* (33) : ==>   SHOWKEY    SHOW PFKEYS                              *
*                                                                  *
*          INITIAL VALUE OF PRIMARY AND ALTERNATE PF KEYS USED TO   *
*          REQUEST DISPLAY/UPDATE OF ALL PF KEYS.                   *
*                                                                   *
*          KEYS CHANGEABLE DURING THE SESSION                       *
*                                                                   *
*          ACCEPTABLE VALUES ARE PF1-PF24.                          *
*                                                                   *
*          DEFAULT VALUES : 'PF2'    AND  'PF14'                    *
*-------------------------------------------------------------------*
```

```
*                                                                     *
* (34) : ==>   PENDKEY    END / GOBACK FUNCTION                       *
*                                                                     *
*          INITIAL VALUE OF PRIMARY AND ALTERNATE PF KEYS USED TO     *
*          REQUEST END/GOBACK FROM SECONDARY DMLO DISPLAYS            *
*                                                                     *
*          KEYS CHANGEABLE DURING THE SESSION                         *
*                                                                     *
*          ACCEPTABLE VALUES ARE PF1-PF24.                            *
*                                                                     *
*          DEFAULT VALUES : 'PF3'    AND  'PF15'                      *
*---------------------------------------------------------------------*
*                                                                     *
* (35) : ==>   DISPKEY    DISPLAY &D                                  *
*                                                                     *
*          INITIAL VALUE OF PRIMARY AND ALTERNATE PF KEYS USED TO     *
*          REQUEST REDISPLAY FUNCTION.                                *
*                                                                     *
*          KEYS CHANGEABLE DURING THE SESSION                         *
*                                                                     *
*          ACCEPTABLE VALUES ARE PF1-PF24.                            *
*                                                                     *
*          DEFAULT VALUES : 'PF4'    AND  'PF16'                      *
*---------------------------------------------------------------------*
*                                                                     *
* (36) : ==>   PGUPKEY    SCROLL UP                                   *
*                                                                     *
*          INITIAL VALUE OF PRIMARY AND ALTERNATE PF KEYS USED TO     *
*          PAGE/SCROLL DISPLAY UP (TOWARD THE FIRST LINE)             *
*                                                                     *
*          KEYS CHANGEABLE DURING THE SESSION                         *
*                                                                     *
*          ACCEPTABLE VALUES ARE PF1-PF24.                            *
*                                                                     *
*          DEFAULT VALUES : 'PF7'    AND  'PF19'                      *
*---------------------------------------------------------------------*
*                                                                     *
* (37) : ==>   PGDNKEY    SCROLL DOWN                                 *
*                                                                     *
*          INITIAL VALUE OF PRIMARY AND ALTERNATE PF KEYS USED TO     *
*          PAGE/SCROLL DISPLAY DOWN  (TOWARD THE LAST LINE)           *
*                                                                     *
*          KEYS CHANGEABLE DURING THE SESSION                         *
*                                                                     *
*          ACCEPTABLE VALUES ARE PF1-PF24.                            *
*                                                                     *
*          DEFAULT VALUES : 'PF8'    AND  'PF20'                      *
*---------------------------------------------------------------------*
*                                                                     *
```



```
 (38) : ==>   DEFENTK    DEFAULT ENTER KEY USAGE (Y/N)              *
*                                                                   *
*          DEFAULT PROCESSING MODE WHEN ENTER KEY ALONE IS HIT,     *
*          WITH NO OTHER DATA TYPED/OVERTYPED ON COMMAND LINE.      *
*          DEFAULT VALUE IS 'Y'. DEFAULT ACTION CLEAR COMMAND LINE. *
*                                                                   *
*          ALTERNATE SETTING IS 'N'. THIS WILL CAUSE THE LAST       *
*          COMMAND ON THE COMMAND LINE (IF ANY) TO BE RE-EXECUTED.  *
*          THIS CAN BE USED TO REPEAT OBTAIN NEXT/PREVIOUS          *
*          DML COMMAND WITHOUT HAVING TO OVERTYPE ANY CHARACTERS.   *
*                                                                   *
*          VALUE IS ALSO DYNAMICALLY CHANGEABLE FOR SESSION         *
*          DURATION USING THE : SET DEFENTK (ON/OFF) COMMAND.       *
*                                                                   *
*          DEFAULT VALUE:    DEFENTK = 'Y' DO NOT RE-EXECUTE COMMAND *
*          ALTERNATE VALUE: DEFENTK = 'N' DO RE-EXECUTE COMMAND     *
*-------------------------------------------------------------------*
*-*-*-*-*-*-*-*-*-*-*********************-*-*-*-*-*-*-*-*-*-*-*-*-*-*
*-------------------------------------------------------------------*
*                                                                   *
*         ENTER VALUES FOR YOUR INSTALLATION BELOW                  *
*                                                                   *
*  THE EXPLANATION OF EACH PARAMETER IS ABOVE.                      *
*  NOTE:  UNLESS MARKED WITH A (P) THE PARAMETERS REPRESENT THE     *
*  DEFAULT OR INITIAL VALUES, AND CAN BE CHANGED DURING THE DMLO    *
*  SESSION.                                                         *
*                                                                   *
*-------------------------------------------------------------------*
```

```
     USDCPARM HLPDICT=TOOLDICT,      1 DICTNAME FOR ONLINE DCMNTN (P) X
              HLPNODE=,              2 DICTNODE FOR ONLINE DCMNTN (P) X
              HLPVERS=1,             3 VERSION  FOR ONLINE DCMNTN (P) X
              LOWCASE=N,             4 LOWER CASE OPTION  (Y/N)       X
              DPRTCL=1,              5 DC PRINT CLASS                 X
              TPRTCL=A,              6 TSO PRINT CLASS                X
              CPRTCL=A,              7 CICS PRINT CLASS               X
              DISPLAY=COBOL,         8 DISPLAY FMT  (COBOL/VERTICAL)  X
              AUTOHEX=ON,            9 AUTOHEX   OPTION (ON/OFF)      X
              AUTOBND=ON,           10 AUTO-BIND OPTION (ON/OFF)      X
              MAPIN=FAST,           11 DATA/COMMAND INP (FAST/STEP)   X
              CLIST=FAST,           12 CLIST EXECUTION  (FAST/STEP)   X
              DSPCMND=INPUT,        13 COMMAND DISPLAY  (INPUT/USED)  X
              LRFSCRN=NORM,         14 LRF SCREEN FMT   (NORM/MAX)    X
              MODE=EXPERT,          15 SESSION MODE    (EXPERT/MENU)  X
              USERXIT=(DYNAM,OFF),  16 USER EXIT OPTION               X
              GLOBID=DMLOSYS,       17 SYS. PROF/CLIST OWER ID        X
              ADMIN=USERID01,       18 DMLO ADMINISTRATOR SIGNON      X
              ADMIN2=USERID02,      19 DMLO ADMINISTRATOR SIGNON      X
              USERID=INPUT,         20 CHG USERID ?  (INPUT/PROT)     X
              NONDSPL=C'_',         21 NONDISPLAY TRANSLATION         X
              DEFDICT=,             22 DEFAULT SIGNON DICTIONARY      X
              DEFNODE=,             23 DEFAULT SIGNON DICT. NODE      X
              PRFDBNM=DMLO,         24 PROFILE SEGMENT (DB) NAME      X
              PRFDBND=,             25 PROFILE SEGMENT (DB) NODE      X
              SBUFNM=SBUF,          26 DEFAULT SCR REC NAME PFX       X
              QBUFNM=QBUF,          27 DEFAULT QUE REC NAME PFX       X
              SQBUFL=4096,          28 DEFAULT S/Q REC MAX LEN        X
              ATTNKEY=PA1,          29 ATTENTION/INTERRUPT            X
              SNONKEY=(PF2,PF14),   30 SIGNON HELP           (P)      X
              PROFKEY=(PF4,PF16),   31 PROFILE LIST          (P)      X
              HELPKEY=(PF1,PF13),   32 SESSION HELP                   X
              SHOWKEY=(PF2,PF14),   33 SHOW PFKEYS                    X
              PENDKEY=(PF3,PF15),   34 END                            X
              DISPKEY=(PF4,PF16),   35 REDISPLAY                      X
              PGUPKEY=(PF7,PF19),   36 SCROLL UP                      X
              PGDNKEY=(PF8,PF20),   37 SCROLL DOWN                    X
              DEFENTK=Y             38 DEFAULT USE OF ENTER KEY
*-------------------------------------------------------------------*
*                                                                   *
*     1) ALTER ANY/ALL OF THE PRECEEDING USDCPARM PARAMETERS, AS    *
*        NEEDED.  (A DETAILED EXPLANATION IS PRESENTED ABOVE.)      *
*                                                                   *
*     2) ALTER ANY/ALL OF THE FOLLOWING SOURCE MODULES (AS NEEDED)  *
*        FOR YOUR INSTALLATION BEFORE ASSEMBLY OF USDPARM1.  (A     *
*        DETAILED EXPLANATION IS PRESENTED WITHIN EACH MODULE       *
*                                                                   *
*-------------------------------------------------------------------*
        COPY  USD@MOPS            MENU-MODE DML OP CODES
        COPY  USD@MTXT            MENU-MODE DESCRIPTIVE TEXT
        COPY  USD@MSTL            MENU-MODE STATIC AREA DESCRIPTION
        COPY  USD@SSEX            SUBSCHEMA EXCLUSION LIST
        COPY  USD@DSPC            DISPLAYABLE CHARACTERS
        COPY  USD@KYWD            STANDARD ABBREVIATIONS
        END
```

# B.8 CA-IDMS/Enforcer Runtime Parameters

```
*-------------------------------------------------------------------
*CA-IDMS/ENFORCER RUNTIME PARAMETERS
*-------------------------------------------------------------------
*            MODIFY PRODUCT TUNING PARAMETERS
*            ________________________________
*ESXTPARM ── THIS MEMBER IS USED TO SPECIFY THE RUNTIME VALUES TO
*            BE USED AS INPUT TO THE INSTALLATION TAILORING MACRO,
*            ESXCPARM, WHICH IS DYNAMICALLY LOADED BY ONLINE MENU
*            ESXAMEN, AND THE ACTIVE AND PASSIVE ENFORCEMENT MODULES.
*
*            RUNTIME VARIABLES
*            _________________
*            ENFTSK=(1-8 CHAR)    TASK USED TO INVOKE THE ENFORCER.
*
*            HLPDICT=(1-8 CHAR)   ALTERNATE DICTIONARY USED
*                                 FOR GSIHELP.
*
*            HLPNODE=(1-8 CHAR)   ALTERNATE NODE USED FOR GSIHELP.
*
*            HLPVERS=(1-9999 NUM) VERSION NUMBER OF HELP MODULES.
*
*            LOKMODE=(D/B/M)      IDD DEADLOCK PROCESSING DIRECTIVE
*                                 WHERE:
*                                 D = DEADLOCK--ALLOW FULL ENFORCER
*                                     DIAGNOSTICS.  THIS MODE WILL
*                                     CAUSE DEADLOCKS AGSINST CON-
*                                     CURRENT UPDATE OF THE SAME ENTITY
*                                     TYPE IN THE SAME DICTIONARY.
*                                 B = BATCH MODE--ONLY ALLOWS IDD-
*                                     FORMAT ERROR MESSAGES BUT
*                                     PRECLUDES DEADLOCK ERRORS.
*                                 M = IDDM ONLY--ALLOWS FULL
*                                     ENFORCER DIAGNOSTICS FOR IDDM
*                                     TRANSACTIONS. ALL OTHER
*                                     PROCESSING IS IDENTICAL TO BATCH
*                                     MODE.
*
*USPS: NEW PARMS TO INDICATE WHICH DELIMITERS ARE VALID FOR ELEMENT
*      DESIGNATION FOR BRACKET MODE TEMPLATES.
*            DSPACE=(Y/N)          SPACE DELIMITED WORDS ALLOWED.
*                                  Y = YES (ALLOWED)
*                                  N = NO  (ALLOWED)
*            DDASH=(Y/N)           DASH (-) DELIMITED WORDS ALLOWED.
*                                  Y = YES (ALLOWED)
*                                  N = NO  (ALLOWED)
*            DULINE=(Y/N)          ULINE(_) DELIMITED WORDS ALLOWED.
*                                  Y = YES (ALLOWED)
*                                  N = NO  (ALLOWED)
*-------------------------------------------------------------------
*  DEFAULT VALUES AS SUPPLIED WITH INSTALLATION:
*       ESXTPARM ENFTSK='ENFORCER',
*                HLPDICT='        ',
*                HLPNODE='        ',
*                HLPVERS=1,
*                LOKMODE=D,
*USPS: DELIMITER VALUES FOR BRACKET TEMPLATING.
*                DSPACE=Y,
*                DDASH=Y,
*                DULINE=Y
*-------------------------------------------------------------------
```

# B.9 CA-IDMS/Master Key Runtime Parameters

```
*--------------------------------------------------------------------
* CA-IDMS/MASTERKEY RUNTIME PARAMETERS
*--------------------------------------------------------------------
*
*SSKCPARM THIS IS THE INSTALLATION TAILORING MACRO USED BY THE
*MASTERKEY SYSTEM TO PROVIDE RUNTIME VALUES.
*OPERANDS:
*                 HLPDICT='1-8 CHAR'   ALTERNATE DICTIONARY USED FOR
*                                      GSIHELP.
*                 HLPNODE='1-8 CHAR'   ALTERNATE NODE USED FOR GSIHELP.
*
*                 HLPVERS=INTEGER      VERSION NUMBER OF HELP MODULES.
*
*                 CLTDICT='1-8 CHAR'   DICTNAME FOR TRANSIENT CLISTS.
*
*                 CLTNODE='1-8 CHAR'   DICTNODE FOR TRANSIENT CLISTS.
*
*ASSEMBLED VALUES AT INSTALLATION:
*       SSKCPARM HLPDICT='        ',
*                HLPNODE='        ',
*                HLPVERS=1,
*                CLTDICT='        ',
*                CLTNODE='        '
*
*--------------------------------------------------------------------
```

# B.10 CA-IDMS/Online Log Display Runtime Parameters

```
 *--------------------------------------------------------------------
 * CA-IDMS/ONLINE LOG DISPLAY RUNTIME PARAMETERS
 *--------------------------------------------------------------------
 *
         PRINT OFF
         COPY  USKCPARM
         PRINT ON
USKTPARM CSECT                        CONTROL TABLE FOR LOGD
 *-------------------------------------------------------------------*
 *USKCPARM THIS IS THE INSTALLATION TAILORING MACRO USED BY THE
 *LOGD SYSTEM TO PROVIDE RUN-TIME VALUES.
 *OPERANDS:
 *                 LOGDTSK='1-8 CHAR'   TASK USED TO INVOKE LOGD.
 *                 HLPDICT='1-8 CHAR'   ALTERNATE DICTIONARY USED FOR
 *                                      GSIHELP.
 *                 HLPNODE='1-8 CHAR'   ALTERNATE NODE USED FOR GSIHELP.
 *
 *                 HLPVERS=INTEGER      VERSION NUMBER OF HELP MODULES.
 *
 *ASSEMBLED VALUES AT INSTALLATION:
 *       USKCPARM LOGDTSK='LOGD    ',
 *                HLPDICT='        ',                                *
 *                HLPNODE='        ',                                *
 *                HLPVERS=1                                          *
 *                                                                   *
 *-------------------------------------------------------------------*
 *********************************************************************
 *                                                                   *
 *******         MODIFY THE FOLLOWING STATEMENTS IF NEEDED       *******
 *                                                                   *
 *********************************************************************
         USKCPARM LOGDTSK=LOGD,                                     X
               HLPDICT=TOOLDICT,                                    X
               HLPNODE=,                                            X
               HLPVERS=,
         END
 *--------------------------------------------------------------------
```

# B.11 CA-IDMS/SASO Runtime Parameters

```
*--------------------------------------------------------------------
* CA-IDMS/SASO RUNTIME PARAMETERS
*--------------------------------------------------------------------
*
*            MODIFY PRODUCT TUNING PARAMETERS
*            ________________________________
*ESSTPARM —— THIS MEMBER IS USED TO SPECIFY THE RUNTIME VALUES TO
*            BE USED AS INPUT TO THE INSTALLATION TAILORING MACRO,
*            ESSCPARM, WHICH IS DYNAMICALLY LOADED BY SASO PRODUCT
*            INSTALLATION UTILITY FUNCTION TO INITIALLY ESTABLISH
*            ONLINE SYSTEM DEFAULTS AND BY ONLINE MENU ESSAMENU.
*
*            RUNTIME VARIABLES
*            _________________
*            SASOTSK=(1-8 CHAR)   TASK USED TO INVOKE SASO.
*
*            HLPDICT=(1-8 CHAR)   ALTERNATE DICTIONARY USED FOR
*                                 GSIHELP.
*
*            HLPNODE=(1-8 CHAR)   ALTERNATE NODE USED FOR GSIHELP.
*
*            HLPVERS=(1-9999 NUM) VERSION NUMBER OF HELP MODULES.
*
*            DEFDOC=(1-8 CHAR)    DEFAULT DOCUMENT DATABASE
*                                 NAME TABLE ENTRY (DBNAME).
*
*            JCL1=('1-79 CHAR')   DEFAULT JCL JOB CARD LINES
*                                 FOR INITIAL USER PROFILES.
*
*            JCL2=('1-79 CHAR')   DEFAULT JCL JOB CARD LINES
*                                 FOR INITIAL USER PROFILES.
*
*            JCL3=('1-79 CHAR')   DEFAULT JCL JOB CARD LINES
*                                 FOR INITIAL USER PROFILES.
*
*            NOTE: JCL VALUES MUST BE ENCLOSED IN SINGLE QUOTES.
*                  DEFAULT VALUES DO NOT REQUIRE QUOTES.
*
*  DEFAULT VALUES AS SUPPLIED WITH INSTALLATION:
*      ESSCPARM SASOTSK='SASO    ',
*               HLPDICT='        ',
*               HLPNODE='        ',
*               HLPVERS=1,
*               DEFDOC='SPG     ',
*               JCL1=' ',
*               JCL2=' ',
*               JCL3=' '
*
*  NOTE: NULL SPECIFICATION OF JCL LINES CAUSES SASO TO USE THE
*         PREDEFINED DEFAULTS RELATED TO THE RUNTIME OPERATING
*         SYSTEM IN WHICH THE PRODUCT IS INSTALLED.
*--------------------------------------------------------------------
```

# B.12 General Sort Runtime Parameters

```
*--------------------------------------------------------------------
* CA-IDMS/DC-SORT RUNTIME PARAMETERS
*--------------------------------------------------------------------
*
*TPSCPARM THIS IS THE INSTALLATION TAILORING MACRO USED BY THE
*TP/SORT FACILITY TO PROVIDE RUNTIME STORAGE LIMITS AND ALGORITHMS
*NECESSARY TO DISTRIBUTE THE SORT WORK RECORDS INTO THE SORTED
*OUTPUT.
*OPERANDS:
*                 MAIN=(0 THRU N)      AMOUNT OF MAIN STORAGE
*                                      USED FOR INTERNAL SORT BUFFERS.
*                                      ZERO IS AN ALL-SCRATCH SORT.
*                 AUX=(0 THRU N)       MAXIMUM AMOUNT OF SCRATCH STORAGE
*                                      USED BY CA-IDMS/DC SORT.
*                 MINRBUF=(0-N)        MINIMUM DESIRABLE NUMBER OF RECORDS
*                                      IN A SORT BUFFER.
*                 LIMLOCK=(Y OR N)     (Y)ES OR (N)O PREVENT INDIVIDUAL
*                                      PROGRAMS FROM EXCEEDING INSTALLATION
*                                      LIMITS
*                 EXIT=(PA1..PF24)     ADS PREPROCESSOR EXIT
*                                      KEY DEFAULT IS PA2.
*
*EACH OF THE SUPPLIED VALUES MUST BE AN INTEGER CONSTANT.
*THE NUMBER REPRESENTS THE ACTUAL NUMBER OF BYTES.
*    10000        = 10,000 BYTES
*    100000       = 100,000 BYTES
*
*THIS PLACES A RESPONSIBILITY UPON THE INSTALLER TO KEEP IT WITHIN
*REASON.
*
*ASSEMBLER VALUES AT INSTALLATION:
*       TPSCPARM MAIN=10000,AUX=10000,MINRBUF=100,LIMLOCK=N,
*             EXITKEY=PA2
*
*EXAMPLE
*
*MAIN=10000
*AUX=10000
*MINRBUF=20
*record-length=100
*
*The sort buffer used by CA-IDMS/DC SORT will be 2012 bytes:
*
*      20 * 100 = 2000
*      2000 is a multiple of 2000
*      20000 + 12 = 2012
*
*CA-IDMS/DC SORT CAN STORE FOUR SORT BUFFERS (80 RECORDS) IN A MAIN STORAGE
*OF 10,000 BYTES AND FOUR SORT BUFFERS (80 RECORDS) IN SCRATCH (AUXILIARY)
*STORAGE OF 10,000 BYTES.
*
```

# Appendix C. CA-IDMS/DMLO Security and Access

This appendix describes security and access restrictions that can be applied to any dictionary that contains subschemas to be accessed using CA-IDMS/DML ONLINE (CA-IDMS/DMLO).

# C.1 CA-IDMS/DMLO Security

CA-IDMS/DMLO provides security checking on three levels.

**Level 1** security indicates that a security check is not needed. Any user who signs on to CA-IDMS/DMLO and specifies a valid subschema for the requested dictionary is permitted to access the database. Level 1 is the default security level.

**Level 2** security indicates that CA-IDMS/DMLO verifies that the user and password combination specified during CA-IDMS/DMLO sign-on exist in the requested dictionary. If they do, the user can access any valid subschema in that dictionary.

**Level 3** security indicates that CA-IDMS/DMLO not only validates the user and password, but also verifies that the user has authorization to access the requested subschema. The user must be registered for access to the requested subschema in the requested dictionary.

Use the following syntax to register for access to a given subschema:

```
(ADD/MOD) USER userid PASSWORD pswd
INCLUDE ACCESS TO SUBSCHEMA subname OF SCHEMA schname V vers-nbr.
```

For both Level 2 and Level 3 security, special consideration is given to situations in which the user ID used to sign on to the CA-IDMS/DMLO session is the same as the user ID used to sign on to the CA-IDMS/DC system. In this case, the password is not checked even though the user must still be defined to the requested dictionary. Non-validation of the password conforms to the processing done by the dictionary task.

To implement security for CA-IDMS/DMLO, you must register program DBMSDMLO with a version number of 1, 2 or 3. The version number corresponds to the desired security level. Use the following CA-IDMS DDDL syntax to add this program:

```
ADD PROGRAM NAME IS DBMSDMLO VERSION IS n.
```

You must register DBMSDMLO in each dictionary for which security beyond the default is required.

# C.2 CA-IDMS/DMLO Access Restrictions

CA-IDMS/DMLO has six possible usage modes:

- SR -- Shared Retrieval
- SU -- Shared Update
- PR -- Protected Retrieval
- PU -- Protected Update
- ER -- Exclusive Retrieval
- EU -- Exclusive Update

You can restrict the READY modes available both globally (all users in a given dictionary) and by user. Any such restrictions are applied each time a user request is made to ready an area.

## C.2.1 Restricting Usage Mode Access Globally

To restrict access to specific usage modes for all users for all subschemas in a given dictionary, use the PROGRAM DESCRIPTION clause of the ADD PROGRAM statement. For example:

```
ADD/MOD PROGRAM DBMSDMLO VERSION IS 1
        PROGRAM DESCRIPTION IS 'SR,PR,ER'.
```

With this example, Level 1 security is established, but only retrieval modes are allowed for any subschema within the dictionary with this registration.

**Note:** When you specify more than one usage mode, the abbreviations must be separated by commas, cannot contain any imbedded blanks, and the string must be enclosed in single quotation marks.

## C.2.2 Restricting Usage Mode Access by User

To restrict usage mode access by user within a given dictionary, you must have specified Level 2 or Level 3 security for that dictionary.

For each user with particular restrictions, you must specify the allowable usage modes with the USER DESCRIPTION clause. For example:

```
ADD/MOD USER userid PASSWORD pswd USER DESCRIPTION IS 'SR,SU' .
```

In this example, the specified user cannot access any subschemas in the given dictionary with other than "shared" access modes.

## C.2.3 Central CA-IDMS Security

Remember that the centralized CA-IDMS security facility at all times is superior to any validation by CA-IDMS/DMLO. That is, if access to a dictionary or database is prohibited by the central security facility, you **cannot** use CA-IDMS/DMLO to bypass or override that level of security.

# Index

## Special Characters



## A



## B



## C

## D

## E



## F



## I

## U



## V



## W