IBM

Program Directory for

IBM DB2 SERVER FOR VM CLIENT EDITION

Version 7 Release 5 Modification Level 0

Program Number 5697-F42

for Use with
z/VM

Document Date: February 2007

> **Note!**
>
> Before using this information and the product it supports, be sure to read the general information under "Notices" on page vii.

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Notices

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IBM	DATABASE 2
DB2	DB2 Server for VM
DB2 Server for VM Client Edition	DB2 Server for VSE Client Edition
DB2 Server for VSE	DB2 Server for VSE & VM
SQL/DS	DataPropagator
SystemPac	FunctionPac
DRDA	Distributed Relational Database Architecture
VM/ESA	Virtual Machine/Enterprise Systems Architecture
z/VM	z/VSE
VSE/ESA	ESA/390
DFSMS	DFSMS/VM
ES/9000	IBMLink

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1.0 Introduction

This program directory is intended for the system programmer responsible for program installation and maintenance. It contains information concerning the material and procedures associated with the installation and migration of DB2 for VM Client Edition. You should read all of this program directory before installing the program and then keep it for future reference.

This manual assumes that you have decided on certain parameters and values to be used in installing DB2 Server for VM Client Edition and have read the following manuals:

- *DB2 Server for VM System Administration*
- *DB2 Server for VSE & VM Database Administration*.

It also assumes that you are familiar with CMS commands, EXECs, and Virtual Machine/Enterprise Systems Architecture® (VM/ESA®) systems.

The program directory contains the following sections:

- 2.0, "Program Materials" on page 3 identifies the basic and optional program materials and documentation for DB2 for VM Client Edition.

- 3.0, "Program Support" on page 7 describes the IBM support available for DB2 for VM Client Edition.

- 4.0, "Program and Service Level Information" on page 8 lists the APARs (program level) and PTFs (service level) incorporated into DB2 for VM Client Edition.

- 5.0, "Installation Requirements and Considerations" on page 9 identifies the resources and considerations for installing and using DB2 for VM Client Edition.

- 6.0, "Installing DB2 for VM Client Edition" on page 15 provides detailed installation instructions for DB2 for VM Client Edition.

- 7.0, "Service Instructions" on page 40 provides detailed servicing instructions for DB2 for VM Client Edition.

- 8.0, "NLS Installation Instructions" on page 62 provides detailed instructions on installing NLS Languages.

- Appendix A, "How to Build (or Link-Edit) the ARISQLLD LOADLIB Member" on page 72 provides detailed instructions for rebuilding the ARISQLLD LOADLIB of DB2 for VM Client Edition.

- Appendix B, "Local Modifications for DB2 for VM Client Edition" on page 80 provides information on replacing TEXT files.

- Appendix C, "DB2 for VM Client Edition ARIRINST Install EXEC" on page 87 provides detailed information on the ARIRINST EXEC of DB2 for VM Client Edition.

- Appendix D, "IBM-Supplied Files for the DB2 for VM Client Edition System" on page 91 lists the EXECs, MACROs, CMS Help files, load library, sample profiles, selected TEXT files, and other miscellaneous files supplied with the DB2 for VM Client Edition product.

Before installing DB2 for VM Client Edition, read 3.1, "Preventive Service Planning" on page 7. This section tells you how to find any updates to the information and procedures in this program directory.

1.1 Program Description

DATABASE 2 Server for VM is the IBM Relational Database Management system for the VM environment that manages, stores, and retrieves data. It consists of a relational database system, a query language, and a utility for transferring data and other objects. It also offers powerful facilities for data integrity, security, and recovery.

DB2 for VM Client Edition is a separately orderable feature of DB2 Server on VM product that offers your company to greatly reduce total cost of ownership and storage costs by improved federated access to distributed database solutions running on various platforms. The enhancements in Version 7 Release 5 allow you to take advantage of the strengths of both host and distributed database solutions while leveraging your existing application investments.

2.0 Program Materials

An IBM program is identified by a program number. The program number for DB2 Server for VM Client Edition Version 7 Release 5 Modification Level 0 for 5697-F42.

The program announcement material describes the features supported by DB2 for VM Client Edition. Ask your IBM marketing representative for this information if you have not already received a copy.

The following sections identify:

- basic and optional program materials available with this program
- publications useful during installation.

2.1 Basic Machine-Readable Material

The distribution medium for this program is 3480 tape cartridge. The tape or cartridge contains all the programs and data needed for installation. See section 6.0, "Installing DB2 for VM Client Edition" on page 15 for more information about how to install the program. Figure 1 describes the tape or cartridge. Figure 2 describes the file content of the program tape or cartridge for all medium.

Figure 1. Basic Material: Program Tape

Feature Number	Medium	Physical Volume	Tape Content	External Tape Label
7032	3480 cart.	1	DB2 Server for VM Client Edition V7R5	DB2 Server for VM Client Edition

* Not available in Japan

Figure 2. Program Tape: File Content all medium

Tape File	Content
1	Tape Header
2	Tape Header
3	Product Header
4	Product Memo
5	Service Apply Lists
6	PTFPARTs
7	DB2 for VM Client Edition Service
8	DB2 for VM Client Edition Base Code
9	DB2 for VM Client Edition Service Executable Code
10	DB2 for VM Client Edition Production Executable Code

2.2 Optional Machine-Readable Material

The distribution medium for optional machine-readable material is 3480 tape cartridge. Figure 3 on page 4, Figure 4 on page 4 and Figure 5 on page 4 describe the tapes or cartridges for each deliverable.

Figure 3. Optional Material: RXSQL

Feature Number	Medium	Physical Volume	Tape Content	External Tape Label
5812	3480 cart.	1	RXSQL VM V7R1	

* Not available in Japan

Figure 4. Optional Material: Data Restore VM

Feature Number	Medium	Physical Volume	Tape Content	External Tape Label
5950	3480 cart.	1	Data Restore for VM V7R3	DATA RESTORE VM

* Not available in Japan

Figure 5. Optional Material: Control Center VM

Feature Number	Medium	Physical Volume	Tape Content	External Tape Label
5976	3480 cart.	1	Control Center for VM V7R3	CONTROL CENTER VM

* Not available in Japan

2.3 Program Publications

The following sections identify the basic and optional publications for DB2 Server for VM Client Edition.

2.3.1 Displayable Softcopy Publications

Publications for DB2 Server for VM Client Edition are offered in displayable softcopy form. A subset of DB2 Server for VM Client Edition publications are translated into French, German and Japanese. These translated publications and all unlicensed manuals are included except for:

- DB2 Server for VSE & VM Overview

- DB2 Server for VSE & VM Licensed Program Specifications

- Memo to Users DB2 Server for VM Client Edition

The displayable manuals are part of the basic machine-readable material. The files are shipped on CD-ROM, where PDF and HTML versions of the library are provided. (Note: The DB2 Server for VSE & VM Master Index and Glossary publication will not be available in HTML version.)

These displayable manuals can be viewed using an HTML browser installed on your system. The PDF versions can be viewed or printed, using the Adobe Acrobat Reader.

2.3.2 Basic Program Publications

Figure 6 identifies the basic program publications for DB2 Server for VM Client Edition. In addition to the displayable softcopy publications in 2.3.1, "Displayable Softcopy Publications" on page 4, one copy of the following publications are included when you order the basic materials for DB2 Server for VM Client Edition. For additional copies, contact your IBM representative.

An asterisk(*) beside the Form Number indicates it contains "Restricted materials of IBM."

Figure 6. Basic Material: Unlicensed Publications

Publication Title	Form Number
DB2 Server for VM Messages and Codes	GC09-2984
DB2 Server for VSE & VM Overview	GC09-2995
DB2 Server for VSE & VM Licensed Program Specifications	GC09-2659

Figure 7. Basic Material: Licensed Publications

Publication Title	Form Number
DB2 Server for VSE & VM Diagnosis Guide and Reference	LC09-2907(*)

2.3.3 Optional Program Publications

Figure 8 identifies the optional program publications for DB2 for VM Client Edition. To order one or more copies, contact your IBM representative.

An asterisk(*) beside the Form Number indicates it contains "Restricted materials of IBM."

Figure 8 (Page 1 of 2). Optional Material: Unlicensed Publications

Publication Title	Form Number
DB2 Server for VM Messages and Codes	GC09-2984
DB2 Server for VSE & VM SQL Reference	SC09-2989
DB2 Server for VM System Administration	SC09-2980
DB2 Server for VSE & VM Database Administration	SC09-2888
DB2 Server for VSE & VM Operation	SC09-2986
DB2 Server for VSE & VM Interactive SQL Guide and Reference	SC09-2990
DB2 Server for VSE & VM Database Services Utility	SC09-2983
DB2 Server for VSE & VM Application Programming	SC09-2889
DB2 Server for VSE & VM Quick Reference	SC09-2988

Figure 8 (Page 2 of 2). Optional Material: Unlicensed Publications

Publication Title	Form Number
DB2 Server for VSE & VM Performance Tuning Handbook	GC09-2987
DB2 Server for VSE & VM Master Index and Glossary	SC09-2890

2.4 Microfiche Support

There is no microfiche for DB2 for VM Client Edition.

2.5 Publications Useful During Installation

The publications listed in Figure 9 may be useful during the installation of DB2 for VM Client Edition. To order copies, contact your IBM representative.

Figure 9. Publications Useful During Installation / Service on z/VM

Publication Title	Form Number
z/VM: VMSES/E Introduction and Reference	GC24-5994
z/VM: Service Guide	GC24-5993
z/VM: CMS Planning and Administration	SC24-6042
z/VM: CP Planning and Administration	SC24-6043
z/VM: CMS Command and Utility Reference	SC24-6010
z/VM: CP Command and Utility Reference	SC24-6008
z/VM: CMS File Pool Planning, Administration, and Operation	SC24-5949
z/VM: System Messages and Codes-CP	GC24-6030
z/VM: System Messages and Codes-CMS	GC24-6031
DB2 Server for VM System Administration	SC09-2980
DB2 Server for VSE & VM Database Administration	SC09-2888

3.0 Program Support

This section describes the IBM support available for DB2 for VM Client Edition.

3.1 Preventive Service Planning

Before installing DB2 for VM Client Edition, check with your IBM Support Center or use IBMLink (Service Link) to see whether there is additional Preventive Service Planning (PSP) information. To obtain this information, specify the following UPGRADE and SUBSET values:

Figure 10. PSP Upgrade and Subset ID

	Retain		
COMPID	**Release**	**Upgrade**	**Subset**
5697F4207	750	DB2VSEVM750	DB2750C

3.2 Statement of Support Procedures

Report any difficulties you have using this program to your IBM Support Center. If an APAR is required, the Support Center will provide the address to which any needed documentation can be sent.

Figure 11 identifies the component ID (COMPID), Retain Release and Field Engineering Service Number (FESN) for DB2 for VM Client Edition.

Figure 11. Component IDs

	Retain		
COMPID	**Release**	**Component Name**	**FESN**
5697F4207	750	DB2 Server for VM Client Edition V7R5	0404450

4.0 Program and Service Level Information

This section identifies the program and any relevant service levels of DB2 for VM Client Edition. The program level refers to the APAR fixes incorporated into the program. The service level refers to the PTFs integrated. Information about the cumulative service tape is also provided.

4.1 Program Level Information

All closed APARs from previous versions/releases have been incorporated at the time of the product GA.

4.2 Service Level Information

Check the DB2VSEVM750 PSP bucket for any additional PTFs that should be installed or any additional install information.

4.3 Cumulative Service Tape

Cumulative service for DB2 for VM Client Edition Version 7 Release 5 Modification Level 0 is available through a monthly corrective service tape, Expanded Service Option, ESO.

5.0 Installation Requirements and Considerations

The following sections identify the system requirements for installing and activating DB2 for VM Client Edition. You should also read the planning information in the *DB2 Server for VM System Administration* manual.

5.1 Hardware Requirements

There are no special hardware requirements for DB2 for VM Client Edition.

5.2 Program Considerations

The following sections list the programming considerations for installing DB2 for VM Client Edition and activating its functions.

5.2.1 Operating System Requirements

DB2 for VM Client Edition supports the following VM operating systems:

- z/VM 5.2.0 or Higher

   Note: The DB2 for VM Client Edition product does not support mixed levels of CP and CMS.

5.2.2 Prerequisite Product Requirements

No other products are required for the installation of DB2 for VM Client Edition.

For special functions of DB2 for VM Client Edition, see the software requirement information in the *DB2 Server for VM System Administration* manual.

5.2.3 Cross Product Service Requirements

Please check you are at the current server level for the following products for DB2 Server for VM Client Edition to function properly.

- DB2 UDB for z/OS
- C/VM
- TCP/IP VM
- LE for VM

5.2.4 VMSES/E Program Installation/Service Considerations

This section describes items that should be considered before you install or service DB2 for VM Client Edition.

- VMSES/E is required to install and service this product.

- If multiple users install and maintain licensed products on your system, there may be a problem getting the necessary access to MAINT's 51D disk. If you find that there is contention for write access to the 51D disk, you can eliminate it by converting the Software Inventory from minidisk to Shared File System (SFS). See the *z/VM: VMSES/E Introduction and Reference* manual, section 'Changing the Software Inventory to an SFS Directory', for information on how to make this change.

- Customers will no longer install and service DB2 for VM Client Edition strictly using the MAINT user ID, but will use a new user ID--5697F75C. This is the IBM suggested user ID name. You are free to change this to any user ID name you wish, however, a PPF override must be created.

  Note: It may be easier to make the above change during the planning installation procedure, substep 6 on page 20, rather than after you have installed this product.

- If you will be using only one National Language Support (NLS) feature, you can install it on to the same minidisk or SFS directory as the production files. If you install more than one language you can still use the same minidisk or SFS directory but you should use a different production minidisk or SFS directory for the DB2 for VM Client Edition NLS CMS help files.

- The client system you will install, following the instructions in this manual, does not make use of the saved segments support for DB2 for VM Client Edition components. You can improve your performance and use less real storage by storing the following DB2 for VM Client Edition components in saved segments:

  – Resource Adapter
  – National Language Message Repositories
  – ISQL

  Refer to the *DB2 Server for VM System Administration* manual for directions on how to install in saved segments as part of your system post installation customization activities.

5.3 DASD Storage and User ID Requirements

Figure 12 on page 11 lists the user IDs and minidisks that are used to install and service DB2 for VM Client Edition.

Important Installation Notes:

- User ID(s) and minidisks are defined in 6.3, "Installation Step 1: Plan Your Installation For DB2 for VM Client Edition" on page 19 and are listed here to let you know the resources you will need prior to allocating them.

- 5697F75C is the default installation and service user ID and can be changed. If you choose to change the name of the installation user ID you need to create a Product Parameter Override (PPF) to reflect this change. This can be done in 6.3, "Installation Step 1: Plan Your Installation For DB2 for VM Client Edition" substep 6 on page 20.

- DB2 for VM Client Edition needs the following virtual machines in order to run:

- **A DB2 for VM Client Edition client machine**. This machine owns the DB2 for VM Client Edition service, production, or SFS directories. (*Own* in this context describes the association of a user ID with particular minidisks or SFS directory.) It is referred to in this manual as the SQLCLNT machine, but you can define it with any valid machine identifier (user ID). Individuals who wish to access SFS directories owned by another user must be authorized by that user to do so.

  - **A DB2 for VM Client Edition user machine**. One or more of these machines is required. The default user machine is SQLUSER.

- The service minidisk is referred to as the SQLCLNT 193 minidisk, but you can define it with any valid user ID and virtual address. Define it with the same user ID as that used by the client machine during the DB2 for VM Client Edition installation process. Both the DB2 for VM Client Edition service and production minidisks must be defined for the same machine (user ID).

- The production minidisk is referred to as the SQLCLNT 195 minidisk. Define it with the same user ID as used by the DB2 for VM Client Edition service minidisk during the DB2 for VM Client Edition installation process. Any valid virtual address can be used to define it.

- If DFSMS/VM is implemented at your site, all files in the production directory should be exempt from DFSMS coverage. This will prevent client system availability problems that could occur if a query were to cause an open attempt on a production file which would have to be recalled from storage media that might not be accessible for recall at that time.

- If you choose to change any user ID, minidisk address, or SFS directory names, you need to create a Product Parameter Override (PPF) to reflect this change. This can be done in 6.3, "Installation Step 1: Plan Your Installation For DB2 for VM Client Edition" substep 6 on page 20.

- If you choose to install DB2 for VM Client Edition on a common user ID, the default minidisk addresses for DB2 for VM Client Edition may already be defined. If any of the default minidisks required by DB2 for VM Client Edition are already in use, you must create an override to change the default minidisks for DB2 for VM Client Edition so they are unique.

Minidisk owner (user ID)	Default Address	Storage in Cylinders		FB-512 Blocks	SFS 4K Blocks	Usage
		DASD	CYLS			Default SFS Directory Name
5697F75C	2B2	9345	75	94592	11824	Contains all the base code shipped with DB2 for VM Client Edition.
		3390	62			
		3390	75			
		3375	112			**VMSYS:5697F75C.SQL.OBJECT**
5697F75C	2C2	9345	10	12000	1500	Contains customization files. This disk may also be used for local modifications.
		3390	9			
		3390	10			
		3375	15			**VMSYS:5697F75C.SQL.LOCAL**
5697F75C	2D2	9345	65	78000	9750	Contains serviced files.
		3390	55			
		3390	65			
		3375	98			**VMSYS:5697F75C.SQL.DELTA**
See the **important** notes following this DASD table.						

Figure 12 (Page 1 of 2). DASD Storage Requirements for Target Minidisks

| Minidisk owner (user ID) | Default Address | Storage in Cylinders | | FB-512 Blocks | SFS 4K Blocks | Usage |
		DASD	CYLS			Default SFS Directory Name
5697F75C	2A6	9345	15	18000	2250	Contains AUX files and software inventory tables that represent the test service level of DB2 for VM Client Edition. **VMSYS:5697F75C.SQL.APPLYALT**
		3390	13			
		3390	15			
		3375	23			
5697F75C	2A2	9345	15	18000	2250	Contains AUX files and software inventory tables that represent the service level of DB2 for VM Client Edition that is currently in production. **VMSYS:5697F75C.SQL.APPLYPROD**
		3390	13			
		3390	15			
		3375	23			
5697F75C	193	9345	84	99392	12424	Test service build disk for DB2 for VM Client Edition service executable code. **VMSYS:5697F75C.SQL.SERVICE**
		3390	70			
		3390	84			
		3375	125			
5697F75C	195	9345	40	48160	5912	Test production build disk for DB2 for VM Client Edition production executable code. **VMSYS:5697F75C.SQL.PRODUCTION**
		3390	33			
		3390	40			
		3375	60			
5697F75C	191	9345	36	43200	5400	5697F75C user ID's 191 minidisk. **VMSYS:5697F75C.**
		3390	30			
		3390	36			
		3375	54			
SQLCLNT	193	9345	84	99392	12424	Service build disk for DB2 for VM Client Edition service executable code. **VMSYS:SQLCLNT.SQL.SERVICE**
		3390	70			
		3390	84			
		3375	125			
SQLCLNT	195	9345	40	48160	5912	Production build disk for DB2 for VM Client Edition executable code. **VMSYS:SQLCLNT.SQL.PRODUCTION**
		3390	33			
		3390	40			
		3375	60			
SQLCLNT	191	9345	13	14400	1800	Client machine user ID's 191 minidisk. **VMSYS:SQLCLNT.**
		3390	11			
		3390	12			
		3375	19			
SQLUSER	191	9345	6	6000	750	DB2 for VM Client Edition administrator user machine ID's 191 minidisk. **VMSYS:SQLUSER.**
		3390	5			
		3390	5			
		3375	8			

Figure 12 (Page 2 of 2). DASD Storage Requirements for Target Minidisks

See the **important** notes following this DASD table.

Notes:

1. Cylinder values defined in this table are based on a 4KB block size.

2. FB-512 block and SFS values are derived from the 3390 cylinder values in this table.

3. The FBA blocks are listed as 1/2KB but should be CMS formatted at 1KB size.

4. FB-512 blocks refer to the DASD devices 0671, 3370, 9332, 9335 and 9336.

5. 69,946 4KB blocks are needed for SFS install.

6. You will need a production minidisk or SFS directory for CMS HELP Text for each national language supported.

5.4 Virtual and Real Storage Requirements

- Approximately 30KB to 100KB of real storage for a user machine running DB2 Server for VM preplanned applications, the preprocessors, the DBS utility, or ISQL. The corresponding virtual storage requirement is about 6 megabytes.

5.4.1 Initial Virtual Storage Requirements of Components

The virtual storage requirements for the database client are its sum of the static and dynamic storage requirements. Static storage is used for the database client code and other reasons. Dynamic storage is used for the preprocessing and execution of SQL statements.

5.4.1.1 User Machine Size: Figure 13 shows the recommended increase to virtual   storage requirements for a user machine. A 6-megabyte machine size is recommended.

Figure 13. Recommended Virtual Storage Increase for User Machine	
DB2 Server for VM Client Edition Component	**Recommended Minimum Virtual Storage Increase for a User Virtual Machine (in Kilobytes)**
Resource adapter	350 (if base code installed) 2080 (if DRDA code installed)
ISQL	320 + resource adapter = 670 (base) 320 + resource adapter = 2400 (DRDA)
DBS utility	220 + resource adapter = 570 (base) 220 + resource adapter = 2300 (DRDA)
Any DB2 Server for VM preprocessor (PL/I, Assembler, COBOL, FORTRAN, or C)	250 + resource adapter = 600 (base) 250 + resource adapter = 2330 (DRDA)
User program	User application size + resource adapter

To these minimum amounts, add the following amount of storage as needed:

- The values in Figure 13 assume that national language message repositories are in saved segments. For each such repository not in a saved segment, add 250 kilobytes. If you use CMS work units, also add 5 kilobytes for the second and each subsequent CMS work unit used by the application.

- To operate any DB2 Server for VM preprocessor in a user machine, you would need at least 600 kilobytes of free storage.

- Add the size of CMS to these amounts if it is not defined as a saved segment.

- For user programs that use the SQLDS protocol, if the fetch and insert blocking option is in effect, add 8 kilobytes for each currently open cursor that qualifies for blocking.

- For user programs that use the DRDA protocol, add the query block size for each open cursor. (For information on the SQLINIT query block size parameter, see the *DB2 Server for VSE & VM Performance Tuning Handbook* manual.)

- If you have coded an accounting exit, a cancel exit or a TRANSPROC, add its size to the total virtual storage requirements.

The amount of virtual storage required in the user machine for ISQL varies. The following variables should also be considered:

- Use of SELECT
- Use of routines or EXECs.

5.4.1.2 Use of SELECT: The row length is the only variable that affects the amount of storage needed by a SELECT result. The number of rows retrieved from a SELECT has no effect on the amount of storage required.

ISQL gets a buffer for a certain number of rows before retrieving any rows from tables. The number of rows depends on the size of the terminal screen. Specifically, ISQL gets a buffer to hold (SCREEN_HEIGHT - 4)*2 row -- that is, enough storage for two screens of rows. (Four is subtracted from the screen height because of the column header and input/status areas of the screen.) If more than two screens of rows are retrieved, this buffer is reused.

The number of columns referenced in a SELECT command in ISQL is limited to 45. ISQL uses the length of the retrieved columns to determine the buffer size not the number of column references. The storage needed is the number of rows for two screens multiplied by the length of one row. (Note that the length of the row may be larger than the length of the screen.) If the storage required for the buffer exceeds 32 kilobytes, not all selected columns are displayed, or the user receives an error message.

The SET VARCHAR and FORMAT VARCHAR ISQL commands will change the size of the row and thus the size of the buffer.

5.4.1.3 Use of Routines or EXECs: If you use ISQL routines or stack ISQL commands in an EXEC, the amount of virtual storage used in the user machine increases, because VM program stacks are used. Thus, the amount of storage required is related to the number of lines in the routines (or EXECs). For more information on program stacks, see the *VM/ESA REXX/VM User's Guide* manual.

6.0 Installing DB2 for VM Client Edition

This chapter describes the installation methods and the step-by-step procedures to install and activate DB2 for VM Client Edition.

```
┌─ Procedural Note ──────────────────────────────────────────────────────────┐
│                                                                             │
│  If you are doing a DB2 for VM Client Edition initial client machine        │
│  installation, continue with this chapter.                                  │
│                                                                             │
└─────────────────────────────────────────────────────────────────────────────┘
```

The step-by-step procedures are in two column format. The steps to be performed are in bold large numbers. Commands for these steps are on the left hand side of the page in bold print. Additional information for a command may exist to the right of the command.

Each step of the installation instructions must be followed. Do not skip any step unless directed to do so.

Throughout these instructions, the use of IBM-supplied default minidisk addresses and user IDs is assumed. If you use different user IDs, minidisk addresses, or SFS directories to install DB2 for VM Client Edition, adapt these instructions as needed for your environment.

```
┌─ Note! ────────────────────────────────────────────────────────────────────┐
│                                                                             │
│  The sample console output presented throughout these instructions was      │
│  produced on a z/VM V3R1 system. If you are installing DB2 for VM Client     │
│  Edition on a different VM/ESA system, the results obtained for some         │
│  commands may differ from those depicted here.                              │
│                                                                             │
└─────────────────────────────────────────────────────────────────────────────┘
```

6.1 VMSES/E Installation Process Overview

The following is a brief description of the main steps in installing DB2 for VM Client Edition using VMSES/E.

- Plan Your Installation

  Use the VMFINS command to load several VMSES/E files from the product tape and to obtain DB2 for VM Client Edition resource requirements.

- Allocate Resources

  The information obtained from the previous step is used to allocate the appropriate minidisks (or SFS directories) and user IDs needed to install and use DB2 for VM Client Edition.

- Install the DB2 for VM Client Edition Product

  Use the VMFINS command to load the DB2 for VM Client Edition product files from tape to the test BUILD and BASE minidisks/directories. VMFINS is then used to update the VM SYSBLDS file used by VMSES/E for software inventory management.

- Place DB2 for VM Client Edition Files into Production

Once the product files have been tailored and the operation of DB2 for VM Client Edition is satisfactory, the product files are copied from the test BUILD disk(s) to production BUILD disk(s).

- Perform Post-installation Tasks

  Information about file tailoring and initial activation of the program is presented in 6.9, "Installation Step 7. Post Installation Customization Steps for DB2 for VM Client Edition" on page 38.

For a complete description of all VMSES/E installation options refer to the *z/VM: VMSES/E Introduction and Reference* manual.

6.2 Checklist for Installation

Notes:

- *Perform the steps in order.*
- *Mandatory steps are preceded by squares (■).*
- *Optional steps are preceded by circles (○).*
- *Page references appear in parentheses.*

___   ■ **6.3, Installation Step 1: Plan Your Installation For DB2 for VM Client Edition** (19)

    ___   ■ Log on as DB2 for VM Client Edition installation planner (19)

    ___   ■ Mount the installation tape (19)

    ___   ■ Access VMSES/E code (19)

    ___   ■ Access the Software Inventory disk (19)

    ___   ■ Load the product control files (19)

    ___   ■ Obtain resource planning information (20)

    ___   ■ Review message log (21)

___   ■ **6.4, Installation Step 2. Allocate Resources for Installing DB2 for VM Client Edition** (21)

    ___   ■ Obtain the user directory (22 or 25)

    ___   ■ Add MDISK statements (22 or /INSS9B/)

    ___   ■ Add directories to system directory (25 or 26)

    ___   ■ Place new directories online (25 or 26)

    ___   ■ Additional SFS step (27)

___   ■ **6.5, Installation Step 3. Install DB2 for VM Client Edition** (29)

    ___   ■ Log on to the installation user ID (29)

    ___   ■ Create PROFILE EXEC to contain ACCESS commands (29)

    ___   ■ Execute the PROFILE EXEC (29)

    ___   ■ Access Software Inventory disk R/W (29)

    ___   ■ Mount installation tape (30)

    ___   ■ Install DB2 for VM Client Edition (30)

    ___   ■ Review the message log (31)

    ___   ■ Update Software Inventory file (32)

    ___   ■ Review the message log (32)

___   ■ **6.6, Installation Step 4. Create Default Bootstrap Files and Enable Messages** (32)

    ___   ■ Create bootstrap modules (32)

    ___   ■ Log off the installation user ID (32)

___   ■ **6.7, Installation Step 5. Installation Verification** (33)

    ___   ■ Log on to SQLUSER user machine (33)

    ___   ■ Link and access test disk or directories (33)

    ___   ■ Copy the sample PROFILE EXEC (33)

    ___   ■ Make message repository available (34)

    ___   ■ Initialize the SQLUSER machine (34)

    ___   ■ Start ISQL (34)

    ___   ■ Shut down the application requester (35)

    ___   ■ Log off the SQLUSER user machine (35)

___   ■ **6.8, Installation Step 6. Copy DB2 for VM Client Edition Files Into Production** (35)

	▪ Log on the installation user ID (35)			▪ Run ARIRINST (36)
	▪ Access the test disks or directories (35)	__		▪ **6.9, Installation Step 7. Post Installation Customization Steps for DB2 for VM Client Edition** (38)

```
              ┌─ Note ─────────────────────────────────────────────────────┐

              Throughout these instructions, the use of IBM-supplied default minidisk
              addresses and user IDs is assumed.  If you use different user IDs, minidisk
              addresses, or SFS directories to install DB2 for VM Client Edition, adapt these
              instructions as needed for your environment.

              └────────────────────────────────────────────────────────────┘
```

6.3 Installation Step 1: Plan Your Installation For DB2 for VM Client Edition

The VMFINS command will be used to plan the installation. This section has two main steps:

- Load the first tape file, containing installation files

- Generate a PLANINFO file listing

  - All user ID/mdisks requirements
  - Required products

To obtain planning information for your environment:

1 Log on as DB2 for VM Client Edition installation planner.

This user ID can be any ID that has read access to MAINT's 5E5 minidisk and write access to the MAINT 51D minidisk.

2 Mount the DB2 for VM Client Edition installation tape and attach it to the user ID at virtual address 181. The VMFINS EXEC requires the tape drive to be at virtual address 181.

3 Establish read access to the VMSES/E code.

link MAINT 5e5 5e5 rr
access 5e5 b
        The 5E5 disk contains the VMSES/E code.

4 Establish write access to the Software Inventory disk.

link MAINT 51d 51d mr
access 51d d
        The MAINT 51D disk is where the VMSES/E system-level Software Inventory and other dependent files reside.

Note: If another user already has the MAINT 51D minidisk linked in write mode (R/W), you will only obtain read access (R/O) to this minidisk. If this occurs, you will need to have that user re-link the 51D in read-only mode (RR), and then reissue the above LINK and ACCESS commands. Do not continue with these procedures until a R/W link is established to the 51D minidisk.

5 Load the DB2 for VM Client Edition product control files to the 51D minidisk.

vmfins install info (nomemo

The NOMEMO option will load the memos from the tape but will not issue a prompt to send them to the system printer. Specify the MEMO option if you want to be prompted for printing the memo.

This command will perform the following:

- Load Memo-to-Users

- Load various product control files, including the Product Parameter File (PPF) and the PRODPART files

- Create VMFINS PRODLIST on your A-disk. The VMFINS PRODLIST contains a list of products on the installation tape.

```
VMFINS2760I VMFINS processing started
VMFINS1909I VMFINS PRODLIST created on your A-disk
VMFINS2760I VMFINS processing completed successfully
Ready;
```

6 Obtain resource planning information for DB2 for VM Client Edition.

Notes:

a. The product will **not** be loaded by the VMFINS command at this time.

b. If you are not going to use the default user IDs, minidisk addresses or SFS directory names, you must create a PPF override. The defaults are listed in Figure 12 on page 11.

vmfins install ppf 5697F75C {DB2VMR | DB2VMRSFS} (plan nomemo

Use **DB2VMR** for installing on minidisks or **DB2VMRSFS** for installing in Shared File System directories.

The PLAN option indicates that VMFINS will perform requisite checking, plan system resources, and provide an opportunity to override the defaults in the product parameter file.

You can override any of the following:

- The name of the product parameter file
- The default user IDs
- Minidisk/directory definitions

To create an override you need to reply **1** to the VMFINS2601R message.

Notes:

   a. If you change the PPF name, a default user ID, or other parameters via a PPF override, you will need to use your changed values instead of those indicated (when appropriate), throughout the rest of the installation instructions, as well as the instructions for servicing DB2 for VM Client Edition. For example, you will need to specify your PPF override file name instead of 5697F75C for certain VMSES/E commands. These commands show *ppfname* to indicate that you must specify the override name if one exists, or the default 5697F75C

   b. If you are not familiar with creating PPF overrides using VMFINS, you should review the 'Using the Make Override Panel' section in the *z/VM: VMSES/E Introduction and Reference* manual before you continue.

```
VMFINS2767I Reading VMFINS DEFAULTS B for additional options
VMFINS2760I VMFINS processing started
VMFINS2601R Do you want to create an override for :PPF 5697F75C DB2VMR
            :PRODID. 5697F75C%DB2VMR?
            Enter 0 (No), 1 (Yes) or 2 (Exit)
0
VMFINS2603I Processing product :PPF 5697F75C DB2VMR :PRODID
            5697F75C%DB2VMR
VMFREQ1909I 5697F75C PLANINFO created on your A-disk
VMFREQ2805I Product :PPF 5697F75C DB2VMR :PRODID 5697F75C%DB2VMR
            has passed requisite checking
VMFINT2603I Planning for the installation of product :PPF 5697F75C DB2VMR
            :PRODID 5697F75C%DB2VMR
VMFRMT2760I VMFRMT processing started
VMFRMT2760I VMFRMT processing completed successfully
VMFINS2760I VMFINS processing completed successfully
```

7 Review the install message log ($VMFINS $MSGLOG). If necessary, correct any problems before going on. For information about handling specific error messages, see the *z/VM: System Messages and Codes* manual or use online HELP.

vmfview install

6.4 Installation Step 2. Allocate Resources for Installing DB2 for VM Client Edition

Use the planning information in the 5697F75C PLANINFO file, created in 6.3, "Installation Step 1: Plan Your Installation For DB2 for VM Client Edition" on page 19, to:

- Create the 5697F75C, SQLCLNT and SQLUSER user directories for minidisk install

  OR

- Create the 5697F75C, SQLCLNT and SQLUSER user directories for SFS install.

Procedural Note

If you are installing on a minidisk, continue to 6.4.1, "Install DB2 for VM Client Edition on Minidisk."

If you are installing in an SFS directory, go to 6.4.2, " Install DB2 for VM Client Edition in SFS Directories" on page 25.

6.4.1 Install DB2 for VM Client Edition on Minidisk

1 Obtain the user directory from the 5697F75C PLANINFO file.

Note: The user directory entries are located in the resource section of the PLANINFO file, at the bottom; these entries will contain all of the links and privilege classes necessary for the 5697F75C, SQLCLNT, and SQLUSER user IDs. Use the directory entries found in the PLANINFO file as a model as input to your system directory.

2 Add the MDISK statements to the directory entry for 5697F75C, SQLCLNT and SQLUSER. Use Figure 12 on page 11 to obtain the minidisk requirements.

In general for any MDISK:

- You can supply your own volume identifier that follows your installation's naming conventions. The DB2 for VM Client Edition system places no restrictions on volume identifiers.

- For SQLCLNT and SQLUSER, you must load the Callable Services Library (CSL) routines into this machine before you can successfully use DB2 for VM Client Edition (specifically the Resource Adapter). For information on CSL routines refer to the *z/VM: CMS Application Development Reference* manual.

    a When adding the directory entry for the installation user ID (default 5697F75C) you need to supply READ, WRITE and MULTIPLE-ACCESS passwords for the test production (195) and test service (193) minidisks.

    b When adding the directory entry for the client machine (default SQLCLNT), keep in mind the following about the sample directory statements in the PLANINFO file and about the MDISK statements that you will be adding.

    USER SQLCLNT password 8M 8M G
    > Defines the client machine as a 8-megabyte virtual machine with the VM/ESA privilege class G. The recommended virtual size for SQLCLNT client machine is at least 8 megabytes. Refer to 5.4, "Virtual and Real Storage

Requirements" on page 13 for a complete description of how to calculate the required virtual storage.

Privilege class B is optional. In order to perform tape and DASD file load and unload operations, a client machine usually needs to have real devices attached to it with the CP ATTACH command. If you plan to have the client machine itself issue the CP ATTACH command, then privilege class B is needed.

IPL CMS

Uses the CMS saved segment name (for example, CMS) applicable to your VM/ESA environment.

LINK MAINT 19D 19D RR

This is a LINK statement for the CMS Help facility, which you need to access the DB2 for VM Client Edition Help panels. (If you omit it, you can still use DB2 for VM Client Edition HELP text stored in a database, which is accessed through ISQL, not CMS.)

MDISK 191 3390 cylr 010 volser W

MDISK entry for read/write work disk (A-disk), with virtual device address 191 and link access mode W (write).

MDISK 193 3390 cylr 060 volser R readpw writepw multipw

MDISK entry for the DB2 for VM Client Edition service minidisk, with virtual device address 193 and link access mode R (read). Read (readpw), write (writepw) and multiple-access (multipw) passwords must be specified. You and the owner of the SQLCLNT machine must keep track of these passwords; you will need them later in the installation process.

The DB2 for VM Client Edition service minidisk is not required for normal database client processing, so the physical volume on which it resides can be removed from the system and mounted when client installation, generation, or maintenance activities must be performed. Therefore, it is recommended that you do not allocate this minidisk to the same physical DASD volume that is used for the DB2 for VM Client Edition production minidisk.

MDISK 195 3390 cylr 024 volser RR readpw writepw multipw

MDISK entry for the DB2 for VM Client Edition production minidisk, with virtual device address 195 and link access mode RR (readonly). Read (readpw) and write (writepw) passwords must be specified. You and the owner of the SQLCLNT machine must keep track of these passwords; you will need them later in the installation process.

The DB2 for VM Client Edition production minidisk must be online and available for all DB2 for VM Client Edition operations. IBM-supplied database generation and

maintenance EXECs relink it with access mode M or W when updates to it are required.

A multiple-access (multipw) password should be specified for the DB2 for VM Client Edition production minidisk if:

- You eventually define multiple client machines to access the client machine's (SQLCLNT's) production minidisk.

- You want an client machine to perform database generation and maintenance activities while the other client machines are accessing the DB2 for VM Client Edition production minidisk in read-mode.

When multiple client machines share a production minidisk, you must specify a multiple-access (multipw) password in the VM/ESA directory MDISK control statement for the machine that owns the DB2 for VM Client Edition production minidisk. Not specifying a multipw password means that if one machine is performing database maintenance that requires write access, others cannot be performing normal DB2 for VM Client Edition processing using read-access to the DB2 for VM Client Edition production minidisk.

C When adding the directory entry for the DB2 for VM Client Edition user machine (default SQLUSER) keep in mind the following about the sample directory statements in the PLANINFO file and about the MDISK statements that you will be adding.

USER SQLUSER password 4M 4M G
> Defines the DB2 for VM Client Edition user machine as a 4-megabyte (4M) virtual machine named SQLUSER, with the VM privilege class G. The recommended virtual size for SQLUSER user machine is at least 4 megabytes.

IPL CMS
> Uses the CMS saved segment name (for example, CMS) applicable to your VM environment.

LINK MAINT 19D 19D RR
> This is a LINK statement for the CMS Help facility, which you need to access the DB2 for VM Client Edition Help panels. If you omit it, you can still use DB2 for VM Client Edition HELP text stored in a database, which is accessed through ISQL, not CMS.

LINK SQLCLNT 195 195 rr
> Links the DB2 for VM Client Edition production minidisk with the virtual device address of 195 and access mode of READ ONLY.
>
> To establish a virtual machine as a DB2 for VM Client Edition user machine, you must have a link to a client machine's production minidisk.

MDISK 191 3390 cylr 003 volser W
> Defines a read/write work disk (A-disk) with virtual device address 191 and link access mode WRITE.

3 Add the 5697F75C, SQLCLNT, and SQLUSER directories to the system directory. Change the passwords for 5697F75C, SQLCLNT, and SQLUSER from xxxxx to a valid password, in accordance with your security guidelines.

4 Place the new directories online using VM/Directory Maintenance (DIRMAINT) or an equivalent CP directory maintenance method.

> ┌─ **Important Note** ─────────────────────────────────┐
>
> All minidisks for the 5697F75C, SQLCLNT, and SQLUSER user IDs must be formatted before installing DB2 for VM Client Edition
>
> └──┘

6.4.2 Install DB2 for VM Client Edition in SFS Directories

1 Obtain the user directory from the 5697F75C PLANINFO file.

Note: The user directory entries are located in the resource section of the PLANINFO file, at the bottom; these entries will contain all of the links and privilege classes necessary for the 5697F75C, SQLCLNT, and SQLUSER user IDs. Use the directory entries found in the PLANINFO file as a model as input to your system directory.

2 Add the following entries for Client Machine.

a When adding the directory entry for the client machine (default SQLCLNT), keep in mind the following about the sample directory statements in the PLANINFO file and about the MDISK statements that you will be adding.

USER SQLCLNT password 8M 8M G
> Defines the client machine as a 8-megabyte virtual machine with the VM/ESA privilege class G. The recommended virtual size for SQLCLNT client machine is at least 8 megabytes. Refer to 5.4, "Virtual and Real Storage Requirements" on page 13 for a complete description of how to calculate the required virtual storage.
>
> Privilege class B is optional. In order to perform tape and DASD file load and unload operations, a client machine usually needs to have real devices attached to it with the CP ATTACH command. If you plan to have the client machine

itself issue the CP ATTACH command, then privilege class B is needed.

IPL CMS

Uses the CMS saved segment name (for example, CMS) applicable to your VM/ESA environment.

CONSOLE 009 3215 T OPERATOR

If the client machine will be run in disconnect mode, you should specify an alternate console. In this example, the OPERATOR virtual machine is identified as the alternate.

LINK MAINT 19D 19D RR

This is a LINK statement for the CMS Help facility, which you need to access the DB2 for VM Client Edition Help panels. (If you omit it, you can still use DB2 for VM Client Edition HELP text stored in a database, which is accessed through ISQL, not CMS.)

b When adding the directory entry for the DB2 for VM Client Edition user machine (default SQLUSER) keep in mind the following about the sample directory statements in the PLANINFO file and about the MDISK statements that you will be adding.

USER SQLUSER password 4M 4M G

Defines the DB2 for VM Client Edition user machine as a 4-megabyte (4M) virtual machine named SQLUSER, with the VM privilege class G. The recommended virtual size for SQLUSER user machine is at least 4 megabytes.

If you want more control over access to the client machine, you can change the IUCV control statements at any time. Instructions are outlined in the chapter on security in the *DB2 Server for VM System Administration* manual.

IPL CMS

Uses the CMS saved segment name (for example, CMS) applicable to your VM environment.

LINK MAINT 19D 19D RR

This is a LINK statement for the CMS Help facility, which you need to access the DB2 for VM Client Edition Help panels. If you omit it, you can still use DB2 for VM Client Edition HELP text stored in a database, which is accessed through ISQL, not CMS.

3 Add the 5697F75C, SQLCLNT, and SQLUSER directories to the system directory. Change the passwords for 5697F75C, SQLCLNT, and SQLUSER from xxxxx to a valid password, in accordance with your security guidelines.

4 Place the new directories online using VM/Directory Maintenance (DIRMAINT) or an equivalent CP directory maintenance method.

5 An SFS install will also require the following steps:

a Determine the number of 4K blocks that are required for SFS directories by adding up the 4K blocks required for each SFS directory you plan to use.

If you intend to use all of the default DB2 for VM Client Edition SFS directories, the 4K block requirements for each are summarized in Figure 12 on page 11.

This information will be used when enrolling 5697F75C, SQLCLNT, and SQLUSER to the VMSYS filepool (or chosen filepool).

b Enroll user 5697F75C, SQLCLNT, and SQLUSER in the VMSYS filepool using the ENROLL USER command:

```
ENROLL USER 5697F75C VMSYS: (BLOCKS blocks
ENROLL USER SQLCLNT VMSYS: (BLOCKS blocks
ENROLL USER SQLUSER VMSYS: (BLOCKS blocks
```

blocks is the number of 4K blocks that you calculated in the previous step.

Note: This must be done from a user ID that is an administrator for VMSYS: filepool.

c Determine if there are enough blocks available in the filepool to install DB2 for VM Client Edition. This information can be obtained from the QUERY FILEPOOL STATUS command. Near the end of the output from this command is a list of minidisks in the filepool and the number of blocks free. If the number of blocks free is smaller than the total 4K blocks needed to install DB2 for VM Client Edition you will need to add space to the filepool. See the *z/VM: CMS File Pool Planning, Administration, and Operation* manual for information on adding space to a filepool.

d Create the necessary subdirectories listed in the 5697F75C PLANINFO file using the CREATE DIRECTORY command.

set filepool vmsys:
create directory vmsys:5697F75C.sql.object
create directory vmsys:5697F75C.sql.local
create directory vmsys:5697F75C.sql.delta
create directory vmsys:5697F75C.sql.applyalt
create directory vmsys:5697F75C.sql.applyprod
create directory vmsys:5697F75C.sql.service
create directory vmsys:5697F75C.sql.production
create directory vmsys:sqlclnt.sql.service
create directory vmsys:sqlclnt.sql.production

A complete list of default DB2 for VM Client Edition SFS directories is provided in Figure 12 on page 11.

If necessary, see the *z/VM: Command and Utility Reference* manual for more information about the CREATE DIRECTORY command.

e Give the installation user ID (5697F75C) READ and WRITE authority to the client machine (SQLCLNT) production and service directories, using the GRANT AUTHORITY command.

grant auth vmsys:sqlclnt.sql.service to 5697F75C (write newwrite
grant auth vmsys:sqlclnt.sql.production to 5697F75C (write newwrite

> If necessary, see the *z/VM: Command and Utility Reference* manual for more information about the GRANT AUTHORITY command.

f Give the client machine user ID (SQLCLNT) READ and WRITE authority to the installation user ID's (5697F75C) production and service directories, using the GRANT AUTHORITY command.

grant auth vmsys:5697F75C.sql.service to sqlclnt (write newwrite
grant auth vmsys:5697F75C.sql.production to sqlclnt (write newwrite

> If necessary, see the *z/VM: Command and Utility Reference* manual for more information about the GRANT AUTHORITY command.

g Give the user machine user ID (SQLUSER) READ authority to the installation user ID's (5697F75C) and client machine user ID's (SQLCLNT) production directories, using the GRANT AUTHORITY command.

Note: If you are going to allow many user machines or virtual machines access to the client machine's (SQLCLNT) production directory, you may want to grant PUBLIC access, instead of individual machine access. To do this you would replace *SQLUSER* with *PUBLIC* in the GRANT AUTH command for the "vmsys:sqlclnt.sql.production" directory.

grant auth vmsys:5697F75C.sql.production to SQLUSER (read newread
grant auth vmsys:sqlclnt.sql.production to SQLUSER (read newread

h If you did not grant PUBLIC READ access to the client machine's (SQLCLNT) production disk, in the previous step, then you need to give all the user machines or virtual machines, that will be allowed to access the client machine (SQLCLNT) production directory, READ authority to the client machine's production directory, using the GRANT AUTHORITY command.

grant auth vmsys:sqlclnt.sql.production to *virtual_machine_user_ID* **(read newread**

i (Optional) If you are going to place the DB2 for VM Client Edition CMS help files on the VM system MAINT user ID's help disk then you need to give MAINT READ authority to the client machine (SQLCLNT) production and service directories, using the GRANT AUTHORITY command.

grant auth vmsys:sqlclnt.sql.service to MAINT (read newread
grant auth vmsys:sqlclnt.sql.production to MAINT (read newread

j If you intend to use an SFS directory as the work space for the user IDs 5697F75C, SQLCLNT, or SQLUSER, include the following IPL control statement in its directory entry:

```
IPL CMS PARM FILEPOOL VMSYS
```

This causes CMS to automatically access 5697F75C, SQLCLNT, or SQLUSER's, top directory as file mode A.

6.5 Installation Step 3. Install DB2 for VM Client Edition

If you created a PPF override file in 6.3, "Installation Step 1: Plan Your Installation For DB2 for VM Client Edition" on page 19, *ppfname* used throughout these instructions must be replaced by the name of your override file. Otherwise, if you are using the PPF supplied by IBM for DB2 for VM Client Edition, you should specify **5697F75C** in place of *ppfname* The *ppfname* you use should be used **throughout** the rest of this procedure.

1 Log on to the installation user ID **5697F75C**.

2 Create a PROFILE EXEC that will contain the ACCESS commands for MAINT 5E5 and 51D minidisks.

xedit profile exec a
===> input //**
===> input 'access 5e5 b'
===> input 'access 51d d'
===> file

If either 5E5 or 51D is in a shared file system (SFS) then substitute your SFS directory name in the access command.

3 Execute the profile to access MAINT's minidisks.

profile

4 If the Software Inventory disk (51D) was accessed R/O (read only) then establish write access to the Software Inventory disk.

Note: If the MAINT 51D minidisk was accessed R/O, you will need to have the user who has linked R/W link it as R/O. You then can issue the following commands to obtain R/W access to it.

link maint 51d 51d mr
access 51d d

5 Have the DB2 for VM Client Edition installation tape mounted and attached to 5697F75C at virtual address 181. The VMFINS EXEC requires the tape drive to be at virtual address 181.

6 Install DB2 for VM Client Edition.

Notes:

a. Make sure the SQLCLNT and SQLUSER user IDs are logged off before you continue with the install.

b. If you've already created a PPF override file, you should specify your override file name, in place of *ppfname* after the **PPF** keyword for the following VMFINS command. Otherwise, use the default PPF name 5697F75C

c. You may be prompted for additional information during VMFINS INSTALL processing depending on your installation environment. If you are unsure how to respond to a prompt, refer to the "Installing Products with VMFINS" and "Install Scenarios" chapters in the *z/VM: VMSES/E Introduction and Reference* manual to decide how to proceed.

vmfins install ppf *ppfname* **{DB2VMR | DB2VMRSFS} (nomemo nolink**

> Use **DB2VMR** for installing on minidisks or **DB2VMRSFS** for installing in Shared File System directories.
>
> The NOLINK option indicates that you do not want VMFINS to link to the appropriate minidisks, only access them if not accessed.

```
VMFINS2767I Reading VMFINS DEFAULTS B for additional options
VMFINS2760I VMFINS processing started
VMFINS2601R Do you want to create an override for :PPF 5697F75C DB2VMR
            :PRODID. 5697F75C%DB2VMR?
            Enter 0 (No), 1 (Yes) or 2 (Exit)
0
VMFINS2603I Processing product :PPF 5697F75C DB2VMR :PRODID
            5697F75C%DB2VMR
VMFREQ2805I Product :PPF 5697F75C DB2VMR :PRODID 5697F75C%DB2VMR
            has passed requisite checking
VMFINT2603I Installing product :PPF 5697F75C DB2VMR :PRODID
            5697F75C%DB2VMR
VMFSET2760I VMFSETUP processing started
VMFUTL2205I Minidisk|Directory Assignments:
            String    Mode Stat Vdev  Label/Directory
VMFUTL2205I LOCALSAM  E    R/W  2C2   DBI2C2
VMFUTL2205I APPLY     F    R/W  2A6   DBI2A6
VMFUTL2205I           G    R/W  2A2   DBI2A2
VMFUTL2205I DELTA     H    R/W  2D2   DBI2D2
VMFUTL2205I BUILD2    I    R/W  195   DBI195
VMFUTL2205I BUILD0    J    R/W  193   DBI193
VMFUTL2205I BASE      K    R/W  2B2   DBI2B2
VMFUTL2205I SYSTEM    L    R/W  295   SQL295
VMFUTL2205I           M    R/W  293   SQL293
VMFUTL2205I --------  A    R/W  191   SQL191
VMFUTL2205I --------  B    R/O  5E5   MNT5E5
VMFUTL2205I --------  D    R/W  51D   MNT51D
VMFUTL2205I --------  S    R/O  190   CMS210
VMFUTL2205I --------  Y/S  R/O  19E   YDISK
VMFSET2760I VMFSETUP processing completed successfully
VMFREC2760I VMFREC processing started
VMFREC1852I Volume 1 of 1 of INS TAPE 9800
VMFREC1851I (1 of 7) VMFRCAXL processing AXLIST
VMFRCX2159I Loading 0 part(s) to DELTA 2D2 (H)
VMFREC1851I (2 of 7) VMFRCPTF processing PARTLST
VMFRCP2159I Loading 0 part(s) to DELTA 2D2 (H)
VMFREC1851I (3 of 7) VMFRCCOM processing DELTA
VMFRCC2159I Loading 0 part(s) to DELTA 2D2 (H)
VMFREC1851I (4 of 7) VMFRCALL processing APPLY
VMFRCA2159I Loading part(s) to APPLY 2A6 (F)
VMFRCA2159I Loaded 1 part(s) to APPLY 2A6 (F)
VMFREC1851I (5 of 7) VMFRCALL processing BASE
VMFRCA2159I Loading part(s) to BASE 2B2 (K)
VMFRCA2159I Loaded .... part(s) to BASE 2B2 (K)
VMFREC1851I (6 of 7) VMFRCALL processing BUILDS
VMFRCA2159I Loading part(s) to BUILD0 193 (J)
VMFRCA2159I Loaded .... part(s) to BUILD0 193 (J)
VMFREC1851I (7 of 7) VMFRCALL processing BUILDP
VMFRCA2159I Loading part(s) to BUILD2 195 (I)
VMFRCA2159I Loaded .. part(s) to BUILD2 195 (I)
VMFREC2760I VMFREC processing completed successfully
VMFINT2603I Product installed
VMFINS2760I VMFINS processing completed successfully
```

7 Review the install message log ($VMFINS $MSGLOG). If necessary, correct
any problems before going on. For information about handling specific error
messages, see the *z/VM: System Messages and Codes* manual or use online
HELP.

vmfview install

6.5.1 Update Build Status Table for DB2 for VM Client Edition

1 Update the VM SYSBLDS software inventory file for DB2 for VM Client Edition.

vmfins build ppf *ppfname* **{DB2VMR | DB2VMRSFS} (serviced nolink**

Use **DB2VMR** for installing on minidisks or **DB2VMRSFS** for installing in Shared File System directories.

The SERVICED option will build any parts that were not built on the installation tape (if any) and update the Software Inventory build status table showing that the product 5697F75C has been built.

Note: If your software inventory disk (51D) is not owned by MAINT then make sure the VMSESE PROFILE reflects the correct owning user ID. See the *z/VM: VMSES/E Introduction and Reference* manual for information on modifying the VMSESE PROFILE.

2 Review the install message log ($VMFINS $MSGLOG). If necessary, correct any problems before going on. For information about handling specific error messages, see the *z/VM: System Messages and Codes* manual or use online HELP.

vmfview install

6.6 Installation Step 4. Create Default Bootstrap Files and Enable Messages

1 While still logged on to the 5697F75C user ID, run ARIRINST to create default bootstrap modules and enable messages. (If you had logged off of 5697F75C then you will need to run VMFSETUP *ppfname* {DB2VMR | DB2VMRSFS} in order to get the correct minidisks or SFS directories accessed.)

aririnst i *ppfname* **{DB2VMR | DB2VMRSFS}**

Use **DB2VMR** for installing on minidisks or **DB2VMRSFS** for installing in Shared File System directories.

The 'i' option tells ARIRINST that this is initial install.

2 Log off the installation user ID, 5697F75C.

6.7 Installation Step 5. Installation Verification

In the next few steps, you perform some administrative tasks for the client system. To do this, access the database in multiple user mode using ISQL. Figure 14 shows the current environment and the one you set up in the remaining steps.

```
┌─────────────────────────────────────────────────────────────────────────┐
│                                          ┌──────────────┐                 │
│                                          │   SQLUSER     │                │
│                                          │    User       │                │
│                                          │   Machine     │                │
│                                          └──────────────┘                 │
│                                                  │                        │
│                                                  ▼                        │
│                                        ┌┄┄┄┄┄┄┄┌──────────────┐           │
│         ┌──────────────┐               ┆       │   SQLCLNT     │    │      │
│         │   SQLCLNT     │              ┆        │   Client      │    │     │
│         │   Client      │              ┆        │   Machine     │    │     │
│         │   Machine     │               └┄┄┄┄┄┄┄┄┄┄┄┬┄┄┄┄┄┄┄┄┄┄┘    │     │
│         └──────────────┘                            └┄┄┄┄┄┄┄┄┄┄┄┄┄┄┄┄┘    │
│                │                                         │                │
│                ▼                                         ▼                │
│         ┌──────────────┐               ┌┄┄┄┄┄┄┌──────────────┐            │
│         │   Client      │              ┆       │ Client code .│           │
│         │   Minidisks   │              ┆       │ Minidisks   .│           │
│         └──────────────┘               └┄┄┄┄┄┄┄└──────────────┘           │
│                                                                           │
│         Current situation:             Next you will:                     │
│         ──────────────────             ──────────────                     │
│                                                                           │
│         SQLCLNT machine has            Initialize a DB2 for VM            │
│         DB2 for VM Client              user machine to access            │
│         Edition installed and          any database through the          │
│         disks updated.                 SQLCLNT machine.                   │
│                                                                           │
└─────────────────────────────────────────────────────────────────────────┘
```
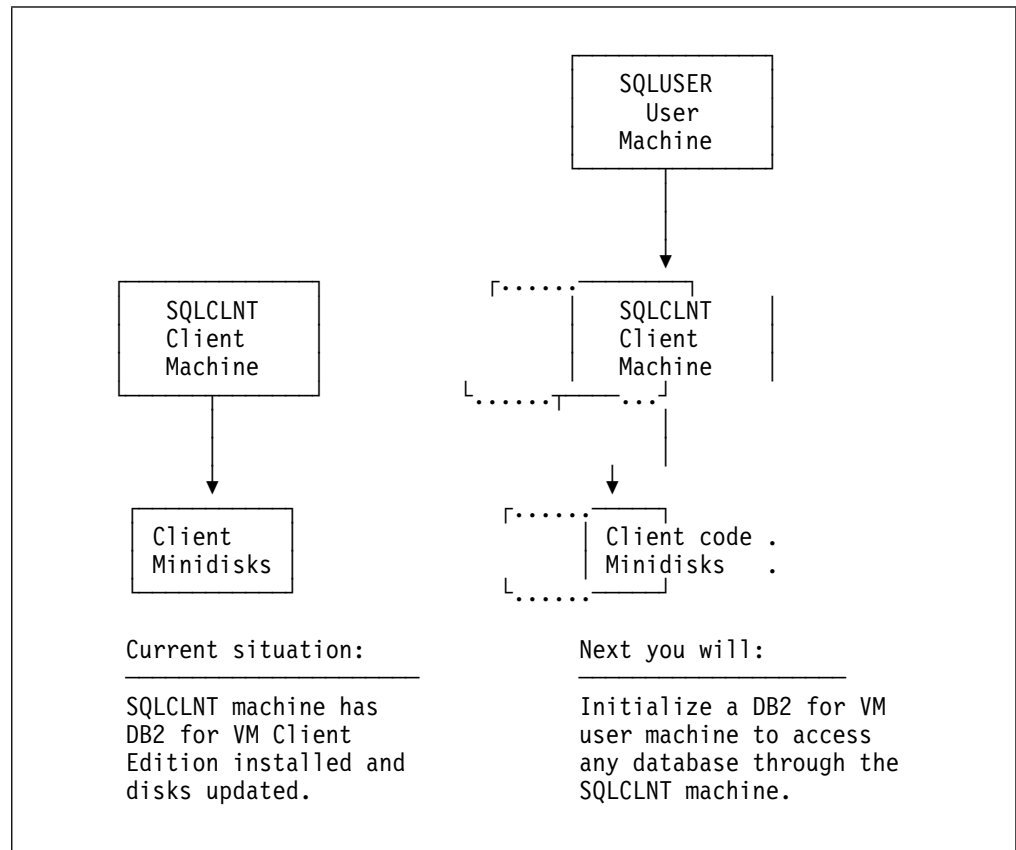
Figure 14. Installation Environment

1 Log on to the user machine, SQLUSER.

If you are using minidisks you need to make sure that the 191 A-disk has been formatted.

2 Link and access the installation user ID test production disk or SFS directories.

link 5697F75C 195 295 rr
acc 295 q

You will be prompted for the password to the disks.

Substitute in the appropriate SFS directory names. Also, substitute in your minidisk address, if it is different.

3 Copy the sample PROFILE EXEC for the user machine, SQLUSER.

copyfile sqluser profile q profile exec a
You may need to add local environmental commands. Obtain this information from your system programming department.

4 Make DB2 for VM Client Edition message repository available.

set language ameng (add ari user

5 Initialize the SQLUSER machine.

A DB2 for VM Client Edition user machine must be initialized before it can communicate with a database server. This involves creating the required modules, ARISISBT MODULE and ARISRMBT MODULE, on the 191 minidisk (A-disk). These modules are used to load the ISQL and resource adapter code into the user virtual machine, and to identify the database you wish to use.

sqlinit dbname(DBNAME) protocol(SQLDS)
The ARISISBT and ARISRMBT modules are built on the A-disk.

6 Start ISQL in the SQLUSER machine

isql

Notes:

1. ISQL is not supported at a VM system operator console.

2. For a complete description of how to use ISQL, see the *DB2 Server for VSE & VM Interactive SQL Guide and Reference* manual. This manual provides only enough information about ISQL to complete the installation process.

3. When the status area of the terminal display screen shows VM READ or RUNNING, you can enter ISQL commands as described in the following steps.

4. Commands to be processed by ISQL are entered by the terminal user input area.

5. Responses to ISQL commands that are processed by ISQL are displayed in the terminal output display area.

Connect to the database server.

a connect dbuserid identified by dbpsword

b Verify the DB2 for VM Client Edition

1 Complete the verification of the DB2 for VM Client Edition installation. Replace tabname with a valid table name in the following select statement.

select * from tabname

2 (Optional) To create a virtual printer file of the display and send it to your print spool, enter:

print

3 To end the display, enter:

end

c Shut down the application requester.

exit   This stops ISQL and control is returned to CMS.

d Log off the user machine, SQLUSER.

logoff

6.8 Installation Step 6. Copy DB2 for VM Client Edition Files Into Production

1 Log on to the installation user ID (5697F75C) to put DB2 for VM Client Edition production level of the code on client machine's (SQLCLNT) disks or SFS directories.

2 Access the installation user ID test service and test production disks or SFS directories.

vmfsetup *ppfname* **{DB2VMR | DB2VMRSFS}**   If you've created your own PPF override, *ppfname* is the name of your PPF override, otherwise it is 5697F75C.

If you want vmfsetup to link the disks in your PPF file, you must add the '(link' option to the command.

3 Build the TCP/IP module. This module is needed to run any TCP/IP type code on the requester side of DB2 for VM Client Edition.

Notes:

a. You need the TCP/IP client disk linked for this step to work. The default is TCPMAINT 592. Ask your system programmer for this information.

b. VMSES/E respects an user's GLOBAL library specifications. It will include any user's GLOBAL libraries found, ahead of the libraries from the buildlist, when it issues the GLOBAL command. To avoid surprises, please clear all the user's GLOBAL libraries in the installation ID prior to perform any BUILD by issuing the following commands:

- **GLOBAL TXTLIB** <ENTER>
- **GLOBAL MACLIB** <ENTER>
- **GLOBAL LOADLIB** <ENTER>

vmfbld ppf *ppfname* **{DB2VMR | DB2VMRSFS} aribltcp arictcp.module (all**

> If you've created your own PPF override, *ppfname* is the name of your PPF override, otherwise it is 5697F75C.

4 Build the Password Encryption module. This is needed by the requester to perform password encryption.

vmfbld ppf *ppfname* **{DB2VMR | DB2VMRSFS} ariblsec aricsec.module (all**

> If you've created your own PPF override, *ppfname* is the name of your PPF override, otherwise it is 5697F75C.

5 Run ARIRINST to copy the installation user ID's (5697F75C) test service and test production build disks or directories to the client machine's (SQLCLNT) service and production disks or directories.

aririnst ie *ppfname* **{DB2VMR | DB2VMRSFS}**   Use **DB2VMR** for installing on minidisks or **DB2VMRSFS** for installing in Shared File System directories.

> The "ie" tells ARIRINST to update the ARISPIDC MACRO and copy from the installation user ID's test service and production build disks or SFS directories to the client machine user ID's service and production build disks or SFS directories.

> **Note:** ARIRINST with the 'IE' operand will take several minutes. The VMFCOP2866I message is normal.

6 You can place the DB2 for VM Client Edition CMS help files on MAINT's 19D disk or any other user ID disk you would like. The steps here will have you log on to MAINT but this can be any user ID that you want to have the DB2 for VM Client Edition CMS help files on. (The other common choice is the client machine's production minidisk or SFS directory, if you are not going to install multiple DB2 for VM Client Edition NLS languages.)

   a Log on to MAINT to place the DB2 for VM Client Edition CMS help files on MAINT's 19D (mixed case English).

   b Link to the DB2 for VM Client Edition's service and production minidisks or SFS directories.

      1 If installing using minidisks

link sqlclnt 195 995 rr
access 995 q
link sqlclnt 193 993 rr
access 993 v

      2 If installing using Shared File System

access sqlclnt.sql.production q
access sqlclnt.sql.service v

   c Copy the DB2 for VM Client Edition CMS help files using ARISDBMC.

set language ameng (add ari user   s001 is the language key used by DB2 for VM
arisdbmc s001 v q c   Client Edition for language identifier AMENG. *v* is
                                               the file mode of the service minidisk or SFS
                                               directory. *q* is the file mode of the production
                                               minidisk or SFS directory. (The file modes of *v*
                                               and *q* must be used.) *c* is for the copy function.

   d If you placed the DB2 for VM Client Edition CMS help files on the system help disk (MAINT 19D),then you need to re-build the CMS HELPINST or HELPSEG shared segment, to include DB2 for VM Client Edition's help files from the 19D disk. See the 'Placing (Serviced) Components into Production' section of the *z/VM: Service Guide* manual for detailed information about how these segments should be saved on your system. (Note that you will need to use "**(all**" instead of "**(serviced**" on the VMSES/E VMFBLD command when re-building any segments.)

6.9 Installation Step 7. Post Installation Customization Steps for DB2 for VM Client Edition

You can proceed with normal operations using the user machines already defined.

At this time, you can perform optional administration and customization tasks, such as:

- Change the setting of the CHARNAME parameter for the database and initial user machine since the default after installation is INTERNATIONAL. The CCSID defaults are determined when a CHARNAME is chosen.

- Use saved segments for DB2 for VM Client Edition components

- Use saved segments for a DB2 for VM Client Edition message repository.

- The table below gives the segment sizes for non-DRDA enabled code.

segname	Segment Size in Kilobytes	DEFSEG Number of Pages (Segment Size / 4 Kilobytes)
SQLRMGR	384	96
LANGS001	320	80
SQLISQL	384	96

- The table below gives the segment sizes for DRDA enabled code.

segname	Segment Size in Kilobytes	DEFSEG Number of Pages (Segment Size / 4 Kilobytes)
SQLRMGR	2304	576
LANGS001	320	80
SQLISQL	384	96

- If you plan to use TCP/IP communications between your end users and the Database Server, you will need to customize the LE for VM User Exit. See Appendix E, "IBM Language Environment for VM User Exit Customization for use with TCP/IP" on page 95 for details.

Refer to the *DB2 Server for VM System Administration* manual for information to help you define procedures for operating DB2 for VM Client Edition and for the information you need to perform the above optional administrative procedures.

Refer to the *DB2 Server for VSE & VM Interactive SQL Guide and Reference* manual for a tutorial on using DB2 for VM Client Edition through ISQL. Programmers who want to use SQL commands in application programs should refer to the *DB2 Server for VSE & VM Application Programming* manual. If you want to use DB2 for VM Client Edition through the DBS utility, refer to the *DB2 Server for VSE & VM Database Services Utility* manual.

DB2 for VM Client Edition is now installed and built on your system.

7.0 Service Instructions

This section of the Program Directory contains the procedure to install CORrective service to DB2 for VM Client Edition. VMSES/E is used to install service for DB2 for VM Client Edition.

To become more familiar with service using VMSES/E, you should read the introductory chapters in the *z/VM: VMSES/E Introduction and Reference* manual. This manual also contains the command syntax for the VMSES/E commands listed in the procedure.

Notes:

1. Each step of the servicing instructions must be followed. Do not skip any step unless directed to do so. All instructions showing accessing of disks assume the use of default minidisk addresses. If different minidisk addresses are used, or if using a shared file system, change the instructions appropriately.

2. Any references to a client machine in the following discussion also apply to the service machine.

3. **Attention:** When service is applied to a client machine, it must also be applied to each service machine whose users access the application server.

7.1 VMSES/E Service Process Overview

The following is a brief description of the main steps in servicing DB2 for VM Client Edition using VMSES/E.

- Setup Environment

  Access the software inventory disk. Use VMFSETUP command to establish the correct minidisk access order.

- Merge Service

  Use the VMFMRDSK command to clear the alternate apply disk before receiving new service. This allows you to easily remove the new service if a serious problem is found.

- Receive Service

  The VMFREC command receives service from the delivery media and places it on the Delta disk.

- Apply Service

  The VMFAPPLY command updates the version vector table (VVT), which identifies the service level of all the serviced parts. In addition, AUX files are generated from the VVT for parts that require them.

- Reapply Local Service (if applicable)

All local service (mods) must be entered into the software inventory to allow VMSES/E to track the changes and build them into the system. Refer to Chapter 7 in the *z/VM: Service Guide* manual for this procedure.

- Build New Levels

  The build task generates the serviced level of an object and places the new object on a test BUILD disk.

- Place the New Service into Production

  Once the service is satisfactorily tested it should be put into production by copying the new service to the production disks.

- Additional DB2 for VM Client Edition post service processing

  This includes resaving the saved segments and other maintenance activities depending on what the service affected.

7.2 Servicing DB2 for VM Client Edition

7.2.1 Prepare to Receive Service

If you created a PPF override file in 6.3, "Installation Step 1: Plan Your Installation For DB2 for VM Client Edition" on page 19, *ppfname* used throughout these instructions must be replaced by the name of your override file. Otherwise, if you are using the PPF supplied by IBM for DB2 for VM Client Edition, you should specify **5697F75C** in place of *ppfname* The *ppfname* you use should be used **throughout** the rest of this procedure, unless otherwise stated.

1 Log on to DB2 for VM Client Edition service user ID **5697F75C**.

Note: You should spool the console to capture non-VMSES/E messages; **spool console start to ***

2 Establish read access to the VMSES/E code.

link maint 5e5 5e5 rr
access 5e5 b

The 5E5 disk contains the VMSES/E code.

3 If the Software Inventory disk (51D) was accessed R/O (read only) then establish write access to the Software Inventory disk.

Note: If the MAINT 51D minidisk was accessed R/O, you will need to have the user that has it accessed R/W link it R/O. You then can issue the following commands to obtain R/W access to it.

link maint 51d 51d mr
access 51d d

The 51D minidisk is where the VMSES/E Software Inventory files and other product dependent files reside.

4 Have the DB2 for VM Client Edition corrective service tape mounted and attached to **5697F75C**.

5 Establish the correct minidisk access order.

vmfsetup *ppfname* **{DB2VMR | DB2VMRSFS}**

> If you've created your own PPF override, *ppfname* is the name of your PPF override, otherwise it is 5697F75C.
>
> If you want vmfsetup to link the disks in your PPF file, you must add the '(link' option to the command.
>
> Use **DB2VMR** for installing on minidisks or **DB2VMRSFS** for installing in Shared File System directories.

6 Receive the documentation. VMFREC, with the INFO option, loads the documentation and displays a list of all the products on the tape.

Electronic Service

If you are receiving service from Service Link (electronic service) see Appendix A, 'Receiving Service for VMSES Envelopes', section Receive Service Documentation, in the *z/VM: Service Guide* manual. Then continue with step 8.

---

vmfrec info

> This command will load the service memo to the 191 disk.

7 Check the receive message log ($VMFREC $MSGLOG) for warning and error messages.

vmfview receive

> Also make note of which products and components have service on the tape. To do this, use the PF5 key to show all status messages which identify the products on the tape.

8 Merge previously applied service to ensure that you have a clean alternate apply disk for new service.

vmfmrdsk *ppfname* **{DB2VMR | DB2VMRSFS} apply**

> Use **DB2VMR** for installing on minidisks or **DB2VMRSFS** for installing in Shared File System directories.
>
> This command clears the alternate APPLY disk.

9 Review the merge message log ($VMFMRD $MSGLOG). If necessary, correct any problems before going on. For information about handling specific error messages, see the *z/VM: System Messages and Codes* manual or use online HELP.

vmfview mrd

7.2.2 Receive the Service

> ┌─ **Electronic Service** ─────────────────────────────────────┐
> │   │
> │ If you are receiving service from Service Link (electronic service) see │
> │ Appendix A, 'Receiving Service for VMSES Envelopes', section Receive │
> │ the Service, in the *z/VM: Service Guide* manual. Then continue with │
> │ 7.2.3, "Apply the Service."   │
> │   │
> └──┘

1 Receive the service.

vmfrec ppf *ppfname* **{DB2VMR | DB2VMRSFS}**   Use **DB2VMR** for installing on minidisks or **DB2VMRSFS** for installing in Shared File System directories.

This command receives service from your service tape. All new service is loaded to the DELTA disk.

2 Review the receive message log ($VMFREC $MSGLOG). If necessary, correct any problems before going on. For information about handling specific error messages, see the *z/VM: System Messages and Codes* manual or use online HELP.

vmfview receive

7.2.3 Apply the Service

1 Apply the new service.

vmfapply ppf *ppfname* **{DB2VMR | DB2VMRSFS}** Use **DB2VMR** for installing on minidisks or **DB2VMRSFS** for installing in Shared File System directories.

This command applies the service that you just received. The version vector table (VVT) is updated with all serviced parts and all necessary AUX files are generated on the alternate apply disk.

You must review the VMFAPPLY message log if you receive a return code (RC) of a 4, as this may indicate that you have local modifications that need to be reworked.

2 Review the apply message log ($VMFAPP $MSGLOG). If necessary, correct any problems before going on. For information about handling specific error messages, see the *z/VM: System Messages and Codes* manual or use online HELP.

vmfview apply

Note

If you get the message VMFAPP2120W then reapply any local modifications before building the new DB2 for VM Client Edition. Refer to Chapter 7 in the *z/VM: Service Guide* manual. Follow the steps that are applicable to your local modification.

The following substitutions need to be made:

- **esalcl** should be **5697F75C**

- **esa** should be *ppfname*

- *compname* should be **DB2VMR** or **DB2VMRSFS** (minidisk or SFS)

- *appid* should be **5697F75C**

- *fm-local* should be the fm of 2C2

- *fm-applyalt* should be the fm of 2A6

If you have changed any of the installation parameters through a PPF override, you need to substitute your changed values where applicable.

Keep in mind that when you get to the "Return to the Appropriate Section to Build Remaining Objects" or "Rebuild Remaining Objects" step in the *z/VM: Service Guide* manual, you should return back to this program directory at 7.2.4, "Update the Build Status Table."

7.2.4 Update the Build Status Table

1 Update the Build Status Table with serviced parts.

vmfbld ppf *ppfname* **{DB2VMR | DB2VMRSFS} (status**

> Use **DB2VMR** for installing on minidisks or **DB2VMRSFS** for installing in Shared File System directories.
>
> This command updates the Build Status Table.

┌─ Note ──┐

If the $PPF files have been serviced you will get the following prompt:

```
VMFBLD2185R The following source product parameter files have been
            serviced:
VMFBLD2185R 5697F75C $PPF
VMFBLD2185R When source product parameter files are serviced, all
            product parameter files built from them must be recompiled
            using VMFPPF before VMFBLD can be run.
VMFBLD2185R Enter zero (0) to have the serviced source product
            parameter files built to your A-disk and exit VMFBLD so
            you can recompile your product parameter files with VMFPPF.
VMFBLD2185R Enter one (1) to continue only if you have already
            recompiled your product parameter files with VMFPPF.
```

0
  Enter a 0 and complete the following steps before you continue.

```
VMFBLD2188I Building 5697F75C $PPF
            on 191 (A) from level $PFnnnnn
```

vmfppf *ppfname* *****
  Note: If you've created your own PPF override, *ppfname* is the name of your PPF override, otherwise it is 5697F75C.

copyfile 5697F75C $PPF a = = d (olddate replace
erase 5697F75C $PPF a

  Note: **Do not** use your own PPF name in place of 5697F75C for the COPYFILE and ERASE commands.

vmfbld ppf *ppfname* **{DB2VMR | DB2VMRSFS} (status**

1
  Reissue VMFBLD to complete updating the build status table.

  Use **DB2VMR** for installing on minidisks or **DB2VMRSFS** for installing in Shared File System directories. When you receive the prompt that was previously displayed, enter a 1 to continue.

└──┘

2 Use VMFVIEW to review the build status messages, and see what objects need to be built.

vmfview build

7.2.5 Build Serviced Objects

1 Rebuild DB2 for VM Client Edition serviced parts.

vmfbld ppf *ppfname* **{DB2VMR | DB2VMRSFS} (serviced**

> Use **DB2VMR** for installing on minidisks or **DB2VMRSFS** for installing in Shared File System directories.
>
> **Note:** If your Software Inventory disk (51D) is not owned by the MAINT user ID then make sure the VMSESE PROFILE reflects the correct owning user ID.

2 Review the build message log ($VMFBLD $MSGLOG). If necessary, correct any problems before going on. For information about handling specific error messages, see the *z/VM: System Messages and Codes* manual or use online HELP.

vmfview build

7.3 Place the New DB2 for VM Client Edition Service Into Production

7.3.1 Copy the New DB2 for VM Client Edition Serviced Files Into Production

1 Log on to the client machine (SQLCLNT)

2 Make sure no other user ID has access to SQLCLNT's production and service disks or SFS directories. Issue the following commands:

link SQLCLNT 195 195 rr
access 195 Q
copy SQLCLNT PROFILE Q PROFILE EXEC A
profile

3 Log off the client machine, SQLCLNT.

4 Log on to the service or installation user ID (5697F75C) to put DB2 for VM Client Edition production level of the code on SQLCLNT's disks or SFS directories.

5 Access the installation user ID test service and test production disks or SFS directories.

vmfsetup *ppfname* **{DB2VMR | DB2VMRSFS}**   If you've created your own PPF override, *ppfname* is the name of your PPF override, otherwise it is 5697F75C.

Use **DB2VMR** for installing on minidisks or **DB2VMRSFS** for installing in Shared File System directories.

6 Run ARIRINST to copy the installation or service user ID's, 5697F75C, test service and test production build disks or directories to the client machine's, SQLCLNT, service and production disks or directories

aririnst c *ppfname* **{DB2VMR | DB2VMRSFS}**   Use **DB2VMR** for installing on minidisks or **DB2VMRSFS** for installing in Shared File System directories.

The 'c' tells ARIRINST that this is a copy function. The 5697F75C's test service and test production disks or directories will be copied to the SQLCLNT's service and production disks or directories. The VMSES PARTCAT file on SQLCLNT's service and production disk or directories will be updated.

Note: ARIRINST with the 'C' operand will take several minutes. The VMFCOP2866I message is normal.

7.4 Post Service Processing

During VMFBLD processing ARIBDUTL displays console messages describing what action you should take for the following situations:

- Whether a service update requires you to update a client component originally supplied by IBM.

  For example, if the DBS utility is serviced, you may have to recreate the DBS utility package in every database. Instructions for database maintenance are in 7.5, "Post Service DB2 for VM Client Edition Component Processing."

- Whether the service affects the FIPS flagger.

  If you have the FIPS flagger installed, refer to 7.5.2, "Reloading the FIPS Flagger in a Database" on page 54.

- Whether a component that was serviced may have been placed in a saved segment.

  If you are using saved segments, and the maintenance applied affects any of the components

  - Resource Adapter
  - National Language message repositories
  - ISQL

  that reside in them, you must refresh the saved segments. Refer to 7.4.2, "Rebuild the Saved Segments" on page 49 for the steps to rebuild the saved segments.

- Whether the service affects user-written programs.

  For example, modules are link-edited with user programs. If one of these "stub" modules is serviced, you have to link-edit any affected user program.

- Whether the service affects the cancel support macros.

  For example, if an DB2 for VM Client Edition cancel support macro is serviced, you may have to change user-written programs that use those macros. DB2 for VM Client Edition cancel support macros are described in the *DB2 Server for VSE & VM Diagnosis Guide and Reference* manual.

The following sections provides instructions for performing the above activities. Follow the instructions for the processing that the build step informed you about.

7.4.1 Recreating the Default Bootstrap Modules

The default bootstrap files that must exist on an DB2 for VM Client Edition production minidisk are:

SQLDBA SQLRMBT Q   Resource Adapter Bootstrap
SQLDBA SQLISBT Q   ISQL Bootstrap

These default bootstraps are initially created or recreated when a database is installed using the ARIRDBMA EXEC. If you inadvertently delete one or more of the default bootstrap files from an DB2 Server for VM Client Edition production minidisk, or if you resave any saved segments referenced by this bootstrap package, or if the bootstrap files have been serviced then perform these steps.

Note: You should always run through this step to make sure the default bootstrap files are current on the production minidisk or SFS directory.

1 Ensure that all user machines using the DB2 Server for VM Client Edition production minidisk to be updated are not active.

2 Log on to the database client machine (SQLCLNT) that owns the DB2 Server for VM Client Edition production minidisk.

logon sqlclnt

3 Access the DB2 Server for VM Client Edition service minidisk with file mode V. If you have installed your DB2 for VM Client Edition code in SFS, you must access the service directory with file mode V and the production directory with file mode Q.

access 193 v

4 Link and access the DB2 Server for VM Client Edition production minidisk (Q-disk) in write mode.

link sqlclnt 195 195 w
access 195 q

5 Create or recreate the default bootstrap files on the Q-disk by running the IBM-supplied SQLBOOTR EXEC.

sqlbootr

6 Link and access the DB2 Server for VM Client Edition production minidisk in read mode.

link sqlclnt 195 195 rr
access 195 q

7.4.2 Rebuild the Saved Segments

If you have placed DB2 for VM Client Edition into saved segments then continue with this step. Otherwise, continue with 7.5, "Post Service DB2 for VM Client Edition Component Processing" on page 52.

1 Log on to the installation/service user ID, 5697F75C.

2 Prepare to build the segments.

a IPL CMS to clear the virtual storage

ipl cms parm clear nosprof instseg no

*** DO NOT press <u>ENTER</u> at the VM READ!***

IPL CMS to clear your virtual machine. This command bypasses the execution of the system profile (SYSPROF EXEC) and without loading the installation saved segment (CMSINST).

access (noprof

Bypass the execution of the PROFILE EXEC.

b Access the VMSES/E code

access 5e5 b

c Establish write access the Software Inventory disk.

link MAINT 51d 51d mr
access 51d d

d Access the client machine, SQLCLNT, production minidisk or SFS directory by entering the following command:

access *vdev* **k**   *vdev* is the address the client machine production minidisk is linked as by the installation user ID, or *vdev* is the name of the client machine production SFS directory. You need write access to this minidisk or directory.

e Activate the DB2 for VM Client Edition user language file.

set language ameng (add ari user

f Release the client machine, SQLCLNT, production minidisk or SFS directory by entering the following command:

rel k

3 Resave the DB2 for VM Client Edition segments.

Note: There are 3 segments for DB2 for VM Client Edition. You have to repeat the VMFBLD command for each saved segment that was touched by service. (You can refer to the $VMFBLD $MSGLOG, if you need to see which segments need to be rebuilt.)

vmfbld ppf segbld esasegs segblist *segment-name* **(serviced**

segment-name is SQLRMGR, SQLISQL, or LANGxxxx. If you have different segment names then substitute your names appropriately.

4 Review the build message log ($VMFBLD $MSGLOG). If necessary, correct any problems before going on. For information about handling specific error messages, see the *z/VM: System Messages and Codes* manual or use online HELP.

vmfview build

7.4.3 Recreate User Defined Bootstrap Modules

If you have user defined bootstrap modules then you need to perform this step if the bootstrap files have been serviced (or if you inadvertently delete one or more of your user defined bootstrap files from an DB2 Server for VM Client Edition production minidisk, or if you resave any saved segments referenced by this bootstrap package).

1 Ensure that all database client machines using the DB2 Server for VM Client Edition production minidisk to be updated are not active.

2 Log on to the database client machine (SQLCLNT) that owns the DB2 Server for VM Client Edition production minidisk.

logon sqlclnt

3 Access the DB2 Server for VM Client Edition service minidisk with file mode V. If you have installed your DB2 for VM Client Edition code in SFS, you must access the service directory with file mode V and the production directory with file mode Q.

access 193 v

4 Link and access the DB2 Server for VM Client Edition production minidisk (Q-disk) in write mode.

link sqlclnt 195 195 w
access 195 q

5 Create or recreate user defined bootstrap files on the Q-disk by running the IBM-supplied SQLGENLD EXEC.

sqlgenld	If you are running SQLGENLD from a client machine that does not own the production minidisk, SQLGENLD prompts you for the write password.
	The SQLGENLD EXEC prompts you for the *dcssid*. This is the name of the new bootstrap package. If a bootstrap package with this name already exists, SQLGENLD replaces the existing bootstraps. The EXEC does not let you replace the initial SQLDBA bootstrap package.
	When you supply *dcssid*, SQLGENLD prompts if you want to create a resource adapter and an ISQL bootstrap. For each bootstrap that you choose to create, you are prompted for the saved segment name.
	The SQLGENLD EXEC prompts if you want this bootstrap package to be the default DCSSID for the user machines that have link to this production disk.
	For more information about SQLGENLD refer to the *DB2 Server for VM System Administration* manual.

6 Link and access the DB2 Server for VM Client Edition production minidisk in read mode.

link sqlclnt 195 195 rr
access 195 q

7.5 Post Service DB2 for VM Client Edition Component Processing

Instructions supplied with an DB2 for VM Client Edition service update indicate whether you must update an IBM-supplied DB2 for VM Client Edition component.

If an IBM-supplied DB2 for VM Client Edition package, sample table, or sample ISQL routine is included in the service, then you must apply the service to **each** DB2 for VM Client Edition in your installation.

Database maintenance consists of creating or replacing originally IBM-supplied components. The maintenance activity may be prompted:

1. By DB2 for VM Client Edition service for IBM-supplied DB2 for VM Client Edition database packages, sample tables, or sample ISQL routines.

2. Because the client component was not originally installed in the database client system.

The ARISDBHD, ARISDBLD, and ARIRDBMA execs are used for maintaining the IBM-supplied DB2 for VM Client Edition components. These execs are described in the *DB2 Server for VSE & VM Database Administration* manual.

ARISDBHD EXEC deletes the DB2 for VM Client Edition HELP text.

ARISDBLD EXEC deletes an NLS language from DB2 for VM Client Edition.

ARIRDBMA EXEC updates the following components:

- DBS utility package
- FIPS Flagger package
- DB2 for VM Client Edition HELP text and message repositories
- ISQL package
- Sample tables
- ISQL sample routines
- CMS files for CCSID support.

You can also use this EXEC to install or remove the DRDA code. For a description of how to use it for this purpose, refer to the *DB2 Server for VM System Administration* manual.

Attention: Using the ARISDBHD EXEC or the ARISDBLD EXEC removes all HELP text for the selected languages, including your own topics.

Before invoking ARISDBHD, ARISDBLD, or ARIRDBMA, you must be prepared as follows:

1. Database maintenance must be applied by the database client machine that owns the client system.

   The ARIRDBMA EXEC should be run before any other maintenance.

2. Files read during database maintenance reside on the service minidisk (SQLCLNT 193) or directory and the production minidisk (SQLCLNT 195) or directory. Therefore, the client machine must access the service minidisk or SFS directory with primary access mode R and file mode V, and the production minidisk or directory with primary access mode R and file mode Q.

3. If you are loading or reloading a language and/or HELP text with the ARIRDBMA EXEC, you are prompted as to whether ISQL and CMS Help are required. If so, you must know the language key, owner ID, and the virtual address of the minidisk or SFS directories where the CMS Help is to be stored. Ensure that the minidisk or SFS directory to be used is not currently attached by any users, including the database machine. For example, to install the base American English HELP text, the language key you would use is "S001". Refer to the *DB2 Server for VSE & VM Database Administration* manual to find the language key for the HELP text you are loading.

4. If you are deleting HELP text using the ARISDBLD EXEC or the ARISDBHD EXEC, you need to know the language keys for the languages you are working with and the owner ID and virtual address of the minidisk or SFS directory where the CMS HELP text is stored. Ensure that the minidisk or directory to be used is not currently attached by any users, including the database machine.

7.5.1 Recreating the DBS Utility Package

Review 7.5, "Post Service DB2 for VM Client Edition Component Processing" on page 52 before recreating the DBS utility package.

To create or recreate the DBS utility package follow these steps:

1 Log on to the database machine (SQLCLNT) that owns the database.

logon sqlclnt

2 Access the DB2 Server for VM Client Edition service minidisk. If you are using SFS, access the service directory with file mode V.

access 193 v

3 Access the DB2 for VM Client Edition production minidisk. If you are using SFS, access the production directory with file mode Q.

access 195 q

4 Create or recreate the DBS utility package.

arirdbma dbname(*dbname***) component(dbs)**   *dbname* is the name of the database to be updated.

When prompted, you must reply with the current password for the user ID SQLDBA in the database.

ARIRDBMA invokes the SQL/DS assembler preprocessor to preprocess the DBS utility. It uses the DB2 Server for VM Client Edition service minidisk file ARIDSQLP MACRO V as input to create the DBS utility package SQLDBA.ARIDSQL.

7.5.2 Reloading the FIPS Flagger in a Database

You should review 7.5, "Post Service DB2 for VM Client Edition Component Processing" on page 52, before reloading the FIPS flagger package.

To load or reload the FIPS flagger preprocessed package, follow these steps:

1 Log on to the database machine (SQLCLNT) that owns the database.

logon sqlclnt

2 Access the DB2 Server for VM Client Edition service minidisk. If you are using SFS, access the service directory with file mode V.

access 193 v

> **3** Access the production minidisk. If you are using SFS, access the production directory with file mode Q.

access 195 q

> **4** Create or reload the FIPS flagger package.

arirdbma dbname(*dbname***) component(flagger)**   *dbname* is the name of the database to be updated.

> When prompted, you must reply with the current password for the database user ID, SQLDBA.
>
> This exec uses the DBS Utility RELOAD PROGRAM to reload the preprocessed package SQLDBA.ARIFCRD.

7.5.3 Reloading the ISQL Package in a Database

Review 7.5, "Post Service DB2 for VM Client Edition Component Processing" on page 52 before reloading the ISQL package.

To load or reload the ISQL preprocessed package, follow these steps:

> **1** Log on to the database machine (SQLCLNT) that owns the database.

logon sqlclnt

> **2** Access the DB2 Server for VM Client Edition service minidisk. If you are using SFS, access the service directory with file mode V.

access 193 v

> **3** Access the production minidisk. If you are using SFS, access the production directory with file mode Q.

access 195 q

> **4** Create or reload the ISQL package.

arirdbma dbname(*dbname***) component(isql)**   *dbname* is the name of the database to be updated.

> When prompted, reply with the current password for the database user ID, SQLDBA.

This exec uses the DBS Utility RELOAD PROGRAM to reload the preprocessed module SQLDBA.ARIISQLM.

7.5.4 Reactivating a Language

Review 7.5, "Post Service DB2 for VM Client Edition Component Processing" on page 52 before reactivating a language and reloading the HELP text.

When reactivating a language, you can optionally reload the DB2 for VM Client Edition HELP text and/or the CMS HELP files.

Also, before trying to load a language, ensure that the SQLDBA.SYSLANGUAGE table exists.

For information about the messages and HELP text for other languages, review the considerations as explained in the *DB2 Server for VSE & VM Database Administration* manual and the *DB2 Server for VM System Administration* manual.

To reactivate a language and reload any HELP text you decide to use after a database has been initially generated, follow these steps:

1 Log on to the database machine (SQLCLNT) that owns the database.

logon sqlclnt

2 Access the DB2 Server for VM Client Edition service minidisk. If you are using SFS, access the service directory with file mode V.

access 193 v

3 Access the production minidisk. If you are using SFS, access the production directory with file mode Q.

access 195 q

4 Reactivate a language and optionally reload the DB2 for VM Client Edition HELP text into the database.

arirdbma dbname(*dbname***) component(lang***xxxx***)**   For LANGxxxx, *xxxx* is the language key for the language being reactivated and the HELP text being reloaded. Refer to the *DB2 Server for VM System Administration* manual for a list of language keys.

dbname is the name of the database to be updated.

When prompted:

- Reply with the current password for the database user ID, SQLDBA.

- Specify whether this language is to be the default language.

- Specify whether DB2 for VM Client Edition HELP text should be loaded into the database.

- Specify whether CMS HELP files should be loaded. If so, you are prompted for the owner ID and virtual address of where to load the files.

  Attention: This must not be the same minidisk or SFS directory as the CMS HELP files for any other language, or the CMS HELP files for that language will be destroyed.

ARIRDBMA runs the DBS utility to load the message repository. Optionally, it can load the DB2 for VM Client Edition HELP text into the database for the language specified.

7.5.5 Removing a Language

Use ARISDBLD to remove the language from the database.

Attention: Using the ARISDBLD EXEC deletes all HELP text, as well as the messages for the selected languages, including your own topics.

Before trying to remove a language, ensure that the table SQLDBA.SYSLANGUAGE exists.

After database generation, these tables exist in the database. If you have dropped the tables, you must recreate them before invoking ARISDBLD. Refer to the *DB2 Server for VSE & VM Database Administration* manual and *DB2 Server for VM System Administration* manual for information about the message repositories and the HELP text tables.

To remove any SQL language that you no longer need after an database has been initially generated, follow these steps:

1 Log on to the database machine (SQLCLNT) that owns the database.

logon sqlclnt

2 Access the DB2 Server for VM Client Edition service minidisk. If you are using SFS, access the service directory with file mode V.

access 193 v

3 Access the production minidisk. If you are using SFS, access the production directory with file mode Q.

access 195 q

4 Remove the language from the database.

arisdbld dbname(*dbname***)**   *dbname* is the name of the database to be
                                                                     updated.

When prompted:

- Select those languages you wish to delete by entering one or more
  language keys.

7.5.6 Recreating the CCSID Support CMS Files

To create or recreate the CCSID support CMS files, follow these steps:

1 Log on to the database machine (SQLCLNT) that owns the database.

logon sqlclnt

2 Access the DB2 Server for VM Client Edition service minidisk. If you are
using SFS, access the service directory with file mode V.

access 193 v

3 Access the production minidisk. If you are using SFS, access the production
directory with file mode Q.

access 195 q

4 Unload CCSID-related catalog tables.

arirdbma dbname(*dbname***) component(ccsid)**   *dbname* is the name of the database to be
                                                                     updated.

When prompted, you must reply with the current password for the database
user ID, SQLDBA.

This EXEC runs the DBS utility ARISFFG job to unload the following CCSID
catalog tables:

- SYSTEM.SYSCCSIDS
- SYSTEM.SYSSTRINGS
- SYSTEM.SYSCHARSETS

into their corresponding CMS files:

- ARISCCS FLATFILE A
- ARISSTR FLATFILE A
- ARISSCR FLATFILE A

Before the application server can use these CMS files, you must copy them to your production disk or directory and you must change their filetype to MACRO. For example, type:

```
COPYFILE ARISCCS FLATFILE A ARISCCS MACRO Q
COPYFILE ARISSTR FLATFILE A ARISSTR MACRO Q
COPYFILE ARISSCR FLATFILE A ARISSCR MACRO Q
```

7.5.7 Reloading the Sample Tables into a Database

Review 7.5, "Post Service DB2 for VM Client Edition Component Processing" on page 52 before reloading the sample tables.

To load or reload the sample tables into a database, follow these steps:

1 Log on to the database machine (SQLCLNT) that owns the database.

logon sqlclnt

2 Access the DB2 Server for VM Client Edition service minidisk. If you are using SFS, access the service directory with file mode V.

access 193 v

3 Access the production minidisk. If you are using SFS, access the production directory with file mode Q.

access 195 q

4 Reload the sample tables.

arirdbma dbname(dbname**)** **COMPONENT(**samptabs**)**	dbname is the name of the database to be updated.

Replace samptabs with either SAMPTABS or MSAMPTABS.

If you are loading the sample tables, replace samptabs with SAMPTABS. The sample tables are the following:

- DEPARTMENT
- EMPLOYEE
- PROJECT
- ACTIVITY
- PROJ_ACT
- EMP_ACT
- CL_SCHED
- IN_TRAY.

If you are loading the manufacturing sample tables, replace samptabs with MSAMPTABS. The manufacturing sample tables are the following:

- INVENTORY
- SUPPLIERS
- QUOTATIONS
- PROJECTS
- OPERATIONS.

When prompted, reply with the current password for the database user ID, SQLDBA.

ARIRDBMA runs the DBS utility to load the sample tables into the database. It uses the commands and data in the DB2 Server for VM Client Edition service minidisk file named ARISAMDB MACRO V.

7.5.8 Reloading the ISQL Sample Routines into a Database

Review 7.5, "Post Service DB2 for VM Client Edition Component Processing" on page 52 before reloading the ISQL sample routines.

To load or reload the ISQL sample routines into a database, follow these steps:

1 Log on to the database machine (SQLCLNT) that owns the database.

logon sqlclnt

2 Access the DB2 Server for VM Client Edition service minidisk. If you are using SFS, access the service directory with file mode V.

access 193 v

3 Access the production minidisk. If you are using SFS, access the production directory with file mode Q.

access 195 q

4 Creates or reloads the ISQL sample routines.

arirdbma dbname(*dbname***)**
component(samprout)

dbname is the name of the database to be updated.

When prompted, reply with the current password for the database user ID, SQLDBA.

ARIRDBMA runs the DBS utility to load the ISQL sample routines into the database. It uses the commands and data in the DB2 Server for VM Client Edition service minidisk file ARISAMPI MACRO V.

8.0 NLS Installation Instructions

The following sections identify the system requirements for installing and activating an NLS Language for DB2 for VM Client Edition.

8.1 Hardware Requirements

There are no special hardware requirements for installing an NLS Language for DB2 for VM Client Edition.

8.2 Program Considerations

The following product is required to be installed before or concurrently with the installation of an NLS Language for DB2 for VM Client Edition.

- DB2 for VM Client Edition, Version 7.

A DB2 for VM database must be installed according to the instructions contained in the *DB2 Server for VM Program Directory*.

8.2.1 Helptext Dbspace Requirements

To accommodate the installation of an NLS Language, a minimum of 2304 free pages is required in the PUBLIC.HELPTEXT dbspace. Refer to Chapter 2 of the *DB2 Server for VSE & VM Database Administration* manual for a further explanation. The DB2 for VM Starter database is assigned 8192 pages, which is sufficient for three languages. If the PUBLIC.HELPTEXT dbspace is not large enough, you must drop this dbspace and acquire a larger dbspace. Refer to the following manuals for instructions:

- *DB2 Server for VSE & VM Database Administration*
- *DB2 Server for VM System Administration*

8.2.2 NLS Installation Considerations

This section describes items that should be considered before you install an NLS Language.

- When installing an NLS Language
  - The DB2 for VM Client Edition client machine must **NOT** be active.
  - No users can access the DB2 for VM Client Edition service minidisk or SFS directory.

8.3 DASD Storage and User ID Requirements

Figure 15 lists the user IDs and minidisks that are used to install an NLS Language. This table reflects the **amount of additional space** that needs to be added to the user IDs specified. The user IDs shown in the table should have already been setup when DB2 for VM Client Edition V7R5M0 was installed.

Important Installation Notes:

- User ID(s) and minidisks will have already been defined in the installation of DB2 for VM Client Edition.

- 5697F75C is the default installation (and service) user ID. It can be changed but it **MUST** match the installation user ID used for the install of DB2 for VM Client Edition V7R5M0.

Target Minidisks

Figure 15. Additional DASD Storage Requirements for NLS Language						
Minidisk owner (user ID)	**Default Address**	**Storage in Cylinders**		**FB-512 Blocks**	**SFS 4K Blocks**	**Usage**
		DASD	**CYLS**			**Default SFS Directory Name**
5697F75C	193	9345 3390 3390 3375	12 10 12 18	14400	1800	Test Service build disk for NLS Language service executiable code. **VMSYS:5697F75C.SQL.SERVICE**
SQLCLNT	193	9345 3390 3390 3375	12 10 12 18	14400	1800	Service build disk for NLS Language service executiable code. **VMSYS:SQLCLNT.SQL.SERVICE**
MAINT	401	9345 3390 3390 3375	1 1 1 1	1200	N/A	Optional production build disk for NLS Japanese CMS Help files. **See note figure note 7**.
MAINT	402	9345 3390 3390 3375	1 1 1 1	1200	N/A	Optional production build disk for NLS Upper Case English CMS Help files. **See note figure note 7**.
MAINT	404	9345 3390 3390 3375	1 1 1 1	1200	N/A	Optional production build disk for NLS French CMS Help files. **See note figure note 7**.
MAINT	405	9345 3390 3390 3375	1 1 1 1	1200	N/A	Optional production build disk for NLS German CMS Help files. **See note figure note 7**.
See the **important notes** following this DASD table.						

Notes:

1. Cylinder and block values represent **additional space** required for existing DB2 for VM Client Edition addresses or SFS.

2. Cylinder values defined in this table are based on a 4K block size.

3. FB-512 block and SFS values are derived from the 3390 cylinder values in this table.

4. The FBA blocks are listed as 1/2K but should be CMS formatted at 1K size.

5. FB-512 blocks refer to the DASD devices 0671, 3370, 9332, 9335 and 9336.

6. 5700 4K blocks are needed for SFS install.

7. If you are going to be using multiple language support you need to place the CMS help text for each language on separate disks or SFS directories. One such disk would be VM/ESA's recommended minidisks for national language help files. For Upper Case English this is MAINT 402. For French this is MAINT 404. For German this is MAINT 405. For Japanese this is MAINT 401.

8.4 Installation Instructions

This section describes the installation methods and the step-by-step procedures to install and activate an NLS Language for DB2 for VM Client Edition.

The step-by-step procedures are in two column format. The steps to be performed are in bold large numbers. Commands for these steps are on the left hand side of the page in bold print. Additional information for a command may exist to the right of the command. For more information about the two column format see 'Understanding Dialogs with the System' in the *VM/ESA Installation Guide*.

Each step of the installation instructions must be followed. Do not skip any step unless directed to do so.

Throughout these instructions, the use of IBM-supplied default minidisk addresses and user IDs is assumed. If you use different user IDs, minidisk addresses, or SFS directories to install DB2 for VM Client Edition, adapt these instructions as needed for your environment.

Note!

The sample console output presented throughout these instructions was produced on a z/VM V3R1 system. If you are installing an NLS Language for DB2 for VM Client Edition on a different VM/ESA system, the results obtained for some commands may differ from those depicted here.

8.4.1 Installation Step 1. Allocate Resources for Installing an NLS Language

Use the planning information on Figure 15 on page 63.

- Update the 5697F75C and SQLCLNT user directories for minidisk install

  OR

- Update the 5697F75C and SQLCLNT user directories for SFS install.

8.4.1.1 Installing DB2 for VM Client Edition on Minidisk

1 Update the MDISK statements in the directory entry for 5697F75C and SQLCLNT. Use Figure 15 on page 63 to obtain the additional minidisk requirements needed.

Note: The user directories for the installation user ID (5697F75C) and DB2 for VM Client Edition client machine user ID (SQLCLNT) should already exist as they were created during the install of DB2 for VM Client Edition.

2 Place the new directories on-line using VM/Directory Maintenance (DIRMAINT) or an equivalent CP directory maintenance method.

8.4.1.2 Installing DB2 for VM Client Edition in SFS Directories

1 Determine the number of 4K blocks that are required for SFS directories to install DB2 for VM Client Edition. Add up the 4K blocks required for each SFS directory you plan to use, using Figure 15 on page 63 to obtain the additional 4K blocks needed.

Note: The CP user directories and the SFS directories for the installation user ID (5697F75C) and DB2 for VM Client Edition client machine user ID (SQLCLNT) should already exist as they were created during the install of DB2 for VM Client Edition.

2 Determine if there are enough blocks available in the filepool to install an NLS Language. This information can be obtained from the QUERY FILEPOOL STATUS command. Near the end of the output from this command is a list of minidisks in the filepool and the number of blocks free. If the number of blocks free is smaller than the total 4K blocks needed to install a language you will need to add space to the filepool. See the *VM/ESA SFS and CRR Planning, Administration, and Operation* manual for information on adding space to a filepool.

8.4.2 Installation Step 2. Install an NLS Language for DB2 for VM Client Edition .

If you created a PPF override file in 6.3, "Installation Step 1: Plan Your Installation For DB2 for VM Client Edition" on page 19, *ppfname* used throughout these instructions must be replaced by the name of your override file. Otherwise, if you are using the PPF supplied by IBM for DB2 for VM Client Edition, you should

specify **5697F75C** in place of *ppfname* The *ppfname* you use should be used **throughout** the rest of this procedure.

1 Log on to the DB2 for VM Client Edition installation user ID **5697F75C**. Make sure the VMSES/E code disk (MAINT 5E5) and the VMSES/E Software Inventory disk (MAINT 51D) are accessed.

2 If the Software Inventory disk (51D) was accessed R/O (read only) then establish write access to the Software Inventory disk.

Note: If the MAINT 51D minidisk was accessed R/O, you will need to have the user who has linked R/W link it as R/O. You then can issue the following commands to obtain R/W access to it.

link MAINT 51d 51d mr
access 51d d

3 Have the DB2 for VM Client Edition NLS installation tape mounted and attached to 5697F75C at virtual address 181. The ARILHELP EXEC requires the tape drive to be at virtual address 181.

4 Install DB2 for VM Client Edition.

Notes:

a. If you've already created a PPF override file, you should specify your override file name, in place of *ppfname* after the VMFSETUP keyword for the following VMFSETUP command. Otherwise, use the default PPF name 5697F75C

vmfsetup *ppfname* **{DB2VMR | DB2VMRSFS}**

Use **DB2VMR** for installing on minidisks or **DB2VMRSFS** for installing in Shared File System directories.

Once you have the product disks linked you are ready to run the ARILHELP EXEC. This exec is supplied with the DB2 for VM Client Edition product code and was installed with the base code installation.

ARILHELP is a simple exec that will copy all necessary files for the language you wish to install onto the test service disk.

```
**************************************************
** WHAT IS THE FILEMODE OF THE INSTALLATION ID
** 193 DISK OR VMSYS:5697F75C.SQL.SERVICE
** DIRECTORY?  THE DEFAULT FILEMODE IS J AFTER
** ISSUING THE VMFSETUP COMMAND.
**
** PLEASE TYPE FILEMODE AND HIT ENTER OR
** TYPE 111 FOLLOWED BY THE ENTER KEY TO EXIT
```

Enter the filemode of the test service disk when prompted, or enter 111 followed by ENTER to quit.

```
*************************************************
** WHICH NLS LANGUAGE FILES WOULD YOU LIKE TO COPY?
**
** ENTER 1 TO INSTALL UPPER CASE ENGLISH (S002)
** ENTER 2 TO INSTALL FRENCH (S003)
** ENTER 3 TO INSTALL GERMAN (S004)
** ENTER 4 TO INSTALL JAPANESE (D001)
** OR ENTER 111 to QUIT.
```

Enter the number associated with the language you wish to install, or 111 followed by ENTER to quit.

After running the exec, the necessary code is on your test service disk. You are now ready to proceed to the next step.

Log off the installation user ID, 5697F75C.

8.4.3 Installation Step 3. Install DB2 for VM Client Edition Messages, ISQL Help Text and CMS Help

1 Log on to the client machine, SQLCLNT.

2 Access the installation user ID's service minidisk or SFS directory.

a If installing on minidisks

link 5697F75C 193 293 rr   You will be prompted for the password to the disk.
acc 293 v

b If installing on Shared File System

access 5697F75C.sql.service v
access 5697F75C.sql.production q

3 Install the messages, ISQL help text and CMS help.

Note: Part of this step will optionally ask where to install the CMS help text.

If you are going to install more than one NLS Language then you should install the CMS help text for each language onto a separate minidisk, so that they do not overwrite each other. You can install the CMS help text to the appropriate MAINT user ID language help disk. Follow the table below to find the appropriate language keys and language ids to use in the proceeding instructions.

LANGUAGE	LANGKEY	LANGID	MAINT MDISK	LANGLETTER
ENGLISH	S001	AMENG	19D	X
Upper Case English	S002	UCENG	402	U
French	S003	FRANC	404	F
German	S004	GER	405	G
Japanese	D001	KANJI	401	J

If you want to wait to put the NLS CMS help text on the owning user ID later then answer "SKIP," if using minidisk, or answer "NO" then "SKIP," if using SFS, to the install CMS help text prompt in this step and then copy the CMS help text in step 8.4.5, "Installation Step 6. Place NLS Files Into Production" on page 69.

set lang ameng(add ari user Set the language to AMENG for the execution of arirdbma.

arirdbma dbname(dbname**) component(lang**langkey**)** Replace dbname with the name of your database.

Replace langkey with the langkey of the NLS Language you are enabling.

The ARIRDBMA EXEC performs the following functions:

a. Prompts for the SQLDBA password.

b. Obtains write access to the DB2 for VM Client Edition production disk.

c. Copies the Message Repository files to the production disk.

d. Asks if you want AMENG to be the default language.

   Note: This will set the secondary language default. The primary default will be determined by the CMS language setting. See the *DB2 Server for VM System Administration* manual for details.

e. Asks if you want to install the NLS Language Help Text tables.

f. Loads ISQL Help Text into the database.

g. Updates SQLDBA.SYSLANGUAGE with the new language.

h. Prompts to ask where to install the CMS Help Text files.

   Answer "SKIP," if using minidisk, or "NO" then "SKIP," if using SFS, if you want to wait until step 8.4.5, "Installation Step 6. Place NLS Files Into Production" on page 69, to copy the CMS Help Text files.

   Answer with the user ID that will be used for the NLS CMS help text, if you want to place the help text on a minidisk at this time. The ARISDBMC EXEC will run, which will copy the CMS Help Text files from the service minidisk to the designated minidisk. You will then be

prompted for the cuu address of the minidisk where you want to place the DB2 for VM Client Edition CMS help text.

Remember, if you are using multiple language support, enter the user ID and minidisk address that you will use for this language.

i. Message ARI0666I indicates successful completion.

8.4.4 Installation Step 5. Verify the Installation of DB2 for VM Client Edition

1 Log on to a DB2 for VM Client Edition user machine with DBA authority, to access the database loaded with the NLS Language. (eg. SQLUSER).

2 Connect to the client machine.

sqlinit db(*dbname***)**   Replace *dbname* with the name of your database.

3 Start ISQL.

isql

4 When ISQL has initialized, connect as SQLDBA and enter the commands:

connect sqldba identified by *sqldbapw*
set language *langid*
help help

The *langid* SQL Help menu should be displayed.

For more information on how to run ISQL, refer to the *ISQL Guide and Reference* manual.

5 Shutdown the application requester and log off the user machine.

exit
logoff

8.4.5 Installation Step 6. Place NLS Files Into Production

1 Log on to the DB2 for VM Client Edition installation user ID, 5697F75C.

2 Access the database client machine's (SQLCLNT) disks or SFS directories.

a If installing using minidisks

```
link sqlclnt 193 293
access 293 v
access 193 e
```

b If installing using Shared File System

```
access 5697F75C.sql.service e
access sqlclnt.sql.service v (forcerw
```

3 Copy the DB2 for VM Client Edition 'production' level of the code on the client machine's disks or SFS directories.

```
vmfcopy arist langletter* * e = = v (prodid 5697F75C%DB2VMR olddate replace
vmfcopy *langkey * e = = v (prodid 5697F75C%DB2VMR olddat e replace
vmfcopy * *langkey e = = v (prodid 5697F75C%DB2VMR olddat e replace
vmfcopy ariume txtlangid e = = v (prodid 5697F75C%DB2VMR olddate replace
```

The VMFCOPY command will update the VMSES PARTCAT file on the client machine's service SFS directory.

Use the table to fill in the necessary langkey, langid, and langletter values.

4 If you did not place the NLS CMS help files on any disk or directory in step 8.4.3, "Installation Step 3. Install DB2 for VM Client Edition Messages, ISQL Help Text and CMS Help" on page 67 then you can do so at this time. If you did, then you can skip this step.

You can place the NLS CMS help files on the appropriate MAINT help disk or any other user ID disk or SFS directory you would like to use. The steps here will have you log on to MAINT but this can be any user ID that you want to have the NLS CMS help files on. (The other common choice is the client machine's production minidisk or SFS directory, if you are not going to install multiple NLS languages, this includes mixed case English.)

a Log on to MAINT to place the NLS CMS help files on MAINT's HELP disk.

b Link to the DB2 for VM Client Edition's service and production minidisks or SFS directories.

1 If installing using minidisks

```
link sqlclnt 195 995 rr
access 995 q
link sqlclnt 193 993 rr
access 993 v
```

2 If installing using Shared File System

access sqlclnt.sql.production q
access sqlclnt.sql.service v

c Make DB2 for VM Client Edition messages available.

set language ameng (add ari user

d Copy the NLS CMS help files using ARISDBMC.

arisdbmc *langkey* **v q c**

langkey is the language key used by the NLS language you are installing. *v* is the file mode of the service minidisk or SFS directory. *q* is the file mode of the production minidisk or SFS directory. (The file modes of *v* and *q* must be used.) *c* is for the copy function.

8.4.6 Installation Step 7. Post-Installation Customization Steps for DB2 for VM Client Edition.

8.4.6.1 Define Message Repository as Saved Segment (optional)
DB2 for VM Client Edition messages for each installed National Language are stored in message repositories. For performance reasons, you should define frequently used languages as saved segments. Refer to *Using Saved Segments for NLS Components* and *Choosing a National Language* in the *DB2 Server for VM System Administration* manual for the procedures on "Defining Message Repositories as Saved Segments."

8.4.6.2 Activating NLS Languages
Detailed steps to get the program into operational status are defined in the *DB2 Server for VSE & VM Operation* manual and in the *DB2 Server for VM System Administration* manual.

The NLS Language is now installed and built on your system.

Appendix A. How to Build (or Link-Edit) the ARISQLLD LOADLIB Member

You may want to build or link-edit the whole ARISQLLD LOADLIB or a specific member in the ARISQLLD LOADLIB. To do this, you need to perform the instructions in this appendix.

To perform a build of a specific ARISQLLD LOADLIB member, you must know the name of the member that you want to build or link-edit. The relationships between the DB2 for VM Client Edition components and DB2 for VM Client Edition load library (ARISQLLD LOADLIB) members are shown in Figure 16. The member name in the figure is also the object name in the VMSES/E build list, ARIBLLLD.

DB2 for VM Client Edition Component	ARISQLLD Member
Assembler Preprocessor	ARIPRPA
C Preprocessor	ARIPRPB
COBOL Preprocessor	ARIPRPC
Trace Formatter	ARIMTRA
ISQL	ARIISQL
System & Accounting Interface	ARICMOD
24-Bit File I/O	ARIRFIO
PL/I Preprocessor	ARIPRPP
FORTRAN Preprocessor	ARIPRPF
DBS Utility	ARIDBS
Resource Adapter	ARIRVMRM
User Exit Router	ARIXSXR
Reset Resource Adapter	ARISRRM
Flagger Semantic Routines	ARIFFVL
Flagger View Analysis Routines	ARIFBVL

Figure 16. ARISQLLD LOADLIB

A.1 Setup Environment

1 Log on to DB2 for VM Client Edition service or installation user ID; **5697F75C**

2 Establish read access to the VMSES/E code.

link MAINT 5e5 5e5 rr   The 5E5 disk contains the VMSES/E code.
access 5e5 b

3 If the Software Inventory disk (51D) was accessed R/O (read only), then establish write access to the Software Inventory disk.

   Note: If the MAINT 51D minidisk was accessed R/O, you must have the user that has it accessed R/W link it R/O. You then can issue the following commands to obtain R/W access to it.

link MAINT 51d 51d mr	The VMSES/E Software Inventory files and other
access 51d d	product dependent files reside on the 51D minidisk.

4 Establish the correct minidisk access order.

vmfsetup *ppfname* **{DB2VMR | DB2VMRSFS}**	If you've created your own PPF override, *ppfname* is the name of your PPF override, otherwise it is 5697F75C. Do the substitution in this command and all that follow.
	Use **DB2VMR** for installing on minidisks or **DB2VMRSFS** for installing in Shared File System directories.

A.2 Rebuild the Whole ARISQLLD LOADLIB

Procedural Note

Follow this step if you are

- Rebuilding the whole ARISQLLD LOADLIB

  - OR -
- Removing the DRDA AR, DRDA AS, or DB2 for VM Client Edition Data Spaces Support (VMDSS) text files from the members of the ARISQLLD LOADLIB.

Otherwise, continue with A.3, "Build Specific ARISQLLD LOADLIB Objects or Members" on page 75.

---

1 Rebuild DB2 for VM Client Edition ARISQLLD LOADLIB.

   a Rebuild the ARISQLLD LOADLIB

vmfbld ppf *ppfname* **{DB2VMR \| DB2VMRSFS} ARIBLLLD (all**
vmfview build

Use **DB2VMR** for installing on minidisks or **DB2VMRSFS** for installing in Shared File System directories.

ARIBLLLD is the name of the VMSES/E build list used to build the ARISQLLD LOADLIB.

Review the build message log ($VMFBLD $MSGLOG). If necessary, correct any problems before going on. Use the PF2 key, ALL, to review all of the messages.

Notes:

1. The following message

   ```
   VMFLLB2074I Part xxxxxxx TXT in object ARIXRDS in
               build list ARIBLLLD EXEC will
               be ignored
   ```

   is normal if you are **NOT** running DB2 for VM Client Edition with the DRDA AS support.

2. The following message

   ```
   VMFLLB2074I Part xxxxxxx TXT in object ARIRVMRM in
               build list ARIBLLLD EXEC will
               be ignored
   ```

   is normal if you are **NOT** running DB2 for VM Client Edition with the DRDA AR support.

3. The following message

   ```
   VMFLLB2074I Part xxxxxxx TXT in object ARISQLDS in
               build list ARIBLLLD EXEC will
               be ignored
   ```

   is normal if you do **NOT** have Data Space Support (VMDSS) enabled.

b Rebuild the related files.

vmfbld ppf *ppfname* **{DB2VMR | DB2VMRSFS} (serviced**
vmfview build

Use **DB2VMR** for installing on minidisks or **DB2VMRSFS** for installing in Shared File System directories.

Review the build message log ($VMFBLD $MSGLOG). If necessary, correct any problems before going on. For information about handling specific error messages, see *z/VM: System Messages and Codes* manual or use online HELP.

```
┌─ Procedural Note ─────────────────────────────────────────────────────────────┐
│                                                                                │
│  Continue with A.4, "Place the New DB2 for VM Client Edition ARISQLLD LOADLIB Into Production" on │
│  page 77.                                                                       │
│                                                                                │
└────────────────────────────────────────────────────────────────────────────────┘
```

A.3 Build Specific ARISQLLD LOADLIB Objects or Members

1 Rebuild DB2 for VM Client Edition specific LOADLIB member.

    a Rebuild the ARISQLLD LOADLIB member.

vmfbld ppf *ppfname* **{DB2VMR | DB2VMRSFS} ARIBLLLD** *memname* **(all**
vmfview build

Use **DB2VMR** for installing on minidisks or **DB2VMRSFS** for installing in Shared File System directories.

memname is the specific name of the member that you want to build. The names of the members in the ARISSQLLD LOADLIB can be found in Figure 16 on page 72.

Review the build message log ($VMFBLD $MSGLOG). If necessary, correct any problems before going on. Use the PF2 key, ALL, to review all of the messages.

Notes:

1. The following message

   ```
   VMFLLB2074I Part xxxxxxx TXT in object ARIXRDS in
               build list ARIBLLLD EXEC will
               be ignored
   ```

   is normal if you are **NOT** running DB2 for VM Client Edition with the DRDA AS support.

2. The following message

   ```
   VMFLLB2074I Part xxxxxxx TXT in object ARIRVMRM in
               build list ARIBLLLD EXEC will
               be ignored
   ```

   is normal if you are **NOT** running DB2 for VM Client Edition with the DRDA AR support.

3. The following message

   ```
   VMFLLB2074I Part xxxxxxx TXT in object ARISQLDS in
               build list ARIBLLLD EXEC will
               be ignored
   ```

   is normal if you do **NOT** have Data Space Support (VMDSS) enabled.

b Rebuild the related files.

vmfbld ppf *ppfname* **{DB2VMR | DB2VMRSFS} (serviced
vmfview build**

Use **DB2VMR** for installing on minidisks or **DB2VMRSFS** for installing in Shared File System directories.

Review the build message log ($VMFBLD $MSGLOG). If necessary, correct any problems before going on. For information about handling specific error messages, see *z/VM: System Messages and Codes* manual or use online HELP.

A.4 Place the New DB2 for VM Client Edition ARISQLLD LOADLIB Into Production

1 Log on to the client machine, SQLCLNT, to put DB2 for VM Client Edition production level of the code on SQLCLNT's disks or SFS directories.

2 Link and access the installation user ID test production and service disks or SFS directories.

    a If installing on minidisks

link 5697F75C 195 295 rr	You will be prompted for the password to the disks.
acc 295 e	
link 5697F75C 193 293 rr	
acc 293 f	

    b If installing on Shared File System

access 5697F75C.sql.production e	You will be prompted for the password to the disks.
access 5697F75C.sql.service f	Substitute in the appropriate SFS directory names.

3 Copy the new ARISQLLD LOADLIB to SQLCLNT's production and service disk or directory.

    a If installing on minidisks

access 195 q
vmfcopy arisqlld L* e = = q (prodid 5697F75C%DB2VMR olddate replace
access 193 v
vmfcopy arisqlld L*   e = = v (prodid 5697F75C%DB2VMR olddate replace

> The VMFCOPY command will update the VMSES PARTCAT file on the production disk (195) and the service disk (193).

    b If installing using Shared File System

access SQLCLNT.sql.production q
vmfcopy arisqlld L*   e = = q (prodid 5697F75C%DB2VMR olddate replace
access SQLCLNT.sql.service v
vmfcopy arisqlld L*   e = = v (prodid 5697F75C%DB2VMR olddate replace

> The VMFCOPY command will update the VMSES PARTCAT file on the production and service SFS directories.

4 Rebuild any affected saved segments.

a Log on to the installation/service user ID, 5697F75C.

b Prepare to build the segments.

1 IPL CMS to clear the virtual storage

ipl cms parm clear nosprof instseg no

** DO NOT press <u>ENTER</u> at the VM READ!**

access (noprof

IPL CMS to clear your virtual machine. This command bypasses the execution of the system profile (SYSPROF EXEC) and without loading the installation saved segment (CMSINST).

Bypass the execution of the PROFILE EXEC.

2 Access the VMSES/E code

access 5e5 b

3 Establish write access the Software Inventory disk.

link MAINT 51d 51d mr
access 51d d

4 Access the client machine, SQLCLNT, production minidisk or SFS directory by entering the following command:

access *vdev* **k**

vdev is the address the client machine production minidisk is linked as by the installation user ID, or *vdev* is the name of the client machine production SFS directory. You need write access to this minidisk or directory.

5 Activate the DB2 for VM Client Edition user language file.

set language ameng (add ari user

6 Release the client machine, SQLCLNT, production minidisk or SFS directory by entering the following command:

rel k

C Resave the DB2 for VM Client Edition segments.

Note: There are 3 segments for DB2 for VM Client Edition. You have to repeat the VMFBLD command for each saved segment that was hit by the LOADLIB rebuild. (You can refer to the $VMFBLD $MSGLOG, if you need to see which segments need to be rebuilt.)

vmfbld ppf segbld esasegs segblist *segment-name* **(serviced**

> *segment-name* is SQLRMGR, SQLISQL, or LANGxxxx. If you have different segment names then substitute your names appropriately.
>
> Remember that you have to repeat the VMFBLD command for each saved segment that you have.

d Review the build message log ($VMFBLD $MSGLOG). If necessary, correct any problems before going on. For information about handling specific error messages, see *z/VM: System Messages and Codes* manual or use online HELP.

vmfview build

Appendix B. Local Modifications for DB2 for VM Client Edition

B.1 Local Modification to Full Part Replacement Files

There may be times when you have received a new TEXT file, or any other full part replacement type file, to replace an existing version of the same file. For example, you may have received a patch or local fix or circumvention from the IBM support center in which they have sent you a replacement TEXT file, that you placed on the installation user IDs A-disk. In this case, you must do a VMSES/E local modification against the TEXT file.

To create and build the affected objects from the new part, following these steps:

1 Log on to the installation/service user ID, 5697F75C.

2 Establish the 5697F75C's minidisk order.

vmfsetup *ppfname* **{DB2VMR | DB2VMRSFS}**　　Use **DB2VMR** for installing on minidisks or **DB2VMRSFS** for installing in Shared File System directories.

If you've created your own PPF override, *ppfname* is the name of your PPF override, otherwise it is 5697F75C in this command and any following commands.

3 Execute the VMFREPL command to copy the new replacement part to the local modification disk (2C2) or SFS directory. This command will update the $SELECT file and local version vector table when it finishes successfully.

Note: If you did not receive a new replacement part, but instead are placing a local modification on to an existing part, you still do the VMFREPL command but omit the *rfn rft rfm*. The current highest level of the part will be copied to the localsam (2C2) disk. You can then XEDIT the copy of the part on the localsam (2C2) disk, before performing the VMFBLD step. The VMFBLD will pick up the version of the part from the localsam (2C2) disk.

vmfrepl *fn ft ppfname* **{DB2VMR | DB2VMRSFS}** *rfn rft rfm* **($select logmod** *modid* **outmode localsam**

Use **DB2VMR** for installing on minidisks or **DB2VMRSFS** for installing in Shared File System directories.

fn and *ft* are the real file name and file type of the part (for example, ARIXEFL TEXT).

If you've created your own PPF override, *ppfname* is the name of your PPF override, otherwise it is 5697F75C.

rfn, *rft* and *rfm* are the file name, file type and file mode of the new replacement part (for example, ARIXEFL TEXTNEW A).

modid is a five-digit alphanumeric identifier you assign to this local modification. It is in the form of 'Lnnnn' where 'L' stands for Local. *nnnn* is a sequential number you assign to the part you are going to apply, usually starting from 0001. If you have not applied any local modification before, you should use 'L0001' as the *modid*.

localsam is the symbolic name for the local modification disk in the :MDA section of the PPF.

4 Build your new local modification on the test build disk by issuing the following commands.

vmfbld ppf *ppfname* **{DB2VMR | DB2VMRSFS} (status**
vmfbld ppf *ppfname* **{DB2VMR | DB2VMRSFS} (serviced**

Use **DB2VMR** for installing on minidisks or **DB2VMRSFS** for installing in Shared File System directories.

After the VMFBLD with the STATUS option, you can look at the $VMFBLD $MSGLOG with VMFVIEW BUILD command to see which objects will be built.

5 Log on to the installation user ID, 5697F75C.

6 Place the new local modification into production.

You must do this step while you are logged on to the installation/service user ID.

vmfsetup *ppfname* **{DB2VMR | DB2VMRSFS}** **aririnst c** *ppfname* **{DB2VMR | DB2VMRSFS}**	Use **DB2VMR** for installing on minidisks or **DB2VMRSFS** for installing in Shared File System directories.
	The 'c' function of ARIRINST copies the test service and production build disks to the SQLCLNT production service and production build disks.
	Note: ARIRINST with the 'C' operand will take several minutes. The VMFCOP2866I message is normal.

7 Rebuild any affected saved segments.

> ┌─ **Procedural Note** ───
>
> If VMFBLD told you to rebuild a segment and you are using segments then continue with this step. Otherwise, continue with the next step.

a Log on to the installation/service user ID, 5697F75C.

b Prepare to build the segments.

1 IPL CMS to clear the virtual storage

ipl cms parm clear nosprof instseg no *** DO NOT press <u>ENTER</u> at the VM READ!***	IPL CMS to clear your virtual machine. This command bypasses the execution of the system profile (SYSPROF EXEC) and without loading the installation saved segment (CMSINST).
access (noprof	Bypass the execution of the PROFILE EXEC.

2 Access the VMSES/E code

access 5e5 b

3 Establish write access the Software Inventory disk.

link MAINT 51d 51d mr
access 51d d

4 Access the client machine, SQLCLNT, production minidisk or SFS directory by entering the following command:

access *vdev* **k**	*vdev* is the address the client machine production minidisk is linked as by the installation user ID, or *vdev* is the name of the client machine production SFS directory. You need write access to this minidisk or directory.

5 Activate the DB2 for VM Client Edition user language file.

set language ameng (add ari user

6 Release the client machine, SQLCLNT, production minidisk or SFS directory by entering the following command:

rel k

c Resave the DB2 for VM Client Edition segments.

Note: There are 3 segments for DB2 for VM Client Edition. You have to repeat the VMFBLD command for each saved segment that was hit by the local modification. (You can refer to the $VMFBLD $MSGLOG, if you need to see which segments need to be rebuilt.)

vmfbld ppf segbld esasegs segblist *segment-name* **(serviced**

	segment-name is SQLRMGR, SQLISQL, or LANGxxxx. If you have different segment names then substitute your names appropriately.
	Remember that you have to repeat the VMFBLD command for each saved segment that you need to rebuild.

d Review the build message log ($VMFBLD $MSGLOG). If necessary, correct any problems before going on. For information about handling specific error messages, see *z/VM: System Messages and Codes* manual or use online HELP.

vmfview build

B.2 Remove Local Modification

Removing a local modification is a manual process. You must remove the local mod entry from the local version vector table and update the $SELECT file to force the rebuild of the objects that the part is in.

To remove a local modification to full part replacement parts and update the $SELECT file, follow these steps:

1 Log on to the installation/service user ID, 5697F75C.

2 Establish the 5697F75C's minidisk order.

vmfsetup *ppfname* **{DB2VMR | DB2VMRSFS}**   Use **DB2VMR** for installing on minidisks or **DB2VMRSFS** for installing in Shared File System directories.

If you've created your own PPF override, *ppfname* is the name of your PPF override, otherwise it is 5697F75C in this command and any following commands.

3 Update the local version vector table for the part by issuing the following VMFSIM command.

vmfsim modify 5697F75C vvtlcl e tdata :part *fn ftabbrev* **:mod lcl***nnnn* **(delete**

Note: The 5697F75C in the VMFSIM MODIFY command is the file type for the DB2 for VM Client Edition version vector tables. This is **NOT** the PPF name.

fn is the real file name of the part (for example, ARIUXIT).

ftabbrev is the file type abbreviation associated with the part (for example, TXT).

nnnn is the local modification number identifier associated with the part to be removed (for example, 0001, which is found in the file type of the part on the local modification disk, 2C2, TXTL0001).

If you are using saved segments, the part *fn* lcl*nnnn* must be removed from the local modification disk, 2C2, or renamed so that it will not be picked up when resaving the saved segments in 8 on page 85

4 Update the $SELECT data file.

xedit 5697F75C $select *fm-2A6* **(noprof**
input :APPLYID. *mm/dd/yy hh:mm:ss*
input *fn ftabbrev*
file

Note:The **5697F75C** in the xedit command is the file type for the $SELECT file. It is **NOT** the PPF name.

All entries must be in uppercase. Time and date together must be unique within the $SELECT file.

fn and *ftabbrev* are the same as in the previous step.

5 Rebuild the objects affected by the removed part.

vmfbld ppf *ppfname* **{DB2VMR | DB2VMRSFS} (serviced**

> Use **DB2VMR** for installing on minidisks or **DB2VMRSFS** for installing in Shared File System directories.

6 Log on to the installation user ID, 5697F75C.

7 Place the new objects into production

vmfsetup *ppfname* **{DB2VMR | DB2VMRSFS}**
aririnst c *ppfname* **{DB2VMR | DB2VMRSFS}**

> Use **DB2VMR** for installing on minidisks or **DB2VMRSFS** for installing in Shared File System directories.
>
> The C function of ARIRINST copies the test service and production build disks or directories to the SQLCLNT service and production disks or directories
>
> **Note:** ARIRINST with the 'C' operand will take several minutes. The VMFCOP2866I message is normal.

8 Rebuild any affected saved segments.

Procedural Note

If VMFBLD told you to rebuild a segment and you are using segments then continue with this step. Otherwise, continue with the next step.

---

a Log on to the installation/service user ID, 5697F75C.

b Prepare to build the segments.

1 IPL CMS to clear the virtual storage

ipl cms parm clear nosprof instseg no

** *DO NOT press <u>ENTER</u> at the VM READ!***

> IPL CMS to clear your virtual machine. This command bypasses the execution of the system profile (SYSPROF EXEC) and without loading the installation saved segment (CMSINST).

access (noprof

> Bypass the execution of the PROFILE EXEC.

2 Access the VMSES/E code

access 5e5 b

3 Establish write access the Software Inventory disk.

link MAINT 51d 51d mr
access 51d d

> **4** Access the client machine, SQLCLNT, production minidisk or SFS directory by entering the following command:

access *vdev* **k**   *vdev* is the address the client machine production minidisk is linked as by the installation user ID, or *vdev* is the name of the client machine production SFS directory. You need write access to this minidisk or directory.

> **5** Activate the DB2 for VM Client Edition user language file.

set language ameng (add ari user

> **6** Release the client machine, SQLCLNT, production minidisk or SFS directory by entering the following command:

rel k

> **c** Resave the DB2 for VM Client Edition segments.
>
> **Note:** There are 3 segments for DB2 for VM Client Edition. You have to repeat the VMFBLD command for each saved segment that was hit by the local modification. (You can refer to the $VMFBLD $MSGLOG, if you need to see which segments need to be rebuilt.)

vmfbld ppf segbld esasegs segblist *segment-name* **(serviced**

> *segment-name* is SQLRMGR, SQLISQL, or LANGxxxx. If you have different segment names then substitute your names appropriately.
>
> Remember that you have to repeat the VMFBLD command for each saved segment that you need to rebuild.

> **d** Review the build message log ($VMFBLD $MSGLOG). If necessary, correct any problems before going on. For information about handling specific error messages, see *z/VM: System Messages and Codes* manual or use online HELP.

vmfview build

Appendix C. DB2 for VM Client Edition ARIRINST Install EXEC

C.1 ARIRINST EXEC

Use ARIRINST EXEC to:

- Setup the environment to do the initial install or migration to DB2 for VM Client Edition

- Update the ARISPIDC MACRO to match the PPF (product parameter file)

- Copy the installation or service user ID service and production minidisks or SFS directories to the client machine, SQLCLNT, service and production minidisks or SFS directories.

C.1.1 Authorization

To run ARIRINST EXEC, you must have write access to the following minidisks or directories:

- Write access to the client machine (SQLCLNT) production minidisk or SFS directory

- Write access to the client machine (SQLCLNT) service minidisk or SFS directory

- Write access to the DB2 for VM Client Edition installation user ID (5697F75C) production minidisk or SFS directory

- Write access to the DB2 for VM Client Edition installation user ID (5697F75C) service minidisk or SFS directory

C.1.2 Syntax

```
►►──ARIRINST──┬──I──┬──ppfname──compname──────────────────────────────────►◄
              ├─IE─┤
              ├─M──┤
              ├─ME─┤
              ├─C──┤
              ├─U──┤
              └─T──┘

Note:
¹ The defaults you receive appear above the line in the Options fragment.
```
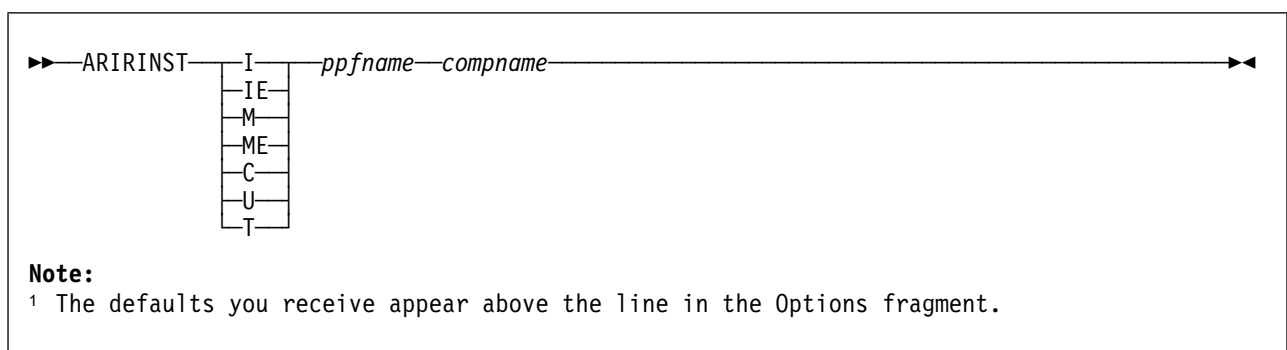
Figure 17. ARIRINST syntax

C.1.2.1 Operands

I   is the mode to use when installing base product.

IE is the mode to use when copying files into production as part of initial install.

M   is the mode to use when migrating to current release.

ME
is the mode to use when copying files into production as part of migration.

C is the mode to use to copy files from installation user ID test disks to client machine disks.

U is the mode to use to update the ARISPIDC macro.

T is the mode to use to setting up to test applied service before copying the serviced files into production.

ppfname
is the file name of a usable form product parameter file. It must have a file type of PPF. The default DB2 for VM Client Edition PPF name is 5697F75C.

compname
is the name of the component (for example, DB2VMR or DB2VMRSFS) that is specified on the :COMPNAME tag in the product parameter file. *compname* is a 1-to-16 character alphanumeric identifier.

C.1.3 Description

To run ARIRINST you have to be logged on to the installation user ID and you have to have run VMFSETUP.

ARIRINST, when invoked with the 'I' option,

- Retrieves the installation user ID, client machine user ID, production and service disks or directory names, and product ID from the PPF.

- Call SQLBOOTR to create the bootstrap files.

- Updates the ARISPIDC MACRO on the installation user ID's test service and test production disk or directory and adds two lines to the top of file. First line has IPRODUCTION followed by the installation user ID and production minidisk address or SFS directory name. Second line has ISERVICE followed by the installation user ID and service minidisk address or SFS directory name.

ARIRINST, when invoked with the 'IE' option,

- Retrieves the installation user ID, client machine user ID, production and service disks or directory names, and product ID from the PPF.

- Updates the ARISPIDC MACRO on the installation user ID's test service and test production disk or directory, with the Client machine user ID, production disk address or SFS directory name, and service disk address or SFS directory name.

- Uses VMFCOPY to copy the files from the installation user ID's test service disk or directory to the client machine user ID's service disk or directory.

- Uses VMFCOPY to copy the files from the installation user ID's test production disk or directory to the client machine user ID's production disk or directory.

ARIRINST, when invoked with the 'M' option,

- Retrieves the installation user ID, client machine user ID, production and service disks or directory names, and product ID from the PPF.

- Call SQLBOOTR to create the bootstrap files.
- Updates the ARISPIDC MACRO on the installation user ID's test service and test production disk or directory and adds two lines to the top of file. First line has IPRODUCTION followed by the installation user ID and production minidisk address or SFS directory name. Second line has ISERVICE followed by the installation user ID and service minidisk address or SFS directory name.
- Saves a copy of existing files on the installation user ID's test production disk. Saves a copy of designated user modifiable files on the installation user ID's local, sample disk (2C2) and adds an 'O' to the beginning of the file type.

ARIRINST, when invoked with the 'ME' option,

- Retrieves the installation user ID, client machine user ID, production and service disks or directory names, and product ID from the PPF.
- Updates the ARISPIDC MACRO on the installation user ID's test service and test production disk or directory, with the client machine user ID, production disk address or SFS directory name, and service disk address or SFS directory name.
- Uses VMFCOPY to copy the files from the installation user ID's test service disk or directory to the client machine user ID's service disk or directory.
- Uses VMFCOPY to copy the files from the installation user ID's test production disk or directory to the client machine user ID's production disk or directory.
- Uses VMFCOPY to copy the files in the ARISPSRV MACRO file to the installation user ID's test service or production disks or SFS directories.

ARIRINST, when invoked with the 'U' option,

- Retrieves the installation user ID, client machine user ID, production and service disks or directory names, and product ID from the PPF.
- Updates the ARISPIDC MACRO on the installation user ID's test service and test production disk or directory, with the Client machine user ID, production disk address or SFS directory name, and service disk address or SFS directory name.

ARIRINST, when invoked with the 'C' option,

- Retrieves the installation user ID, client machine user ID, production and service disks or directory names, and product ID from the PPF.
- Uses VMFCOPY to copy the files in the ARISPSRV MACRO file to the installation user ID's test service or production disks or SFS directories.
- Uses VMFCOPY to copy the files from the installation user ID's test service disk or directory to the client machine user ID's service disk or directory.
- Uses VMFCOPY to copy the files from the installation user ID's test production disk or directory to the client machine user ID's production disk or directory.

ARIRINST, when invoked with the 'T' option,

- Retrieves the installation user ID, client machine user ID, production and service disks or directory names, and product ID from the PPF.

- Uses VMFCOPY to copy the files in the ARISPSRV MACRO file to the installation user ID's test service or production disks or SFS directories.
- Call SQLBOOTR to create the bootstrap files.

Appendix D. IBM-Supplied Files for the DB2 for VM Client Edition System

This appendix lists the MACROs, CMS Help files, load library, sample profiles, selected EXEC files, selected TEXT files, and other miscellaneous files supplied with the DB2 for VM Client Edition product.

Files with a file mode of Q are on the production disk or SFS directory, while those with a file mode of V are on the service disk or SFS directory. Files with a file mode of Q and V are on both disks.

Figure 18. EXECs

File name	File type	File mode	Description
ARIGTUID	EXEC	Q and V	Get Tcpip User ID from TCPIP DATA file.
ARILHELP	EXEC	V	Load NLS Help files from NLS tape.
ARISAVES	EXEC	V	Load and Save Saved Segments
ARISDBHD	EXEC	V	DB2 for VM Client Edition HELP Text Deletion EXEC
ARISDBLD	EXEC	V	Deactivating a Language EXEC
ARIRDBMA	EXEC	V	Database Maintenance EXEC
ARISDBMC	EXEC	V	Copies the CMS HELP Text to the specified minidisk
ARISEMSG	EXEC	V	Set/Reset CP EMSG Function Value
ARISESCP	EXEC	Q and V	Set/Reset CP Terminal Line-Edit Symbols
ARIRINST	EXEC	V	Installation and Migration EXEC
ARISPDFC	EXEC	V	Production Minidisk File Copy EXEC
ARISPROD	EXEC	Q and V	Production Minidisk Access EXEC
ARISQLLD	EXEC	Q and V	Production Load Library Definition
ISQL	EXEC	Q and V	ISQL User Interface EXEC
SQLASMC	EXEC	Q and V	Sample Assembler Program EXEC
SQLBIND	EXEC	Q and V	Binding EXEC
SQLBOOTR	EXEC	V	Default Bootstrap Module Generation
SQLC	EXEC	Q and V	Sample C Program EXEC
SQLCBLC	EXEC	Q and V	Sample COBOL II Program EXEC
SQLCIREO	EXEC	V	Catalog Index Reorganization EXEC
SQLDBSU	EXEC	Q and V	DBS Utility EXEC
SQLFTN	EXEC	Q and V	Sample FORTRAN Program EXEC
SQLGENLD	EXEC	Q and V	Bootstrap Definition EXEC
SQLGLOB	EXEC	V	Sets SQL Global Initialization Defaults
SQLINIT	EXEC	Q and V	User Machine Initialization EXEC
SQLISTRT	EXEC	Q and V	ISQL Processor EXEC
SQLPLI	EXEC	Q and V	Sample PL/I Program EXEC
SQLPREP	EXEC	Q and V	Preprocessor EXEC
SQLTRFMT	EXEC	Q and V	Trace Formatter EXEC

Figure 19. CMS HELP Files

File name	File type	File mode	Description
ISQL	HELPS001	V	DB2 for VM Client Edition CMS HELP for ISQL
SQLDBID	HELPS001	V	DB2 for VM Client Edition CMS HELP for SQLDBID
SQLDBSU	HELPS001	V	DB2 for VM Client Edition CMS HELP for DBSU
SQLGLOB	HELPS001	V	DB2 for VM Client Edition CMS HELP for SQLGLOB
SQLINIT	HELPS001	V	DB2 for VM Client Edition CMS HELP for SQLINIT
SQLPREP	HELPS001	V	DB2 for VM Client Edition CMS HELP for SQLPREP

Figure 20 (Page 1 of 2). MACROs

File name	File type	File mode	Description
ARIDSQLB	MACRO	V	DBS Utility Bindfile
ARIDSQLP	MACRO	V	DBS Utility Assembler Preprocessed Input
ARIFCRDM	MACRO	V	FIPS Flagger Preprocessed Input
ARIISQLM	MACRO	V	ISQL Facility Preprocessed Input
ARIPPIFM	MACRO	V	FORTRAN Assembler Preprocessed Input
ARIRCAN	MACRO	V	DB2 for VM Client Edition Cancel Support Macro
ARIRMAR	MACRO	V	DB2 for VM Client Edition Cancel Support Macro
ARIRMXCC	MACRO	V	DB2 for VM Client Edition Cancel Support Macro
ARISAMDB	MACRO	V	Commands and Data for Sample Tables
ARISAMPI	MACRO	V	Commands to Load Sample ISQL Routines
ARISCCS	MACRO	Q and V	SYSCCSIDS Catalog CMS File
ARISCTM	MACRO	V	Database Migration Catalog Authorization Updates
ARISCHAR	MACRO	V	Loads Alternate Character Sets
ARISDBFM	MACRO	V	Unloaded Package for SQLDBDEF Utility
ARISDB2M	MACRO	V	Unloaded Package for SQLDBDEF Utility
ARISDB3M	MACRO	V	Unloaded Package for SQLDBDEF Utility
ARISDB4M	MACRO	V	Unloaded Package for SQLDBDEF Utility
ARISDB5M	MACRO	V	Unloaded Package for SQLDBDEF Utility
ARISDB6M	MACRO	V	Unloaded Package for SQLDBDEF Utility
ARISDTM	MACRO	V	Update Datetime Defaults
ARISEXP	MACRO	Q	DBS Utility Input to Create the New EXPLAIN Tables
ARISFFG	MACRO	V	Unload CCSID-related Catalog Tables into CMS Files
ARISIQBD	MACRO	V	ISQL Bindfile iles
ARISI20	MACRO	V	Commands to Support ISQL Installation
ARISI21	MACRO	V	Commands to Support ISQL Installation
ARISMMDB	MACRO	V	Commands and Data for Manufacturing Sample Tables
ARISNLSC	MACRO	Q and V	National Language Support Macro
ARISPDEC	MACRO	Q and V	Production Disk Entries
ARISPIDC	MACRO	Q and V	Production/Service Minidisk Identifiers
ARISPSRV	MACRO	Q and V	Non-serviced Parts Identifiers
ARISSCR	MACRO	Q and V	SYSCHARSETS Catalog CMS Files
ARISSEGC	MACRO	Q and V	Saved Segment Control File
ARISSTR	MACRO	Q and V	SYSSTRINGS Catalog CMS File
ARISSVCC	MACRO	V	Service Disk Identifier
ARISS001	MACRO	V	Language to SQLDBA.SYSLANGUAGE
ARISS002	MACRO	V	Language to SQLDBA.SYSLANGUAGE
ARISS003	MACRO	V	Language to SQLDBA.SYSLANGUAGE
ARISS004	MACRO	V	Language to SQLDBA.SYSLANGUAGE
ARISD001	MACRO	V	Language to SQLDBA.SYSLANGUAGE
ARISTXAC	MACRO	V	HELP Text Data (English)
ARISTXCC	MACRO	V	HELP Text Data (English)
ARISTXDC	MACRO	V	HELP Text Data (English)
ARISTXEC	MACRO	V	HELP Text Data (English)
ARISTXF	MACRO	V	Commands to Install English HELP Text
ARISTX1	MACRO	V	Commands to Install English HELP Text
ARISTX2C	MACRO	V	HELP Text Data (English)
ARISTX3	MACRO	V	Commands to Install English HELP Text
ARISTX4C	MACRO	V	HELP Text Data (English)
ARISTX5C	MACRO	V	HELP Text Data (English)
ARISTX6C	MACRO	V	HELP Text Data (English)
ARISTX7C	MACRO	V	HELP Text Data (English)
ARISTX8C	MACRO	V	HELP Text Data (English)

Figure 20 (Page 2 of 2). MACROs

File name	File type	File mode	Description
ARISTX9C	MACRO	V	HELP Text Data (English)
ARISTUF	MACRO	V	Commands to Install Upper Case English HELP Text
ARISTU1	MACRO	V	Commands to Install Upper Case English HELP Text
ARISTU3	MACRO	V	Commands to Install Upper Case English HELP Text
ARISTFF	MACRO	V	Commands to Install French HELP Text
ARISTF1	MACRO	V	Commands to Install French HELP Text
ARISTF3	MACRO	V	Commands to Install French HELP Text
ARISTGF	MACRO	V	Commands to Install German HELP Text
ARISTG1	MACRO	V	Commands to Install German HELP Text
ARISTG3	MACRO	V	Commands to Install German HELP Text
ARISTJF	MACRO	V	Commands to Install Japanese HELP Text
ARISTJ1	MACRO	V	Commands to Install Japanese HELP Text
ARISTJ3	MACRO	V	Commands to Install Japanese HELP Text
ARIS001	MACRO	V	List of HELP Text Files
ARIS002	MACRO	V	List of HELP Text Files for UCENG
ARIS003	MACRO	V	List of HELP Text Files for French
ARIS004	MACRO	V	List of HELP Text Files for German
ARID001	MACRO	V	List of HELP Text Files for Japanese
ARIS5ASC	MACRO	Q and V	Sample Assembler Program
ARIS5CBC	MACRO	Q and V	Sample COBOL II Program
ARIS5CC	MACRO	Q and V	Sample C Program
ARIS5FTC	MACRO	Q and V	Sample FORTRAN Program
ARIS5PLC	MACRO	Q and V	Sample PL/I Program
ARITPOP	MACRO	V	SYSSTRINGS and SYSCCSIDS Population
ARIUXDT	MACRO	V	User Date Conversion Routine
ARIUXIT	MACRO	V	User Exit Router Routine
ARIUXTM	MACRO	V	User Time Conversion Routine
ARISPDEF	MACRO	V	DBS Utility Input to reload packages and grant authorities for Schema Stored Procedures

Figure 21 (Page 1 of 2). TEXT Files

File name	File type	File mode	Description
ARIMS001	TEXT	V	DB2 for VM Client Edition American English message repository
ARIMS002	TEXT	V	DB2 for VM Client Edition Upper Case English message repository
ARIMS003	TEXT	V	DB2 for VM Client Edition French message repository
ARIMS004	TEXT	V	DB2 for VM Client Edition German message repository
ARIMD001	TEXT	V	DB2 for VM Client Edition Japanese message repository
ARIPADR	TEXT	Q and V	COBOL Application Program Interface Text for SQL/DS 2.1 and earlier
ARIPADR4	TEXT	Q and V	COBOL Application Program Interface Text for SQL/DS 2.2 and later
ARIRVSTC	TEXT	Q and V	SQL Application Program Interface Text
ARISDBKC	TEXT	V	Skeleton Bootstrap Module
ARISISKC	TEXT	V	Skeleton ISQL Facility Bootstrap Module
ARISLKAC	TEXT	V	Assembler Preprocessor Link Book
ARISLKBC	TEXT	V	C Preprocessor Link Book
ARISLKCC	TEXT	V	COBOL Preprocessor Link Book
ARISLKFC	TEXT	V	Trace Formatter Link Book
ARISLKIC	TEXT	V	ISQL Link Book
ARISLKMC	TEXT	V	System and Accounting Interface Link Book
ARISLKPC	TEXT	V	PL/I Preprocessor Link Book
ARISLKTC	TEXT	V	FORTRAN Preprocessor Link Book
ARISLKUC	TEXT	V	DBS Utility Link Book

Figure 21 (Page 2 of 2). TEXT Files

File name	File type	File mode	Description
ARISLKVC	TEXT	V	Resource Adapter/DRRM Link Book
ARISLKXC	TEXT	V	User Exit Router Link Book
ARISLKZC	TEXT	V	Bindfile Support Link Book
ARISLK2C	TEXT	V	Reset Resource Adapter Link Book
ARISLK4C	TEXT	V	Flagger Semantic Routines Link Book
ARISLK5C	TEXT	V	Flagger View Analysis Routines Link Book
ARISLVLC	TEXT	Q and V	Program to Check VM CP and CMS Levels
ARISRMKC	TEXT	Q and V	Skeleton Resource Adapter Bootstrap Module
ARIUME	TEXT	Q and V	SQL CMS American English Message Repository
ARIUME	TXTUCENG	Q and V	SQL CMS Upper Case English Message Repository
ARIUME	TXTFRANC	Q and V	SQL CMS French Message Repository
ARIUME	TXTGER	Q and V	SQL CMS German Message Repository
ARIUME	TXTKANJI	Q and V	SQL CMS Japanese Message Repository
ARIUXDT	TEXT	V	Date Local Exit
ARIUXIT	TEXT	V	Accounting Exit
ARIUXTM	TEXT	V	Time Local Exit

Figure 22. Miscellaneous Files

File name	File type	File mode	Description
ARICLOC	XEDIT	Q and V	Find Database/Machine ID Macro
ARIMS001	MODULE	Q and V	DB2 for VM Client Edition American English message repository
ARIMS002	MODULE	Q and V	DB2 for VM Client Edition Upper Case English message repository
ARIMS003	MODULE	Q and V	DB2 for VM Client Edition French message repository
ARIMS004	MODULE	Q and V	DB2 for VM Client Edition German message repository
ARIMD001	MODULE	Q and V	DB2 for VM Client Edition Japanese message repository
ARIRS001	MODULE	V	DB2 for VM Client Edition American English message repository for the Resource Adapter
ARISDBHX	XEDIT	V	Reformat Data from SYSLANGUAGE
ARISQLLD	LOADLIB	Q and V	DB2 for VM Client Edition Load Library
ARISQLLD	CSLLIB	Q	DB2 for VM Client Edition CSL Library
FILE	CARDIN	Q and V	Input file for sample programs
SNA	NETID	Q and V	DB2 for VM Client Edition SNA NETID File
SQLCLNT	PROFILE	Q and V	Sample Profile EXEC Entries for client machines machines
SQLUSER	PROFILE	Q and V	Sample Profile EXEC Entries for user machines
FP102CY	ASSEMBLE	V	Sample field procedure for cultural sorting for the Cyrillic code (Regions: Russia, Bulgaria, Serbia and Montenegro).
FP870L2	ASSEMBLE	V	Sample field procedure for cultural sorting for the Latin 2 code (Regions: Slovenia, Poland and Romania).

Appendix E. IBM Language Environment for VM User Exit Customization for use with TCP/IP

This appendix describes how to customize the User Exit for IBM Language Environment for VM, for use with DB2 Server for VM Client Edition applications.

If you will be using TCP/IP Communications between your end users and the database server **AND** executing the DBS Utility program or Preprocessors or user applications which use SYSIN, SYSPRINT or CEEDUMP CMS FILEDEF commands, you will need to customize the IBM Language Environment for VM User Exit program. This is because of a conflict between the way IBM Language Environment for VM handles CMS End-Of-Command processing and the way DB2 Server for VM Client Edition Resource Adapter handles CMS End-Of-Command processing.

Without this customization, these FILEDEFs will get cleared by IBM Language Environment for VM before the application is finished using them, causing file read or write errors and application abends. This is because the IBM Language Environment for VM environment is cleaned up before the application ends.

The IBM Language Environment for VM User Exit must be customized so that it does NOT clear the above mentioned FILEDEFs if the DB2 Server for VM Client Edition Resource Adapter is loaded in the virtual machine. After this customization is done, you will have generated a new CEEPIPI MODULE. You can either move this new module (which contains the customized User Exit) to the CMS "Y" minidisk, replacing the existing one, or you can move this new module to the DB2 Server for VM Client Edition production minidisk, where it will only be used by users when they run DB2 Server for VM Client Edition applications.

The steps required to perform any IBM Language Environment for VM User Exit customization are documented in the "Program Directory for IBM Language Environment for MVS & VM," under "Customizing Language Environment." Below are only the steps required to update the "CEEBXITB ASSEMBLE" User Exit file that is supplied with IBM Language Environment for VM.

Below are the assembler language statements to be inserted in the "CEEBXITB ASSEMBLE" file, with several original statements before and after the new code to identify the location of the inserts. The new statements are inserted immediately after the label "PROC_TERM_EXIT DS   0H." Note that the inserted statements all end with 'DB2' as an eye catcher.

```
⋮
*/*================================================================*/
*/*      Process termination exit.                             */
*/*================================================================*/
        SPACE 1
*
PROC_TERM_EXIT DS   0H
* DB2/VM Modification to bypass CMS 'FILEDEF xxx CLEAR'         DB2
* commands if the DB2/VM Resource Adapter is loaded as         DB2
* a CMS Nucleus Extension:                                     DB2
        LA    R1,80(0,R13)       Ptr to R/W NUCEXT Plist Storage  DB2
        LA    R2,=CL8'ARICMOD '  Nucleus Extension Name to Query  DB2
        NUCEXT QUERY,NAME=(2),MF=(E,(1)) Execute the NUCEXT QUERY DB2
        LTR   R15,R15            If ARICMOD found, then R15 = 0   DB2
        BZ    RETURN             ARICMOD found, bypass FILEDEFs   DB2
*                                ARICMOD NOT found, Do FILEDEFs   DB2
* DB2/VM Modification END                                       DB2
*
        LA    R1,FI_C_SYO        FILEDEF CLEAR SYSOUT     @MF0006A
        CMSCALL ,ERROR=*         PLIST ASSUMED IN R1      @MF0006A

⋮
```

Contacting IBM

Before you contact DB2 customer support, check the product manuals for help with your specific technical problem.

For information or to order any of the DB2 Server for VSE & VM products, contact an IBM representative at a local branch office or contact any authorized IBM software remarketer.

If you live in the U.S.A., then you can call one of the following numbers:

- 1-800-IBM-SERV for customer support
- 1-888-426-4343 to learn about available service options

Product information

DB2 Server for VSE & VM product information is available by telephone or by the World Wide Web at http://www.ibm.com/software/data/db2/vse-vm

This site contains the latest information on the technical library, product manuals, newsgroups, APARs, news, and links to web resources.

If you live in the U.S.A., then you can call one of the following numbers:

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