DataRefresher

GC26-8802-00

Installation and Customization Tips for MVS and OS/2

Release 1.1

IBM

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Note!

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

First Edition (March 1996)

This edition applies to Version 1, Release 1 of DataRefresher, 5696-703, and to any subsequent releases until otherwise indicated in new editions or technical newsletters. Make sure you are using the correct edition for the level of the product.

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About This Book

This book contains tips and techniques for planning, installing, and customizing DataRefresher. This book serves as a supplement to information contained in the *DataRefresher OS/2 User's Guide*, *DataRefresher Administration Guide* and the DataRefresher programming directories.

This book covers installation of DataRefresher on both the MVS host and OS/2 workstation and includes the DataRefresher Base, General Data Extract, Relational Data Extract, OS/2 (PWS), and National Language features.

This book is intended for people responsible for planning and installing DataRefresher.

How This Book Is Organized

The chapters of this book are arranged in the order in which you complete the steps during the installation process.

- **Chapter 1, "Product Overview"**

  This chapter describes DataRefresher and the prerequisite hardware and software.

  This chapter is written for the person who orders DataRefresher and ensures the environment is ready for DataRefresher installation.

- **Chapter 2, "Overview of the DataRefresher Installation Process"**

  This chapter provides an overview of the process involved in DataRefresher installation.

  This chapter is written for anyone who will participate in the installation of DataRefresher.

- **Chapter 3, "Preparing for Installation"**

  This chapter provides worksheets that you use during the installation and customization of DataRefresher.

  This chapter is written for the person who configures MVS or OS/2 for DataRefresher.

- **Chapter 4, "How the Installer and SMP/E Work"**

  This chapter describes how to use SMP/E to install the DataRefresher Installer and also describes the Installer.

  This chapter is written for the person responsible for installing DataRefresher on MVS.

- **Chapter 5, “Installing DataRefresher on MVS”**

  This chapter lists the steps involved in installing DataRefresher on MVS. It includes task steps and a sample installation.

  This chapter is written for the person responsible for installing DataRefresher on MVS.

- **Chapter 6, “Configuring APPC for DataRefresher”**

  This chapter describes how to set up communications between DataRefresher on MVS and DataRefresher on OS/2 and helps ensure successful DataRefresher host-to-workstation communications.

  This chapter is written for the person responsible for MVS to OS/2 communications, using APPC.

- **Chapter 7, “Downloading and Installing DataRefresher OS/2 (PWS) on Your Workstation”**

  This chapter describes the process for downloading DataRefresher from MVS to OS/2.

  This chapter is written for the person responsible for downloading DataRefresher to one or many workstations.

The appendixes provide additional information on service, deinstallation, and migration, as well as manipulating job files in the Installer.

Acknowledgements

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Chapter 1. Product Overview

This chapter describes the DataRefresher product and requirements.

DataRefresher Features

The DataRefresher product is distributed as features that are separately orderable. The following lists show all the features offered by DataRefresher:

DataRefresher MVS:

- DataRefresher Installer and Base feature
- General Data Extract feature, including the Data Extract Manager (DEM)
- Relational Data Extract feature, including the Relational Extract Manager (REM)
- DataRefresher OS/2—also referred to as the Personal Workstation (PWS) feature
- National Language features:
  - Uppercase feature
  - Kanji feature

DataRefresher VM:

- DataRefresher Base feature
- Relational Data Extract feature
- National Language features:
  - Uppercase feature
  - Kanji feature

As summarized in Table 1, you do not need to order and install all DataRefresher features; you need to install only those features required by your environment. For example, to create and process a nonrelational extract using the GUI (graphical user interface), you need to install only DataRefresher Installer and Base feature, the General Data Extract feature, and DataRefresher OS/2 (PWS). See "Deciding Which Features to Install" on page 3 for information on selecting a configuration.

Table 1. DataRefresher Features

Feature	Note
Installer and Base	Mandatory
General Data Extract (includes DEM)	Optional
Relational Data Extract (includes REM)	Optional
DataRefresher OS/2 (also referred to as PWS)	Optional but recommended; requires DEM
National Language	Optional

DataRefresher Installer and Base Feature

The DataRefresher installation feature, called the Installer, is used only on MVS and provides a series of panels where you can enter parameters to install the Base feature and the other features. Based on the information you enter, the Installer automatically builds the job control language (JCL) necessary for installation.

DataRefresher Base features include the Data Reformat utility, end-user and administrative dialogs, and online commands.

General Data Extract Feature

The General Data Extract feature enables you to extract data from nonrelational databases and sources using the Data Extract Manager (DEM).

The DEM extracts data from a variety of databases and file types, including:

- IMS databases (MVS)
- VSAM data sets (MVS)
- Physical sequential data sets (MVS)
- Other data sources that are formatted by user-provided generic data interface (GDI) exits

Relational Data Extract Feature

The Relational Data Extract feature enables you to extract data from DB2 or an SQL/DS database. It contains the Relational Extract Manager (REM), which extracts data from DB2 or SQL/DS databases. The REM runs as a DB2 application in MVS or as an SQL/DS application in VM.

DataRefresher OS/2 Feature

You can use DataRefresher OS/2, sometimes referred to as the graphical user interface (GUI) or PWS, to perform many DataRefresher functions on a workstation using the OS/2 end-user interface. You can create data descriptions (called *sources* and *views*) and extract requests using DataRefresher OS/2 and submit them to an MVS host for processing.

DataRefresher OS/2 communicates with the host system through the logical unit (LU) 6.2 protocol, using the Advanced Program-to-Program Communications (APPC) facilities of OS/2 and MVS. Extensive online help is available for DataRefresher OS/2.

To operate DataRefresher OS/2, you must first install the General Data Extract feature.

National Language Features

The Uppercase feature and the Kanji feature are two National Language features (NLFs) provided with DataRefresher.

DataRefresher enables you enter, process, and display double byte character set (DBCS) data. The data entered on a DBCS terminal is stored using two bytes for each character. The underlying database management system—IMS, DB2, or SQL/DS (character or graphic data type)—provides the actual storage of the 2-byte data.

Uppercase Feature

With the Uppercase feature, you can use the DataRefresher dialogs on Japanese Katakana terminals. At these terminals you can type and display Katakana characters, which are Japanese phonetic symbols. You can also type and display uppercase English characters using the Uppercase feature. All fixed text in the dialog panels and messages is translated to uppercase English.

Kanji Feature

The Kanji feature establishes a Kanji-language environment for the DataRefresher dialog user. In this environment, the DataRefresher dialog panels and user messages are translated into Kanji, a set of commonly used Japanese characters. Kanji characters are part of a DBCS, where each character of the set is represented internally by two bytes of storage. In addition to Kanji, the Japanese DBCS contains the English alphabet, Hiragana, and Katakana characters.

Deciding Which Features to Install

The following list can help you determine whether you need to install the General Data Extract feature, DataRefresher OS/2, or the Relational Data Extract feature at your site:

- You must install the General Data Extract feature if you want to:
  - Extract data from an IMS/VS DL/I database.
  - Extract a VSAM data set.
  - Extract a physical sequential data set.
  - Use a Generic Data Interface (GDI) exit routine to extract data from other sources.

  As Figure 1 shows, the General Data Extract feature must be installed on the same MVS system as the data to be extracted. In Figure 1, data is being extracted from IMS.

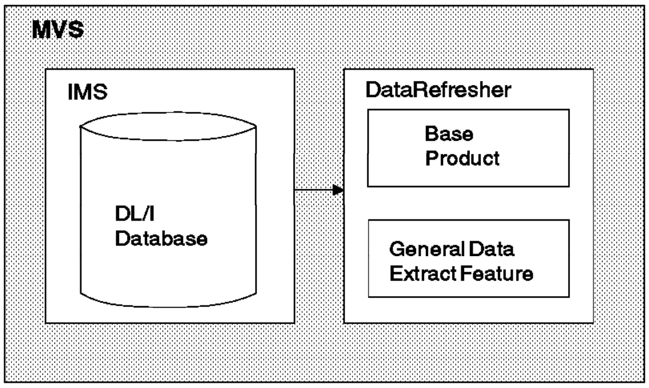

Figure 1. Extracting IMS Data with the General Data Extract Feature

- You must install the following features if you want to use DataRefresher OS/2 from a workstation to create data descriptions and extract requests to be sent up to the host MVS system:
  - The DataRefresher Base feature on the host MVS system
  - The General Data Extract feature on the host MVS system
  - The DataRefresher OS/2 feature on each individual workstation

Installing DataRefresher OS/2 adds another step to your installation process, but increases ease of use by providing a user-friendly interface.

Figure 2 shows the relationship between the workstation environment and the host system after installation. DataRefresher OS/2 is downloaded from the host to the workstation.

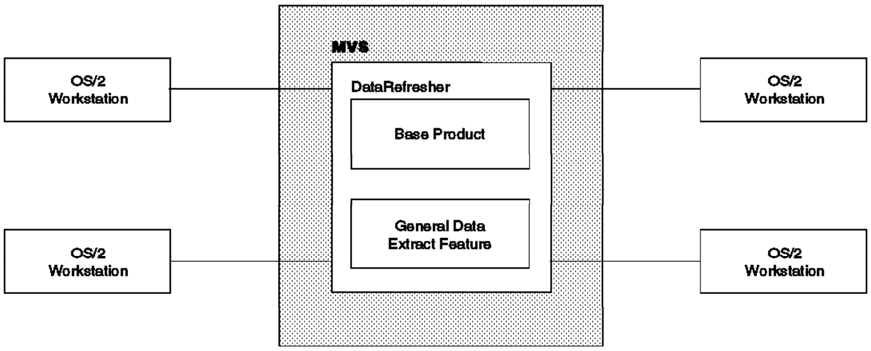

Figure 2. Using DataRefresher OS/2

You can also extract data from a DB2 database by installing the General Data Extract feature and writing a GDI exit routine.

- You can install the Relational Data Extract feature if you want to extract data from a DB2 database without using GDE and a GDI exit routine. The Relational Data Extract feature must reside on the same MVS system as the DB2 database, as shown in Figure 3.

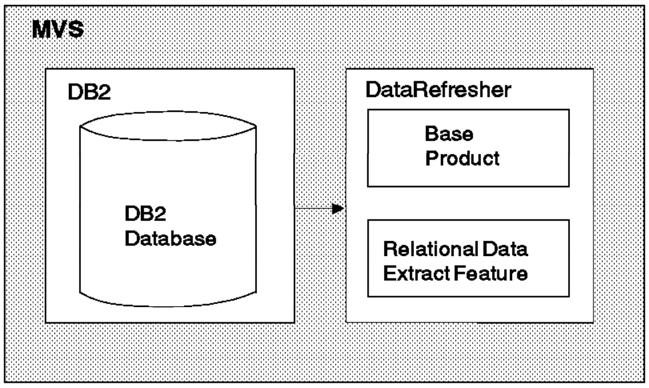

Figure 3. Extracting DB2 Data with the Relational Data Extract Feature

DataRefresher OS/2 (PWS) does not support the Relational Data Extract feature and Dictionary Access Program (DAP).

How DataRefresher Features and Components Are Packaged

This section describes how parts of DataRefresher are packaged. Your order of DataRefresher consists of a series of tapes or cartridges. Sometimes more than one feature is contained on one tape or cartridge. For example, as shown in Table 2 on page 5, the DataRefresher Base feature and Installer feature are packaged together in volume serial (VOLSER) QY5110. even though they are two distinct parts of DataRefresher.

Table 2 on page 5 lists DataRefresher orderable features, components, and identifiers associated with each item for MVS and OS/2.

Table 2. DataRefresher MVS and OS/2 Package

DataRefresher Component	FMID	Order No. 6250 Tape	Order No. 3480 Cart.	VOLSER	PSP Subset	Retain Rel
Installer feature	HQY5110	5861*	5862*	QY5110	HQY5110	110
Base feature Data Reformat utility (DRU) Online command Dialogs	JQY5111	5861*	5862*	QY5110	JQY5111	111
General Data Extract feature User Input Manager (UIM) Data Extract Manager (DEM) Structures Access Program (SAP) Dictionary Access Program (DAP) Migration utility	JQY5113	5801	5802	QY5113	JQY5113	113
PWS feature OS/2 GUI	JQY511A	5851	5852	QY511A	JQY511A	11A
PWS feature OS/2 GUI Japanese Kanji **	JQY511B	5949	5950	QY511A	JQY511B	11B
Relational Data Extract Relational Extract Manager (REM)	JQY5112	5811	5812	QY5112	JQY5112	112
National Language feature Uppercase	JQY5114	5962	5963	QY5114	JQY5114	114
National Language feature Japanese Kanji	JQY5115	5341	5342	QY5114	JQY5115	115

* The Installer and Base share the same orderable feature number.
** Before you can install PWS-Japanese, you must install PWS-English.

The component identifier for all items is 569670300.
The preventive service planning (PSP) upgrade level is DVR110.

The column headings in Table 2 are:

DataRefresher Component
The product component.

FMID
A software grouping; System Modification Program Extended (SMP/E) processes these files as a unit during installation. Used in only the MVS environment.

Order Number
The order numbers for DataRefresher components. The distribution medium you select is either 6250 tape or 3480 cartridge. The feature number used to order DataRefresher varies according to media type.

VOLSER
A hardware grouping; this number appears on the tape label in the JCL, indicating the content of a tape or cartridge.

PSP Subset
Preventive Service Planning. This tape name is referred to by IBM service and support.

Retain Rel
The identifier recorded in the IBM Retain Service and Support system.

Table 3 lists DataRefresher orderable features and order numbers for VM.

Table 3. DataRefresher VM Package

DataRefresher Component	Order Number VM 6250 Tape	Order Number VM 3480 Cartridge
Installer and Base feature	5871	5872
Relational Extract Manager feature	5821	5822
National Language feature—Uppercase	5975	5976
National Language feature—Japanese Kanji	5348	5349

Prerequisite Hardware and Software

This section describes the hardware and software required to install and run DataRefresher in the OS/2, MVS, and VM environments. Communication between the OS/2 and MVS environments is made through the APPC LU 6.2.

Hardware Requirements

Depending on the environment in which you plan to run DataRefresher, you will have different hardware requirements.

OS/2 Hardware Requirements

To run DataRefresher in an OS/2 environment, you need a workstation with sufficient memory to satisfy the combined requirements of OS/2 Version 2 Release 1, Communications Manager/2 Version 1, DB2 for OS/2, and any other customer-related applications and storage requirements. OS/2 Warp support is planned.

The minimum hardware requirements for DataRefresher in an OS/2 environment are:

- An 80486, 33 Mhz workstation running OS/2 2.1, with a mouse
- A 150 MB hard disk, with a minimum 20 MB of free disk space to install and run DataRefresher
- 16 MB of memory

To download DataRefresher OS/2 from MVS, you need an LU 2 connection. Use an APPC LU 6.2 connection to communicate with the MVS machine when DataRefresher is installed and running on the workstation.

MVS and VM Hardware Requirements

You can install and operate DataRefresher on any processor that supports the software systems specified in “Software Requirements” on page 7.

The processors must have sufficient real storage to satisfy the combined requirements of the data sources, operating systems, DataRefresher access methods, batch requirements, and other user applications.

The configuration must include enough I/O devices to support the requirements for system output, system residence, and system data sets.

Sufficient direct access storage must be available to satisfy user information storage requirements. This storage can be any direct access facility supported by the operating system.

Software Requirements

This section outlines the software required to install and run DataRefresher and its optional features and functions in the OS/2, MVS, and VM environments. Later releases of software are supported unless otherwise specified. OS/2 Warp support is planned.

OS/2 System Requirements

To install and run DataRefresher in an OS/2 environment you must first install the following programs on your workstation:

- OS/2 Version 2 Release 1
- Communications Manager/2 (CM/2) Version 1, configured for APPC communications and with an active 3270 emulator session

  For information about configuring CM/2 for APPC, see "Configuring APPC for DataRefresher on the Workstation" on page 52.
- IBM DB2 for OS/2 (5622-044) Version 1

MVS Operating System and Support Program Requirements

To install and run DataRefresher in an MVS environment you must install one of the following operating systems:

- MVS/ESA-JES2 (5695-047) Version 4 Release 2
- MVS/ESA-JES3 (5695-048) Version 4 Release 2

The following products are also required:

- MVS/Data Facility Product (5665-XA3) Version 3 Release 2
- System Modification Program Extended (SMP/E) (5668-949) Version 1 Release 7

You need the following MVS software for the APPC communications link:

- MVS/ESA V4.2
- VTAM V3.4.1
- NCP V5.3 or equivalent

VM Operating System Requirements

To install and run DataRefresher in a VM environment, you need:

- VM/ESA (5684-112) Version 1 Release 2
- VM/ESA (5684-112) Version 1 Release 5 370 feature
- Remote Spooling Communications Subsystem (RSCS) (5664-188) Version 3 Release 1

Optional Function Software

You can install and use optional functions and components for the DataRefresher Base feature and optional features.

Base Feature Optional Software: Table 4 lists the software required to run the optional functions included with the DataRefresher Base feature. Later releases are supported unless stated otherwise.

Table 4. Base Feature Optional Software

Function	Required Products
DataRefresher online commands	TSO/E (5685-025) Version 2 Release 4
MVS DataRefresher dialogs	Interactive System Productivity Facility/Program Development Facility (ISPF/PDF) (5665-402) Version 3 Release 5

Optional Features Software: Tables 5, 6, 7, and 8 list the software required to run the PWS, General Data Extract, Relational Data Extract, and VM features of DataRefresher. Later releases are supported unless stated otherwise.

Table 5. DataRefresher OS/2 (PWS) Feature

Function	Required Products
Operating DataRefresher from OS/2	• ISPF (5685-054) Version 3 Release 2 • APPC must be installed and configured. APPC is a component of the MVS/ESA operating system in release 4.2 and later. • GDE must be installed. You must also install the SAP within GDE. Requirements for SAP are installation of either: – Language Environment/370 (5688-198) Version 1 Release 3, which includes the link edit library and the library of run-time services for IBM SAA AD/CYCLE PL/I Language Environment MVS & VM. – OS PL/I Libraries Version 2 Release 3 (5668-911).

Table 6 (Page 1 of 2). General Data Extract Feature

Function	Required Products
Extracting data from IMS/VS DL/I database	Information Management System (IMS/ESA) (5685-408)
Data security	Resource Access Control Facility (RACF) (5740-XXH) Version 1 Release 9.2 or equivalent

Table 6 (Page 2 of 2). General Data Extract Feature

Function	Required Products
Writing exit routines	One of these products: • Assembler H (5668-962) Version 2 Release 1 • OS PL/1 Version 2 Release 3 Compiler/Run-time Libraries • VS COBOL II (5668-958) Release 3.2 • IBM SAA AD/Cycle Language Environment/370 (5668-910 and 5668-911) Version 1 Release 3
Creating data descriptions with the DAP	OS/VS DB/DC Data Dictionary (5740-XXF) Version 1 Release 6
Creating data descriptions with the SAP, including the autogenerate function of DataRefresher OS/2	OS PL/1 Version 2 Release 3 Compiler/Run-time Libraries or IBM SAA AD/Cycle Language Environment/370 (5668-198) Version 1 Release 3

Table 7. Relational Data Extract Feature

Function	Required Products
Loading data into or extracting data from DB2	One of the following products: • IBM DATABASE 2 (5665-DB2) Version 2 Release 3 • IBM DATABASE 2 (5685-DB2) Version 3

Table 8. DataRefresher VM Feature

Function	Required Products
Using the VM dialogs	• ISPF-VM/SP (5684-043) Version 3 Release 2 • ISPF/PDF-VM/SP (5684-123) Version 3 Release 2
Loading data into or extracting data from SQL/DS with the VM Relational Data Extract feature	One of the following products: • SQL/Data System (SQL/DS) (5688-103) Program Product Version 3 Release 3 for VM and VSE • SQL/DS (5688-103) Program Product Version 3 Release 4 for VM and VSE

Chapter 2. Overview of the DataRefresher Installation Process

This chapter describes the skills required and activities involved in DataRefresher installation. DataRefresher installation and customization can be challenging if you are not properly prepared for the task. Consider the following information:

- Installation is done in phases. During each phase, you are required to do some configuration before you move on to the next phase. This supplement describes each phase clearly, starting with the installation tasks overview in "Installation Activities" and continuing through to Chapter 7, "Downloading and Installing DataRefresher OS/2 (PWS) on Your Workstation" on page 77.
- SMP/E is used to install DataRefresher; therefore several internal mechanisms automatically build and submit jobs. Chapter 4, "How the Installer and SMP/E Work" on page 22 helps you understand what is going on during SMP/E installation.
- DataRefresher OS/2 (PWS) uses VTAM/APPC for direct communication with MVS. VTAM/APPC is used with DataRefresher in a straightforward and standard manner, but if you are new to this powerful communication function, you face new concepts, terminology, and procedures. Chapter 6, "Configuring APPC for DataRefresher" on page 40 provides you with information you need to know about APPC to complete DataRefresher installation.

Knowledge Required to Install DataRefresher

Knowledge required to install DataRefresher include:

- Business and data management
- MVS or VM systems programming
- OS/2 administration
- CM/2 communications
- APPC communications (both for OS/2 and MVS)
- Database administration for source and target file or database management systems

Installation Activities

Figure 4 on page 11 gives an overview of the activities involved in preparing, installing, and customizing DataRefresher on MVS.

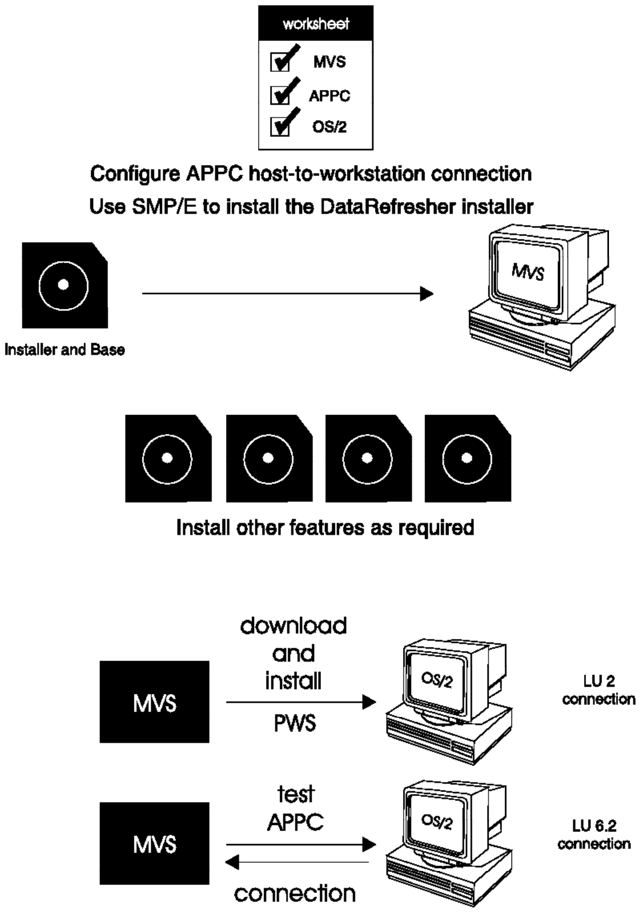

Figure 4. Flowchart of DataRefresher Installation Activities

The major steps for DataRefresher installation and customization are:

1. Order the DataRefresher product with the desired features. Refer to "Deciding Which Features to Install" on page 3.
2. When the product packages arrive, check the contents. Refer to Table 2 on page 5 or Table 3 on page 6.
3. Make sure the MVS system is ready for the installation. Use the worksheets in "Installation Worksheets" on page 14.
4. Configure the APPC connection between the host MVS system and the workstation. Refer to Chapter 6, "Configuring APPC for DataRefresher" on page 40.

   Although the APPC connection is not needed until later in the process, it is a good idea to complete this step early, so that any problems can be resolved before you need to use the APPC connection at the end of the DataRefresher installation process.

5. Make sure you have all the required program directories and the manuals. There are five separate program directories for features available for DataRefresher:

FMID HQY5110[1]	Installer and Base
FMID JQY5112	Relational Data Extract
FMID JQY5113	General Data Extract
FMID JQY511A	PWS
FMID JQY5114[2]	UpperCase and Kanji

   Use the program directory designated for FMID HQY5110 first. The first tape (cartridge) is VOLSER=QY5110.

6. Follow the steps in the program directory for HQY5110 to install the Installer.

7. Follow the steps in the program directory for HQY5110 to install the Base feature.

8. Optional: Follow the steps in the program directory for JQY5113 to install the General Data Extract feature.

9. Optional: Follow the steps in the program directory for JQY511A to install the PWS feature.

10. Optional: Follow the steps in the program directory for JQY5112 to install the Relational Extract Manager feature.

11. Optional: Follow the steps in the program directory for JQY5114 to install the Uppercase and Kanji features. JQY5114 includes NLF features JQY5114 and JQY5115.

    At this point, the functions of DataRefresher are available through the use of DataRefresher administrative dialogs and end user dialogs, DataRefresher commands, or user-initiated JCL jobs. However, using DataRefresher functions through DataRefresher OS/2 is recommended for users who prefer to use a graphical user interface.

12. Optional: Install DataRefresher OS/2. Refer to Chapter 7, "Downloading and Installing DataRefresher OS/2 (PWS) on Your Workstation" on page 77.

13. Test the communication between the host and the workstation through the APPC connection for DataRefresher.

1 Includes FMID JQY5111, Base.

2 Includes FMID JQY5115, Kanji.

Chapter 3. Preparing for Installation

Installing DataRefresher requires coordination between the host (MVS), the workstation (OS/2), and the DataRefresher product. This chapter illustrates links, and provides worksheets to help you ensure all links are addressed. Complete the worksheets before you begin the installation process.

Prerequisite Hardware and Software Check

Use the worksheets in Table 9 and Table 10 on page 14 to ensure your environment is ready for DataRefresher.

Table 9 contains a list of software that is required or optional before you install DataRefresher. Later releases of software are supported unless otherwise specified.

Table 9 (Page 1 of 2). Prerequisite and Optional Software Worksheet

Software Product	Release Level	Yes or No	Plans to Upgrade or Other Comment
MVS Software Status			
MVS/ESA	4.2		
MVS/ESA DFP	3.2		
SMP/E	1.7		
SMP/E	1.7		
Optional MVS Software			
IMS	3.1		
DB2	2.3		
HSSR	2.1		
COBOL II	3.2		
PL/1 Run or LE/370	2.3 1.3		
ISPF	3.5		
RACF	1.9.2		
OS/2 Software Status			
OS/2	2.1		
Comm. Mgr	1.11		
DB2 for OS/2	1.2		
Optional OS/2 Software			
DataHub for OS/2	1.2		
Communication Software Status			
VTAM	3.4.1		
NCP	5.3		

Table 9 (Page 2 of 2). Prerequisite and Optional Software Worksheet			
Software Product	**Release Level**	**Yes or No**	**Plans to Upgrade or Other Comment**
APPC/MVS	MVS 4.2 Feature		

Table 10 contains a check list of workstation hardware required before you install DataRefresher.

Table 10. Prerequisite Workstation Hardware Worksheet		
Requirement	**Yes or No**	**Plans to Upgrade or Other Comment**
486 processor		
16 MB RAM		
150 MB hard disk (with 20 MB free)		
SWAPPER.DAT space of 10 MB		
Connection to LAN via TR or Ethernet		
LU 2 connection configured to download large files		

Installation Worksheets

This section contains worksheets for DataRefresher installation on MVS and on the workstation. Worksheets provided are for:

- Base feature on MVS
- General Data Extract feature on MVS
- Relational Data Extract feature on MVS
- Uppercase feature on MVS
- Kanji feature on MVS
- OS/2 feature on MVS and the workstation

As you install DataRefresher, use the information from the worksheets to customize DataRefresher for your environment. You need the information from Table 11 on page 15 for all DataRefresher installations. You need the other worksheets only if you purchased the associated feature.

DataRefresher Base Feature Installation Worksheet for MVS

The worksheet in Table 11 provides information you need to install the DataRefresher Base feature.

Table 11 (Page 1 of 2). Information Required to Install the DataRefresher Base Feature on MVS

Information Requested	Installer Field Name	Default Value Supplied	Actual Value Used
High-level qualifier for DataRefresher data sets	DXTPRE DVRPRE	DVR110	
High-level qualifier for SMP CSI, log data sets	SMPPRE	DVRSMP	
High-level qualifier for DataRefresher distribution data sets	ADXTPRE ADVRPRE	DVR110	
Distribution medium for DataRefresher	DVRUNITT	3480	
Unit where DataRefresher data sets are to reside	DXTUNIT DVUNIT	SYSDA	
Volume on which DataRefresher data sets are to reside	DXTVSE DVRVOL	VOLID	
Name of the TSO Terminal monitor program	TSOINTF	IKJEFT01	
Accounting and user information for the batch jobs the installation EXEC will submit	JOBCARD	(ACCT#), ′USERID′	
MVS job class for jobs using 15 minutes or less of CPU time	CLASS15	C	
MVS job class for jobs with no limit on the CPU time	CLASSNT	E	
MVS MSGCLASS parameter for the batch jobs the installation EXEC will submit	MSGCLAS	V	
MVS MSGLEVEL parameter for the batch jobs the installation EXEC will submit	MSGLEVE	1,1	
Unit where SMP/E data sets will reside	SMPUNIT	SYSDA	
Volume where SMP/E data sets will reside	SMPVSE SMPVOL	VOLID	
Unit on which DataRefresher distribution data sets will reside	ADXUNIT DVUNIT	SYSDA	
Volume on which DataRefresher distribution data sets will reside	ADXVSE ADVRVOL	VOLID	
High-level qualifier of ISPF program product	ISPPRE	ISP	
High-level qualifier of PDF program product	ISRPRE	ISR	
Volume for temporary data set required during SMP/E processing	TLIBVOL	VOLID	

Table 11 (Page 2 of 2). Information Required to Install the DataRefresher Base Feature on MVS			
Information Requested	**Installer Field Name**	**Default Value Supplied**	**Actual Value Used**
Low-level qualifier of CLIST data set allocated to SYSPROC	CLSTLIB	DVRCLIBE	
Low-level qualifier of REXX data set allocated to SYSPROC	REXXLIB	REXX.EXEC	
Fully qualified name of output data set for installation verification of the DRU	DRUOUT	DVR110.DRUIVP.DATA	
Migration choice—Y if migrating from DXT V2R4	MIG	N	
Unit of CLIST data set allocated to SYSPROC	CLTUNIT	SYSDA	
Volume ID of CLIST data set allocated to SYSPROC	CLSTVSE	VOLID	
Unit of REXX data set allocated to SYSPROC	REXUNIT	SYSDA	
Volume of REXX data set allocated to SYSPROC	REXXVSE	VOLID	
Unit for the output data set for the DRU IVP	DRUNIT	SYSDA	
Volume for the output data set for the DRU IVP	DRUVSE	VOLID	
Node ID of machine where DataRefresher is being installed	NODEID	NODEID	
Low-level qualifiers for ISPF and PDF program product libraries	ISPLOAD ISRLOAD ISPMSGS ISRMSGS ISPPALS ISRPALS ISPSKEL ISRSKEL ISPTABL ISRTABL BASEFJCL UPPEFJCL KANJFJCL	ISPLOAD ISRLOAD ISPMLIB ISRMLIB ISPPLIB ISRPLIB ISPSLIB ISRSLIB ISPTLIB ISRTLIB JCLBASE1 JCLUPPE1 JCLKANJ1	

General Data Extract Feature Installation Worksheet for MVS

The worksheet in Table 12 provides information you need to install the General Data Extract feature.

Table 12. Information Required to Install the General Data Extract Feature on MVS

Information Requested	Installer Field Name	Default Value Supplied	Actual Value Used
Low-level qualifier of data set for sample data	SAMPPRE	DVR.SAMPDATA	
Low-level qualifier for DataRefresher EXTLIB		EXTLIB	
Low-level qualifier for DataRefresher FDTLIB sample data		FDTLIB	
Does the installation require exit routines written in PL/I?		N	
Does the installation require exit routines written in COBOL?		N	
PL/I libraries for compiling and linking	PLIBASE SIBMBSE	SYS1.PLIBASE SYS1.SIBMBSE	
PL/I run-time libraries	PLILINK SIBMLNK	SYS1.PLILINK SYS1.SIBMSE	
High-level qualifier of IMS/VS program product libraries	IMSVS	IMSVS	
High-level qualifier of Data Dictionary program product libraries	DBDCPRE	IMSVS.DD	
COBOL library	COBLIB	SYS1.COB2LIB	
Block size of DBD and PSB object libraries	DBDPSBB	3120	
LE/370 Link Edit library	SCEELKED	SYS1.SCEELKED	
LE/370 Run-time library	SCEERUN	SYS1.SCEERUN	
Prepare UIM and DEM to use exits	EXITS	None	
Use PL/I or LE/370 for SAP	SAPUSE	PLI	
Load library for prepared UIM and DEM	PLICOB	DVR110.PLICOB.DVRLOAD	

Relational Data Extract Feature Installation Worksheet for MVS

The worksheet in Table 13 provides information you need to install the Relational Data Extract feature.

Table 13. Information Required to Install the DataRefresher Relational Data Extract Feature on MVS

Information Requested	Installer Field Name	Default Value Supplied	Actual Value Used
Storage group for DB2 sample data	STOGROP	DVR1STBG	
Name of DB2 database for sample data	DATABSE	DVR1STBB	
Name of DB2 table space for sample data	TBSPACE	DVR1STBT	
Names for three tables for sample data	ORGANL STAFTB PROJTB	DVR.DB2ORG DVR.DB2STAFF DVR.DB2PROJ	
Creator	CREATOR	DVR	
DB2 run-time library	DB2LOAD	DSN230.DSNLOAD	
DB2 samples run-time library	DB2RLIB	DSN230.RUNLIB.LOAD	
DSN subsystem	DB2SSID	DSN	
DB2 sample dynamic SQL program	DSNTIAD	DSNTIAD	
REM plan	REMPLAN	DVR110	
SYSOUT class for Internal Reader	INTRDR	*	
DB2 plan	DSNPLAN DB2PLAN	DSNTIAD DSNII/T23	
Volume for creating DB2 storage group	DB2VSE	VOLID	
Catalog for creating DB2 storage group	VCAT	DSNV	

Uppercase and Kanji Features Installation Worksheets for MVS

This section provides two worksheets.

Uppercase Feature

The worksheet in Table 14 provides information you need to install the Uppercase feature.

Table 14. Information Required to Install the DataRefresher Uppercase Feature on MVS

Information Requested	**Installer Field Name**	**Default Value Supplied**	**Actual Value Used**
Name of CLIST library allocated to SYSPROC	CLSTLBU	DVRCLIBU	

Kanji Feature

The worksheet in Table 15 provides information you need to install the Kanji feature.

Table 15. Information Required to Install the DataRefresher Kanji Feature on MVS

Information requested	**Installer field name**	**Default Value Supplied**	**Actual Value Used**
Name of CLIST library allocated to SYSPROC	CLSTLBK	DVRCLIBK	

OS/2 Feature Installation Worksheet for MVS and OS/2

The worksheet in Table 16 provides information you need to install the DataRefresher OS/2 feature.

Table 16 (Page 1 of 2). Information Required to Install the DataRefresher OS/2 Feature on MVS and OS/2

Value	Description	Example	Actual Value
Host Values			
Symbolic destination name	The name identifying the data sets on the MVS host. This name matches: • The symbolic destination name of the host in the DataRefresher database • The Transaction Program (TP) name for the workstation	WINMVS3	
Database host name	The name identifying the host in the DataRefresher database. This name matches: • The symbolic destination name • The Transaction Program (TP) name for the workstation	WINMVS3	
High-Level qualifier (HLQ)	The high-level qualifier for the group of data sets where the DataRefresher OS/2 code is stored on the MVS host system.	DVR110	
Transaction program (TP) name for MVS	The name used to describe the transaction program (TP) name used on the MVS host system.	DVR110.DRIVER	
MVS user ID	The user ID used to get access to the MVS host system.	USERJO	
MVS password	The password used to get access to the MVS host system.	mypass	
LAN Values			
Link name	A unique name you create to identify the link between your workstation and the MVS host system.	HOST0001	
LAN destination address	The address of the communications controller on the token ring. This address is defined in the NCP program for the controller.	400074511092	
DB2 server name	The name of the DB2 server workstation where the DataRefresher database is installed. This server applies if you install DataRefresher on a LAN so it can be accessed by several workstations.	SERVER1	
Local Environment			
Network ID	The ID of the SNA network to which you are connected. Your network administrator can provide this information.	GBIBMIG	
Node name	The name that identifies the node within the network to which your workstation is attached. This name is sometimes called the control point.	IG2R060E	

Table 16 (Page 2 of 2). Information Required to Install the DataRefresher OS/2 Feature on MVS and OS/2			
Value	**Description**	**Example**	**Actual Value**
Node alias name	The alias for the local node name. You can specify the actual local node name as the alias.	IG2R060E	
Node ID	The values that identify the node within the network to which your workstation is attached. These values are the IDBLK and IDNUM parameters in the VTAM (VBUILD) definition for the workstation.	05D 3060E	
Logical unit (LU) name	The name identifying where the logical unit, in this case your workstation, is located on the node on the network. This name is defined in the VTAM (VBUILD) definition.	IG2S1E42	
Logical unit (LU) alias name	The alias for the logical unit. You can specify the actual logical unit name as the alias.	IG2S1E42	
Workstation drive and directory	The drive and directory on the workstation where DataRefresher will be installed.	C:\DVRDIR	
Partner Environment			
Network ID	The ID of the SNA network where the MVS host system is located. Your network administrator can provide this information.	GBIBMPN	
Node name	The name identifying the node within the network to which the MVS host system is attached. This node is sometimes called the control point and is defined by the SSCPNAME parameter in the NCP program.	IGJYHJ	
Node alias name	The alias for the node name. You can specify the actual node name as the alias.	IGJYHJ	
Node ID	The values identifying the node within the network to which the MVS host system is attached. These values are the IDBLK and IDNUM parameters in the VTAM (VBUILD) definition.	05C 3050F	
Logical unit (LU) name	The name identifying where the APPC/MVS logical unit is located on the node on the network. This name is defined in the VTAM (VBUILD) definition.	IGNZAPPC	
Logical unit (LU) alias name	The alias for the logical unit name. You can specify the actual logical unit name as the alias.	IGNZAPPC	

Chapter 4. How the Installer and SMP/E Work

This chapter describes how you use the DataRefresher Installer and SMP/E to install DataRefresher on MVS.

How the Installer Works

Use the DataRefresher Installer to install DataRefresher. The Installer is an ISPF application that helps prevent DataRefresher from inadvertently submitting the jobs in the wrong order. It submits the next job only when the current job completes successfully.

The DataRefresher Installer provides a series of panels into which you enter installation parameters. Based on the information you supply, the tool automatically builds the JCL jobs necessary to install the DataRefresher Base feature and your other DataRefresher features.

Some of the information required to install DataRefresher concerns existing resources and products on the host system. For example, the DataRefresher Installer prompts you to enter the unit and volume IDs in which you want to unload DataRefresher data sets. Your systems programmers and database administrators should be able to provide this information.

The Installer also requests information relating specifically to the new installation of DataRefresher. For example, you need to choose names for the data sets allocated for DataRefresher and make some decisions about the installation.

To ensure that you have all the information necessary to install DataRefresher and its features on MVS, complete the worksheets in "Installation Worksheets" on page 14.

For full installation procedures, refer to the DataRefresher program directory.

How System Modification Program Extended (SMP/E) Works

System Modification Program Extended (SMP/E) is the basic tool for installing software changes in MVS. The DataRefresher Installer calls SMP/E as part of the DataRefresher installation process. During installation, the SMP/E controls software changes at the element (module or macro) level by:

- Selecting the proper levels of elements to be installed from a large number of potential changes
- Calling system utility programs to accomplish the installation
- Maintaining records of the installed changes and of the function and service level of every element in the system

This precise control of element levels helps to protect system integrity.

SMP/E installs the elements in two types of libraries:

Target libraries
Contain the executable code that makes up the running system.

Distribution libraries
Contain the master copies of all elements for a system. SMP/E uses the distribution libraries:

- As input to the system process that builds production libraries for a new product
- For backup if it is necessary to replace or update part of a running product

SMP/E Commands

After allocating space for your libraries, the DataRefresher Installer uses SMP/E to install DataRefresher. DataRefresher supplies the control statements necessary to allocate space for the libraries, and then runs the following SMP/E commands:

RECEIVE
Directs SMP/E to read the elements from the IBM product tape, determine which elements are applicable to your system, and store those elements in a temporary data set.

APPLY
Directs SMP/E to install the elements in the appropriate target libraries (TLIBs). Before SMP/E installs the elements in the distribution libraries (DLIBs), it tests the elements installed in the target libraries.

ACCEPT
Approves an element for SMP/E installation in the distribution library. The element is now installed as part of DataRefresher.

The SMP/E Sample Environment

DataRefresher provides a sample SMP/E environment that you can use to install the DataRefresher Base feature and other features for testing. The JCL in file DVREJBAL creates the target and distribution libraries for DataRefresher. The same libraries are used for the DataRefresher Base feature and other features.

The sample SMP/E environment creates a consolidated software inventory (CSI) data set called SMPCSI. The SMPCSI data set is a keyed VSAM data set that is divided logically into *zones* that describe the various subsystems and products in the system.

SMP/E Zones

There are three zones into which the SMPCSI data set is divided:

Global zone

- Describes associated target and distribution zones
- Describes system modifications (SYSMODs) waiting to be installed
- Describes system utilities that SMP/E uses to install SYSMODs

Target zone (DVRT110)

- Describes the structure and content of a set of target libraries
- Names the related distribution zone

Distribution zone (DVRD110)

- Describes the structure and content of a set of distribution libraries
- Names the related target zone

Figure 5 shows the relationships between the SMP/E zones and libraries.

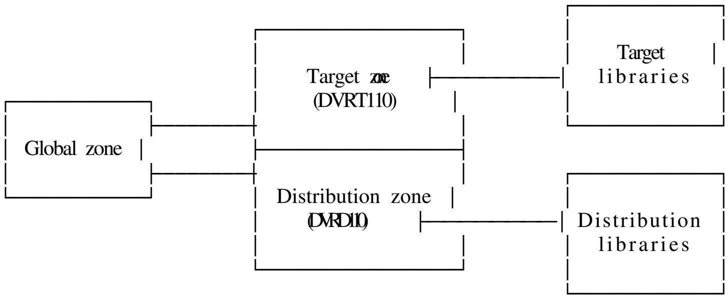

Figure 5. SMP/E Zones and Libraries

If DB2 is installed, you can choose to install DataRefresher in its SMPCSI data set and zones, or create DataRefresher zones within its SMPCSI data set.

For information on the DASD space required for the SMP/E data sets, see the DataRefresher program directory.

Sharing SMP/E Data Sets between DataRefresher and Data Extract

The SMP/E jobs provided with DataRefresher allow you to support Data Extract (DXT) along with DataRefresher. DataRefresher Version 1 can be installed in the same SMP/E environment as any release of DXT, without deleting or superseding DXT. However, a single SMP/E *zone* cannot be used by both DataRefresher and DXT. A single SMP/E zone can record only one version of DXT or DataRefresher.

After DataRefresher Version 1 is successfully installed and in use, you can delete DXT. An example of an SMP/E job to delete DXT Version 2 Releases 4 and 5 is available in the DVR110.DVRSAMPE library.

If you have DXT installed, first make a backup copy of your SMP/E data sets if you want to save them. After installation, you can delete the old SMP/E data sets.

Distribution Libraries for DataRefresher

The distribution libraries for the DataRefresher Base feature and other features are shown in Table 17.

Table 17. DataRefresher Distribution Libraries

Distribution Libraries	Contents
DVR110.ADVRMACE	Interface parts for exit routines
DVR110.ADVRMODS	An individual object module for every DataRefresher module
DVR110.ADVRDBRM	The database request module (DBRM) used by DataRefresher
DVR110.ADVRPMSE	ISPF panels, messages, and skeletons for running the DataRefresher dialogs
DVR110.ADVRPWSE	Workstation files for downloading from the host
DVR110.ADVRINST	Installer feature files
DVR110.ADVRTABL	Installer feature table files

See the DataRefresher program directory for DASD space requirements for these distribution libraries.

Target Libraries for DataRefresher

The target libraries for the DataRefresher Base feature and other features are shown in Table 18.

Table 18. DataRefresher Target Libraries

Target Libraries	Contents
DVR110.DVRSAMPE	Data files, control files, and load JCL for sample data, online commands, and exits, as well as verification procedures and cataloged procedures used to verify, allocate, and run the DataRefresher product
DVR110.DVRLOAD	The load modules necessary to run DataRefresher Base feature and other features
DVR110.DVRDBRM	The database request module (DBRM) used by DataRefresher
DVR110.DVRPLIBE	ISPF panels for running the DataRefresher dialogs
DVR110.DVRMLIBE	ISPF messages for running the DataRefresher dialogs
DVR110.DVRSLIBE	ISPF skeletons for running the DataRefresher dialogs
DVR110.DVRJEDIE	Model extract requests, model data description requests, and model run-time JCL
DVR110.DVRTADME	The application command table, Master Index Table (MIT) information, and the sample data
DVR110.DVRTLIBE	Shared objects
DVR110.DVRINTER	REXX execs and sample exit routines
DVR110.DVRINTAB	Install feature tables
DVR110.DVRINCFB	CLIST DS to be copied to DVRINCLS
DVR110.DVRINSKL	Skeleton JCL updated by Installer and written to FTO
DVR110.DVRINPAN	Panels
DVR110.DVRINMSG	Messages
DVR110.DVRINFTO	Customized JCL updated by Installer and written to FTO

See the DataRefresher program directory for DASD space requirements for these target libraries.

Chapter 5. Installing DataRefresher on MVS

This chapter provides an example of a DataRefresher installation. The example is subdivided into phases and provides detailed steps for each phase of the installation process.

The order in which you install product software is important. Install the Installer first. Next install the Base feature and customize it. Also ensure that you:

- Install the General Data Extract (GDE) feature (JQY5113) before you attempt to install the OS/2 (PWS) feature (JQY511A and JQY511B).
- Complete SMP/E (RECEIVE, APPLY and ACCEPT) for each feature you install, before customizing the feature.
- Customize each feature before moving on to the next feature.

This chapter:

- Describes what you must do before installing DataRefresher.
- Describes how to install the DataRefresher Installer.
- Describes how to install each DataRefresher feature.
- Summarizes the jobs you run to install DataRefresher.
- Provides additional installation tips and information.
- Describes the Installer control table and errors that might occur when you use the Installer.

Preparing for Installation

Before installing DataRefresher, complete the following steps.

1. Determine the DataRefresher features required for your environment.
2. Order the product, DataRefresher Version 1 (IBM Program Number 5696-703) with the features you require. For example:

Feature Number	Feature
5862	Installer and Base Feature
5802	General Data Extract
5852	PWS
5810	PWS - Japanese
5812	Relational Extract Manager
5963	Uppercase NLF
5342	Kanji NLF

3. Obtain DataRefresher documentation. Make sure your collection of documentation includes:
   - *DataRefresher Administration Guide*, (SH19-6995-00)
   - *DataRefresher OS/2 User's Guide*, (SH19-6997-00)
   - Program directories:
     - Installer and Base feature (HQY5110 and JQY5111)
     - General Data Extract feature (JQY5113)

– PWS features (JQY511A and JQY511B)
– Relational Extract Manager (JQY5112)
– Uppercase and Kanji features (JQY5114 and JQY5115)

One copy of the DataRefresher library publications and DataRefresher program directories are shipped to you, along with the product cartridges (tapes).

The order in which you install and customize product features is important. Figure 6 shows the order in which features must be installed and customized. Note that you must install GDE, before you can install the PWS features.

```
---------------------------------------------
|                INSTALLER                  |
|                (HQY5110)                  |
---------------------------------------------
|                  BASE                     |
|                (JQY5111)                  |
---------------------------------------------
|   GDE   | |   REM   | |   UCF   | |  KANJI  |
|(JQY5113)| |(JQY5112)| |(JQY5114)| |(JQY5115)|
|---------|  --------    ----------  ---------
|   PWS   |
|(JQY511A)|
| English |
|---------|
|  PWS-J  |
|(JQY511B)|
| KANJI   |
-----------
```

Figure 6. Order in Which Features Should Be Installed

It is recommended that you install *and customize* each feature before proceeding to the next feature.

Installing the Installer

Install the Installer (HQY5110) first. After the Installer is installed, you can use it to install the DataRefresher Base feature (JQY5111) and other DataRefresher features.

Refer to the program directory for Installer and Base as you complete the following steps. To install the Installer:

1. Create a job to retrieve installation procedures and retrieve all sample JCL required to install the Installer.

   a. Enter the sample job, DVREJBJA, as described in the program directory.

   b. When the job completes, verify that six members were copied into the PDS named DVR110.INSTALL.

   The six members are:

   DVREJBIA Allocates space for the distribution and target libraries, and initializes the SMP/E environment if required.

DVREJBID Allocates the data sets and libraries and executes SMP/E. This member is used in DVREJBIR, DVREJBIP and DVREJBIC jobs.

DVREJBIR Performs SMP/E RECEIVE for HQY5110.

DVREJBIP Performs SMP/E APPLY for HQY5110.

DVREJBIC Performs SMP/E ACCEPT for HQY5110.

DVREJBIV Sets up and copies all members from DVRINCFB to DVRINCLS.

2. If necessary, modify some of the parameters used in the six members for your local installation environment. Table 19 shows parameter values that you might change.

   Make changes globally, not line by line, to ensure the change is applied consistently to all applicable parameters.

Table 19. Installer Parameters

Parameters	Default Values	Value Change	Note
DVRPRE	DVR110	SHL110	Data set qualifier
ADVRPRE	DVR110	SHL110	Data set qualifier
SMPPRE	DVRSMP	SHLSMP	SMP
DVRVOL	DVRV01	USER11	DASD
ADVRVOL	DVRV01	USER11	DASD
SMPVOL	DVRV01	USER11	DASD

3. Modify DVREJBIA to allocate the target and distribution libraries in SMP/E. In DVREJBIA, the DD statement for ZPOOL specifies DSN=SYS1.MACLIB(GIMZPOOL). Make sure the DD statement applies to your environment or change the DD statement to match your local environment.

4. Run DVREJBIA.

5. Modify and run DVREJBIR to complete SMP/E RECEIVE for the Installer.

6. Modify and run DVREJBIP to complete SMP/E APPLY for the Installer.

7. Modify and run DVREJBIC to complete SMP/E ACCEPT for the Installer.

8. Modify and run DVREJBIV to copy the CLISTs from DVRINCFB to DVRINCLS. CLISTs are allocated to SYSPROC, therefore you must determine if DVRINCLS should be in fixed block (FB) or variable block (VB) format.

   Most installations use FB. However, the sample in the DVREJBIV job uses VB. If you use FB, change the values in the SPACE and DCB fields to FB format.

9. Run the CLIST DVR110.DVRINCLS(DVRXXITL) to invoke the Installer. DVR110 is the high-level qualifier used in the sample.

Using the Installer to Install the Base Feature

Refer to the program directory for Installer and Base as you complete the following task steps.

To install the Base feature (JQY5111):

1. Invoke the Installer. Panel DVREPICH appears after the copyright panel is displayed.
2. Select **Option 1** to execute SMP/E job steps for the Base feature and press Enter. Panel DVREPI01 (Install Selection Menu Panel) appears.
3. Select **SMP/E (receive apply accept)** and press Enter. Panel DVREPI02 (SMP/E Selection Menu) appears.
4. Select **SMP/E Base Product** *only* and press Enter. Panel DVREPIV2 (SMP/E Variable Panel) appears.
5. Update the variables for the required fields and press Enter. Panel DVREPIS2 (SMP/E Summary Status Panel) appears.
6. Select, tailor, and submit jobs for **File allocation for DataRefresher product** and **SMP/E receive apply accept** for **Base**.
   a. Use the cursor to select a job.
   b. Press F5 to edit a selected job.
   c. Repeat steps 6a through 6b until all jobs listed under "Selected for Execution" are edited.
   d. Press F7 to submit jobs.
   e. After submitted jobs complete successfully, press F3 to exit and return to DVREPICH.
7. Select **Option 1**, Install and Customize and press Enter. Panel DVREPI01 appears.
8. Select **DataRefresher Base Product** and press Enter. Panel DVREPIV3 (BASE Variable Panel) appears.
9. Update the variables for the required fields. The low-level qualifier for the CLIST library is DVRCLIBE. Press Enter. Panel DVREPIS3 (BASE Summary Status) appears.
10. Check the following items before proceeding:
    a. Review the CLIST members DVRELLGN, DVRELNRL, and DVRELDXA in DVR110.DVRSAMPE, especially the parameters in the first two lines for each member (for example, DXTPRE and DXTVOL). You can make changes to the members of DVR110.DVRSAMPE now or make changes to the members of DVR110.DVRCLIBE after DVR110.DVRCLIBE is created.
    b. Review the record format for the CLISTs.
       - If your installation uses variable block (VB) format, use the job file DVREJBVC, provided by the Installer.
       - If your installation uses fixed block (FB) format, modify the job file DVREJBVC before submitting it.

         Change the SPACE and DCB parameters and change `SYSIN DD DSN = DVR110.DVRSAMPE(DVRECBVB),DISP=SHR` to `SYSIN DD DUMMY`.

Note:

- If you modify the DVREJBVC, you *must* use the SUBMIT command within the edit session to submit the job. (If you do not use the SUBMIT command, the Installer submits the default job, not the modified job.)
- If you do not modify the job, you can either use the SUBMIT command within the edit session or proceed to step 11 without submitting DVREJBVC immediately. If you proceed to step 11 without submitting DVREJBVC, DVREJBVC is submitted with other jobs when you complete step 13.
- If you press F7 now, the DVREJBVC job and the jobs listed in step 12 run.

11. Select the default job for **Copy CLIST/REXX progs to SYSPROC libraries**.
12. Select and, if required, tailor the other three jobs listed in Panel DVREPIS3:
    - **Enroll the Installer as a DataRefresher user**
    - **Create sample DVRTADME with dummy environment**
    - **Verify the Data Reformat Utility**
13. Use F7 to submit the jobs from Panel DVREPIS3.
14. When the jobs complete successfully, press F3 to return to Panel DVREPICH (Install Definition panel).
15. Press F3 again to exit the Installer.
16. Check CLISTs in DVR110.DVRCLIBE again. Make sure changes were made.
17. Optional: Make the DataRefresher dialogs an ISPF application. Refer to the *DataRefresher Administration Guide*, Chapter 17.
18. Optional: Verify DataRefresher dialogs are functioning correctly.

Using the Installer to Install the GDE Feature (JQY5113)

Refer to the program directory for GDE as you complete the following task steps.

To install the GDE feature (JQY5113):

1. Invoke the Installer.
2. Select **Option 1** from the DVREPICH panel and press Enter. The DVREPI01 panel appears.
3. Select **SMP/E**. The DVREPI02 panel appears.
4. Select **SMP/E General Data Extract Feature**.
5. Tailor and submit the SMP/E jobs.
6. Wait until the SMP/E jobs are complete.
7. Press F3 to exit the Installer.
8. Optional: Change JES2 to increase the number of internal readers.
9. Optional: Change RACF to allow for FDTLIB and UIM authorization.
10. Invoke the Installer again.
11. Select **Option 1** installation type in panel DVREPICH and press Enter. Panel DVREPI01 appears.

12. Select the **General Data Extract Feature** and press Enter. Panel DVREPI05 appears.
13. Select the GDE components that you want to install:
    - General Extract Feature (including DEM)
    - SAP
    - IMS
    - DAP (not supported by PWS)

    You can select and process components one at a time, or select and process several components at one time.
14. Press Enter. The DVREPIV5 panel appears.
15. Tailor the variables related to the GDE feature and press Enter. The DVREPIS5 panel appears.
16. Review all jobs listed under "Selected for Execution."
    a. Edit jobs to meet your environment requirements.
    b. Edit the DVREJPCL file. It contains JCL errors. Two SYSLIN DD statements are missing UNIT parameters.
       1) Add the unit parameters.
       2) Use the SUBMIT command within the edit session to submit the corrected DVREJPCL file.
    c. Correct the Installer control table if you see RC=0684 from DVRU0000 after running job DVREJSI2 and if the Installer flags it as an error.

       In the Installer control table, change status from 3 to 1. Refer to "Using the Installer Control Table and Determining Errors" on page 37 for information on the Installer control table.
17. Run all jobs listed under "Selected for Execution."
18. Press F3 to exit the Installer when all jobs complete successfully.
19. Optional: Exercise the SAP Dialog flow in an ISPF session to create DXTPSB if you installed the SAP in step 13.
20. Optional: Recompile exit routines if you migrated from DXT.

Using the Installer to Install the PWS Feature on MVS

Refer to the program directory for PWS as you complete the following steps.

If you intend to install the PWS Japanese feature (JQY511B), you must install PWS English (JQY511A) first.

To install the PWS feature:

1. Invoke the Installer.
2. Select **Option 1** from the DVREPICH panel and press Enter. The DVREPI01 panel appears.
3. Select **SMP/E**.
4. Tailor and submit the SMP/E jobs.
5. Wait until the SMP/E jobs complete. Return to the DVREPI01 panel.

6. Select **DataRefresher OS/2 (PWS)** and press Enter. Panel DVREPIV6 (PWS Variable Panel) appears.
7. Complete the **APPC/MVS Load Library** field and press Enter. Panel DVREPIS8 appears.
8. Select, tailor, and submit the jobs listed in DVREPIS8.
9. Exit DVREPIS8 when the jobs complete successfully and return to the DVREPI01 panel.
10. Optional: Install JQY511B, if desired. Repeat the same sequence of steps as listed for JQY511A.

Using the Installer to Install the RDE (REM) Feature

Refer to the program directory for REM as you complete the following steps.

To install the REM feature (JQY5112):

1. Invoke the Installer.
2. Select **Option 1** from the DVREPICH panel and press Enter. The DVREPI01 panel appears.
3. Select **SMP/E**. The DVREPI02 panel appears.
4. Select **SMP/E Relational Data Extract Feature**.
5. Tailor and submit the SMP/E jobs.
6. Wait until the SMP/E jobs are complete.
7. Select **Relational Data Extract Feature (REM)** from the DVREPI01 panel. The DVREPIV4 panel appears.
8. Tailor the variables in the DVREPIV4 panel.
9. Submit the REM jobs and wait until they complete.

Using the Installer to Install the Uppercase and Kanji Features

Refer to the program directory for Uppercase and Kanji features as you complete the following steps.

To install the National Language features (JQY5114, JQY5115):

1. Invoke the Installer.
2. Select **Option 1** from the DVREPICH panel and press Enter. The DVREPI01 panel appears.
3. Select **SMP/E**. The DVREPI02 panel appears.
4. Select **SMP/E Uppercase Feature** and **SMP/E Japanese National Language Feature** from the DVREPI02 panel.
5. Tailor and submit the SMP/E jobs.
6. Wait until the SMP/E jobs are complete.
7. Select **Uppercase Feature** and **Japanese National Language Feature** from the DVREPI01 panel.
8. Tailor the variables related to the National Language features. If your installation requires FB for SYSPROC, modify the jobs presented by the Installer.

9. Submit the jobs directly from the Edit panel (F5) after you finish modifications.

   If you exit the edit session without running the SUBMIT command and try to use F7 to submit the job, the Installer ignores any changes you made to the job and submits the default jobs.

10. Exit when the job completes successfully.

Next Steps (If You Want DataRefresher OS/2)

When you finish installing DataRefresher features for the Base, GDE, and PWS, you can complete the tasks needed to install DataRefresher on a workstation. If you want to use DataRefresher on a workstation, you must:

1. Configure APPC for DataRefresher. Refer to Chapter 6, "Configuring APPC for DataRefresher" on page 40.

2. Download DataRefresher OS/2 (PWS) from MVS to the workstation and install it in OS/2. Refer to Chapter 7, "Downloading and Installing DataRefresher OS/2 (PWS) on Your Workstation" on page 77.

If you do *not* want to use DataRefresher on a workstation, you do not configure APPC or download DataRefresher OS/2.

Summary of DataRefresher Jobs

Table 20 summarizes the jobs you run when installing DataRefresher.

Table 20 (Page 1 of 3). Summary of Installation Jobs

Job Name	Job Function	Notes
HQY5110 Installer		
DVREJBJA	Obtain installation files from tape or cartridge to install the Installer	Type in and create sample job. Run job to get six members into DVR110.INSTALL.
DVREJBIA	DLIB/TLIB space allocation SMP/E CSI setup	Check PROC parameters and ZPOOL. Check SMP/E global zone.
DVREJBID	SMP/E a PROC	Used in DVREJBxx (xx is IR,IP, or IC).
DVREJBIR	SMP/E RECEIVE	VOL=SER=QY5110
DVREJBIP	SMP/E APPLY	SELECT(HQY5110)
DVREJBIC	SMP/E ACCEPT	SELECT(HQY5110)
DVREJBIV	Copy 11 members from DVRINCFB to DVRINCLS	Check variable block versus fixed block. DVRXXITL starts the Installer.
JQY5111 Base		
DVREJBAL	File allocation	Check FMIDs and SMP/E.
DVREJBRC	SMP/E RECEIVE	VOL=SER=QY5110 SELECT(JQY5111)
DVREJBAP	SMP/E APPLY	RC=4 GIM43401W is OK. DVRXSCxx is NOT SEL (xx is DA,LD,LX,PA, or PF)
DVREJBAC	SMP/E ACCEPT	RC=0
DVREJBVC	Copy CLIST/REXX	Check variable block versus fixed block. Use SUBMIT instead of F7 if you modify the default job. CLIST library is DVRCLIBE.
DVREJNRL	Enroll the user	EXEC *hlq*.DVRINCLS(DVRELNRO)
DVREJSB1	Create DVRTADME sample data	Needed for Dialogs IVP.

Table 20 (Page 2 of 3). Summary of Installation Jobs		
Job Name	**Job Function**	**Notes**
DVREJBV1	Verify Data Reformat utility	DVRR0025 in DXTPRINT
JQY5113 GDE		
DVREJGRC	SMP/E RECEIVE	VOL=SER=QY5113, SELECT(JQY5113)
DVREJGAP	SMP/E APPLY	RC=4 GIM43401W (DVRXOCEE) is OK.
DVREJGAC	SMP/E ACCEPT	RC=0
DVREJSP1	DEM file allocation	RC=0
DVREJSP2	DEM MIT update	RC=0
DVREJDV1	DEM VSAM Extract IVP	IVP1
DVREJPCL	DEM link edit for PLI/COBOL	UNIT missing for SYSLIN—JCL errors in STEP01 and STEP03. In STEP01 and STEP03 RC=4 is OK. Use SUBMIT if needed.
DVREJDK1	SAP link edit DVRK0000	SAP dialogs
DVREJDJ1	SAP link edit DVRJ0000	SAP command generator
DVREKJDA	SAP IVP for IMS	Check JCL. TEMPTAB should be DISP=(NEW,CATLG). Use all uppercase when modifying JCL.
DVREKJFA	SAP IVP for VSAM and PSDS	Check JCL. Use all uppercase when modifying JCL.
DVREJSI1	IMS load HSAM and HISAM sample	Check DBDGEN and PSBGEN procedures.
DVREJSI2	IMS update MIT	Correct Installer control file DVRXCCTL so that RC=0684 of the Step 2 DVRU0107 message is not logged as a JCL error.
DVREJDV2	IMS extract IVP	IVP2
DVREJDL1	DAP Link Edit DVRY0000	Check PGMLIB.
DVREJDV3	DAP IVP	Use DBDIMSBV if overlay. Use DBDIMSB if non-overlay.
JQY511A OS/2 (PWS)		
DVREJPAL	File allocation DR OS/2	ADVRPWSE DVRPWSE; SMP/E
DVREJPRC	SMP/E RECEIVE	RC=0; SELECT(JQY511A)
DVREJPAP	SMP/E APPLY PWS	RC=4; NOT SEL is OK.
DVREJPAC	SMP/E ACCEPT	RC=0; NOT SEL is OK.
DVREJPL1	Link Edit DVRP0000	With APPC
DVREJPL2	Link Edit DVRS0000	With APPC
DVREJPCY	Copy members in DVRPWSE	Five members copied.
JQY511B PWS-J		
DVRKJPAL	File allocation OS/2 Kanji	ADVRPWSK DVRPWSK; SMP/E
DVREJPKR	SMP/E RECEIVE	RC=0
DVREJPKA	SMP/E APPLY	RC=0
DVREJPKC	SMP/E ACCEPT	RC=0
DVRKJPCY	Copy members in DVRPWSK	Copy DVRKBEIL to INSTALLK.
JQY5112 REM		
DVREJRRC	SMP/E RECEIVE	RC=0
DVREJRAP	SMP/E APPLY	RC=0; NOT SEL is OK
DVREJRAC	SMP/E ACCEPT	RC=0; NOT SEL is OK
DVREJRPR	Bind REM to DB2	RC=0
DVREJSD1	DB2 sample table	RC=0
DVREJSD2	DB2 data & MIT update	RC=0
JQY5114 UCF		

Table 20 (Page 3 of 3). Summary of Installation Jobs		
Job Name	**Job Function**	**Notes**
DVRUJBAL	File allocation	Check UNIT= for DVRSAMPU.
DVREJURC	SMP/E RECEIVE	RC=0
DVREJUAP	SMP/E APPLY	RC=4
DVREJUAC	SMP/E ACCEPT	RC=0
DVRUJBVC	Copy CLISTs	Check variable block versus fixed block. CLIST library is DVRCLIBU.
DVRUJNRL	Enroll UCF user	DVRINCLS(DVRULNRO)
JQY5115 NLF		
DVRKJBAL	File allocation	DLIB/TLIB Kanji; SMP/E
DVREJKRC	SMP/E RECEIVE	RC=0
DVREJKAP	SMP/E APPLY	RC=4
DVREJKAC	SMP/E ACCEPT	RC=0
DVRKJBVC	Copy CLISTs	Check variable block versus fixed block. CLIST library is DVRCLIBK. Use SUBMIT if needed.
DVRKJNRL	Enroll Kanji user	DVRINCLS(DVRULNRO)

Installation Tips

This section lists factors you should take into consideration during the installation process.

Data Set Naming Convention for Installer Generated Jobs

The data set naming convention used in your organization might require your data set names to be different than the names used in the JCL jobs of the Installer.

Levels of High-Level Qualifiers

High-level qualifiers for data sets can include more than one level. For example, an installation might use a high-level qualifier of ISP.V3R5M0, which consists of two levels, instead of ISP, which consists of one level.

Record Format

The record format (FB or VB) affects the SYSPROC concatenation. Most installations use FB. Examples for copying to the SYSPROC concatenation, shown in the program directory and in the Installer, are for FB to VB. When you modify those jobs to copy from FB to FB, make sure you modify the parameters associated with the data sets in the DD statements.

If the existing SYSPROC concatenation uses FB and you use the jobs provided by the Installer without modifying the record format, the Installer copies CLISTs and execs but you will have mixed record formats (RECFM=FB and RECFM=VB) and will receive an error message when you try to use SYSPROC.

Installer Editor Status Line

When you use F5 to edit a job file in the Installer, the name of the selected file is shown on the status line.

User ID as Job Name

The Installer uses the user ID as a job name. If you want to correlate the job printouts with the tasks performed, modify the names on the job cards.

Character Length of Job Names

Job names in the job cards of sample job files are seven characters or less in length. The Installer adds one additional character to each job name. You can change the job names in the job cards, using up to eight characters, with no negative repercussions. If the job names you create are less than eight characters, the Installer adds one character to the end of your job names.

Initiators Needed to Submit a Job

You must have at least two initiators available for the job class under which submitted job files run.

APF Authorization Required

If you do not obtain the APF authorization for your designated load libraries (the default load libraries are DVR110.DVRLOAD and DVR110.DVRSLOAD), an authorization failure message appears during some customization steps.

Changing Installer Job Parameters

If you need to change the values of parameters after setting them initially during installation, re-enter the Installer and make changes using the Installer panels. If you cannot make the change you want using the panels, edit DVR110.DVRINTAB(DVRXCVAR). When you finish modifying the file, re-enter the Installer and verify that the new values replaced the old ones.

Submitting More Than One Job

All jobs marked “Selected for Execution” in the Installer panel are executed in logical sequence when you press F7 to submit jobs. Make sure all jobs are properly edited, prepared, and ready for execution before pressing F7. After you submit the jobs, the execution runs nonstop until all jobs are complete or a problem occurs.

Using SUBMIT versus F7 to Submit a Job

There is a difference between using F7 to submit a job and using the SUBMIT command in an edit session to submit a job. When you use F7 to submit a job, you trigger background activity performed by the Installer. When you use SUBMIT in an edit session, the activity is not performed.

For example, when you install and customize the REM, you use F7 to execute the DVREJRPR job and bind the REM to DB2. When you press F7, eight members (DVRECRLS,DVRECRNC, DVRECRNG, DVRECRRM, DVRECSC0, DVRECSC1, DVRECSC2, DVRECSC3) of the PDS DVRINFTO that are needed by the DVREJRPR job and other jobs are also generated. If you do not press F7, the members are not generated, and the DVREJRPR job fails.

Error in Job Sample DVR110.DVRSLIBE(DVRXKJFA)

The default job provided in the product library DVR110.DVRSLIBE(DVRXKJFA) has a JCL error. COND= is missing from the EXEC statement for STEP01.

Unlisted Error Messages

Refer to DVR110.DVRMLIBE for error messages that are not listed in *Messages and Codes*. You can contact IBM service for more information when you encounter undocumented error messages.

Editing DVR110.DVRINTAB Members

DVR110.DVRINTAB contains members critical to the operation of the Installer. For example, member DVRXCCTL keeps track of the running status of the Installer, and member DVRXCVR contains the values of parameters and variables used in the operation of the Installer. You can edit the contents of the members, but make sure you modify only the status code in position 41 (just before the text). Refer to "Installer Control Table."

Using the Installer Control Table and Determining Errors

This section describes the control table that records installation status and discusses errors that might occur when you use the Installer.

Installer Control Table

The control table is DVRXCCTL in the data set *hlq*.DVRINTAB, where *hlq* is the high-level data set qualifier. This control table is divided into the following control sections:

- SMP
- Base
- Relational Data Extract (including REM)
- General Data Extract (including DEM)
- Uppercase
- Kanji
- DataRefresher OS/2
- DataRefresher OS/2 Kanji

Each section contains a line for each job to be submitted. This line is updated with the text that appears on the summary status panel and a status code in position 41 (just before the text). The codes of interest are:

0 Not installed or not selected
1 Installed or completed
2 Partly completed, currently running, or currently executing
3 Error while running or error running JCL

Each set of jobs has dependencies on other sets. In addition, the individual jobs within each set are dependent on the previous job completing successfully. To track these dependencies, each set of jobs has a status line that contains the overall status for the set of jobs. If one job fails with a JCL error (status code 3), the overall status for the set is 3.

Sometimes the status of an individual job has a code of 2 and the overall status has a code of 2, but the job stopped running. If this occurs, run the CLIST member DVRXXSET in the *hlq*.DVRINCLS data set. This action sets all the steps with a status code of 2 to 3.

Unexpected Errors

Installer-generated jobs contain steps that are needed for tracking the run status of Installer jobs. The JCL step names are: STORE1. STORE2, STORE3, and STORE3A.

When a job is running, the Installer continuously updates the summary status panels with text indicating its status. To view the status updates, press Enter frequently or check the MVS System Display and Status Facility (SDSF).

When you use the Installer, you might encounter one of the following situations:

Incomplete Installer Generated JCL

Check your JCL before submitting a job. In a few cases, some DD statements are incomplete. For example, the UNIT parameter does not include a value and could cause a JCL error. Correct the statement by typing in a value, for example, UNIT=SYSDA.

Unfreed Data Sets

The Installer might not release some of the data sets it is using. When you re-enter the Installer, an FTOPEN/FTCLOSE error might occur because the data sets that were not freed are still in use. If this occurs, logoff and logon again to free up the data sets.

′Waiting for Execution′ Status Message Does Not Change

If the status of a job does not change from Waiting for execution, a JCL error might have occurred and the step to update the text might not have processed. Check the variable panel for something that might have been typed incorrectly or that does not exist. Correct the error and press F7 to resubmit the job.

′Error Running JCL′ Status Message Appears

If the status of a job changes to Error running JCL, check the variable panel for something that might have been typed in incorrectly or that does not exist. Correct the error and press F7 to resubmit the job.

Job Abends or Errors that Cancel a Job

If a job abends or encounters an error while running and is cancelled, the Installer does not update the status; the status remains Currently Running or Currently executing. In this case, manual intervention in the control table is required to restart the job. Refer to "Installer Control Table" on page 37. Do not press F7 on a screen when a job is running. Wait until the job is complete before submitting another job.

Chapter 6. Configuring APPC for DataRefresher

An APPC session between the MVS host and OS/2 workstation is required when DataRefresher OS/2 communicates with the DataRefresher components on the MVS host. Communication is required after DataRefresher is installed on MVS and the DataRefresher OS/2 code is downloaded to the workstation.

Establishing APPC connectivity for the first time is a significant effort and can be challenging. Typically the task is performed by the network team in the organization. This chapter assumes that a network team is available during DataRefresher installation and concentrates on setup activities required specifically for DataRefresher communication on the MVS host and the OS/2 workstation. Some general APPC information is also provided in this chapter.

This chapter:

- Explains how APPC works with DataRefresher
- Shows how OS/2, MVS, and DataRefresher link together
- Describes how to configure APPC on the host
- Describes how to configure APPC on the workstation
- Summarizes the conversation flow between workstation and host
- Provides information on debugging the APPC connection
- Lists APPC information sources

How APPC Works with DataRefresher

APPC communication is used in various ways by different products. Understanding how DataRefresher uses APPC helps you configure your systems for APPC with DataRefresher.

DataRefresher OS/2 builds JCL that runs on MVS. An APPC conversation transmits the JCL input to the host, executes the JCL input, and transmits the results back to the OS/2 user. DataRefresher OS/2 initiates this conversation using the partner logical unit (LU) and partner transaction program (TP) named in Communications Manager/2 (CM/2). You must define these partners on MVS. Define the partner LU in VTAM. Define the partner TP using either the APPC administration panels or the Administration Batch utility.

The TP definition includes JCL that starts the MVS DataRefresher communication code. The TP definition also specifies that this JCL be launched through the APPC asynchronous scheduler (ASCH). When the DataRefresher conversation is initiated, both the APPC and ASCH tasks must already be started on the MVS host.

When the conversation is allocated by DataRefresher OS/2, the OS/2 independent LU name and the DataRefresher OS/2 TP name are passed to the MVS host. DataRefresher on the MVS host can then send communications back to OS/2. The APPC side information (sometimes called CPI-C side information) on MVS is not used.

How MVS, OS/2 and DataRefresher Link Together

The diagram in Figure 7 shows the identifiers needed in VTAM/MVS, CM/2, and the DataRefresher host. The steps you follow to specify this information are explained in detail in this chapter.

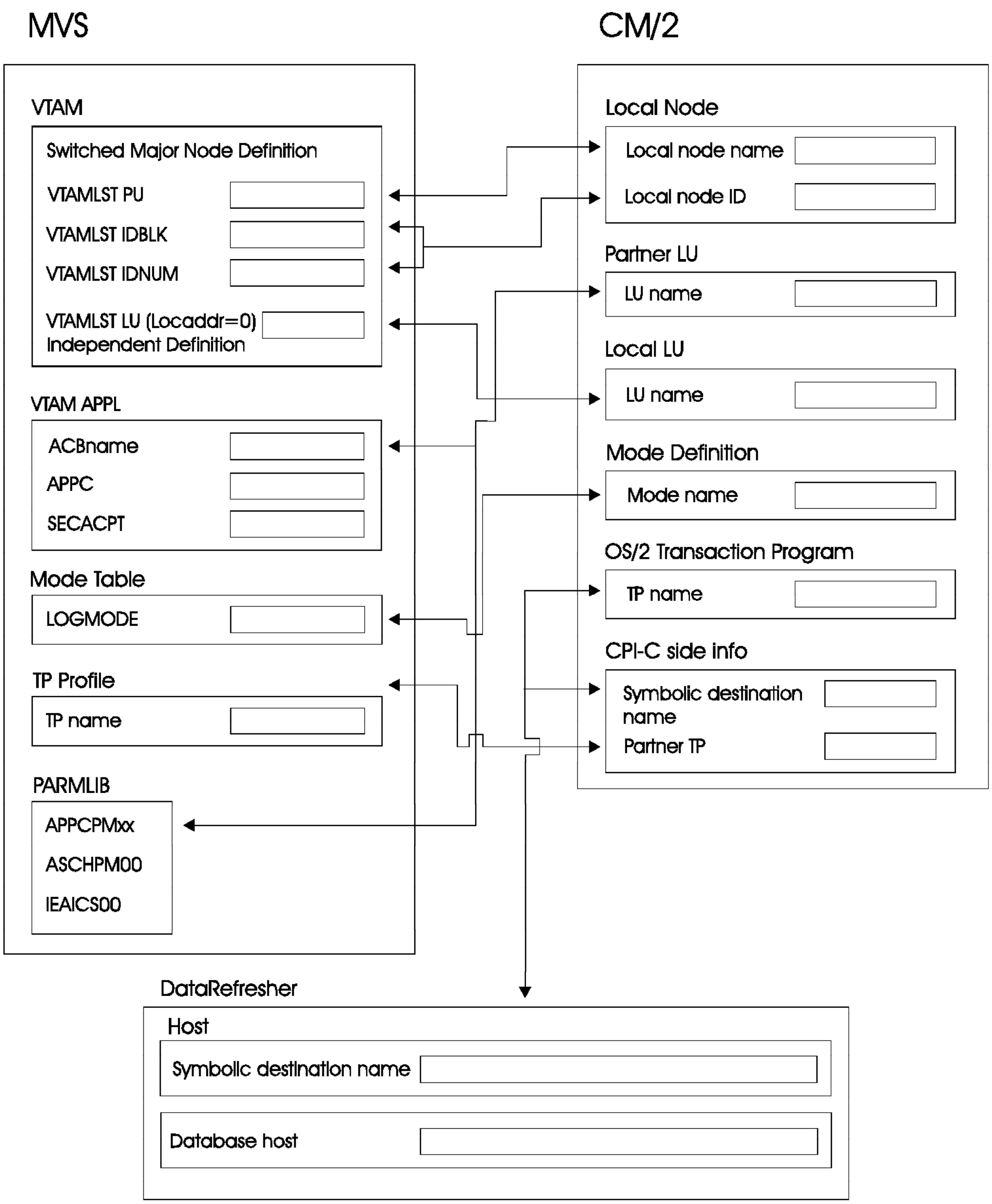

Figure 7. Associated Identifiers in VTAM/MVS, CM/2, and DataRefresher

Figure 8 provides example values for the identifiers in VTAM/MVS, CM/2, and DataRefresher.

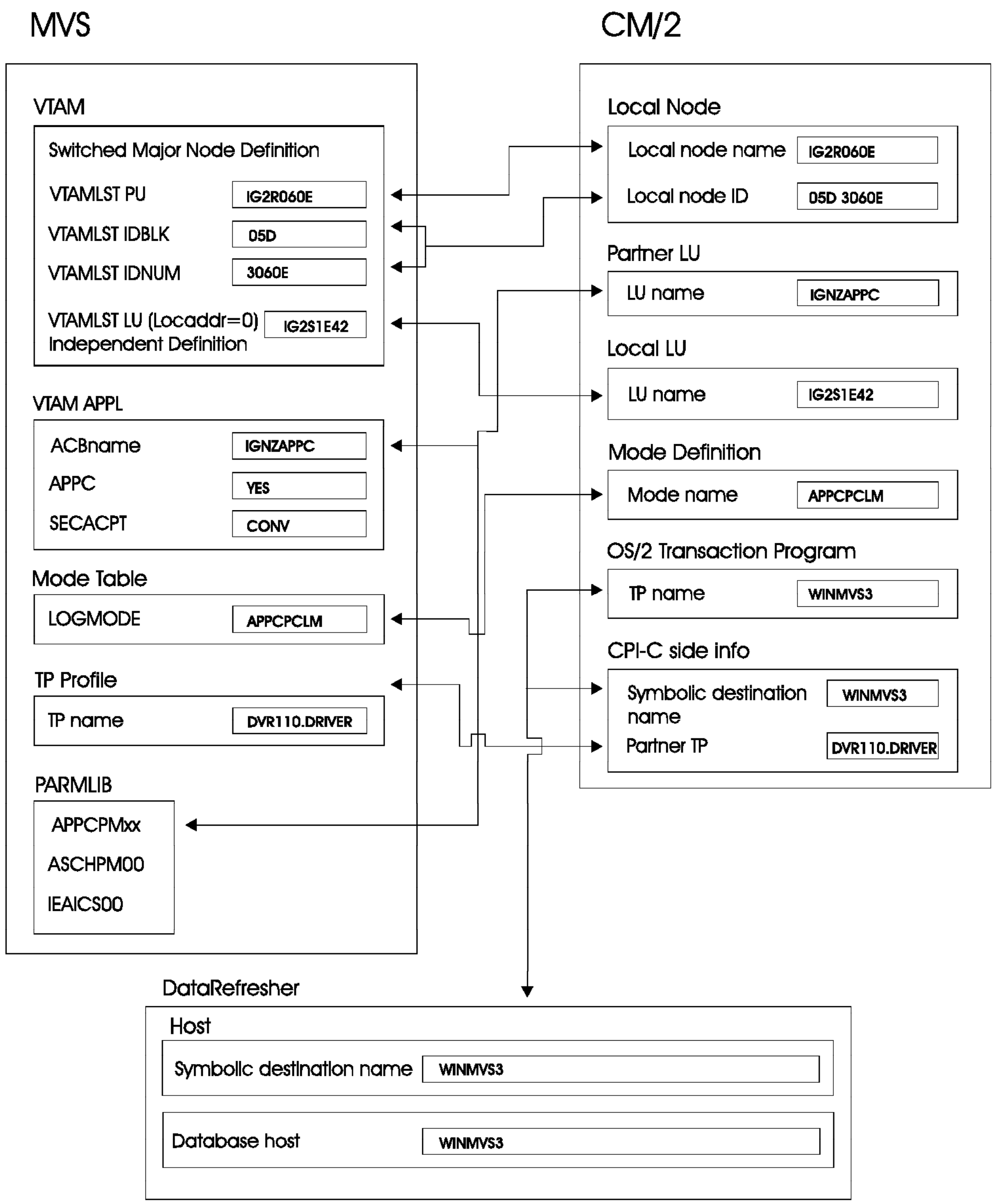

Figure 8. Values and Identifiers in VTAM/MVS, CM/2, and DataRefresher

For PARMLIB example values, refer to "Defining SYS1.PARMLIB Members for APPC" on page 50.

Overview of Steps to Configuring APPC

To configure APPC for DataRefresher, follow these steps:

1. Configure APPC for DataRefresher on the host
   a. Define the workstation to host
   b. Define VTAM entries for APPC communication
   c. Define the MVS APPC transaction profile (TP)
   d. Define SYS1.PARMLIB members for APPC
   e. Configure APPC security[3]
2. Configure APPC for DataRefresher on the workstation
   a. Define DLC Adapter parameters
   b. Define SNA local node characteristics
   c. Define SNA connections
   d. Define SNA features
   e. Edit the NDF configuration file

These steps are explained in detail in the next sections, with the exception of security.

Configuring APPC for DataRefresher on the Host

You must create or modify definitions in four areas on MVS so APPC can work with DataRefresher:

- Workstation to host
- VTAM entries
- MVS APPC transaction profile (TP)
- SYS1.PARMLIB members

You should also review APPC security specifications for your system.[3]

Defining the Workstation to the Host

To define your workstation to the host you need to:

- Define a switched major node
- Define an independent LU

Defining a Switched Major Node

Add a switched major node definition in VTAM to define the workstation. The PU name is part of the definition and is also used later as the local node name (also referred to as the CP name) in CM/2 on the workstation.

Depending on your hardware configuration, you might need to make other changes to finish adding the workstation to your network. For example, you might need to run an NCP gen, or your network systems programmer might need to create additional definitions so that your workstation can run LU 2 and LU 6.2 sessions.

[3] Refer to Chapter 10 “Setting up Network Security” of *MVS/ESA Planning: APPC Management* for a complete discussion of APPC RACF security issues. If using an equivalent security product, refer to the product′s documentation.

Defining an Independent LU

Define the independent LU as a LOCADDR 0 LU on the switched major node definition, as shown in Figure 9.

You must define the independent LU name on the workstation as:

- An independent LU
- The default local LU alias

You use the independent LU name later as the local LU name in CM/2.

```
**********************************************************************
*   SWITCHED MAJOR NODE
*
M2TRN031 VBUILD TYPE=SWNET,MAXNO=50,MAXGRP=1
*
**********************************************************************
*
IG2R060E PU    ADDR=C1,             STATION ADDRESS(CAN BE ANY VALUE)
               IDBLK=05D,           ID FOR PC
               IDNUM=3060E,         XID
               DISCNT=NO,           HANG-UP ON LU LOGOFF
               MAXDATA=265,
               MAXOUT=7,
               SSCPFM=USSSCS,
               MODETAB=SNATERM#,    DYNAMIC LOGMODE
               LOGTAB=LOGTAB00,
               LOGAPPL=IGJZIISL,    DIRECT LOGON TO VAMP
               USSTAB=UT2IRL,       USSTABLE
               PUTYPE=2,ISTATUS=ACTIVE
*              STATOPT=('SPARE')
*
IG2S1E42 LU    LOCADDR=0,MODETAB=MTCICS,DLOGMOD=APPCPCLM
*
IG2S1E43 LU    LOCADDR=2
*
IG2S1E44 LU    LOCADDR=3
*
IG2S1E45 LU    LOCADDR=4
*
IG2S1E46 LU    LOCADDR=5
*************************************************************
```

Figure 9. MVS VTAM Definition for a Workstation

Defining VTAM Entries for APPC Communication

To define VTAM for APPC you must define:

- VTAM APPL
- APPC mode

Defining VTAM APPL

When defining VTAM APPL:

1. Set APPC to YES to enable APPC usage.

   Figure 10 shows an example of a VTAM APPL definition for APPC use.

2. Set SECACPT to CONV.

   This setting requires that a user ID and password be sent with the conversation allocate request from the workstation to the host. The user ID and password are validated and verified at the host.

```
************************************************************************
* MVS/APPC LU6.2 DEFINITIONS
************************************************************************
          VBUILD   TYPE=APPL
************************************************************************
* MVS/APPC SAMPLE LU DEFINITIONS
************************************************************************
IGNZAPPC APPL   ACBNAME=IGNZAPPC,
                APPC=YES,
                AUTOSES=0,
                DDRAINL=NALLOW,
                DLOGMOD=APPCPCLM,
                DMINWNL=5,
                DMINWNR=5,
                DRESPL=NALLOW,
                DSESLIM=10,
                LMDENT=19,
                MODETAB=APPCMODE,
                PARSESS=YES,
                SECACPT=CONV,
                SRBEXIT=YES,
                VPACING=1
************************************************************************
```

Figure 10. MVS/APPC LU6.2 Definitions

Defining an APPC Mode

Define the DLOGMOD value as shown in Figure 10. The DLOGMOD value must be a valid mode entry as shown in Figure 11 on page 46 (LOGMODE=APPCPCLM). You will also define a corresponding MODE in CM/2 on the workstation.

```
***********************************************************************
*
*LOGON MODE TABLE ENTRY FOR HOST TO PC SESSIONS.
*
***********************************************************************
*
APPCPCLM MODEENT
                LOGMODE=APPCPCLM,
                RUSIZES=X'8989',
                SRCVPAC=X'00',
                SSNDPAC=X'01'
***********************************************************************
```

Figure 11. VTAM Definition for a Logmode

Defining the MVS APPC Transaction Profile (TP)

This section describes how to add a TP profile for DataRefresher. You can use the:

- APPC/MVS administration dialog
- APPC/MVS Administration Batch utility (ATBSDFMU)

Both the dialogs and the utility are documented in Chapters 6 and 7 of *MVS/ESA Planning: APPC Management*.

With the APPC/MVS Administration Dialogs

Figure 12 shows the first administration dialog panel required for the DataRefresher TP. To add a TP profile:

1. Select the **TP Profile Administration** service. DataRefresher does not require the remaining two services on this panel (Side Information and Database Token Administration).

```
                          APPC Administration

 COMMAND ===>
 Select one of the following with an "S".  Then Enter.
 Type information.  Then Enter.

  S  TP Profile Administration
       Current TP Profile
         System file  . .  SYS1.APPCTP______________________________

  _  Side Information Administration
       Current Side Information
         System file  . .  SYS1.APPCSI______________________________

  _  Database Token Administration
       Current Database Token
         System file  . .  SYS1.APPCTP______________________________

 Note: For a list of file names, add an "*" suffix to the partial data
       set.

  F1=HELP      F2=SPLIT     F3=END       F4=RETURN    F5=RFIND    F6=RCHANGE
  F7=UP        F8=DOWN      F9=SWAP      F10=REFRESH  F11=RIGHT   F12=CANCEL
```

Figure 12. APPC Administration

The panel for TP profile definitions appears, as shown in Figure 13.

2. Specify A as the command and press Enter.

```
                          List of TP Profiles                     ROW 1 FROM 1
Command ===> A                                                         SCROLL
===> CSR

PF01 = Help    PF03 = Exit    PF07 = Up    PF08 = Down    PF12 = Cancel

Specify an action or enter a command.  Then Enter.
   Actions:   E - Edit      B - Browse      C - Copy      D - Delete
              N - New Alias                 S - Activation Status
   Command:   A - Add

Note: For a list of file names, add an "*" suffix to the data set name
      For other subset lists, type field or part of field with * suffix

Note: For a list of file names, add an "*" suffix to the data set name
      For other subset lists, type field or part of field with * suffix

Current system file  SYS1.APPCTP______________________________
TP Name  *__________________________________________________________
Level    *_____  (System/Group/User)  ID  *_______  (Group ID or UserID)
                                                    (Ignored for System)
A TP Profile Name                                             Group/User
- -------------------------------------------------------------  ----
_ APPC.FILELIST
 F1=HELP     F2=SPLIT    F3=END      F4=RETURN  F5=RFIND    F6=RCHANGE
 F7=UP       F8=DOWN     F9=SWAP     F10=REFRESH F11=RIGHT  F12=CANCEL
```

Figure 13. List of TP Profiles

The Add TP Profile panel appears, as shown in Figure 14

3. Specify the name of the transaction scheduler, the system file, and the TP name and press Enter. The TP name you supply in the Add TP Profile panel is also used in the APPC CM/2 configuration in OS/2. The value shown in Figure 14 is an example only.

```
                             Add TP Profile
Command ===>

Type information.  Then Enter.                                  More ...


  Transaction Scheduler . . ASCH____

  To system file . .  SYS1.APPCTP______________________________


    TP Name   DVR110.DRIVER__________________________________

    Level . . . . . SYSTEM       System/Group/User

    ID  . . . . . . ________     Group ID or User ID
                                 (required for Group or User Level)


  Active Status . . YES_         Yes/No


F1=HELP     F2=SPLIT    F3=END      F4=RETURN  F5=RFIND    F6=RCHANGE
F7=UP       F8=DOWN     F9=SWAP     F10=REFRESH F11=RIGHT  F12=CANCEL
```

Figure 14. Add TP Profile

The next Add TP Profile panel appears, as shown in Figure 15 on page 48.

4. Fill in the information in the panel and press Enter.

```
                          Add TP Profile
Command ===>
                                                            More ...
Type information.  Then Enter.

Transaction Scheduler:  ASCH

To system file . .  SYS1.APPCTP____________________________

  TP Name:  DVR110.DRIVER

  Level  . . :  SYSTEM          ID . . . :

  Tailor Sysout  . . . .  NO__      Yes/No, perform sysout tailoring
  Tailor Account . . . .  NO__      Yes/No, perform account tailoring
  Scheduler Class  . . .  ________  Scheduled class when attached
                                    (enter "*" for list of classes)
  TP Schedule Type . . .  STD__   Std (Standard) / Multi
                                                        (Multitrans)
  Generic Userid . . . .  ________  TP "owner", required for Multitrans

F1=HELP      F2=SPLIT     F3=END      F4=RETURN   F5=RFIND     F6=RCHANGE
F7=UP        F8=DOWN      F9=SWAP     F10=REFRESH F11=RIGHT    F12=CANCEL
```

Figure 15. Add TP Profile

The Add JCL for TP Profile panel appears, as shown in Figure 16.

5. Select **Edit** to add JCL for the TP profile. Press Enter.

```
                       Add JCL for TP Profile
Command ===>

Select one of the following with an "S".  Then Enter.


 Transaction Scheduler:  ASCH

 To system file:  SYS1.APPCTP



      _  Edit      Create new JCL using edit

      _  Model     Use a JCL model as a base for editing


F1=HELP      F2=SPLIT     F3=END      F4=RETURN   F5=RFIND     F6=RCHANGE
F7=UP        F8=DOWN      F9=SWAP     F10=REFRESH F11=RIGHT    F12=CANCEL
```

Figure 16. Add JCL for TP Profile

An edit panel appears.

6. Customize the job card, STEPLIB DSN, and SYSOUT CLASS for your installation. A sample of what is required is shown in Figure 17 on page 49.

```
//DRFTP      JOB  H935112-TSOO
//DRF110     EXEC  PGM=DVRS0000
//STEPLIB   DD   DISP=SHR,DSN=DRF110.DVRLOAD
//SYSTSPRT  DD  SYSOUT=Y,FREE=CLOSE
//DXTPRINT  DD  SYSOUT=Y,FREE=CLOSE
//DXTDUMP   DD  SYSOUT=Y,FREE=CLOSE
```

Figure 17. Sample JCL for the TP Profile. Customize STEPLIB DSN and SYSOUT CLASS for the TP profile.

With the Administration Batch Utility

If the administrative panels for APPC are not installed, use the batch utility to add a TP profile. Figure 18 shows the batch utility ATBSDFMU. Specify delimiters carefully. If the delimiters are not positioned properly, the TP profiles might not be coded correctly.

```
//JOBNAME JOB ' DATAREF,REGION=4096K,NOTIFY=USERID,
//              CLASS=K,MSGCLASS=H
//TPROFILE EXEC PGM=ATBSDFMU,PARM=' TYPRUN=RUN'
//SYSPRINT DD     SYSOUT=*
//SYSSDOUT DD     SYSOUT=*
//SYSSDLIB DD     DSN=SYS1.APPCTP,DISP=SHR
//SYSIN     DD    DATA,DLM=ZZ          <--1st delimiter
TPDELETE
       TPNAME(DVR110.DRIVER)
TPADD
       TPNAME(DVR110.DRIVER)          <---matches the partner TP in CM/2
       SYSTEM
       ACTIVE(YES)
       TPSCHED_DELIMITER(+++)          <--2nd delimiter
       TPSCHED_TYPE(STANDARD)
       CLASS(FAST)                     <--matches a class added to ASCHPM00
       TAILOR_SYSOUT(NO)
       TAILOR_ACCOUNT(NO)
       JCL_DELIMITER($$$)              <--3rd delimiter
//DRFTP     JOB  H935112-TSOO
//DRF110      EXEC PGM=DVRS0000              <--actual DataRef JCL issued
//STEPLIB      DD   DISP=SHR,DSN=DRF110.DVRLOAD
//SYSTSPRT   DD   SYSOUT=Y,FREE=CLOSE
//DXTPRINT   DD   SYSOUT=Y,FREE=CLOSE
//DXTDUMP     DD   SYSOUT=Y,FREE=CLOSE
$$$    <--3rd delimiter end
       KEEP_MESSAGE_LOG(ALWAYS)
       MESSAGE_DATA_SET(&SYSUID.MAIL.LOG)
       DATASET_STATUS(MOD)
+++    <--2nd delimiter end
ZZ     <--1st delimiter end
/*
//
```

Figure 18. APPC/MVS Administration Batch Utility—ATBSDFMU

The APPC/ASCH handles JCL differently from the usual JES process. Some of these differences are described in “Defining the ASCHPM00 Member” on page 51. *MVS/ESA Planning: APPC Management* describes process differences in more detail.

Defining SYS1.PARMLIB Members for APPC

You need to define three SYS1.PARMLIB members for APPC:

- APPCPM00
- ASCHPM00
- IEAICS00

Defining the APPCPM00 Member

The APPCPM00 member contains LUADD statements. You must have an LUADD statement to direct each inbound or outbound APPC transaction. For DataRefresher, you need both an inbound and an outbound transaction, but both requirements can be satisfied with one VTAM APPL and one LUADD statement.

Figure 19 shows an example of how to define the APPCPM00 member for APPC.

```
/*********************************************************************/
/*   APPCPMxx parmlib members contain startup, default, and          */
/*   configure values for APPC/MVS. They also contain             */
/*   information indicating the correspondence between              */
/*   logical unit (LU) names and transaction schedulers.            */
/*********************************************************************/
/*********************************************************************/
/*********************************************************************/
/*   Define a local LU for DataRefresher                            */
/*********************************************************************/
  LUADD ACBNAME(IGNZAPPC)    /* Add LU for DataRefresher            */
        SCHED(ASCH)          /* default scheduler                   */
        BASE                 /*   allow outbound traffic            */
        TPDATA(SYS1.APPCTP)  /* TP profiles data set                */
        TPLEVEL(USER)        /* Specify the search for TP profiles  */
/*********************************************************************/
/*   Specify side information                                       */
/*********************************************************************/
  SIDEINFO DATASET(SYS1.APPCSI) /* Specify side information DSN     */
/*********************************************************************/
```

Figure 19. APPCPM00 Member in SYS1.PARMLIB

The parameters in the LUADD statement are:

ACBNAME
Must match the APPL defined in VTAM for APPC.

SCHED(ASCH)
Indicates that the asynchronous scheduler initiates the JCL associated with an inbound request using VTAM ACBNAME.

BASE
Serves as a base definition for outbound transactions. MVS DataRefresher code uses the same VTAM APPL when it issues an outbound request back to the workstation.

TPDATA(SYS1.APPCTP)
Indicates that the TP profile associated with the inbound transaction must be defined in the defined data set (SYS1.APPCTP).

TPLEVEL(USER) Indicates that the USER, GROUP, and SYSTEM level profiles are all valid levels for TP profiles to be associated with the ACBNAME.

SIDEINFO DATASET Not needed by DataRefresher and is not required in the APPCPM00 member.

You can also separate the two types of transactions and use two VTAM APPL definitions and two separate LUADD definitions. Separate definitions can be helpful when debugging VTAM traffic problems because the inbound and outbound transaction activities are isolated.

Defining the ASCHPM00 Member

Add classes to ASCHPM00 to determine the initiation and response criteria for various APPC applications (for example, IMS, CICS, and DataRefresher APPC applications each have their own scheduling criteria).

Figure 20 shows an example of how to configure the ASCHPM00 member for APPC.

```
/*******************************************************************/
/* APPC/MVS ASCH DEFINTIONS                                        */
/*******************************************************************/
   CLASSADD CLASSNAME(SLOW)          /* CLASS NAME            */
            MAX(05)                  /* MAX INITS             */
            MIN(00)                  /* MIN INITS             */
            RESPGOAL(60)             /* RESP TIME GOAL        */
            MSGLIMIT(300)            /* JOB LOG SIZE          */
                                     /************************/
   CLASSADD CLASSNAME(FAST)          /* CLASS NAME            */
            MAX(05)                  /* MAX INITS             */
            MIN(00)                  /* MIN INITS             */
            RESPGOAL(.01)            /* RESP TIME GOAL        */
            MSGLIMIT(300)            /* JOB LOG SIZE          */
                                     /************************/
/*******************************************************************/
   OPTIONS  DEFAULT(SLOW)            /* DEFALULT CLASS        */
            SUBSYS(JES2)             /* SUB SYS INTERFACE     */
                                     /************************/
   TPDEFAULT REGION(2M)              /* REGION SIZE           */
             TIME(1,30)              /* TIME                  */
             MSGLEVEL(1,0)           /* MSGLEVEL              */
             OUTCLASS(A)             /* SYSOUT CLASS          */
/*******************************************************************/
```

Figure 20. ASCHPM00 Member in SYS1.PARMLIB

ASCH performs its own initiation of a job outside of JES. Therefore the classes added to ASCHPM00 are analogous to the CLASS= parameter on a typical JES initiated job.

The parameters for CLASSADD are:

CLASSNAME Indicates the name of the class you are adding. When a TP specifies a particular CLASSADD CLASSNAME, the TP is scheduled by ASCH according to the criteria specified in the CLASSADD statement.

MAX Indicates the maximum number of initiators that can be started.

MIN Indicates the minimum number of initiators to be prescheduled.

RESPGOAL Determines the speed of initiation, allowing ASCH to prioritize work.

MSGLIMIT Determines the maximum number of messages that can be saved in the data set specified as MESSAGE_DATA_SET in the TP profile.

The parameters for OPTIONS are:

DEFAULT Sets the default class used when a TP profile omits the CLASS keyword.

SUBSYS Specifies the subsystem under which the transaction initiators are started.

The values for TPDEFAULT are used in place of the usual parameters on a job card. The parameters are:

REGION Specifies the maximum amount of memory available for the job.

TIME Specifies the maximum amount of time allotted for the job.

MSGLEVEL Determines which job statements are shown in the JCL output listing.

OUTCLASS Specifies the SYSOUT class that the output is written to.

ASCH bypasses the JES initiation, and no JESJCL output is generated for jobs started by ASCH. The lack of output can cause some confusion and difficulty during initial debugging. However, you can refer to messages written to the data set identified by the MESSAGE_DATA_SET parameter. The MESSAGE_DATA_SET is part of the TP profile.

Defining the IEAICS00 Member

Create additional entries in the IEAICS00 SYS1.PARMLIB member to assign performance group numbers to the ASCH subsystem. Examples of required entries can be found in Chapter 12 “APPC/MVS Measurements and Tuning” of *MVS/ESA Planning: APPC Management*.

Configuring APPC for DataRefresher on the Workstation

To establish and configure the connection between the local environment (workstation) and the partner environment (MVS host system), you need to provide the following network, node, and logical unit information for both the local and partner environments:

- Network ID
- Node name
- Node alias name
- Node ID

- Logical Unit (LU) name
- Logical Unit (LU) alias name

Your task will be easier if you have this information recorded on a worksheet before you begin using CM/2. See the sample worksheet in “OS/2 Feature Installation Worksheet for MVS and OS/2” on page 20.

CM/2 uses the values you supply to update a node definition file (NDF) stored in the \CMLIB directory on the workstation. You can edit this file if you need to review all the values you supplied in CM/2. See Figure 40 on page 68 for an example of this file.

To configure your APPC API values in CM/2 for DataRefresher :

1. Open your **CM/2** object from the workstation desktop. The Communications Manager/2 – Icon View window is displayed.
2. Select the **Communications Manager Setup** icon. The Communications Manager Setup window is displayed, as shown in Figure 21.

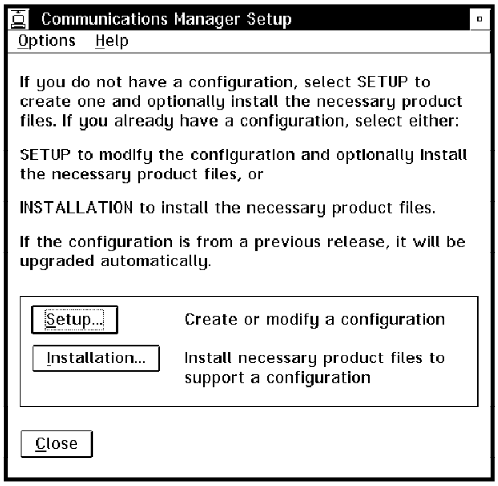

Figure 21. Communications Manager Setup Window

3. Select **Setup**. The Open Configuration window is displayed, as shown in Figure 22 on page 54.

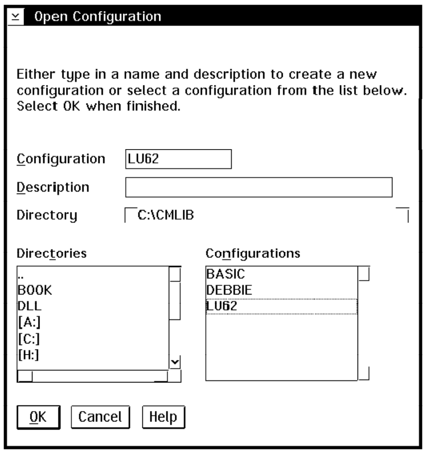

Figure 22. Open Configuration Window

The **Configuration** field displays the name of your current configuration. You are about to make changes to this configuration. It is recommended that you make a backup of the following configuration files before continuing:

LU62.CFG
LU62.NDF
LU62.CF2
LU62.SEC

where *LU62* is the name of your current configuration.

4. Optional: Make a backup of your configuration files:
   a. Note the name of your configuration. This is displayed in the **Configuration** field.
   b. Note the name of the directory where the files are stored. This name is displayed in the **Directory** field.
   c. Go to an OS/2 session and copy all the files with the configuration name to a safe directory or disk.
5. Make sure the configuration file you want to change is selected on the Open Configuration window.
6. Select **OK**. The Communications Manager Configuration Definition window is displayed, as shown in Figure 23 on page 55.

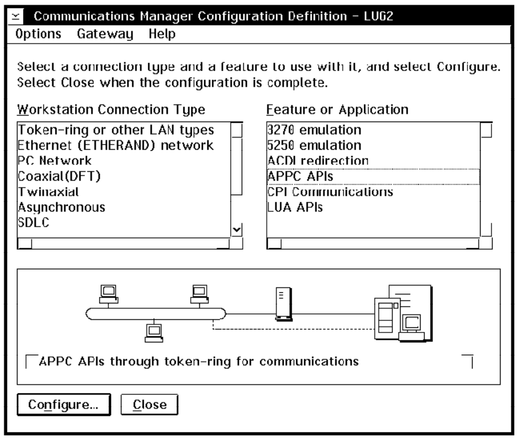

Figure 23. Communications Manager Configuration Definition Window

7. From the **Workstation Connection Type** list box, select **Token-ring or other LAN types**.
8. From the **Feature or Application** list box, select **APPC APIs**.
9. Select **Configure**. The Communications Manager Profile List Sheet window is re-displayed, as shown in Figure 24 on page 55.

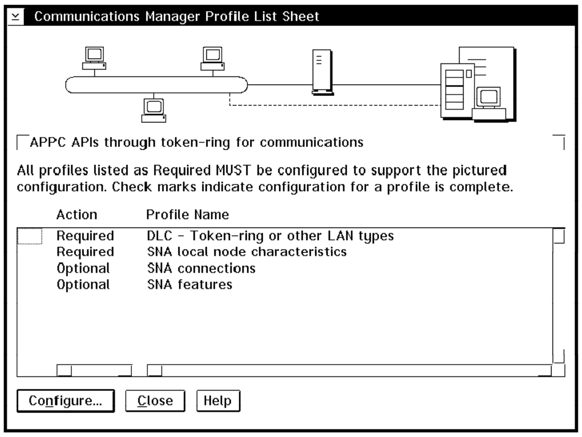

Figure 24. Communications Manager Profile List Sheet Window

You need to specify information in the following four areas:

- DLC adapter parameters for token ring or other LAN types
- SNA local node characteristics
- SNA connections
- SNA features

Select each of these items from the window in turn and supply the required information. The following sections describe each task in more detail.

Defining DLC Adapter Parameters

To specify adapter parameters:

1. Select **DLC – Token-ring or other LAN types** from the Communications Manager Profile List Sheet window and select **Configure**. The Token Ring or Other LAN Types DLC Adapter Parameters window is displayed, as shown in Figure 25 on page 56.

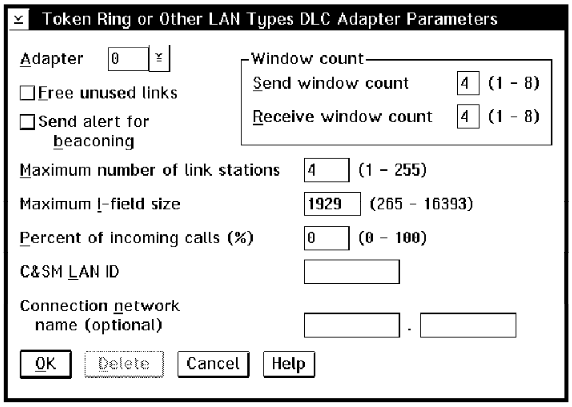

Figure 25. Token Ring or Other LAN Types DLC Adapter Parameters Window

2. Specify values for the following fields:

   Adapter The value is 0.

   C&SM LAN ID An 8-character name. The network ID for your SNA network is an appropriate value to supply. You must supply a value in this field, but the information is used only for clarification in reports. It is not used to establish connections.

3. Select **OK**. The Communications Manager Profile List Sheet window is re-displayed, as shown in Figure 26 on page 57.

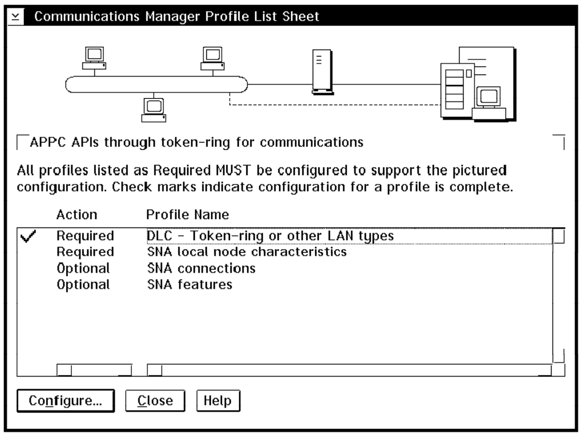

Figure 26. Communications Manager Profile List Sheet Window

You have now specified information about the LAN, but you still need to supply information about the local environment where your workstation is located.

Defining SNA Local Node Characteristics

To specify SNA local node characteristics:

1. Select **SNA local node characteristics** from the Communications Manager Profile List Sheet window.
2. Select **Configure**. The Local Node Characteristics window is displayed, as shown in Figure 27 on page 57.

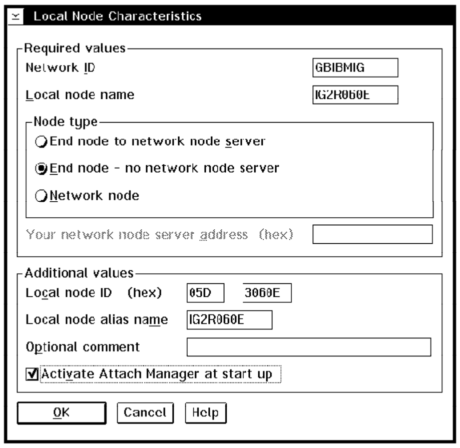

Figure 27. Local Node Characteristics Window

3. Specify values for the following fields:

   Network ID
   The ID of the SNA network to which you are connected. Your network administrator can provide this information.

   Local node name
   The name that identifies the node within the network to which your workstation is attached. This name is sometimes called the control point.

Local node ID
The values that identify the node within the network to which your workstation is attached. These values are the IDBLK and IDNUM parameters in the VTAM (VBUILD) definition for the workstation.

Local node alias name
The alias for the local node name. You can specify the actual local node name as the alias.

4. Select the **Activate Attach Manager at start up** check box.
5. Select **OK**.

   The Communications Manager Profile List Sheet window re-displayed

You have now specified information about the local environment, but you still need to supply information about the partner environment (where the MVS host system is located). You need to supply this information to establish a connection between the local environment and the partner environment, that is, between your workstation and the MVS host system.

Defining SNA Connections

To specify SNA connections:

1. Select **SNA connections** from the Communications Manager Profile List Sheet window.
2. Select **Configure**. The Connections List window is displayed, as shown in Figure 28 on page 58.

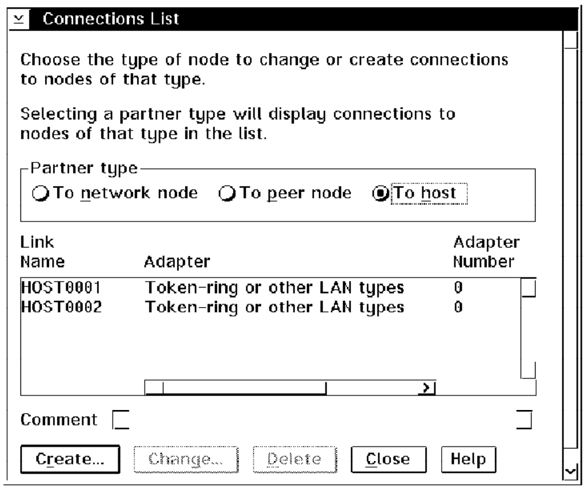

Figure 28. Connections List Window

3. Select **Create**. The Adapter List window is displayed, as shown in Figure 29 on page 59.

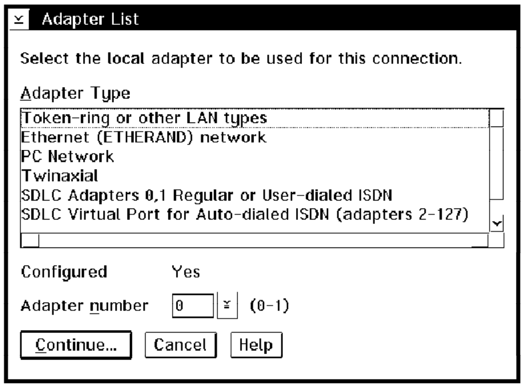

Figure 29. Adapter List Window

4. From the **Adapter Type** list box, select **Token-ring or other LAN types**.
5. Set the **Adapter number** field to 0.
6. Select **Continue**. The Create a Connection to a Host window is displayed, as shown in Figure 30 on page 59.

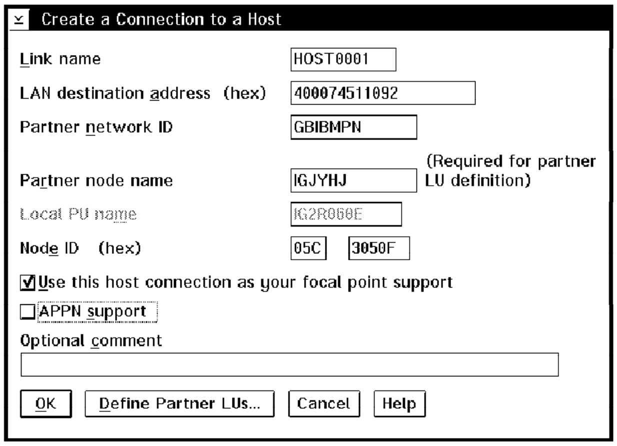

Figure 30. Create a Connection to a Host Window

7. Specify values for the following fields:

   Link name
   The name used to identify the link between your workstation and the MVS host system. Supply a unique name.

   LAN destination address
   The address of the communications controller on the token ring. This address is defined in the NCP program for the controller.

   Partner network ID
   The ID of the SNA network where the MVS host system is located. Your network administrator can provide this information.

   The MVS host system is the partner in the connection you are establishing for your workstation.

   Partner node name
   The name that identifies the node within the network to which the MVS host system is attached. This name is sometimes called the control point and is defined by the SSCPNAME parameter in the NCP program.

   Node ID
   The values that identify the node within the network to which the MVS host system is attached. These values are the IDBLK and IDNUM parameters in the VTAM (VBUILD) definition.

8. Select the **Use this host connection as your focal point support** check box.

9. Deselect the **APPN support** check box.

10. Select **Define partner LUs**. The Partner LUs window is displayed, as shown in Figure 31.

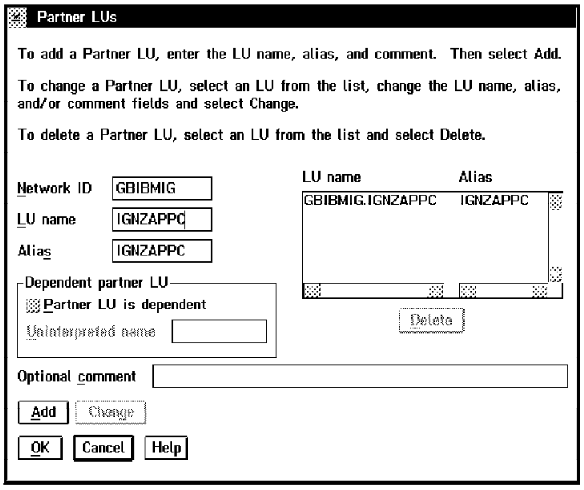

Figure 31. Partner LUs Window

11. Supply the required information in the fields on the window:

    Network ID
    The ID of the SNA network to which you are connected. Your network administrator can provide this information.

    LU name
    The name that identifies where the logical unit, in this case the MVS host system, is located on the node on the network.

The MVS host system (or logical unit) is the partner in the connection you are establishing for your workstation.

Alias
The alias for the partner LU name. You can specify the actual partner LU name as the alias.

12. Deselect the **Partner LU is dependent** check box.
13. Select **Add**. The Create a Connection to a Host window is re-displayed.
14. Select **OK**. The Connections List window is re-displayed.
15. Select **Close**. The Communications Manager Profile List Sheet window is re-displayed.

You have now specified network, node, and LU information for the MVS host system (or partner) so that you can establish a connection. You still need to supply information about the local LU and modify the following features:

- Modes
- Transaction programs
- Security information, as specified in the CPI communications side information.

Defining SNA Features

You need to modify:

- Local LUs
- Modes
- Transaction program definitions
- CPI-C side information

You perform these tasks from the SNA Features List window. To access the window:

1. Select **SNA features** from the Communications Manager Profile List Sheet window.
2. Select **Configure**. The SNA Features List window is displayed, as shown in Figure 32 on page 62.

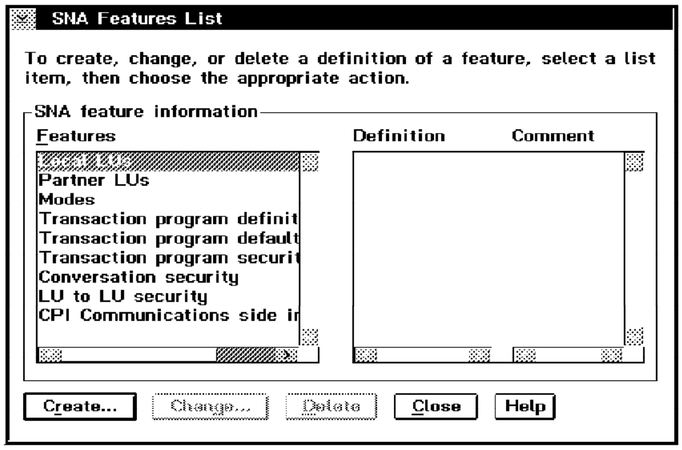

Figure 32. SNA Features List Window

You select an item from the window and supply the required information, as described in the following steps.

3. Select **Local LUs** from the **Features** list box.
4. Select **Create**. The Create a Local LU window is displayed, as shown in Figure 33 on page 63.

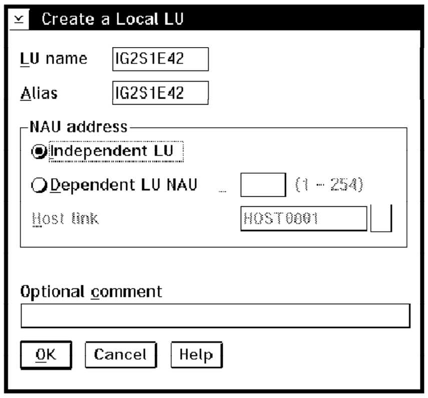

Figure 33. Create a Local LU Window

5. Supply the required information in the fields on the window:

   LU name
   The name that identifies where the logical unit, in this case your workstation, is located on the node on the network. This names is defined in the VTAM (VBUILD) definition.

   Alias
   The alias for the logical unit. You can specify the actual logical unit name as the alias.

6. Select the **Independent LU** radio button.
7. Select **OK**. The SNA Features List window is re-displayed.
8. From the **Features** list box, select **Modes**.
9. Select **Create**. The Mode Definition window is displayed, as shown in Figure 34 on page 63.

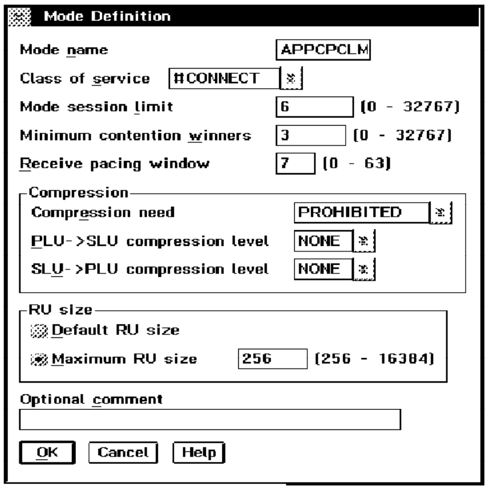

Figure 34. Mode Definition Window

10. Supply the required information in the fields on the window:

Mode name	APPCPCLM
Class of service	#CONNECT
Mode session limit	6

Minimum contention winners 3

Receive pacing window 7

Maximum RU size 256

Use the defaults for the **Compression** fields.

11. Select **OK**. The SNA Features List window is re-displayed.
12. From the **Features** list box, select **Transaction program definitions**.
13. Select **Create**. The Transaction Program Definition window is displayed, as shown in Figure 35 on page 64.

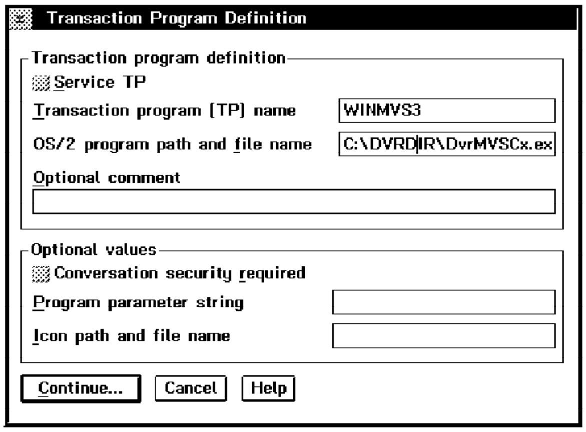

Figure 35. Transaction Program Definition Window

14. Deselect the **Service TP** check box.
15. Supply the required information in the fields on the window:

Transaction Program (TP) name
A unique name. The value you specify here must match the symbolic destination name and must match the name used in the DataRefresher database to describe the host.

OS/2 program path and file name
The OS/2 path and file name where the DataRefresher program will be located, for example:

C:\DVRDIR\DVRMVSCX.EXE

16. Deselect the **Conversation security required** check box.
17. Select **Continue**. The Additional TP Parameters window is displayed, as shown in Figure 36 on page 64.

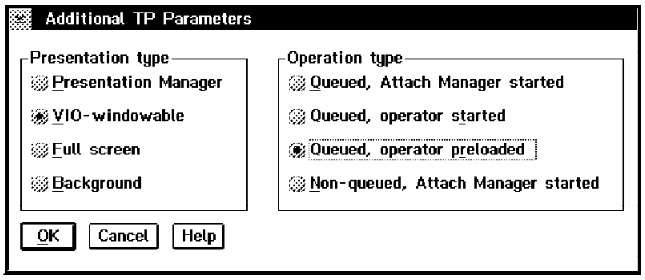

Figure 36. Additional TP Parameters Window

18. Select the **VIO-Windowable** radio button.
19. Select the **Queued, operator preloaded** radio button.
20. Select **OK**. The SNA Features List window is re-displayed.
21. From the **Features** list box, select **CPI Communications side information**.
22. From the **Definition** list box, select the symbolic destination name for the MVS host system.
23. Select **Change**. The CPI Communications Side Information window is displayed, as shown in Figure 37 on page 65.

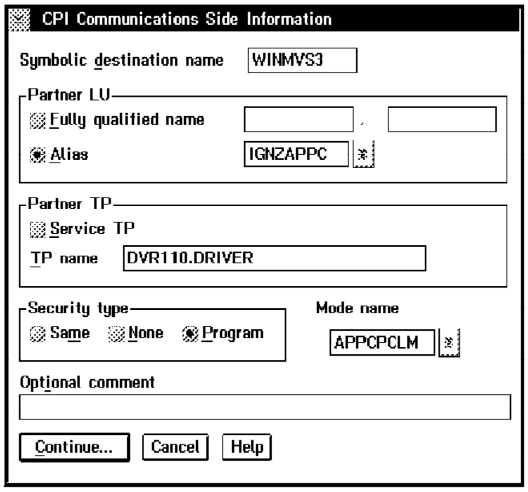

Figure 37. CPI Communications Side Information Window

24. In the **Symbolic destination name** field, supply a unique name. The value you specify here must match the DataRefresher database name used to describe the host and must match the TP name for the workstation.
25. Select the **Alias** radio button, then select the alias name that you assigned to the partner LU from the list box.
26. Deselect the **Service TP** check box then type the TP name for the partner, that is, the MVS host system.
27. Select the **Program** radio button.
28. From the **Mode name** field, select **APPCPCLM**.
29. Select **Continue**. The CPI Communications Program Security window is displayed, as shown in Figure 38 on page 65.

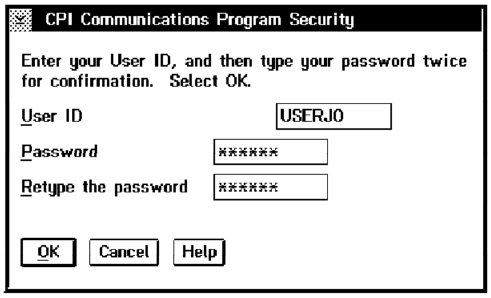

Figure 38. CPI Communications Program Security Window

30. Supply the required information in the fields on the window:

    User ID Type your TSO/E user ID for the MVS host system.

    Password Type your password for the MVS host system.

    Retype the password Type your password again for confirmation.

31. Select **OK**. The SNA Features List window is re-displayed.

32. Select **Close**. The Communications Manager Profile List Sheet window is re-displayed.

33. Close this window and continue closing windows until you exit CM/2.

You have now finished using CM/2 to configure the connection between your workstation and the MVS host system.

Editing the NDF Configuration File

In CM/2 Release 1 Version 1 modification 1, it is possible to set the DEFAULT_LOCAL_LU_ALIAS through Communications Manager Setup. For prior releases, you need to edit the NDF file to set this parameter.

The NDF configuration file is stored in the \CMLIB directory on your workstation. You can manually edit the NDF file to review or update the APPC API values you supplied in CM/2. Use the workstation editor to display the file and then change the values that need to be updated.

For example, to add an alias name for your local LU, add the following line to the file:

DEFAULT_LOCAL_LU_ALIAS(*youralias*)

Add the line to DEFINE_DEFAULTS, as shown in Figure 39 on page 67.

```
DEFINE_DEFAULTS   IMPLICIT_INBOUND_PLU_SUPPORT(NO)
                  DEFAULT_MODE_NAME(BLANK)
                  DEFAULT_LOCAL_LU_ALIAS(IG2S1E42)
                  MAX_MC_LL_SEND_SIZE(32767)
                  DEFAULT_TP_OPERATION(NONQUEUED_AM_STARTED)
                  DEFAULT_TP_PROGRAM_TYPE(BACKGROUND)
                  DEFAULT_TP_CONV_SECURITY_RQD(NO)
                  MAX_HELD_ALERTS(10);
```

Figure 39. Updating the Local LU Alias Name in the NDF File

To verify your manual changes, run the CMVERIFY command from the OS/2 command line (for example, CMVERIFY *configfilename*) and then stop and restart CM/2.

Figure 40 on page 68 shows an example of an NDF file.

```
DEFINE_LOCAL_CP   FQ_CP_NAME(GBIBMIG.IG2R060E )
                  CP_ALIAS(IG2R060E)
                  NAU_ADDRESS(INDEPENDENT_LU)
                  NODE_TYPE(EN)
                  NODE_ID(X'05D3060E')
                  HOST_FP_SUPPORT(YES)
                  HOST_FP_LINK_NAME(HOST0001);

DEFINE_LOGICAL_LINK   LINK_NAME(HOST0001)
                      FQ_ADJACENT_CP_NAME(GBIBMPN.IGJYHJ   )
                      ADJACENT_NODE_TYPE(LEN)
                      DLC_NAME(IBMTRNET)
                      ADAPTER_NUMBER(0)
                      DESTINATION_ADDRESS(X'400074511092')
                      CP_CP_SESSION_SUPPORT(NO)
                      ACTIVATE_AT_STARTUP(YES)
                      LIMITED_RESOURCE(USE_ADAPTER_DEFINITION)
                      LINK_STATION_ROLE(USE_ADAPTER_DEFINITION)
                      SOLICIT_SSCP_SESSION(YES)
                      NODE_ID(X'05C3050F')
                      EFFECTIVE_CAPACITY(USE_ADAPTER_DEFINITION)
                      COST_PER_CONNECT_TIME(USE_ADAPTER_DEFINITION)
                      COST_PER_BYTE(USE_ADAPTER_DEFINITION)
                      SECURITY(USE_ADAPTER_DEFINITION)
                      PROPAGATION_DELAY(USE_ADAPTER_DEFINITION)
                      USER_DEFINED_1(USE_ADAPTER_DEFINITION)
                      USER_DEFINED_2(USE_ADAPTER_DEFINITION)
                      USER_DEFINED_3(USE_ADAPTER_DEFINITION);

DEFINE_LOCAL_LU   LU_NAME(IG2S1E42)
                  LU_ALIAS(IG2S1E42)
                  NAU_ADDRESS(INDEPENDENT_LU);

DEFINE_PARTNER_LU   FQ_PARTNER_LU_NAME(GBIBMPN.IGNZAPPC )
                    PARTNER_LU_ALIAS(IGNZAPPC)
                    PARTNER_LU_UNINTERPRETED_NAME(IGNZAPPC)
                    MAX_MC_LL_SEND_SIZE(32767)
                    CONV_SECURITY_VERIFICATION(NO)
                    PARALLEL_SESSION_SUPPORT(YES);

DEFINE_PARTNER_LU_LOCATION   FQ_PARTNER_LU_NAME(GBIBMPN.IGNZAPPC )
                             WILDCARD_ENTRY(NO)
                             FQ_OWNING_CP_NAME(GBIBMPN.IGJYHJ   )
                             LOCAL_NODE_NN_SERVER(NO);
```

Figure 40 (Part 1 of 2). Sample NDF File

```
DEFINE_MODE   MODE_NAME(APPCPCLM)
              COS_NAME(#CONNECT)
              DEFAULT_RU_SIZE(NO)
              MAX_RU_SIZE_UPPER_BOUND(256)
              RECEIVE_PACING_WINDOW(7)
              MAX_NEGOTIABLE_SESSION_LIMIT(32767)
              PLU_MODE_SESSION_LIMIT(6)
              MIN_CONWINNERS_SOURCE(3);

DEFINE_DEFAULTS   IMPLICIT_INBOUND_PLU_SUPPORT(YES)
                  DEFAULT_MODE_NAME(BLANK)
                  DEFAULT_LOCAL_LU_ALIAS(IG2S1E42)
                  MAX_MC_LL_SEND_SIZE(32767)
                  DIRECTORY_FOR_INBOUND_ATTACHES(*)
                  DEFAULT_TP_OPERATION(NONQUEUED_AM_STARTED)
                  DEFAULT_TP_PROGRAM_TYPE(BACKGROUND)
                  DEFAULT_TP_CONV_SECURITY_RQD(NO)
                  MAX_HELD_ALERTS(10);

DEFINE_TP   TP_NAME(WINMVS3)
            PIP_ALLOWED(NO)
            FILESPEC(C:\DVRDIR\DvrMVSCx.exe)
            CONVERSATION_TYPE(EITHER)
            CONV_SECURITY_RQD(NO)
            SYNC_LEVEL(EITHER)
            TP_OPERATION(QUEUED_OPERATOR_PRELOADED)
            PROGRAM_TYPE(VIO_WINDOWABLE)
            INCOMING_ALLOCATE_QUEUE_DEPTH(255)
            INCOMING_ALLOCATE_TIMEOUT(INFINITE)
            RECEIVE_ALLOCATE_TIMEOUT(INFINITE);

DEFINE_CPIC_SIDE_INFO   SYMBOLIC_DESTINATION_NAME(WINMVS3 )
                        PARTNER_LU_ALIAS(IGNZAPPC         )
                        MODE_NAME(APPCPCLM)
                        TP_NAME(DVR110.DRIVER);

START_ATTACH_MANAGER;
```

Figure 40 (Part 2 of 2). Sample NDF File

Conversation Flow between Workstation and Host

Figure 41 on page 70 gives an overview of the inbound flow during a DataRefresher APPC conversation.

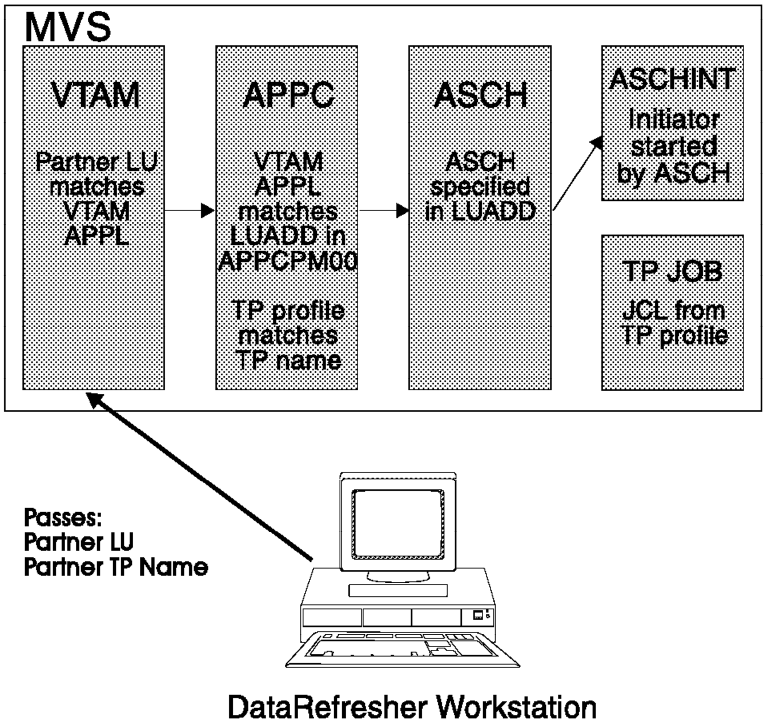

Figure 41. DataRefresher APPC Conversation: Inbound Flow

When a workstation activity initiates an APPC conversation, values specified in CM/2 are used to send the allocate request to the host. Data passed from the workstation to the host includes:

- Partner LU name
- Partner TP name
- User ID and password
- Local TP name
- Default local LU alias name

VTAM is the first point of contact on the host for a request. Validation of the user ID and password is performed at this point.

APPC represents the address space started with the S APPC,SUB=MSTR command, and ASCH represents the address space started with the S ASCH,SUB=MSTR command. After VTAM verifies the conversation allocation request from the workstation, the flow passes to APPC. Within APPC the TP profiles are searched for the matching TP name. When the TP is located, APPC recognizes that the TP is to be scheduled by ASCH. ASCH uses the JCL from the TP profile and the defaults within the ASCHPM00 member to build a job.

A transaction initiator is started based on the CLASS criteria. ASCH starts the ASCHINT procedure which, in turn, starts the initiator. The initiator start is visible on the MVS console. The TP job runs within the initiator.

When the TP job starts successfully, an outbound conversation is started by DataRefresher, which communicates back to the workstation. DataRefresher saves the workstation TP and default local LU alias names that were passed to the host during the inbound flow and uses them to direct the output of the outbound conversation.

Figure 42 on page 71 gives an overview of the outbound flow during a DataRefresher APPC conversation.

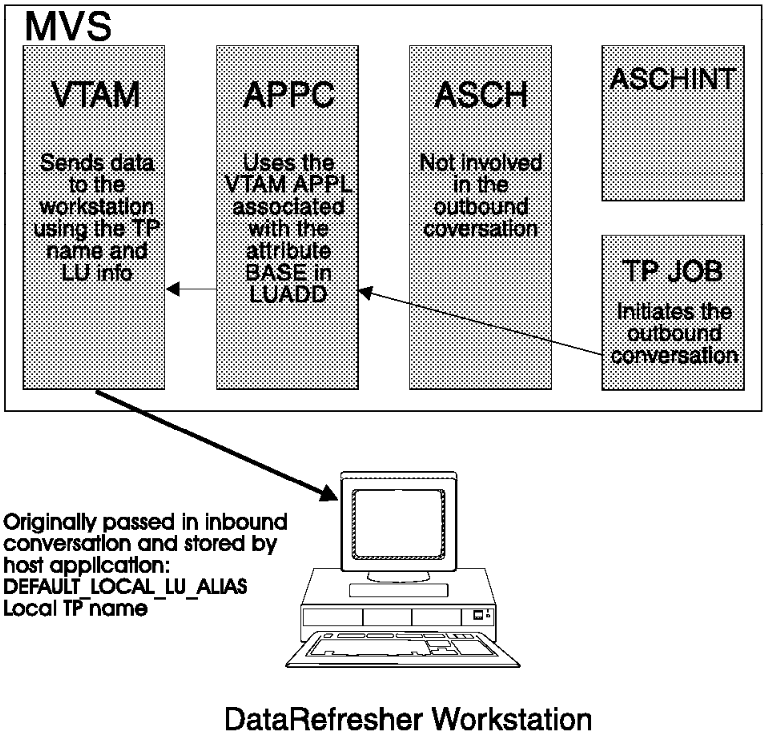

Figure 42. DataRefresher APPC Conversation: Outbound Flow

When the workstation receives the response, DataRefresher tasks start using the communications path that is established. Typically, the workstation builds JCL input and sends the JCL input to DataRefresher running on MVS. DataRefresher MVS translates the JCL input and runs the input through an MVS internal reader. Multiple jobs might be run in this manner to complete a particular single action initiated on the workstation.

The DataRefresher APPC TP is defined as scheduling type STANDARD, which means that when the task terminates, the TP job completes and the initiator terminates.

Debugging the APPC Connection

This section offers:

- A list of tools you can use to test your APPC connection
- A problem/resolution table to help you troubleshoot
- Additional troubleshooting tips

Tools to Test APPC and DataRefresher

You can use the DataRefresher create data type function to test the APPC connection. To use the create data type function to create a dummy User Data Type from DataRefresher OS/2:

1. Open the DataRefresher World.
2. Create a new Data Type exit using the following parameters:
   - Load Lib member name=DVRXAXUT
   - Load Lib=*your_exit_load_lib*
   - Data Type=XY
3. Select **Create**.

If you are able to create a data type, your APPC connection is operating correctly. If you are unable to create a data type, begin problem determination. You can test APPC and the DataRefresher connection to APPC using:

- CM/2 trace
- GETSENSE from the GETSENSE package on the OS/2 tools disk
- OS/2 system logs
- MVS/JES/VTAM/TP logs
- VTAM trace
- TP job log
- TP DXTPRINT and DXTDUMP

Also refer to “Problem/Resolution Table” on page 73 when you try to determine the problem.

Problem/Resolution Table

Table 21 on page 73 lists some common APPC connection problems, common causes, indicators, and suggested actions to resolve them.

Table 21 (Page 1 of 2). Common APPC Connection Problems

Problem	**Causes, Indicators, and Suggested Actions**	
Communications do not reach the host	**Common causes**	• CM/2 is not started. • CM/2 configuration file has errors.
	Indicators	• DataRefresher messages and CM/2 show nonzero return codes. • No host activity.
	Suggested actions	• Check *Communications Manager/2 Messages and Codes* to see if any messages you received point to specific problems. Look for CPI-C side information. • Use a CM/2 trace: – Select a detailed trace. – Locate any CPI-C API return codes and APPC Sense Data codes in the trace title. – Look up CPI-C API return codes in *MVS/ESA SP V4 Writing TPs for APPC/MVS*. – Check the Sense Data codes in SENSEDATA.INF. • Check the last API call on a successful connection to see if it is “MCReceive and Wait, with RC=0”.
DataRefresher communication servers do not start	**Common causes**	• APPC/MVS driver is not found or is not valid. • MVS system constraints.
	Indicators	• A DataRefresher message indicating a host timeout (no MVS job number in the message).
	Suggested actions	• Examine MVS, VTAM, and APPC logs for communication activity. • Ensure that APPC/MVS is active. • Ensure that DVRS0000 was started on the host. • Ensure that the internal reader job was spooled (job name=USERID*n*).
Communications do not reach the workstation	**Common causes**	• Incorrect communication parameters were passed to the host. • The workstation TP driver is incorrect. • JES3 is used without a routing statement, causing jobs to be routed to alternate processors. The alternate processors might not have APPC defined within them.
	Indicators	• A DataRefresher message about a host timeout (MVS job number is in the message). • The MVS job is in a long WAIT state. • Return code 20.
	Suggested actions	• Check MVS, VTAM, and APPC logs for communication activity. • Check the MVS job spool output (DXTPRINT, SYSTSPRT, and DXTDUMP) • Ensure the LU that was passed to the host from the workstation (the default local LU alias definitions in CM/2) is valid. Make sure that it is: – Controlled by the PU (see SYS1.VTAMLST) – Enabled for LU 6.2 (LOCADD=0 in SYS1.VTAMLST) • Verify that the local TP definition in CM/2 is correct. • Make sure the LUADD definition in APPCPM00 contains the keyword BASE. • If using JES3, include a routing statement in the JCL to ensure the communication is directed back to the workstation.

Table 21 (Page 1 of 2). Common APPC Connection Problems

Problem	Causes, Indicators, and Suggested Actions	
Intermittent communications problems	**Common causes**	• TP is not active. • DB2 for OS/2 is not active.
	Indicators	• DataRefresher messages indicating a host timeout. • An MVS job is in a WAIT state.
	Suggested actions	• Cancel the MVS job and check the output. • Restart APPC on the host. Cancel and then start the APPC and ASCH address spaces. • Restart APPC on the workstation. Stop and then start APPC Attach Manager.

Additional Troubleshooting Tips

This section contains some common errors and the resulting symptoms, as well as pointers for debugging problems.

- If you receive an error immediately following a workstation request to the host, suspect the CM/2 setup. Usually the error message indicates CPI-C side information problems or an inactive CM/2.

  If you encounter a problem and make changes but the changes you made were not recognized:

  1. Reboot the workstation or stop the DataRefresher processes with a tool such as the Process Status Presentation Manager (PSPM) tool for OS/2.
  2. Make sure that the CONFIG.SYS file specifies RESTARTOBJECTS=STARTUPFOLDERSONLY to ensure that failing processes are not automatically restarted by OS/2 during reboot.

  A CM/2 trace can be an extremely valuable tool for debugging communications problems. To use a trace:

  1. Set the traces for the type of net you are using (for example, Token ring or Ethernet) and all APPC entries.
  2. Format the trace output and look for -RSP entries that might give clues to the failure point.

  You can also use the CM/2 Subsystem Management tool to query links and sessions. Try to establish a session between the local independent LU and the VTAM APPC APPL.

- Use the display commands provided for APPC and ASCH to check on the status of inbound and outbound conversations. The command syntax and information on interpretation of output is included in Chapter 11 “Operating APPC/MVS” of *MVS/ESA Planning: APPC Management*.

  If the message S ASCHINT shows on the MVS console, and then nothing happens, an inbound transaction appears to have occurred. Check for two strong problem possibilities:

  – Check that a performance group has been assigned for ASCH. The lack of this assignment causes “hangs” that are not immediately obvious.

  – Check the data set specified as MESSAGE_DATA_SET in the TP profile. If no data set is assigned, the default name is &SYSUID.&SYSWUID.&TPDATE.&TPTIME.JOBLOG. The default attributes specify that a new data set be built when an error occurs.

The data set can contain good information, but the job might end with only an indication of JCL error. The way ASCH checks the JCL is similar to the way it is checked in JES, but with exceptions. Chapter 5 "Controlling the Execution of Transaction Programs" of *MVS/ESA Planning: APPC Management* lists JCL restrictions for the APPC environment.

In one case, SYSOUT=* caused such a JCL error, and the problem was resolved by creating the data sets (LRECL of 121) and referring to them as DSN= in the TP JCL.

In another case, a JCL error was caused by the mismatch between an accounting code valid only for batch and the actual foreground task submission of the TP job by ASCH.

APPC Information Sources

This section lists sources for information on APPC.

Highly recommended

- *Multi-platform APPC Configuration Guide*
- *MVS/ESA Planning: APPC Management*

For advanced users

- APPC Connection newsletter. Send e-mail to appcnews@vnet.ibm.com for a free subscription.
- *CPI-C Reference for Programmers*

IBM support

- IBM Marketing Technical Support.
- MKTTOOLS conference disk.
- APPC forum on OS2BBS on IBMLINK.
- Enterprise Communication Partner in Development program in the IBM Worldwide Developer program

  For additional information or to receive a membership application, contact:

U.S. and Canada	1-800-553-1623
Worldwide	1-770-835-9902
Fax	1-214-280-6116
E-mail	commsrv@vnet.ibm.com
Internet URL	http://www.austin.ibm.com/developer
Internet FTP	networking.raleigh.ibm.com. Use the ID anonymous to access /pub/appc_appn.

- IBM networking products at URL http://www.raleigh.ibm.com/. Look under software products.
- IBM APPC publications:
  - *APPC and CPI-C Product Implementations*
  - *APPC Application Examples in MVS/ESA and OS/2*
  - *APPC Programming Considerations in MVS/ESA and OS/2*

- *APPC System Definitions in MVS/ESA and OS/2*
- *APPC/MVS Handbook for the OS/2 System Administrator*
- *The Best of APPC, APPN, and CPI-C* (a CD-ROM collection of sample applications and documents to support APPC, APPN, and CPI-C products)
- *MVS/ESA Application Development: Writing Transaction Programs for APPC/MVS*
- *Performance Considerations in an APPC/MVS Environment*
- *SAA Common Communication Support Summary*

Chapter 7. Downloading and Installing DataRefresher OS/2 (PWS) on Your Workstation

The following overview summarizes the tasks for downloading and installing the DataRefresher OS/2 (PWS) feature on the OS/2 workstation. An LU 2 connection between the host and the workstation is needed for this process. *After* you complete this download and installation process you need an LU 6.2 APPC connection between the MVS host and OS/2 CM/2 to run DataRefresher on both the host and workstation.

Although you do not *use* the LU 6.2 APPC connection until after you download and install DataRefresher OS/2 on your workstation, we highly recommended that you install and configure the LU 6.2 APPC connection *before* you download and install DataRefresher using LU 2. Both network connections, LU 2 and LU 6.2, are usually installed and configured by the network team in your organization.

Installing DataRefresher on the workstation involves three components:

- DataRefresher database
- DataRefresher code
- DataHub Integration code

You must install the code and the sample database that is provided. You can optionally install the DataHub Integration component, which allows you to launch DataRefresher from the DataHub product.

To access DataRefresher V1 from DataHub, you need DataHub V1R2. You cannot invoke DataRefresher from DataHub V1R1. Before you install the DataHub/DataRefresher integration code, you must first install DataHub V1R2.

You can install DataRefresher on either a single independent workstation, or on several workstations that are serviced by a DB2 for OS/2 remote server containing the DataRefresher database. You can install DataRefresher directly from the MVS system, or transfer DataRefresher from the MVS host system to a LAN and then install from there.

The recommended process is to:

1. Customize the connection between the workstation and the MVS host system.

   Use CM/2 on the workstation to supply APPC API values that allow your workstation to communicate with the network station where the MVS host system is located. Refer to Chapter 6, "Configuring APPC for DataRefresher" on page 40 for information on customizing the APPC connection.

2. Download the PWS installation tool. Make sure that the 3270 emulator session you use to access the MVS host system from your workstation is configured to receive both binary and text files. Refer to "Downloading DataRefresher" on page 78 for information on how to set up your system and receive DataRefresher files.

3. Install the DataRefresher database and code.

   You must install the database before you install the code.

- If you are installing DataRefresher on a single independent workstation, you can install both the database and the code simultaneously.
- If you are installing DataRefresher on several workstations connected to a LAN, you need to install the code on each workstation where DataRefresher is used.

   Refer to “Installing DataRefresher” on page 79 for information on how to install DataRefresher onto a workstation or in a multiuser environment.

4. Configure the DataRefresher database using the DVRMAINT tool. Refer to *DataRefresher OS/2 User's Guide* Chapter 11, “Customizing Your DataRefresher Database”.

To help you gather the information necessary for installation, use the worksheets provided in Chapter 3, “Preparing for Installation” on page 13. Also refer to Part 3 (Chapter 9 through Chapter 11) of the *DataRefresher OS/2 User's Guide* for more details.

Downloading DataRefresher

To download DataRefresher you must:

1. Set up the system.
2. Receive the files.

This section explains these steps in detail.

Setting Up the System

To set up the system:

1. Choose names for directories on the workstation where the following files will reside:

   .EXE files Executables
   .DLL files Dynamic link libraries
   .HLP files Help files

   You can put all of the files in one directory, or you can put them in separate directories. The examples in this section use one directory, C:DVRDIR, for all the files. However, if you choose to use separate directories, you might use directory names like:

   DVRDIREXE Executable files
   DVRDIRDLL DLL files
   DVRDIRHLP Help files

2. Create the directory where the executables will reside (.EXE files). You will download the installation file, INSTALL.EXE, to this directory later.
3. Update CONFIG.SYS so that:
   - It includes the statement, SET RESTARTOBJECTS=NO.
   - The PATH variable includes the name of the directory where the executables will reside.
   - The LIBPATH statement includes the name of the directory in which the DLLs will reside.
4. Reboot your workstation.

Receiving the Installation Files

To receive the files:

1. Log on to the MVS host system using a 3270 emulation session. Ensure that you are in the TSO command processor option, and ensure that the command line is ready to receive OS/2 commands.
2. In an OS/2 window type one of the following commands from the new directory:

   For the English version of DataRefresher:

   RECEIVE *drive:\directory*\INSTALL.EXE *b:* ′*hlq*.DVRPWSE(INSTALLE)′

   For the Japanese version of DataRefresher:

   RECEIVE *drive:\directory*\INSTALL.EXE *b:* ′*hlq*.DVRPWSE(INSTALLK)′

   Where:

drive:\directory	Is the location on the workstation where the INSTALL.EXE file will be stored.
b	Is the name of the 3270 emulation session where you logged on to TSO, for example, session B
hlq	Is the high-level qualifier on the MVS host system, for example, DVR110

   If you use the example values, the command is:

   RECEIVE C:DVRDIRINSTALL.EXE B: ′DVR110.DVRPWSE(INSTALLE)′

   The INSTALL.EXE file is now downloaded to the directory you named.

   If you downloaded each of the files to different directories using the sample names listed in “Setting Up the System,” the RECEIVE command is:

   RECEIVE C:DVRDIREXEINSTALL.EXE B: ′DVR110.DVRPWSE(INSTALLE)′

Installing DataRefresher

After you successfully download the files, you can install them. To install the files:

1. Change to the directory where the INSTALL.EXE file is now stored by typing:

   C:\DVRDIR

   (or whatever you named the directory)

2. Type INSTALL to run the installation tool.

   The Installation window is displayed, as shown in Figure 43 on page 80.

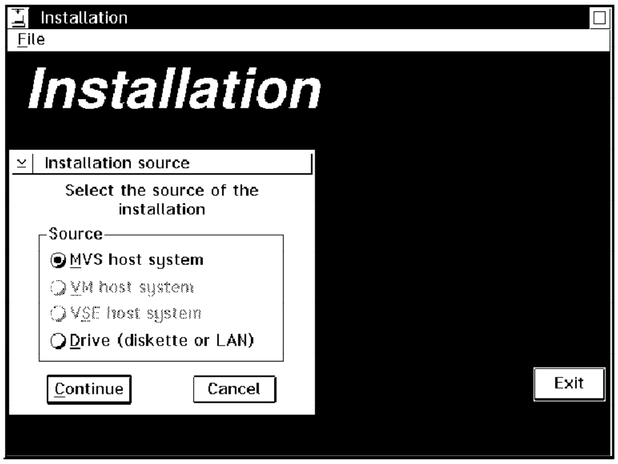

Figure 43. Installation Window

3. Select the **MVS host system** radio button.
4. Select **Continue**.

   The Install from MVS host window is displayed, as shown in Figure 44 on page 80.

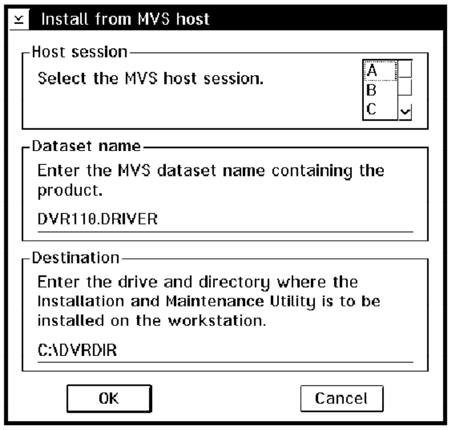

Figure 44. Install from MVS Host Window

5. Supply the following information in the fields on the window:

   Host session Select the letter representing the 3270 emulator session that you plan to use to download the DataRefresher files.

   Data set name Supply the MVS high-level qualifier or qualifiers for the data set DVRPWSE containing the DataRefresher code. For example, if the filename is DVR110.DVRPWSE, the high-level qualifier is DVR110.

   Destination Supply the name of the workstation drive and directory where you want to store the installation utility and the DataRefresher code.

6. Select **OK**.

The Install – progress window is displayed, and then the Instructions window is displayed, as shown in Figure 45 on page 81.

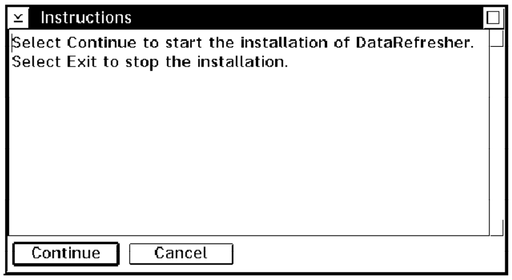

Figure 45. Instructions Window

7. Select **Continue**.

   The Installation and Maintenance window is displayed. You can either install the DataRefresher code directly onto a workstation, or you can transfer the code to a server on a LAN.

8. Select a choice:

   DataRefresher
   To install onto a workstation. If you are installing DataRefresher onto a workstation from a LAN, select **DataRefresher**.

   DataRefresher (LAN version)
   To install onto a server on a LAN. The code is transferred to the LAN server and stored, but is not installed there. Later you can use the stored code to install DataRefresher from the LAN server onto other workstations or server machines.

9. Complete the installation steps. If you are installing onto a workstation, go to “Installing onto a Workstation” on page 81. If you are installing onto a server on a LAN, go to “Installing DataRefresher in a Multiuser Environment” on page 87.

Installing onto a Workstation

This section describes how to install DataRefresher onto a workstation.

1. Follow the installation instructions as described in “Installing DataRefresher” on page 79.

2. From the **Action** menu, select **Install**, as shown in Figure 46 on page 82.

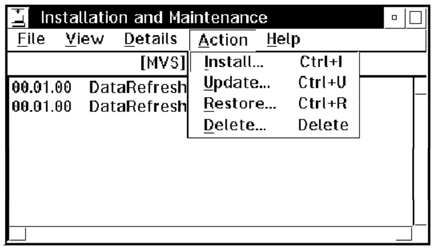

Figure 46. Installation and Maintenance Window

The Install window is displayed, as shown in Figure 47 on page 82.

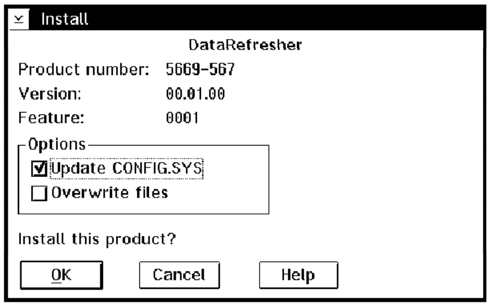

Figure 47. Install Window

3. Select the **Update CONFIG.SYS** check box to indicate that you want the CONFIG.SYS file on your workstation to be updated with the information required to run DataRefresher. The following paths will be changed in the CONFIG.SYS:

   - LIBPATH
   - SET HELP
   - SET PATH

   If you deselect this option, an alternative CONFIG.SYS file will be created with the appropriate values and stored on your workstation.

4. Select **OK**.

   The Install – directories window is displayed, as shown in Figure 48 on page 83.

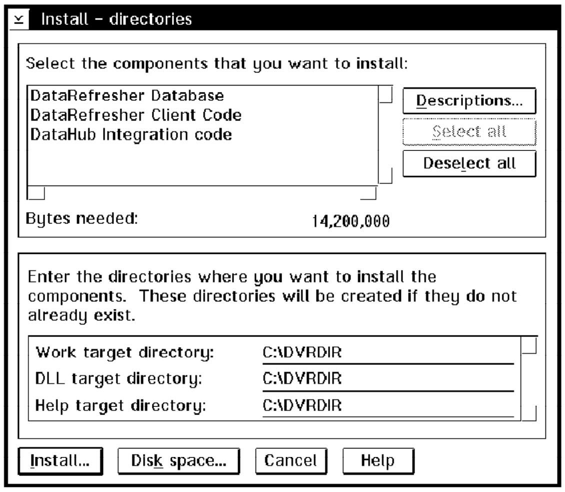

Figure 48. Install – Directories Window

5. Select all of the components you want to install:

DataRefresher Database Select this item if you want to install the database.

DataRefresher Client code Select this item if you want to install the DataRefresher code.

DataHub Integration code Select this item if you want to use DataHub to access DataRefresher.

Note: Integrating DataRefresher with DataHub is not required. Both products require significant amounts of memory, and the combined usage can cause slower response time.

6. Specify the target directories where you want the components to be stored:

DLL target directory This directory will be added to the LIBPATH statement in your CONFIG.SYS

Work target directory This directory will be added to the SETPATH statement in your CONFIG.SYS

Help target directory This directory will be added to the SET HELP path in your CONFIG.SYS

It is recommended that you use the same target directory for all components.

7. Select **Install**.

   The Install – progress window is displayed, as shown in Figure 49 on page 84.

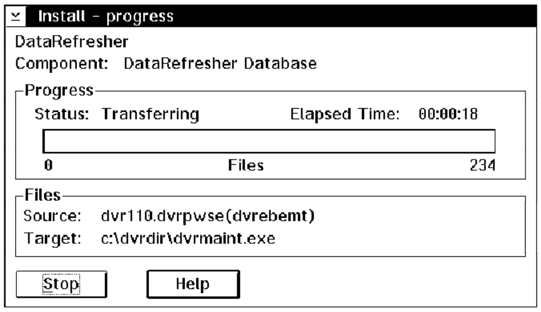

Figure 49. Install – Progress Window

   It takes approximately 30 minutes to download the files. If you are installing the database component, the Create DataRefresher Database window is displayed during the procedure, as shown in Figure 50 on page 84.

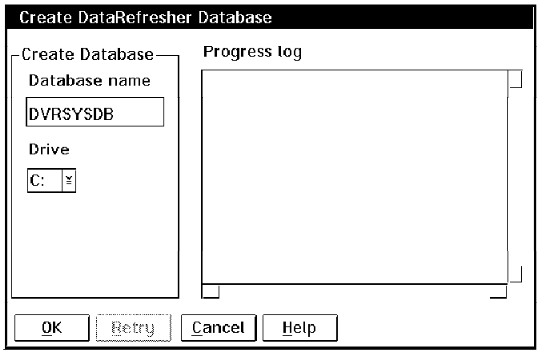

Figure 50. Create DataRefresher Database Window

8. If you are installing the database component:

   a. Supply the following information in the fields on the Create DataRefresher Database window:

      Database name The physical name for the DataRefresher database. The alias for the database is always set to DVRSYSDB. You cannot have an existing database with this name.

      Drive The workstation drive where the database will be created, for example, C:

   b. Select **OK**.

      The **Progress log** provides a report while the DB2 for OS/2 database is being created, as shown in Figure 51 on page 85.

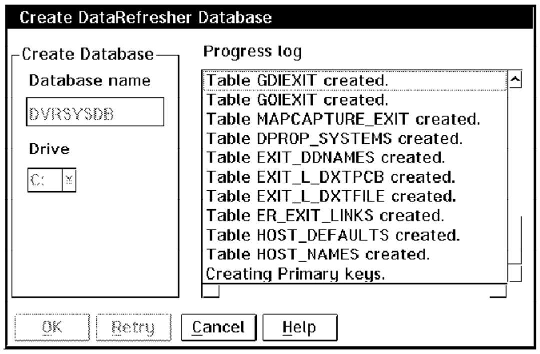

Figure 51. Create DataRefresher Database Window, during Database Creation

When the database has been created, the Install – progress window, as shown in Figure 49 is re-displayed. When the files have all been downloaded, the Catalog DataRefresher Remote Database window is displayed, as shown in Figure 52 on page 85.

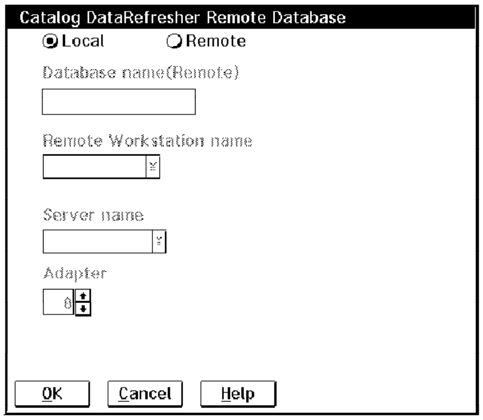

Figure 52. Catalog DataRefresher Remote Database Window

You must catalog the database before the code can be bound to it.

   c. Select the **Local** radio button if you are installing both the database and the DataRefresher code onto a workstation.

   d. Select **OK**.

The Install – progress window is then re-displayed while the code is binding to the database. When this process is complete the Installation and Maintenance window is re-displayed, as shown in Figure 46 on page 82. This window indicates that the installation procedure is complete.

9. Select **Close** from the system menu to close the Installation and Maintenance window.

10. Select **Exit** to close the installation tool.

After successfully completing your DataRefresher installation, customize the DataRefresher database using the DVRMAINT tool. For more information refer to *DataRefresher OS/2 User's Guide* Chapter 11, “Customizing Your DataRefresher Database”.

Installing DataRefresher in a Multiuser Environment

You can install DataRefresher on a LAN server so that several users can access the DataRefresher control database simultaneously.

To install DataRefresher in a multiuser environment you need to:

- Download DataRefresher from the MVS host system to a LAN server.
- Install the DataRefresher database component on a DB2 for OS/2 server workstation.
- Install the DataRefresher code component on each workstation where DataRefresher is used.

This section describes these steps.

Downloading DataRefresher to a LAN

To download DataRefresher to the LAN:

1. Follow the installation instructions as described in “Installing DataRefresher” on page 79

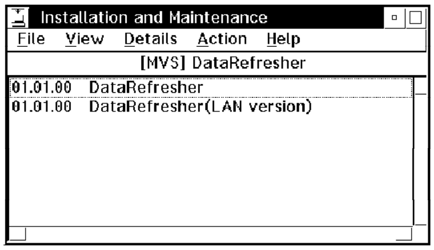

Figure 53. Installation and Maintenance Window

2. Select **DataRefresher (LAN version)** from the Installation and Maintenance window, shown in Figure 53 on page 87.

3. From the **Action** menu, select **Install**.

   The Install – directories window is displayed, as shown in Figure 54 on page 88.

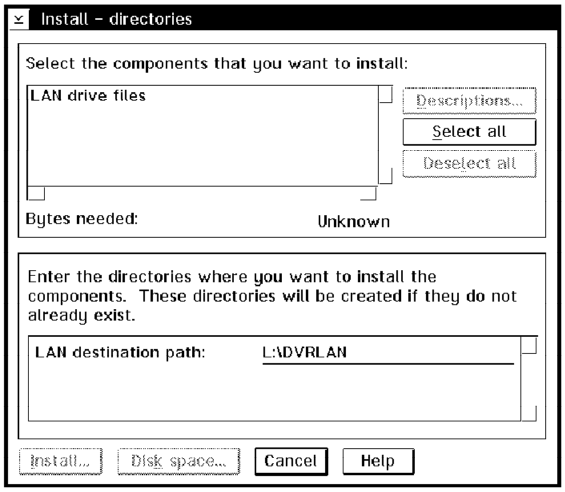

Figure 54. Install – Directories Window (LAN Version)

4. Select **LAN drive files**.
5. Specify the LAN drive and directory where you want to store the DataRefresher files in the **LAN destination path** field.
6. Select **Install**. The Install – progress window is displayed, as shown in Figure 49 on page 84, and the files are then transferred to the LAN drive.

When the download procedure is complete, install the DataRefresher database on a server, and then install the code onto one or more workstations.

Installing the Database onto a Server

To install the database onto a server machine attached to the LAN:

1. Type INSTALL to run the installation tool.
2. Supply the required information on the windows that are displayed, until the Install – directories window is displayed, as shown in Figure 48 on page 83.
3. Select **DataRefresher Database** and specify your target directories.

4. Select **Install**. The database is created, as described in "Installing onto a Workstation" on page 81. When the database is created and ready to be catalogued, the Catalog DataRefresher Remote Database window is displayed, as shown in Figure 55 on page 89.

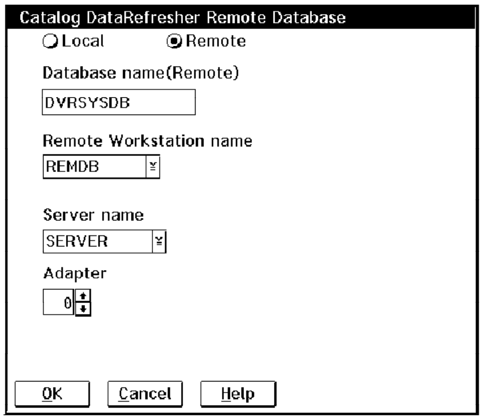

Figure 55. Catalog DataRefresher Remote Database Window, with Values for a Remote Server

5. Select the **Remote** radio button.
6. You also need to supply the following information:
   - The name of the database
   - The name of the workstation where the code is installed
   - The name of the server machine
7. Set the **Adapter** field to 0.
8. Select **OK**.

   The Install – progress window is then re-displayed while the code is binding to the database. When this process is complete, the Installation and Maintenance window is re-displayed, as shown in Figure 46 on page 82. This indicates that the installation procedure is complete.
9. Select **Close** from the system menu to close the Installation and Maintenance window.
10. Select **Exit** to close the installation tool.

The database is now installed on the server. Next, you will install the code onto one or more workstations.

Installing from a LAN to a Workstation

You can install DataRefresher onto your workstation in a LAN environment provided DataRefresher code was downloaded from the host and stored on the LAN server and the DataRefresher database is already installed on a server machine.

To install DataRefresher onto a workstation using code stored on a LAN server:

1. Create a directory on the workstation where you can store the DataRefresher code, for example, C:DVRDIR.
2. Update the LIBPATH statement in your CONFIG.SYS file with the new path and directory and then reboot your workstation.
3. Go to the LAN drive and directory where the DataRefresher code is stored.
4. In an OS/2 or DOS window, type the following command from the LAN directory:

   INSTALL /S:*l:\landir*

   where:

   l:landir Is the location drive and directory path on the LAN where the DataRefresher files are stored

   The Installation window is displayed, as shown in Figure 43 on page 80.
5. Select the **Drive (Diskette or LAN)** radio button and select **Continue**. The Installation and Maintenance window is displayed, as shown in Figure 53 on page 87.
6. Select **DataRefresher**.
7. From the **Action** menu, select **Install**. The Install window is displayed, as shown in Figure 47 on page 82.
8. Select the **Update CONFIG.SYS** radio button to indicate that you want the CONFIG.SYS file on your workstation to be updated with the information required to run DataRefresher.
9. Select **OK**.

   The Install – directories window is displayed, as shown in Figure 48 on page 83.
10. Select the components you want to install and specify the target directories where you want the DataRefresher code to be stored.
11. Select **Install**.

    The Install – progress window is displayed, as shown in Figure 49 on page 84.

After successfully completing your DataRefresher installation, customize the DataRefresher database using the DVRMAINT tool. For more information refer to the *DataRefresher OS/2 User's Guide*, Chapter 11, " Customizing your DataRefresher Database".

Installing DataRefresher in Unattended Mode

You can simplify the installation procedure by performing it in unattended mode. To perform this type of installation you need a response file containing all the installation values. The response file must contain the required values before you can use it. The file provides all the required information so you do not need to use the windows in the installation tool.

This method is appropriate if several users need to install DataRefresher on their workstations. A LAN coordinator, or other central person, can edit the response file and supply the required values.

To perform an unattended installation:

1. Go to the directory on the LAN where the DataRefresher files are stored. These files are transferred from the MVS host to the LAN during the DataRefresher LAN installation.
2. In an OS/2 or DOS window type the following command from the new directory:

   CIDINST *drive:\directory logfile*

   Where:

   drive:directory Is the location on your workstation where you want to store the DataRefresher files

   logfile Is a name you specify for the log file that will be created by the installation procedure

Appendix A. Applying Service Upgrades to DataRefresher OS/2 (PWS)

Service upgrades for DataRefresher OS/2 are distributed as MVS SMP/E installable program temporary fixes (PTF). After a PTF is received and applied on the MVS system, the DataRefresher OS/2 (PWS) installation tool is used to download and install the fixes on the workstation.

To download and install fixes to DataRefresher OS/2:

1. On MVS, ensure that you have an active TSO session in native mode or at the TSO command option of ISPF.
2. On the workstation, ensure you are in the drive and directory where DataRefresher is installed and the upgrades are to be applied.
3. From the workstation, type `install` to invoke the installation tool.
4. From the Installation window, select the **MVS Host system** radio button and select **Continue**.
5. Specify the host session ID, the DataRefresher MVS high-level qualifier, and the drive and directory under which DataRefresher is installed.

   The installation tool downloads any required catalog and package files from the MVS data set ′*hlq*.DVRPWSE′.
6. Select **DataRefresher**.
7. From the **Action** menu, select **Update**.

   The installation tool downloads any changed parts and performs any actions required to complete the upgrade.
8. Exit the installation tool.

Appendix B. Removing DataRefresher from a Workstation

The installation tool provides a delete facility for removing DataRefresher from a workstation.

To remove DataRefresher:

1. Open the CONFIG.SYS file for your workstation and make sure it contains the following command:

   SET RUNWORKPLACE C:\OS2\PMSHELL.EXE

2. Go to the directory on your workstation where the installation tool is stored.

   If you installed DataRefresher as part of a multiuser installation you need to receive the installation tool from the MVS system as described in Chapter 7, “Downloading and Installing DataRefresher OS/2 (PWS) on Your Workstation.”

3. Type INSTALL to open the tool.

   The Installation window is displayed, as shown in Figure 43 on page 80.

4. Select the **MVS host system** radio button.
5. Select **Continue** and then select **OK**.

   The Install – progress window is displayed, and then the Instructions window is displayed, as shown in Figure 45 on page 81.

6. Select **Continue**.

   The Installation and Maintenance window is displayed, as shown in Figure 46 on page 82.

7. Select **DataRefresher**.
8. From the **Action** menu, select **Delete**.

   The Delete window is displayed, as shown in Figure 56 on page 93.

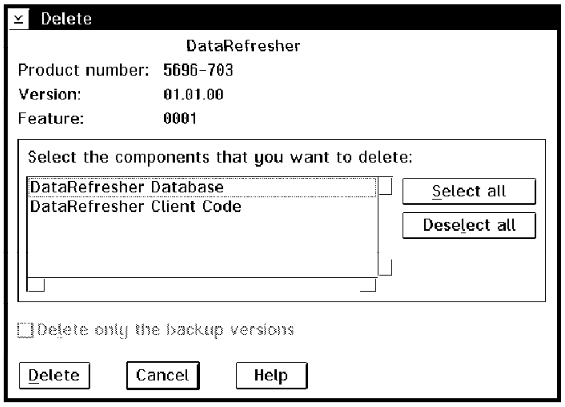

Figure 56. Delete Window

9. From the list box, select the components you want to delete and then select **Delete**.

The Delete – progress window is displayed, as shown in Figure 57 on page 94, and the components are removed.

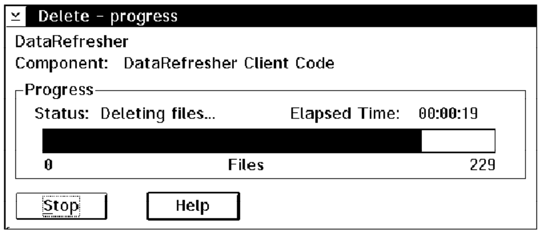

Figure 57. Delete – Progress Window

When the components are deleted, a message is displayed, as shown in Figure 58 on page 94.

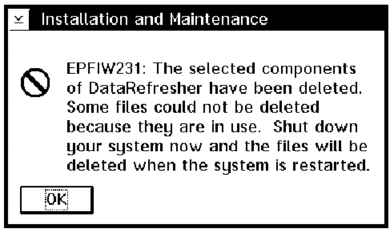

Figure 58. Installation and Maintenance Message

The database is not deleted.

10. Optional: Delete the database. Use the DB2 Query Manager tool to remove the database from your workstation. If you intend to re-install DataRefresher later, make sure your old database is deleted first.

11. Re-boot the machine.

Appendix C. Migrating from DXT to DataRefresher

This appendix provides information on how to migrate from DXT to DataRefresher. You must finish installation DataRefresher before migrating from DXT to DataRefresher.

Before Removing DXT

Before you delete or overwrite any previous release of DXT, make a backup copy of the FDTLIB for that release. If you later decide to re-install DXT, use the copy of the old FDTLIB, and follow the installation procedures given in the appropriate DXT program directory.

Migrating from DXT Version 2 Releases 4 and 5

Migration from DXT to DataRefresher should be performed by a system programmer.

Many components of DXT Version 2 Releases 4 and 5 are compatible with Version 1. However, to use DXT dialogs data sets and exit routines, you need to:

- Save or rename your existing DXT dialogs user data sets.
- Recompile and link-edit the Assembler exit routine, DVRXAACX. In addition, link-edit any Accounting exit routines written to work with DXT to include the new control blocks.
- Recompile and link-edit your Map Capture exit routines to include the new control blocks.

If your site is planning to extract data from an IMS/VS DL/I database, a VSAM data set, a physical sequential data set, or a data source accessed by a GDI exit routine, you need two permanent data sets:

- File description table library (FDTLIB)
- Extract request library (EXTLIB)

The FDTLIB contains the submitted data descriptions and the EXTLIB contains the submitted extract requests. Neither the FDTLIB or EXTLIB should reside on a DASD shared by multiple processors, unless Global Resource Serialization is used.

The FDTLIB and EXTLIB are created by installation verification procedures. The installation procedures provide the control statements necessary to create both of these libraries. For information on how to define single or multiple FDTLIBs or EXTLIBs after installing DataRefresher, refer to the *DataRefresher Administration Guide*, Chapter 9, “Setting Up FDTLIB and EXTLIB Data Sets.”

Summary of Migration Steps

In order to migrate, you must:

1. Select an FDTLIB/EXTLIB pair to be migrated.
2. Create a DataRefresher World for this pair using DVRMAINT.
3. In DataRefresher, register the IMS PSBs, IMS databases, VSAM data sets and PSDSs for which you want to migrate sources and extract requests from the FDTLIB/EXTLIB pair. Also register any exit routines that are used by objects in the FDTLIB/EXTLIB pair.
4. Create import files at the host that will ultimately be downloaded to the workstation and used to create DataRefresher Source, Extract and Exit objects in the DataRefresher database.
   a. Create the initial import files by using CLIST DVRXLMG0 to punch the required information from the FDTLIB/EXTLIB pair.
   b. Link the objects described in the files to the objects you registered in Step&rbl,3 above. Queries and forms are provided to extract the information you require from the DataRefresher database.
5. Use the RECDB.CMD command file to download the completed import files to the workstation.
6. Use the IMPORT.CMD command file to import the data into your DataRefresher database.

The Migrate Utility

The Migrate utility runs on the host and workstation.

The host uses the DataRefresher PUNCH command to punch out the contents or individual objects from the specified FDTLIB and EXTLIB pair to be migrated. The punch data is then parsed to extract the data to be imported into the DataRefresher database. This procedure produces 11 files. The files contain some of the data to import. Other information, such as the IMS PSB, is not in the DXT libraries. You must add this information to the files before you do the import step. You can use either the workstation or the host to add the information.

The workstation uses the RECDB.CMD command to transfer the files from the host to the workstation and the IMPORT.CMD command to import the data into the DataRefresher database.

Things to Do Before Running the Migrate Utility

Before you run the Migrate utility, you must complete these steps:

- Select the FDTLIB and EXTLIB pair to migrate, or individual objects in the FDTLIB AND EXTLIB to migrate.
- Register in the appropriate worlds any IMS Databases, IMS PSBs, VSAM data sets, and PSDSs that were used to build the DXTFILEs and DXTPSBs in the FDTLIB you are migrating.
- Import the following queries and forms into the Query Manager, and run them. The queries and forms were installed on your workstation when DataRefresher was installed. The reports from these queries and forms

provide useful information on the existing state of the DataRefresher database.

DXTWORLD.QRY, DXTWORLD.FRM
Produces a report from which you can choose the target DataRefresher World for the FDTLIB and EXTLIB.

USERWRLD.QRY, USERWRLD.FRM
Produces a report from which you can choose the target User Defined World for any EXITs referenced by the DXTFILEs, DXTPSBs and Extract Requests in the FDTLIB and EXTLIB.

IMSPSB.QRY, IMSPSB.FRM
Produces a report from which you can choose the IMS PSB, IMS PCB and PSBLIB which correspond to each DXTPSB being migrated.

VSAMPSDS.QRY, VSAMPSDS.FRM
Produces a report from which you can choose the VSAM data set or physical sequential data set corresponding to each DXTFILE being migrated.

Migrating DXT 2.5 Data Descriptions to DataRefresher

To migrate your DXT 2.5 data descriptions to DataRefresher, complete the following five steps.

Step 1 - Edit the DVRXLMG0 CLIST

The DVRXLMG0 CLIST contains information about what is to be migrated and passes this information to the Migrate utility.

The Migrate utility migrates DXT 2.5 libraries, FDTLIB and EXTLIB. In doing so, it assumes that the EXTDATA keyword in an extract request uses a data set name. If your extracts were saved using a DDNAME, you must provide a data set name to the data file produced by the Migrate utility before you use the import utility to update the DataRefresher database.

This CLIST is in *hlq*.DVRINCLS, where the high-level qualifier (*hlq*) is the same as the high-level qualifier for DataRefresher. Edit this CLIST with information about what you want to migrate. Figure 59 on page 98 shows the DVRXLMG0 CLIST.

```
/**********************************************************************/
/* REXX                                                               */
/* Set up parameters                                                  */
hostname = 'MVS'
fdtlib   = 'DVR250.FDTLIB'
extlib   = 'DVR250.EXTLIB'
hlq      = 'DVR110'
uimload  = 'DVR110.DVRLOAD'
data_refresher_world = '0000000000'
user_defined_world   = '0000000000'

/* Set up objects to be migrated                                      */
dxtpsb   = 'DXTPSB=*'
dxtfile  = 'DXTFILE=*'
dxtview  = 'DXTVIEW=*'
datatype = 'DATATYPE=*'
extid    = 'EXTID=*'

/* Call Migrate Utility                                               */
call DVRXLMG1 hostname fdtlib extlib location hlq dxtpsb dxtfile,
         dxtview datatype extid uimload
/**********************************************************************/
```

Figure 59. DVRXLMG0 CLIST

Edit the CLIST by entering the following information:

hostname = 'MVS'
: Replace MVS with the name of the host from which you are migrating. Ensure that the host name is the same as that used when creating the host in the DataRefresher database on the workstation. The name can be up to eight characters long.

fdtlib = 'DVR250.FDTLIB'
: Replace DVR250.FDTLIB with the data set name of the FDTLIB to be migrated.

extlib = 'DVR250.EXTLIB'
: Replace DVR250.EXTLIB with the data set name of the EXTLIB to be migrated.

hlq = 'DVR110'
: Replace DVR110 with the high-level qualifier for the data sets to be created by the Migrate utility. These data sets will contain the data to be transferred to the workstation and imported into the DataRefresher system database.

uimload = 'DVR110.DVRLOAD'
: Replace DVR110.DVRLOAD with the DataRefresher Load Library if your DataRefresher Load Library name is other than the default.

data_refresher_world = '0000000000'
: Replace 0000000000 with the identifier of DataRefresher World to which the objects are to be migrated. The DataRefresher World identifier can be found on the Query Manager report from the DXTWORLD.QRY query in the column headed "DataRefresher World." See "Things to Do Before Running the Migrate Utility" on page 96 for Query Manager report information.

user_defined_world = '0000000000'
: Replace 0000000000 with the identifier of the User Defined World to which EXIT objects will migrate. The User Defined World identifier can be found on the Query Manager report from the USERWRLD.QRY query in the column headed "User Defined World." See "Things to Do Before Running the Migrate Utility" on page 96 for Query Manager report information.

Objects to be migrated

You can migrate any of these objects:

DXTPSBs
DXTFILEs
DXTVIEWs
DATATYPEs
Extract Requests

The CLIST DVRXLMG0 migrates the complete contents of the FDTLIB and all the extracts awaiting execution in the EXTLIB. Figure 60 on page 99 shows how you specify all objects for migration.

```
/* Set up objects to be migrated */
dxtpsb   = 'DXTPSB=*'
dxtfile  = 'DXTFILE=*'
dxtview  = 'DXTVIEW=*'
datatype = 'DATATYPE=*'
extid    = 'EXTID=*'
```

Figure 60. Example of Specifying All Objects for Migration

You can exclude objects from migration by removing the asterisk in the statement. The example in Figure 61 on page 99 migrates DXTFILEs only.

```
/* Set up objects to be migrated */
dxtpsb   = 'DXTPSB='
dxtfile  = 'DXTFILE=*'
dxtview  = 'DXTVIEW='
datatype = 'DATATYPE='
extid    = 'EXTID='
```

Figure 61. Example of Excluding Objects from Migration

You can migrate specific objects by specifying the name of the object. The example in Figure 62 on page 99 migrates all DXTFILEs and DXTVIEW VIEW1.

```
/* Set up objects to be migrated */
dxtpsb   = 'DXTPSB='
dxtfile  = 'DXTFILE=*'
dxtview  = 'DXTVIEW=VIEW1'
datatype = 'DATATYPE='
extid    = 'EXTID='
```

Figure 62. Example of Specifying Specific Objects for Migration

Step 2 - Run the Migrate Utility

To run the Migrate utility, you can either:

- Enter TSO EX 'HLQ.DVRINCLS(DVRXLMG0)' on the ISPF command line.
- Enter EX 'HLQ.DVRINCLS(DVRXLMG0)' from the TSO Command Processor, Option 6 on the ISPF Primary Options Menu.

The Migrate utility displays progress messages to indicate its status. Upon successful completion, the Migrate utility produces the following data sets:

hlq.PC.DATATYPE

hlq.PC.DXTFILE
hlq.PC.DXTPCB
hlq.PC.DXTPSB
hlq.PC.ERLINK
hlq.PC.ERVIEWS
hlq.PC.EXITFILE
hlq.PC.EXITPCB
hlq.PC.EXTRACT
hlq.PC.VIEWF
hlq.PC.VIEWP

Where *hlq* is the value entered in DVRXLMG0.

Step 3 - Add Required Data to the IMPORT Files

All the information required to complete the tables is not in the FDTLIB and EXTLIB. You must provide some information. For example, the IMSPSB is not in the DXT libraries although it is used to associate the DXTPSBs and DXTFILEs with the IMS databases and VSAM/PSDS data sets. You cannot import data into the DataRefresher database until you provide the information because of the referential integrity constraints.

Table 22 shows the files that require additional data, what data they require, and the column positions in which to add the data. See "Things to Do Before Running the Migrate Utility" on page 96.

Table 22. Additional Data for IMPORT Files

File Name	Data Required	Columns
hlq.PC.DXTPCB	IMSPSB IMSPCB PSB_LIB_NAME	73 to 80 82 to 86 88 to 131
hlq.PC.DXTFILE	VSAM_PSDS_DB	88 to 97

Step 4 - Transfer the Files to the Workstation

Run the command file, RECDB.CMD, on the workstation to download the data sets produced by the Migrate utility.

To transfer the files to the workstation:

1. Switch to the DataRefresher directory on the workstation.
2. On your MVS session, go to the TSO Command Processor Option. Select Option 6 from the ISPF Primary Options Menu to display the TSO command processor panel.
3. At the workstation, run the RECDB.CMD command file to transfer the files from your MVS session to the workstation. You can specify values for the following optional parms:

   / **D** = *dir* — The directory to which the import files will be transferred. The default is D:\MIGRATE.

   / **A** = *qualifier* — The high-level qualifier of the files to transfer. The default is DVR110.

   / **S** = *session* — The host emulation session to use for the file transfer. The default is A.

Figure 63 on page 101 shows how to import files to directory C:\DR\MIGRATE with the default qualifier and use CM/2 session B for the transfer.

```
RECDB /D=C:\DR\MIGRATE /A=DVR110 /S=B
```

Figure 63. Example of the RECDB Command

If you prefer to edit the files from the workstation, transfer the files first, then perform the edit step (Step 1).

Step 5 - Import the Files

The order in which the files are imported is important because of the referential integrity constraints that exist between the tables. The command file, IMPORT.CMD, imports files in the correct order into the DataRefresher database. The IMPORT.CMD file was installed on your workstation when DataRefresher was installed.

To invoke the IMPORT command:

1. Switch to the DataRefresher directory on the workstation.
2. Run the IMPORT.CMD command file to import the data. Specify values for the following parameters:

   / **D** = *dir* — The directory from which the data will be imported. The default is D:\MIGRATE.

   / **A** = *qualifier* — The qualifier used for the tables in the database. The default is DVR110.

   / **N** = *name* — The name of the database. The default is DVRSYSDB.

   / **M** = *messagefile* — The name of the file to which the Import command sends messages. The default is IMPORT.MSG.

The IMPORT.CMD command file uses a file called IMPORT.DOC, which contains information about the data to be imported, and about the tables and the column positions. IMPORT.CMD should reside in the same directory as the command file and should not be changed.

The IMPORT.CMD command file calls the DB2 for OS/2 IMPORT API. The API concatenates messages for each imported file into the message file specified.

Migrate Utility Error Conditions

Migrate utility error conditions can occur at either the host or the workstation, and could result in the migration not completing successfully.

Host Error Conditions

If the User Input Manager (UIM) finishes with a return code of 8 or higher at the host, the Migrate utility will stop processing. The temporary data sets allocated for running the UIM will not be deleted. These are called:

hlq.MIGRATE.DXTIN
hlq.MIGRATE.DXTPRINT
hlq.MIGRATE.DXTDUMP
hlq.MIGRATE.DXTPUNCH

The Migrate utility also stops processing if an error is detected while allocating, reading, writing, or deallocating files.

The messages in the DXTPRINT data set will indicate why the UIM did not complete successfully. Use these messages to diagnose the problem, correct the error condition, and then retry the procedure.

Workstation Error Conditions

The Migrate utility on the workstation concatenates messages from the DB2 for OS/2 IMPORT API into one file (the default is IMPORT.MSG). Messages can be produced during import for a number of reasons:

- If duplicates are found.
- If the data added to the import files does not match the registered IMS databases or VSAM/PSDS data sets.
- If any views or extract requests that are being migrated are obsolete. That is if the DXTFILEs or DXTPSBs/DXTPCBs (views), or DXTVIEWs (extracts) on which they are based, do not exist.

Use the error messages to diagnose the problem, correct the error condition, and then retry the procedure.

Appendix D. How to Save and Reuse Job Files Presented by the Installer

You can use the Installer to save and reuse the job files you modified during DataRefresher installation. After modifying a job file, you must copy the contents of the file to a new member of the PDS. To use the modified file, you must then copy the new member back to the old member file.

To modify and save job files:

1. From any Installer panel, place your cursor on the name of the operation that you want to modify and press the F5 key. The job appears, with the data set name appearing in the status line.
2. Edit the job.
3. Type CREATE and the name that you want to give the modified job on the command line. Do not press Enter.

   It is recommended that you change the first three characters of the original job file name to create a new file name. For example, if you made modifications to the DVREJURC job, change the characters DVR to something different but leave the rest of the file name the same: HPAEJURC.
4. Before pressing Enter, enter CC at the first and last line of the job file to indicate that you want the entire file copied.
5. Press Enter. The modified job file is copied to a new member.

At this point, you can perform other tasks in the Installer or exit the Installer.

To use modified job file:

1. Invoke the Installer.
2. Go to the panel that lists the operation you want.
3. Move the cursor to the operation and press F5. What appears on the panel is the original *unmodified* job.
4. Make note of the member name in the original job file.
5. Press F3 to release the data set so that the copy operation can be done.
6. Open a second ISPF session on MVS so that both the Installer panel in ISPF and the second ISPF session are open on your screen.
7. Access the copy utility in the second ISPF session (option 3.3).
8. Complete the required fields (including the Partition field: YES) to copy the new job file to the original data set.
9. Press Enter.
10. Return to the Installer panel.
11. Press F5 to activate the new job file.
12. Press F3 to exit the panel.
13. Press F7 to submit the job.

List of Abbreviations

APPC	advanced program-to-program communications
APPN	advanced peer-to-peer net-working
ASCH	asynchronous scheduler
CPI-C	common programming inter-face for communications
CM/2	Communications Manager for OS/2
GDE	General Data Extract
GUI	graphical user interface. DataRefresher OS/2 work-station end-user interface to the General Data Extract Feature
JLF	Japanese Language Features The Japanese Language feature supports the use of the dialogs.
PWS	personal workstation. DataRefresher OS/2 work-station end-user interface to the General Data Extract Feature
SMP/E	System Modification Program Extended
UCF	Upper Case Feature The Upper Case Feature is required to support display device with Katakana key-boards.

Bibliography

The publications listed in this section are considered particularly suitable for a more detailed discussion of the topics covered in this document.

DataRefresher-specific documents are:

- *DataRefresher Version 1: Administration Guide*, SH19-6995
- *DataRefresher Version 1: Command Reference*, SH19-6999
- *DataRefresher Version 1: Diagnosis Guide*, LY19-6386
- *DataRefresher Version 1: Exit Routines*, SH19-6998
- *DataRefresher Version 1: An Introduction*, GH19-6993
- *DataRefresher Version 1: Licensed Program Specifications*, GH19-9994
- *DataRefresher Version 1: Messages and Codes*, SH19-5000
- *DataRefresher Version 1: MVS and VM User's Guide*, SH19-6996
- *DataRefresher Version 1: OS/2 User's Guide*, SH19-6997
- *DataRefresher Program Announcement Letters*, 293-590, 294-323, 294-592, 295-021.

Other related documents are:

- *APPC Application Examples in MVS/ESA and OS/2*, GG24-3819
- *APPC and CPI-C Product Implementations*, GG24-3520
- *APPC/MVS Handbook for the OS/2 System Administrator*, GC28-1133
- *APPC Programming Considerations in MVS/ESA and OS/2*, GG24-3818
- *APPC System Definitions in MVS/ESA and OS/2*, GG66-3224
- *The Best of APPC, APPN, and CPI-C*, CD-ROM SK2T-2013
- *CPI-C Reference*, SC26-4399
- *Host Connection Reference*, SC31-6170
- *Multi-platform APPC Configuration Guide*, GG24-4485
- *MVS/ESA Application Development: Writing Transaction Programs for APPC/MVS*, GC28-1121
- *MVS/ESA Planning: APPC Management*, GC28-1110
- *Performance Considerations in an APPC/MVS Environment*, GG66-3206
- *SAA Common Communication Support Summary*, GC31-6810
- *Communications Manager/2 V1.1 Scenarios*, SC31-6174
- *VTAM Network Implementation Guide*, SC31-6404
- *VTAM Resource Definition Reference*, SC31-6412

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