Program Directory for
IBM DATABASE 2 Server for VSE & VM:
DataPropagator Relational Capture
for VM Systems

Version 6 Release 1.0

Program Number 5648-A70

for Use with
VM/ESA Version 2

Document Date: December 1998

GI10-4956-01

Note!

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

This program directory, dated December 1998, applies to DataPropagator Relational Capture for VM Version 6 Release 1.0 (DPROPR Capture for VM), Program Number 5648-A70.

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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 of DPROPR Capture for VM. You should read all of this program directory before installing the program and then keep it for future reference.

The program directory contains the following sections:

Before installing DPROPR Capture for VM, read 3.1, “Preventive Service Planning” on page 6. This section tells you how to find any updates to the information and procedures in this program directory.

1.1 Program Description

DataPropagator Relational Capture for VM is part of the IBM Replication solution. IBM Replication is a set of easy-to-use, automated copy tools that replicate relational data from sources to targets. You can use IBM Replication to define, synchronize, automate, and manage copy operations from a single control point for data across your enterprise. You can tailor or enhance data as it is copied and deliver detailed, subset, summarized, or derived data when and where it is needed.

IBM Replication consists of the following tools:

Control Center

Provides the graphical user interface (GUI) that you use for administration tasks. The Control Center is part of DB2 Universal Database.

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Capture Program

Captures changes made to data in replication source tables by reading the database log. It places the captured changes into change data tables. It runs independently of the Control Center, but uses control information created by it.

Apply Program

Reads the changed data previously captured and stored in a change data table and applies the changes to target tables or reads data directly from source tables. Like the Capture program, it runs independently of the Control Center, using control information created by it.

2.0 Program Materials

An IBM program is identified by a program number. The program number for DataPropagator Relational Capture for VM Version 6 is 5648-A70.

The program announcement material describes the features supported by DPROPR Capture for VM. 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 9-track magnetic tape (written at 6250 BPI), 3480 tape cartridge, 1/4-inch tape cartridge or 4mm tape cartridge. The tape or cartridge contains all the programs and data needed for installation. See section 6.0, “Installation Instructions” on page 11 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.

Figure 1. Basic Material: Program Tape

Feature Number	Medium	Physical Volume	Tape Content	External Tape Label
5881	6250 tape	1	DPROPR Capture for VM 6.1.0	DPropR Capture
5882	3480 cart.	1	DPROPR Capture for VM 6.1.0	DPropR Capture
5884	1/4 inch cart.	1	DPROPR Capture for VM 6.1.0	DPropR Capture
6802	4mm cart.	1	DPROPR Capture for VM 6.1.0	DPropR Capture

Figure 2 (Page 1 of 2). Program Tape: File Content

Tape File	Content
1	Tape Header
2	Tape Header
3	Product Header

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Figure 2 (Page 2 of 2). Program Tape: File Content

Tape File	Content
4	Product Memo
5	Service Apply Lists
6	PTFPARTs
7	DPROPR Capture for VM Service
8	DPROPR Capture for VM Service
9	DPROPR Capture for VM Base Code
10	DPROPR Capture for VM Executable Code

2.2 Optional Machine-Readable Material

There are no optional machine-readable materials for DPROPR Capture for VM.

2.3 Program Publications

The following sections identify the basic and optional publications for DPROPR Capture for VM.

2.3.1 Basic Program Publications

The publications for DPROPR Capture for VM are included with the pre-requisite product, DB2 UDB Universal Developer's Edition. No publications are included when you order the basic materials for DPROPR Capture for VM. For your convenience, the relevant publications are listed below. For additional copies, contact your IBM representative.

Figure 3. Basic Material: Unlicensed Publications

Publication Title	Form Number
IBM Replication Guide & Reference	S95H-0999

2.4 Microfiche Support

There is no microfiche for DPROPR Capture for VM.

2.5 Publications Useful During Installation

The publications listed in Figure 4 may be useful during the installation of DPROPR Capture for VM. To order copies, contact your IBM representative.

Figure 4. Publications Useful During Installation / Service on VM/ESA Version 2

Publication Title	Form Number
VMSES/E Introduction and Reference	SC24-5747
VM/ESA Service Guide	SC24-5749
VM/ESA Planning and Administration	SC24-5750
VM/ESA CMS Command Reference	SC24-5776
VM/ESA CMS File Pool Planning, Administration, and Operation	SC24-5751
VM/ESA System Messages and Codes	SC24-5784

3.0 Program Support

This section describes the IBM support available for DPROPR Capture for VM.

3.1 Preventive Service Planning

Before installing DPROPR Capture for VM, 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 5. PSP Upgrade and Subset ID

	Retain		
COMPID	**Release**	**Upgrade**	**Subset**
5648A7001	611	DB2VSEVM610	DPRVM

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 6 identifies the component ID (COMPID), Retain Release and Field Engineering Service Number (FESN) for DPROPR Capture for VM.

Figure 6. Component IDs

	Retain		
COMPID	**Release**	**Component Name**	**FESN**
5648A7001	611	DPROPR Capture for VM 6.1.0	0400159

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4.0 Program and Service Level Information

This section identifies the program and any relevant service levels of DPROPR Capture for VM. 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 DB2VSEVM610 PSP bucket for any additional PTFs that should be installed or any additional install information.

4.3 Cumulative Service Tape

Cumulative service for DPROPR Capture for VM Release 1.0 is available through a monthly corrective service tape, Expanded Service Option, ESO.

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5.0 Installation Requirements and Considerations

The following sections identify the system requirements for installing and activating DPROPR Capture for VM.

5.1 Hardware Requirements

There are no special hardware requirements for DPROPR Capture for VM.

5.2 Program Considerations

The following sections list the programming considerations for installing DPROPR Capture for VM and activating its functions.

5.2.1 Operating System Requirements

DPROPR Capture for VM supports the following VM operating systems:

VM/ESA Version 2

5.2.2 Other Program Product Requirements

The following Licensed Products are pre-requisites for DPROPR Capture for VM:

DB2 Server for VSE & VM Version 6 Release 1.0 (5648-A70)

DB2 UDB Universal Developer's Edition Version 5 Release 2 (L31L-1226-00)

DPROPR Capture for VM requires C run-time library support provided by:

VM/ESA Version 2, which comes with the appropriate level of the C & CEL parts of the Language Environment for MVS and VM (5688-198) program product preinstalled, or the full Language Environment for MVS and VM 1.6 (5688-198) or higher.

5.2.3 Program Installation/Service Considerations

This section describes items that should be considered before you install or service DPROPR Capture for VM.

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 *VMSES/E Introduction and Reference* manual, section

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'Changing the Software Inventory to an SFS Directory', for information on how to make this change.

Customers will install and service DPROPR Capture for VM using a new user ID--5648A70T. This is the IBM suggested user ID name. You are free to change this to any user ID name you wish; however, a Product Parameter File (PPF) override must be created.

Note: It may be easier to make the above change during the installation procedure 6.2, “Plan Your Installation For DPROPR Capture for VM” step 6 on page 13, than after you have installed this product.

The DPROPR Capture for VM program runs in its own virtual machine, capturing changes for one and only one DB2 Server for VM database. If there are multiple databases for which you want to capture changes, you must define additional virtual machines for running the DPROPR Capture for VM program. The charts in 5.3, “DASD Storage and user ID Requirements” define an initial virtual machine, CAPTMACH, to run the DPROPR Capture for VM program. See 6.6, “Post-Installation Considerations (optional)” on page 24 for information on defining additional virtual machines.

5.3 DASD Storage and user ID Requirements

Figure 7 lists the user IDs and minidisks that are used to install and service DPROPR Capture for VM.

Important Installation Notes:

User ID(s) and minidisks will be defined in 6.2, “Plan Your Installation For DPROPR Capture for VM” on page 12 and are listed here so that you can get an idea of the resources that you will need prior to allocating them.

5648A70T is a default 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 File (PPF) Override to reflect this change. This can be done in 6.2, “Plan Your Installation For DPROPR Capture for VM” step 6 on page 13.

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

Figure 7. 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
5648A70T	2B2	9345 3390 3380	2 2 2	2400	300	Contains all the base code shipped with DPROPR Capture for VM **VMSYS:5648A70T.DPROPR.OBJECT**
5648A70T	2C2	9345 3390 3380	1 1 1	1200	150	Contains customization files. This disk may also be used for local modifications. **VMSYS:5648A70T.DPROPR.SAMPLE**
5648A70T	2D2	9345 3390 3380	4 4 4	4800	600	Contains serviced files **VMSYS:5648A70T.DPROPR.DELTA**
5648A70T	2A6	9345 3390 3380	1 1 1	1200	150	Contains AUX files and software inventory tables that represent the test service level of DPROPR Capture for VM **VMSYS:5648A70T.DPROPR.APPLYALT**
5648A70T	2A2	9345 3390 3380	1 1 1	1200	150	Contains AUX files and software inventory tables that represent the service level of DPROPR Capture for VM that is currently in production. **VMSYS:5648A70T.DPROPR.APPLYPROD**
5648A70T	200	9345 3390 3380	2 2 2	2400	300	Test build disk. This code will be copied to a production disk, so the production disk will also require this amount of free space. **VMSYS:5648A70T.DPROPR.TBUILD**
5648A70T	191	9345 3390 3380	4 4 4	4800	600	5648A70T user ID's 191 minidisk **VMSYS:5648A70T.**
CAPTMACH	300	9345 3390 3380	2 2 2	2400	300	Production code build disk. **VMSYS:CAPTMACH.DPROPR.PBUILD**
CAPTMACH	191	9345 3390 3380	1 1 1	1200	150	CAPTMACH user ID's 191 minidisk **VMSYS:CAPTMACH.**

Note: Cylinder values defined in this table are based on a 4K block size. FB-512 block and SFS values are derived from the 3380 cylinder values in this table. The FBA blocks are listed as 512 bytes but should be CMS formatted at 1K size. 2700 4K blocks are needed for SFS install.

6.0 Installation Instructions

This chapter describes the installation methods and the step-by-step procedures to install and activate DPROPR Capture for VM.

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 DPROPR Capture for VM, adapt these instructions as needed for your environment.

Note!

The sample console output presented throughout these instructions was produced on a VM/ESA V2R2.0 system. If you are installing DPROPR Capture for VM 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 DPROPR Capture for VM using VMSES/E.

Plan Your Installation

Use the VMFINS command to load several VMSES/E files from the product tape and to obtain DPROPR Capture for VM 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 DPROPR Capture for VM.

Install the DPROPR Capture for VM Product

Use the VMFINS command to load the DPROPR Capture for VM 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.

Perform Post-installation Tasks

Information about file tailoring and initial activation of the program is presented in 6.6, “Post-Installation Considerations (optional)” on page 24.

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Place DPROPR Capture for VM Files into Production

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

For a complete description of all VMSES/E installation options refer to *VMSES/E Introduction and Reference*.

6.2 Plan Your Installation For DPROPR Capture for VM

The VMFINS command will be used to plan the installation. This section has 2 main steps that will:

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 DPROPR Capture for VM 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 DPROPR Capture for VM 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 re-issue 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 DPROPR Capture for VM 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 DPROPR Capture for VM.

Notes:

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

vmfins install ppf 5648A70T {DPROPR | DPROPRSFS} (plan nomemo

Use **DPROPR** for installing on minidisks or **DPROPRSFS** 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

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 DPROPR Capture for VM. For example, you will need to specify your PPF override file name instead of 5648A70T for certain VMSES/E commands.

b. If you are not familiar with creating PPF overrides using VMFINS, you should review the 'Using the Make Override Panel' section in Chapter 3 of the *VMSES/E Introduction and Reference* before you continue.

c. For more information about changing the VMSYS file pool name refer to Chapter 3 in the *VMSES/E Introduction and Reference*.

```
VMFINS2767I Reading VMFINS DEFAULTS B for additional options
VMFINS2760I VMFINS processing started
VMFINS2601R Do you want to create an override for :PPF 5648A70T DPROPR
          :PRODID. 5648A70T%DPROPR?
          Enter 0 (No), 1 (Yes) or 2 (Exit)
0
VMFINS2603I Processing product :PPF 5648A70T DPROPR :PRODID
          5648A70T%DPROPR
VMFREQ1909I 5648A70T PLANINFO created on your A-disk
VMFREQ2805I Product :PPF 5648A70T DPROPR :PRODID
5648A70T%DPROPR
          has passed requisite checking
VMFINT2603I Planning for the installation of product :PPF 5648A70T
DPROPR
          :PRODID 5648A70T%DPROPR
VMFRMT2760I VMFRMT processing started
VMFRMT2760I VMFRMT processing completed successfully
VMFINS2760I VMFINS processing completed successfully
```

Note!

Complete this step only if you received message `VMFREQ2806W`.

If you receive the following VMFREQ2806W message, you must do some additional processing.

```
VMFREQ2806W The following requisites for product 5648A70T component
          DPROPR are not satisfied
    Type          Product       Component     PTF
    ----------     ----------    ----------    ----------
    Requisite     5648A70S
```

This message indicates that 5648A70, product DB2 Server for VSE & VM is a pre-requisite product for DPROPR Capture for VM. It must be installed before you continue the install for DPROPR Capture for VM.

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

vmfview install

6.3 Allocate Resources for Installing DPROPR Capture for VM

Use the planning information in the 5648A70T PLANINFO file, created in the **PLAN** step (6.2, “Plan Your Installation For DPROPR Capture for VM” on page 12), to:

Create the 5648A70T and CAPTMACH user directories for minidisk install

OR

Create the 5648A70T and CAPTMACH user directories for SFS install

6.3.1 Installing DPROPR Capture for VM on Minidisk

1 Obtain the user directory from the 5648A70T PLANINFO file.

Notes:

a. The user directory entry is 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 5648A70T and CAPTMACH user IDs. Use the directory entry found in PLANINFO as a model of input to your system directory.

b. When adding the directory entry for the CAPTMACH, keep in mind the following about the sample directory statements in the PLANINFO file.

IUCV *IDENT CAPTURE LOCAL

The CAPTMACH must be authorized in its directory to connect to the system service ***IDENT**. Authorization is granted by the IUCV entry in the CAPTMACH directory.

CAPTURE Refers to a unique name for each database DPROPR Capture for VM is being used with. Specification of this name is in the file *CAPTURE ASNPARMS*.

LOCAL Identifies the resource as a LOCAL resource.

2 Add the MDISK statements to the directory entries for 5648A70T and CAPTMACH. Use Figure 7 on page 9 to obtain the minidisk requirements.

3 Add the 5648A70T and CAPTMACH directories to the system directory. Change the passwords for 5648A70T and CAPTMACH from `xxxxx` to a valid password, in accordance with your security guidelines.

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

Note

All minidisks for the 5648A70T and CAPTMACH user IDs must be formatted before installing DPROPR Capture for VM.

6.3.2 Installing DPROPR Capture for VM in SFS Directories

1 Obtain the user directory from the 5648A70T PLANINFO file.

Notes:

a. The user directory entry is 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 5648A70T and CAPTMACH user IDs. Use the directory entries found in PLANINFO as a model of input to your system directory.

b. When adding the directory entry for the CAPTMACH, keep in mind the following about the sample directory statements in the PLANINFO file.

IUCV *IDENT CAPTURE LOCAL

The CAPTMACH must be authorized in its directory to connect to the system service ***IDENT**. Authorization is granted by the IUCV entry in the CAPTMACH directory.

CAPTURE Refers to a unique name for each database DPROPR Capture for VM is being used with. Specification of this name is in the file *CAPTURE ASNPARMS*.

LOCAL Identifies the resource as a LOCAL resource.

2 Add the 5648A70T and CAPTMACH directories to the system directory. Change the passwords for 5648A70T and CAPTMACH from `xxxxx` to a valid password, in accordance with your security guidelines.

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

4 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 DPROPR Capture for VM SFS directories, the 4K block requirements for each are summarized in Figure 7 on page 9.

This information will be used when enrolling the 5648A70T to the VMSYS filepool.

b Enroll user 5648A70T in the VMSYS filepool using the ENROLL USER command:

ENROLL USER 5648A70T VMSYS: (BLOCKS *blocks*

where *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 DPROPR Capture for VM. This information can be obtained from the QUERY FILEPOOL STORGRP command. If the number of blocks free is smaller than the total 4K blocks needed to install DPROPR Capture for VM in the appropriate storage group you will need to add space to

the filepool. (The default storage group used on the above ENROLL USER is group 2). See the *VM/ESA SFS and CRR Planning, Administration, and Operation* manual for information on adding space to a filepool.

d Create the necessary subdirectories listed in the 5648A70T PLANINFO file using the CREATE DIRECTORY command.

set filepool vmsys:
create directory *dirid*

dirid is the name of the SFS directory you are creating. An example of the create command is:

```
create directory vmsys:5648A70T.Dpropr
create directory vmsys:5648A70T.Dpropr.object
   :
```

If necessary, see the *VM/ESA CMS Command Reference* manual for more information about the CREATE DIRECTORY command.

A complete list of default Dpropr SFS directories is provided in Figure 7 on page 9.

e Give the **CAPTMACH** user ID READ authority to the general-use test build directory, using the GRANT AUTHORITY command.

grant auth vmsys:5648A70T.Dpropr.tbuild. to CAPTMACH (read newread

If necessary, see the *VM/ESA CMS Command Reference* manual for more information about the GRANT AUTHORITY command.

f If you intend to use an SFS directory as the work space for the 5648A70T user ID, include the following IPL control statement in the 5648A70T directory entry:

IPL CMS PARM FILEPOOL VMSYS

This will cause CMS to automatically access the 5648A70T's top directory as file mode A.

6.4 Install DPROPR Capture for VM

The *ppfname* used throughout these installation instructions is **5648A70T**, which assumes you are using the PPF supplied by IBM for DPROPR Capture for VM. If you have your own PPF override file for DPROPR Capture for VM, you should use your file's *ppfname* instead of **5648A70T**. The *ppfname* you use should be used **throughout** the rest of this procedure.

The *compname* used throughout these installation instructions is either **DPROPR** or **DPROPRSFS**, which assumes you are using the component name within the 5648A70T PPF file. If you specify your own *ppfname*, you should use the *compname* from that file instead of **DPROPR** or **DPROPRSFS**. The *compname* you use should be used **throughout** the rest of this procedure.

1 Logon to the installation user ID **5648A70T**.

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 place of the 5E5 and 51D in the access command.

3 Run 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 it 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 DPROPR Capture for VM installation tape mounted and attached to 5648A70T at virtual address 181. The VMFINS EXEC requires the tape drive to be at virtual address 181.

6 Install DPROPR Capture for VM.

Notes:

a. If you have already created a PPF override file, you should specify your override file name, in place of the default PPF name (5648A70T), after the **PPF** keyword for the following VMFINS command.

b. 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 *VMSES/E Introduction and Reference* to decide how to proceed.

c. VMFINS will access all disks needed during the installation, please ensure that your installation id has your SQLMACHs 195 disk linked before running the next step.

vmfins install ppf 5648A70T {DPROPR | DPROPRSFS} (nomemo nolink

Use **DPROPR** for installing on minidisks or **DPROPRSFS** 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 5648A70T DPROPR
          :PRODID. 5648A70T%DPROPR?
          Enter 0 (No), 1 (Yes) or 2 (Exit)
0
VMFINS2603I Processing product :PPF 5648A70T DPROPR :PRODID
          5648A70T%DPROPR
VMFREQ1909I 5648A70T PLANINFO created on your A-disk
VMFREQ2805I Product :PPF 5648A70T DPROPR :PRODID
5648A70T%DPROPR
          has passed requisite checking
VMFINT2603I Installing product :PPF 5648A70T DPROPR :PRODID
          5648A70T%DPROPR
VMFSET2760I VMFSETUP processing started
VMFUTL2205I Minidisk|Directory Assignments:
          String   Mode  Stat  Vdev  Label/Directory
VMFUTL2205I LOCALSAM  E     R/W  2C2   SES2C2
VMFUTL2205I APPLY    F     R/W  2A6   SES2A6
VMFUTL2205I         G     R/W  2A2   SES2A2
VMFUTL2205I DELTA    H     R/W  2D2   SES2D2
VMFUTL2205I BUILD0   I     R/W  200   SES200
VMFUTL2205I BASE     J     R/W  2B2   SES2B2
VMFUTL2205I SYSTEM   K     R/O  195   DB2195
VMFUTL2205I --------  A     R/W  191   SES191
VMFUTL2205I --------  B     R/O  5E5   MNT5E5
VMFUTL2205I --------  D     R/W  51D   SES51D
VMFUTL2205I --------  S     R/O  190   MNT190
VMFUTL2205I --------  Y/S   R/O  19E   MNT19E
VMFSET2760I VMFSETUP processing completed successfully
VMFREC2760I VMFREC processing started
VMFREC1852I Volume 1 of 1 of INS TAPE 9800
VMFREC1851I (1 of 6) VMFRCAXL processing AXLIST
VMFRCX2159I Loading 0 part(s) to DELTA 2D2 (H)
VMFREC1851I (2 of 6) VMFRCPTF processing PARTLST
VMFRCP2159I Loading 0 part(s) to DELTA 2D2 (H)
VMFREC1851I (3 of 6) VMFRCCOM processing DELTA
VMFRCC2159I Loading 0 part(s) to DELTA 2D2 (H)
VMFREC1851I (4 of 6) VMFRCALL processing APPLY
VMFRCA2159I Loading part(s) to APPLY 2A6 (F)
VMFRCA2159I Loaded 1 part(s) to APPLY 2A6 (F)
VMFREC1851I (5 of 6) VMFRCALL processing BASE
VMFRCA2159I Loading part(s) to BASE 2B2 (J)
VMFRCA2159I Loaded 17 part(s) to BASE 2B2 (J)
VMFREC1851I (6 of 6) VMFRCALL processing BUILD
VMFRCA2159I Loading part(s) to BUILD0 200 (I)
VMFRCA2159I Loaded 12 part(s) to BUILD0 200 (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 *VM/ESA: System Messages and Codes*, or use on-line HELP.

vmfview install

6.4.1 Update Build Status Table for DPROPR Capture for VM

1 Update the VM SYSBLDS software inventory file for DPROPR Capture for VM.

vmfins build ppf 5648A70T {DPROPR | DPROPRSFS} (serviced nolink

Use **DPROPR** for installing on minidisks or **DPROPRSFS** 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 5648A70T has been built.

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

vmfview install

6.5 Place DPROPR Capture for VM Into Production

6.5.1 Customize the CAPTMACH user ID

Customizing the CAPTMACH user ID involves setting up the CAPTMACH user ID as a user of a database. Your installation may have a standard set-up that you should follow instead of the following instructions.

1 Logon to the Capture machine, CAPTMACH.

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

2 Access the database production disk or directory.

access {*vdev:epv|dirid***}. q**

vdev is the address the database machine production minidisk, or *dirid* is the name of the database machine production SFS directory.

3 Copy the sample PROFILE EXEC for a user machine.

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 the DB2 Server for VM message repository available.

set language ameng (add ari user

6.5.2 Copy DPROPR Capture for VM Files Into Production

1 Put the DPROPR Capture for VM code on the production build disk.

a If installing using minidisks

link 5648A70T 200 200 rr
access 200 e
access 300 f
vmfcopy * * e = = f (prodid 5648A70T%DPROPR olddate replace

The VMFCOPY command will update the VMSES PARTCAT file on the 300 disk.

b If installing using Shared File System

access 5648A70T.DPROPR.tbuild e
access CAPTMACH.DPROPR.pbuild f
vmfcopy * * e = = f (prodid 5648A70T%DPROPR olddate replace

The VMFCOPY command will update the VMSES PARTCAT file on the production SFS directory.

6.5.3 Load the DPROPR Capture for VM Package file to a database

To load the DPROPR Capture for VM package, the ASNPLOAD EXEC must be used. This exec uses the DBS Utility program RELOAD PACKAGE in multiple user mode to load the preprocessed module SQLDBA.ASNLMAIN. The ASNPLOAD EXEC assumes that the user ID is SQLDBA and that the password is SQLDBAPW. If the password has been changed, it should be reassigned to SQLDBAPW before running ASNPLOAD. Alternatively, update the CONNECT statement in the ASNPLOAD EXEC to specify the current password for SQLDBA.

You must first use the SQLINIT EXEC to specify the name of the database that you are loading the package to.

sqlinit dbname(*dbname***)**
asnpload *dbname*

dbname is the database you are loading the package file to.

6.5.4 Starting DPROPR Capture for VM

Note!

Prior to running DPROPR Capture for VM, DB2 UDB Universal Developer's Edition must be installed and the Control Center administration functions of defining at least one replication source and subscription must be performed. If this is not done, DPROPR Capture for VM will not start successfully and you will be unable to perform installation verification.

For instructions on DPROPR Capture for VM invocation, parameters, and operation, see the DPROPR Capture for VM information in the IBM Replication Guide & Reference.

Additionally, you may need to customize the **CAPTURE ASNPARMS** parameter file to specify the language file that DPROPR Capture for VM will use for displaying messages. The default language is American English (ASNLS001). To issue messages in a different language, change the LANGUAGE parameter in the CAPTURE ASNPARMS file and file it on the Capture virtual machine's A-disk. Supported languages include:

Membername	Description
ASNLS001	American English
ASNLS002	Upper case English
ASNLS003	French
ASNLS004	German
ASNLD001	Japanese
ASNLD003	Chinese

6.5.5 Installation Verification Procedure for DPROPR Capture for VM

Once the DPROPR Capture for VM is started, you should see an informational message *ASN0100I The Capture program initialization is successful* on the CAPTMACH console. It means the DPROPR Capture for VM has been able to connect to the DB2 database and is running successfully. Once DPROPR Capture for VM is started, it will continue to run until the STOP operator command is issued. At this time, you may also look at the DPROPR Capture for VM trace table, ASN.IBMSNAP_TRACE, to verify that the same message is logged into the table.

6.6 Post-Installation Considerations (optional)

DPROPR Capture for VM runs in a virtual machine capturing changes for one and only one DB2 Server for VM database. Additional virtual machines must be defined if there is more than one DB2 Server for VM database in which you want to capture changes. They can be modeled after the CAPTMACH user ID, with the following changes:

Change the link to the SQLMACH 195 Production disk to the 195 disk of the appropriate database.

Update the *IDENT statement in the CP directory of the new virtual machine. You need to specify a unique resource ID for each virtual machine running DPROPR Capture for VM.

Customize the CAPTURE ASNPARMS parameter file for the virtual machine. You will need to update the ENQ_NAME parameter with the name specified in the *IDENT above.

Follow step 6.5.3, “Load the DPROPR Capture for VM Package file to a database” specifying the appropriate database name.

Note that the additional virtual machines can all link to the CAPTMACH 300 production disk to gain access to the DPROPR Capture for VM code.

DPROPR Capture for VM is now installed and built on your system.

7.0 Migration Instructions

If you are migrating from a previous version/release of DataPropagator Capture for VM, you must stop Capture before proceeding with the migration. Use the DProp Capture STOP operator command.

After stopping Capture, follow the Installation Instructions, see 6.0, “Installation Instructions” on page 11, to complete the migration.

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8.0 Service Instructions

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

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

Note: 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.

8.1 VMSES/E Service Process Overview

The following is a brief description of the main steps in servicing DPROPR Capture for VM 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 *VM/ESA Service Guide* 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

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

Load the DPROPR Capture for VM Package file

8.2 Servicing DPROPR Capture for VM

8.2.1 Prepare to Receive Service

The *ppfname* used throughout these servicing instructions is **5648A70T**, which assumes you are using the PPF supplied by IBM for DPROPR Capture for VM. If you have your own PPF override file for DPROPR Capture for VM, you should use your file's *ppfname* instead of **5648A70T**. The *ppfname* you use should be used **throughout** the rest of this procedure, unless otherwise stated.

The *compname* used throughout these servicing instructions is either **DPROPR** or **DPROPRSFS**, which assumes you are using the component name within the 5648A70T PPF file. If you specify your own *ppfname*, you should use the *compname* from that file instead of **DPROPR** or **DPROPRSFS**. The *compname* you use should be used **throughout** the rest of this procedure.

1 Logon to DPROPR Capture for VM service user ID **5648A70T**

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 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.

3 Have the DPROPR Capture for VM CORrective service tape mounted and attached to ***5648A70T***.

4 Establish the correct minidisk access order.

vmfsetup 5648A70T {DPROPR | DPROPRSFS}

5648A70T is the PPF that was shipped with the product. If you have your own PPF override you should substitute your PPF name for 5648A70T.

Use **DPROPR** for installing on minidisks or **DPROPRSFS** for installing in Shared File System directories.

5 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 *VM/ESA Service Guide*, then return back to this program directory and continue with step 7 below.

vmfrec info

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

6 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.

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

vmfmrdsk 5648A70T {DPROPR | DPROPRSFS} apply

Use **DPROPR** for installing on minidisks or **DPROPRSFS** for installing in Shared File System directories.

This command clears the alternate APPLY disk.

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

vmfview mrd

8.2.2 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 *VM/ESA Service Guide*. Then return back to this program directory and continue with section 8.2.3, “Apply the Service.”

1 Receive the service.

vmfrec ppf 5648A70T {DPROPR | DPROPRSFS}

Use **DPROPR** for installing on minidisks or **DPROPRSFS** 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 *VM/ESA: System Messages and Codes*, or use on-line HELP.

vmfview receive

8.2.3 Apply the Service

1 Apply the new service.

vmfapply ppf 5648A70T {DPROPR | DPROPRSFS}

Use **DPROPR** for installing on minidisks or **DPROPRSFS** 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 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 *VM/ESA: System Messages and Codes*, or use on-line HELP.

vmfview apply

> **Note**
>
> If you get the message VMFAPP2120W then re-apply any local modifications before building the new DPROPR Capture for VM. Refer to chapter 7 in the *VM/ESA Service Guide*. Follow the steps that are applicable to your local modification.
>
> The following substitutions need to be made:
>
> **esalcl** should be **5648A70T**
>
> **esa** should be **5648A70T**
>
> *compname* should be **DPROPR** or **DPROPRSFS** (minidisk or SFS)
>
> *appid* should be **5648A70T**
>
> *fm-local* should be the fm of 2C2
>
> *fm-applyalt* should be the fm of 2A6
>
> **outmode localmod** should be **outmode localsam**
>
> 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 *VM/ESA Service Guide*, you should return back to this program directory at 8.2.4, “Update the Build Status Table.”

8.2.4 Update the Build Status Table

1 Update the Build Status Table with serviced parts.

vmfbld ppf 5648A70T {DPROPR | DPROPRSFS} (status

Use **DPROPR** for installing on minidisks or **DPROPRSFS** 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 5648A70T $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 5648A70T $PPF
          on 191 (A) from level $PFnnnnn
```

vmfppf 5648A70T *

Note: If you have created your own PPF override then use your PPF name instead of 5648A70T.

copyfile 5648A70T $PPF a = = d (olddate replace
erase 5648A70T $PPF a

Note: Do not use your own PPF name in place of 5648A70T for the COPYFILE and ERASE commands.

vmfbld ppf 5648A70T {DPROPR | DPROPRSFS} (status

1

Re-issue VMFBLD to complete updating the build status table.

Use **DPROPR** for installing on minidisks or **DPROPRSFS** 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

8.2.5 Build Serviced Objects

1 Rebuild DPROPR Capture for VM serviced parts.

vmfbld ppf 5648A70T {DPROPR | DPROPRSFS} (serviced

Use **DPROPR** for installing on minidisks or **DPROPRSFS** for installing in Shared File System directories.

Notes:

1. 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. Rebuilding DPROPR Capture for VM requires access to the SCEELKED TXTLIB.

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

vmfview build

8.3 Place the New DPROPR Capture for VM Service Into Production

8.3.1 Copy the New DPROPR Capture for VM Serviced Files Into Production

1 Logon to CAPTMACH to put DPROPR Capture for VM code on the production code build disk.

a If installing using minidisks

link 5648A70T 200 200 rr
access 200 e
access 300 f
vmfcopy * * e = = f (prodid 5648A70T%DPROPR olddate replace

The VMFCOPY command will update the VMSES PARTCAT file on the 300 disk.

b If installing using Shared File System

access 5648A70T.DPROPR.tbuild e
access CAPTMACH.DPROPR.pbuild f
vmfcopy * * e = = f (prodid 5648A70T%DPROPR olddate replace

The VMFCOPY command will update the VMSES PARTCAT file on the production SFS directory.

8.3.2 Load the DPROPR Capture for VM Package file to a database

The DPROPR Capture for VM package must be reloaded in all databases if there is a service update to ASNLMANM MACRO. To load the DPROPR Capture for VM package, the ASNPLOAD EXEC must be used. This exec uses the DBS Utility program RELOAD PACKAGE in multiple user mode to load the preprocessed module SQLDBA.ASNLMAIN. The ASNPLOAD EXEC assumes that the user ID is SQLDBA and that the password is SQLDBAPW. If the password has been changed, it should be reassigned to SQLDBAPW before running ASNPLOAD. Alternatively, update the CONNECT statement in the ASNPLOAD EXEC to specify the current password for SQLDBA.

You must first use the SQLINIT EXEC to specify the name of the database that you are loading the package to.

sqlinit dbname(*dbname***)**
asnpload *dbname*

dbname is the database you are loading the package file to.

You have finished servicing DPROPR Capture for VM.

Reader's Comments

DataPropagator Relational Capture for VM Version 6 Release 1.0

You may use this form to comment about this document, its organization, or subject matter. Please understand that your feedback is of importance to IBM, but IBM makes no promises to always provide a response to your feedback.

For each of the topics below please indicate your satisfaction level by circling your choice from the rating scale. If a statement does not apply, please circle N.

RATING SCALE

very satisfied				very dissatisfied	not applicable
1	2	3	4	5	N

	Satisfaction					
Ease of product installation	1	2	3	4	5	N
Time required to install the product	1	2	3	4	5	N
Contents of program directory	1	2	3	4	5	N
Readability and organization of program directory tasks	1	2	3	4	5	N
Necessity of all installation tasks	1	2	3	4	5	N
Accuracy of the definition of the installation tasks	1	2	3	4	5	N
Technical level of the installation tasks	1	2	3	4	5	N
Installation verification procedure	1	2	3	4	5	N
Ease of customizing the product	1	2	3	4	5	N
Ease of migrating the product from a previous release	1	2	3	4	5	N
Ease of putting the system into production after installation	1	2	3	4	5	N
Ease of installing service	1	2	3	4	5	N

Did you order this product as an independent product or as part of a package?

- □ Independent
- □ Package

  What type of package was ordered?

  - □ CustomPac
    - □ FunctionPac
    - □ SystemPac
  - □ System Delivery Offering (SDO)
  - □ Other - Please specify type: _____

Is this the first time your organization has installed this product?

- ☐ Yes
- ☐ No

Were the people who did the installation experienced with the installation of VM products using VMSES/E?

- ☐ Yes

  How many years of experience do they have? _____

- ☐ No

How long did it take to install this product? _____

If you have any comments to make about your ratings above, or any other aspect of the product installation, please list them below:

_____

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