



**Program Directory for
Advanced Communication Function (ACF)
Network Control Program (NCP)**

Version 7 Release 8

Program Number 5648-063

for Use with
VM/ESA

Document Date: September 1999

GI10-6595-00

Note!

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

This program directory, dated September 1999, applies to Network Control Program V7R8 for VM (NCP V7R8 VM), Program Number 5648-063 for the following:

COMP IDs	REL	Feature Numbers	System Names
564806300	782	5831/5832/6488	VM/ESA

and to all subsequent releases and modifications until otherwise indicated in new editions.

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APAR numbers are provided in this document to assist in locating PTFs that may be required. Ongoing problem reporting may result in additional APARs being created. Therefore, the APAR lists in this document may not be complete. To obtain current service recommendations and to identify current product service requirements, always contact the IBM Customer Support Center.

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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 NCP V7R8 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:

- Section 2.0, "Program Materials" on page 3 identifies the basic program materials and documentation for NCP V7R8 VM.
- Section 3.0, "Program Support" on page 9 describes the IBM support available for NCP V7R8 VM.
- Section 4.0, "Program and Service Level Information" on page 11 lists the program and service level information incorporated into NCP V7R8 VM.
- Section 5.0, "Installation Requirements and Considerations" on page 13 identifies the resources and considerations for installing and using NCP V7R8 VM.
- Section 6.0, "Installation Instructions" on page 27 provides detailed installation instructions for NCP V7R8 VM.
- Section 7.0, "Service Instructions" on page 39 provides detailed servicing instructions for NCP V7R8 VM.
- Appendix A, "APARs Incorporated into This Program" on page 49 lists the APARs incorporated into NCP V7R8 VM.

Before installing NCP V7R8 VM, read section 3.1, "Preventive Service Planning" on page 9. This section tells you how to find any updates to the information and procedures in this program directory.

The 3746 Model 900 CSS feature is a licensed offering that allows the operation of an IBM 3746 Model 900 attached to a 3745 Communication Controller. Prior to NCP V7R6, you were required to license, order, and install separate software media. Starting with NCP V7R6 the media containing the 3746 Model 900 CSS feature code has been incorporated into the base code of NCP. You are no longer required to install separate 3746 Model 900 CSS software media when attaching the IBM 3746 Model 900 to a 3745 Communication Controller. Please note that you **must** still obtain a license for the 3746 Model 900 CSS feature. Refer to the NCP V7R6 announcement letter dated September 9, 1997 for additional licensing instructions."

Starting with EP R14, users of EP Standalone must install NCP. A single EP installation can now be used in environments requiring both PEP and EP Standalone.

A good place to start any task regarding this program is *NCP V7R8, SSP V4R8, and EP Release 14 Library Directory* (SC30-4025). It introduces the enhancements for the current release and shows where these enhancements are described in the NCP library. It gives you an overview of NCP, SSP, and EP and directs you to a variety of tasks related to these programs.

At the end of this program directory you will find a Reader's Comment Form. Please take time to complete this form and return it to the address shown on the form. Your comments and suggestions help improve this program directory and make installation easier.

2.0 Program Materials

An IBM program is identified by a program number and a feature number. The program number for NCP V7R8 VM is 5648-063. Feature numbers associated with this release are provided in the following sections.

The program announcement material describes the features supported by NCP V7R8 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
- Basic, optional, and associated publications available for this program
- Publications useful during installation

2.1 Basic Machine-Readable Material

This section describes the basic machine-readable material for NCP V7R8 VM.

The distribution medium for this program is a 9-track magnetic tape (written at 6250 bpi), a 3480 tape cartridge, or a 4 mm cartridge. The tape or cartridge contains all the programs and data needed for installation. NCP V7R8 VM is installed using VMSES/E. See section 6.0, "Installation Instructions" on page 27 for more information about how to install the program.

Figure 1 describes the program tape or cartridge for the NCP V7R8 VM program. Figure 2 describes the file content of the program tape or cartridge for the NCP V7R8 VM program.

Medium	Feature Number	Physical Volume	Tape Content	External Tape Label
6250 tape	5831	1	NCP V7R8 VM	V7R8 VM
3480 cart.	5832	1	NCP V7R8 VM	V7R8 VM
4 mm cart.	6488	1	NCP V7R8 VM	V7R8 VM

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

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

Tape File	Content
5	Service Apply Lists
6	PTFPARTs
7	NCP V7R8 VM Service
8	NCP V7R8 VM Service
9	NCP V7R8 VM Base Code
10	NCP V7R8 VM Executable Code

2.2 Optional Machine-Readable Material

There are no optional machine-readable materials for this program. The IBM 3746 Model 900 Feature had been optional machine-readable material, but has recently been incorporated in the base code of NCP. Please see Section 1.0 for more information.

2.3 Program Publications

The following sections identify the basic, optional, and associated publications for NCP V7R8 VM.

2.3.1 Basic Program Publications

Figure 3 identifies the basic *unlicensed* program publications for NCP V7R8 VM. One copy of each of these publications is included when you order the basic materials. For additional copies, contact your IBM representative.

Figure 3. Basic Material: Unlicensed Publications

Publication Title	Form Number
Licensed Program Specifications: Network Control Program Version 7 Release 8	GC31-6226
Network Control Program Version 7 Release 8 Migration Guide	SC30-4024
Network Control Program, System Support Programs, and Emulation Program Resource Definition Guide	SC31-6223
Network Control Program, System Support Programs, and Emulation Program Resource Definition Reference	SC31-6224
Planning for NetView, NCP, and VTAM	SC31-8063
Planning for Integrated Networks	SC31-8062

2.3.2 Optional Program Publications

Figure 4 identifies the optional *unlicensed* program publications for NCP V7R8 VM. One copy of each of these publications is included when you order the optional materials. For additional copies, contact your IBM representative.

<i>Figure 4. Optional Material: Unlicensed Publications</i>	
Publication Title	Form Number
Network Control Program (NCP) X.25 Planning and Installation	SC30-3470

Figure 5 identifies the optional licensed program publications for NCP V7R8 VM. The first copy is available at no charge to licensees of the basic material by ordering the 7xxx feature number. Order additional copies using the 8xxx feature number. A fee is charged for additional copies.

An asterisk (*) beside the Form Number indicates that it contains “Restricted Materials of IBM.”

<i>Figure 5. Optional Material: Licensed Publications</i>		
Publication Title	Form Number	Feature Number
Network Control Program and Emulation Program Reference Summary and Data Areas	LY43-0030*	7100-8100
Network Control Program and Emulation Program Reference	LY43-0029*	7101-8101
Network Control Program (NCP) X.25 Diagnosis, Customization, and Tuning	LY30-5610*	7105-8103

2.3.3 Softcopy Publications

All NCP V7R8 VM manuals, licensed and unlicensed, except for *NCP Licensed Program Specifications*, are offered in displayable softcopy form on the media listed in Figure 6. The first copy is available at no charge to licensees of the basic material by ordering the 7xxx feature number. Order additional copies using the 8xxx feature number. A fee is charged for additional copies.

An asterisk (*) beside the Form Number indicates that it contains “Restricted Materials of IBM.”

<i>Figure 6. Softcopy Publications</i>		
Title	Form Number	Feature Number
ACF/NCP, ACF/SSP, EP, NPSI, and NTuneMON Softcopy Collection Kit (CD-ROM)	LK2T-0414*	7110-8110

2.3.4 Publications Associated with NCP V7R8 VM

Figure 7 identifies publications that may be helpful when you use NCP V7R8 VM. To order copies, contact your IBM representative. A fee is charged for each copy of these publications.

<i>Figure 7. Publications Associated with NCP V7R8 VM</i>	
Publication Title	Order/Form Number
Network Control Program, System Support Programs, and Emulation Program Diagnosis Guide	LY43-0033#
Network Control Program, System Support Programs, and Emulation Program Messages and Codes	SC31-6222
Network Control Program, System Support Programs, and Emulation Program Generation and Loading Guide	SC31-6221
Network Control Program Version 7 Release 8, System Support Programs Version 4 Release 8, and Emulation Program Release 14 Library Directory	SC30-4025
Network Control Program and System Support Programs Customization Guide	LY43-0031#
Network Control Program and System Support Programs Customization Reference	LY43-0032#
Network Control Program, System Support Programs, and Emulation Program Trace Analysis Handbook	LY43-0037#
Note: A pound symbol (#) beside the Form Number indicates that the publication is available only to licensed customers.	

2.4 Program Source Materials

Microfiche program listings are not provided with NCP V7R8 VM. Customers with access to View Program Listings (VPL), such as through SoftwareXcel Extended, can access program listings formerly provided through microfiche.

Those customers without access to VPL can contact their IBM representative.

The VPL facility provides online viewing of program listings that are available to customers.

2.5 Publications Useful During Installation

The publications listed in Figure 8 or Figure 9, depending on your VM/ESA release, may be useful during the installation of NCP V7R8 VM. To order copies, contact your IBM representative.

<i>Figure 8. Publications Useful During Installation / Service on VM/ESA V2R2</i>	
Publication Title	Form Number
<i>VM/ESA: VMSES/E Introduction and Reference</i>	SC24-5747
<i>VM/ESA: Service Guide</i>	SC24-5749
<i>VM/ESA: Planning and Administration</i>	SC24-5750
<i>VM/ESA: CMS Command Reference</i>	SC24-5776
<i>VM/ESA: CMS File Pool Planning, Administration, and Operation</i>	SC24-5751
<i>VM/ESA: System Messages and Codes</i>	SC24-5784

<i>Figure 9. Publications Useful During Installation / Service on VM/ESA V2R3 and V2R4</i>	
Publication Title	Form Number
<i>VM/ESA: VMSES/E Introduction and Reference</i>	GC24-5837
<i>VM/ESA: Service Guide</i>	GC24-5838
<i>VM/ESA: Planning and Administration</i>	SC24-5750
<i>VM/ESA: CMS Command Reference</i>	SC24-5776
<i>VM/ESA: CMS File Pool Planning, Administration, and Operation</i>	SC24-5751
<i>VM/ESA: System Messages and Codes</i>	GC24-5841

3.0 Program Support

This section describes the IBM support available for NCP V7R8 VM.

3.1 Preventive Service Planning

Before installing NCP V7R8 VM, check with your IBM Support Center or use IBMLink (Service Link) to determine if 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
564806300	782	NCP780	782

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 NCP V7R8 VM.

Figure 11. Component IDs

Retain			
COMPID	Release	Component Name	FESN
564806300	782	NCP V7R8 VM	0466620

4.0 Program and Service Level Information

This section identifies the program and any relevant service levels of NCP V7R8 VM. The program level refers to the APAR fixes incorporated into the program. The service level refers to the PTFs shipped with this program. Information about the cumulative service tape is also provided.

4.1 Program Level Information

The program level refers to the APAR fixes incorporated into NCP V7R8 VM. See Appendix A, "APARs Incorporated into This Program" on page 49, for a complete listing of the APARs incorporated into this program.

4.2 Service Level Information

The service level refers to the PTFs shipped with NCP V7R8 VM.

Check the NCP780 PSP bucket for any additional PTFs that should be installed or any additional install information.

4.3 Cumulative Service Tape

Cumulative service for NCP V7R8 VM 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 NCP V7R8 VM.

5.1 Program Considerations

The following sections list the programming considerations for installing NCP V7R8 VM.

5.1.1 Operating System Requirements

The operating system requirements for NCP V7R8 VM are defined by SSP V4R8 VM/ESA, licensed program number 5654-009.

5.1.2 Other Program Product Requirements

5.1.2.1 Programming Requirements:

A platform-dependent BookManager product is required to display softcopy publications on CD-ROM. Limited function DOS, Windows, and OS/2 versions of these products are available on your CD-ROM. For more information or to order full-function releases of these products, or VM or MVS versions, refer to the IBM BookManager home page at <http://booksrv2.raleigh.ibm.com>.

5.1.2.2 Machine Requirements:

This program operates on any IBM 3745 Communication Controller. The Controller Load and Dump Program (CLDP) is used to load and dump the 3745 when attached to the host via an OEMI channel, ESCON channel, or remotely via a 3745 base frame SDLC link through another controller. For other connections, loads and dumps require an active NCP and an owning VTAM. The MODIFY DUMP and MODIFY LOAD transfer facility commands of the owning VTAM are then used to load and dump the IBM 3745. For more information, refer to *IBM 3720/3745 Communication Controllers Remote Loading/Activation Guide* (SA33-0161).

The IBM 3745 Communication Controller must have the appropriate features and microcode level installed when the IBM 3745 expansion frame, the IBM 3746 Model 900, is installed. The IBM 3746 Model 900 provides ESCON attachment capability for the IBM 3745, as well as additional higher performance token-ring adapters, communication line adapters, and frame relay capability on the communication line adapters for the IBM 3745. The communication line adapters support SDLC, frame relay, X.25 NPSI with NPSI V3R8 or later, and X.25 ODLC.

When the 3746 Model 900 is attached, the NCP V7R8 3746 Model 900 feature license is required at the appropriate usage tier level.

For 3746 Model 900 IP internal coupling with NCP, the 3746 Model 900 Network Node Processor Feature 5022 or 5122, the IP Routing Feature 5033, and either Feature 5810 or Feature 5811 are required.

For 3746 Model 900 Frame Relay and ISDN DYNWIND Keyword expanded options, either Feature 5810 or Feature 5811 is required.

For the higher performance frame relay capability on the communication line adapters in the 3746 Model 900, either Feature 5810, Feature 5811, or ECA number 134 is required.

For Automatic Network Routing (ANR) over ESCON, either Feature 5810, Feature 5811, or ECA number 137 is required.

For High Performance Routing (HPR) using frame-relay on the communication line adapters in the 3746 Model 900, either Feature 5810, Feature 5811, or ECA number 137 is required.

For 3746 Model 900 processor performance and storage utilization NPM information, either Feature 5810, Feature 5811, or ECA number 137 is required.

For 3746 Model 900 TIC3 utilization NPM information, either Feature 5810, Feature 5811, or ECA number 137 is required.

For 3746 Model 900 communication line adapter X.25 NPSI support, either Feature 5810, Feature 5811, or ECA number 137 is required.

For 3746 Model 900 frame-relay Boundary Access Node (BAN) support, either Feature 5810, Feature 5811, or ECA number 138 is required.

For 3746 Model 900 frame-relay SAP multiplexing support, either Feature 5810, Feature 5811, or ECA number 138 is required.

For 3746 Model 900 frame-relay HPR NPM information, either Feature 5810, Feature 5811, or ECA number 138 is required.

For 3746 Model 900 Network Node tier C level support, either Feature 5810, Feature 5811, or ECA number 146 (EC # D22560D) is required.

For 3746 Model 900 X.25 support, either Feature 5810, Feature 5811, or ECA number 146 (EC # D22560D) is required.

For 3746 Model 900 frame-relay frame handler switching, either Feature 5810, Feature 5811, or ECA number 146 (EC # D22560D) is required.

For 3746 Model 900 native IP over ESCON support, either Feature 5810, Feature 5811, or ECA number 142 (EC # D22510) is required.

For 3746 Model 900 ESCON reporting of an offline sequence as an INOP01, microcode fix MCF MD22414.418 is required.

For 3746 Model 900 HPR non-ERP over TIC3 support, either Feature 5810, Feature 5811, or ECA number 146 (EC # D22560D) is required.

For 3746 Model 900 ISDN primary rate, either Feature 5810, Feature 5811, or ECA number 159 (EC # D22570D) is required.

For 3746 Model 900 duplicate TIC addressing, either Feature 5810, Feature 5811, or ECA number 157 (EC # D22570C) is required.

For 3746 Model 900 frame-relay Boundary Access Node (BAN) for subarea links, either Feature 5810, Feature 5811, or ECA number 157 (EC # D22570C) is required.

For 3746 Model 900 TIC3 and ESCON port sharing between the network node processor (NNP) and NCP, either Feature 5810, Feature 5811, or ECA number 155 is required.

For 3746 Model 900 frame-relay port sharing between the network node processor (NNP) and NCP, either Feature 5810, Feature 5811, or ECA number 157 is required.

For 3746 Model 900 X.25 port sharing between the network node processor (NNP) and NCP, either Feature 5810, Feature 5811, or ECA number 167 is required.

For 3746 Model 900 Automatic Network Routing (ANR) over frame-relay Boundary Access Node (BAN), either Feature 5810, Feature 5811, or ECA number 155 is required.

For 3746 Model 900 NPM support for ISDN, either Feature 5810, Feature 5811, or ECA number 167 is required.

For 3746 Model 900 HPR over X.25 ODLC, either Feature 5810, Feature 5811, or ECA number 146 (EC # D22560D) is required.

For 3746 Model 900 Frame Relay automatic backup over ISDN, either Feature 5810, Feature 5811, or ECA number 167 is required.

For 3746 Model 900 ESCON retrying of the activation if the host is powered off, microcode fix MCF MD22714.403 is required.

For 3746 Model 900 duplicate TIC addressing for subarea connections, EC # D46130 is required.

For 3746 Model 900 support for RIP V2 multicasting, ESS microcode patch EGAL2 is required.

A microcode EC for the 3745 is required for the Dynamic Internet Protocol routing function of this program when using the Ethernet Subsystem (ESS). Following are the minimum 3745 microcode EC levels to support this function:

<i>Figure 12. Minimum Microcode Levels for the 3745</i>	
EC Number	Model
C37967	210, 310, 410, 610
C38006	130, 150, 160, 170
D39894	21A, 31A, 41A, 61A
D40002	17A

For 3746 Model 900 support for the following, Feature 5810 or Feature 5811 and ECA 185 are required:

- Committed Information Rate (CIR) on frame-relay lines controlled by NCP
- Frame-relay switched support for frame-relay switched lines controlled by NCP
- Routing information change (RIF) notification to NTuneMON after a nondisruptive route switch for connections on a TIC3

In addition to Feature 5810 or Feature 5811 and ECA 185, the above three items require:

- Service Processor Type 2 (Feature 5052)
- Service Processor Part Number 55H7630 (Feature 5021 - type 3172 with Pentium 90 processor) equipped with
 - CD-ROM drive (Feature 5051)
 - Service Processor memory expansion (Feature 5028)

For 3746 Model 900 support for the following, either Feature 5810 or Feature 5811 and type 3 processors are required:

- 32 logical connections on ESCON
- Token Ring (TIC3) connection balancing
- Frame Relay BAN connection balancing

The NCP V7R8 minimum size load module may exceed 1 megabyte. This is supported in base microcode levels for the x1A and 17A models. Patches exist for x10 and 1x0 models. Please see Technical Data Recording (TDR) H124890 for more information.

5.1.2.3 Minimum Requisites:

A minimum requisite is defined as one of the following:

- *Installation Requisite:* A product that is required at installation time. i.e. this product **will not install** successfully unless this requisite is met.
- *Run Time Requisite:* A product that is **not** required for the successful installation of this product, but **is** needed at run time in order for this product to work.

TCAM or VTAM can reside in the host depending upon the specific requirements of the customer installation.

This program is generated using SSP V4R8 for VM. In addition to providing the generation function for this release, SSP provides utilities for loading, dumping, and trace formatting for NCP.

NCP V7R8 VM is supported in conjunction with the following licensed programs at the function level of the version and release for as long as program services are available for the particular version and release. The following are host-resident programs:

- SSP V4R8
- Telecommunication Access Method (TCAM) V2R4
- SNA Services feature of eNetwork Communications Server for OS/390 V2R4 or later
- SNA Services feature of eNetwork Communications Server for OS/390 R1, R2, or R3
- VTAM V4R2 or later
- VTAM V3R4.1 or later

5.1.2.4 Functional Requisites:

This program is supported with the following licensed programs at the function level of the version and release for as long as program services are available for the particular version and release.

The following are host-resident programs:

- NTuneMON V2R6 (with NTuneNCP Tuning feature)
- TME 10 NetView for OS/390 V1R1 or higher
- Netview V3R1
- NetView V2R3 or later
- NetView Performance Monitor V2R2 or later
- NetView Performance Monitor V1R6
- Transaction Processing Facility (TPF) V4

Either Type 5 or Type 2.1 attachment capability is provided. Type 5 attachment requires SNA Network Interconnection (SNI) support in the channel-attached NCP.

- IP Services feature of eNetwork Communications Server for OS/390 V2R4 or later
- IP Services feature of eNetwork Communications Server for OS/390 R1, R2, or R3
- TCP/IP V3R1 or later
- TCP/IP V2R4

The following are controller-resident programs:

- Emulation Program (EP) R14
- Network Terminal Option (NTO) R11
- Network Routing Facility (NRF) R9
- X.25 NCP Packet Switching Interface (NPSI) V3R9
- X.21 Short Hold Mode/Multiple Port Sharing (X.21 SH/MPS) V2 R3.1
- X.25 SNA Interconnection (XI) Program Product V2R4.2

The following levels of NCP are supported as communicating with NCP V7R8 VM as long as program services are available for the particular level of NCP.

- NCP V7R1 or higher
- NCP V6R2 or higher
- NCP V5R4
- NCP V4R3.1

5.1.2.5 Compatibility Requisites:

The following sections describe cross product service considerations for NCP, NPSI, VTAM, NPM, TCAM, and TCP/IP.

5.1.2.5.1 NCP:

The NCP APAR listed in Figure 13 is required for NCP V7R1 NTRI Subarea Links to be compatible with NCP V7R8.

<i>Figure 13. NCP APAR Required for NCP V7R1 Compatibility with NCP V7R8</i>	
Product Name	APAR
NCP V7R1	IR32286

5.1.2.5.2 NPSI:

The NPSI APAR listed in Figure 14 is required for an alert to be issued when a NPSI incoming call fails due to a lack of logical resources.

<i>Figure 14. NCP APAR Required for NCP V7R1 Compatibility with NCP V7R8</i>	
Product Name	APAR
NPSI V3R9	IR40805

5.1.2.5.3 VTAM:

The VTAM APARs listed in Figure 15 are required to cause a BIND to be extended, if the BF(SLU) is an APPN link.

<i>Figure 15. VTAM APARs Required to Cause a BIND to be Extended</i>	
Product Name	APAR
OS/390 V2R7	OW36244
OS/390 V2R6	OW36244
OS/390 V2R5	OW36244
VTAM V4R4	OW32193
VTAM V4R3 MVS/ESA	OW32193

The VTAM APARs listed in Figure 16 are required for IP support over 3745 frame-relay switched physical lines.

<i>Figure 16. VTAM APARs Required for IP Support Over 3745 Frame-Relay Switched Physical Lines</i>	
Product Name	APAR
VTAM V4R4	OW34198
OS/390 V2R5	OW34198
OS/390 V2R6	OW34198

The VTAM APAR listed in Figure 17 is required for 3745 and 3746 Model 900 Frame Relay Switched Dial Backup support.

<i>Figure 17. VTAM APAR Required for Frame Relay Switched Dial Backup Support</i>	
Product Name	APAR
VTAM V4R4	OW27985

The VTAM APAR listed in Figure 18 is required for APPN Logical Resource Depletion Notification.

<i>Figure 18. VTAM APAR Required for APPN Logical Resource Depletion Notification</i>	
Product Name	APAR
VTAM V4R4	OW25754

The VTAM APAR listed in Figure 19 is required for PU and LU Name Association between Host and Downstream device support.

<i>Figure 19. VTAM APAR Required for PU and LU Name Association between Host and Downstream Device Support</i>	
Product Name	APAR
VTAM V4R4	OW25501

The VTAM APARs listed in Figure 20 are required for the NCP Frame Relay over Token Ring function.

<i>Figure 20. VTAM APARs Required for NCP Frame Relay Over Token Ring</i>	
Product Name	APAR
VTAM V4R2 MVS/ESA	OW09797
VTAM V4R2 VM/ESA	VM59813
VTAM V4R2 VSE/ESA	DY44000

The VTAM APAR listed in Figure 21 is required for compatibility with NCP Spare SDLC lines support.

<i>Figure 21. VTAM APAR Required for Compatibility with NCP Spare SDLC Lines</i>	
Product Name	APAR
VTAM V4R2 MVS/ESA	OW06708

The VTAM APAR listed in Figure 22 is required for compatibility with NCP Internet Protocol over Frame Relay Dynamic Reconfiguration function.

<i>Figure 22. VTAM APAR Required for Compatibility with NCP IP over FR Dynamic Reconfiguration</i>	
Product Name	APAR
VTAM V4R3 MVS/ESA	OW15600

The VTAM APARs listed in Figure 23 are required for selective NNNA support.

<i>Figure 23. VTAM APARs Required for Selective NNNA Support</i>	
Product Name	APAR
VTAM V3R4 MVS/ESA	OY52318
VTAM V3R4.1 MVS/ESA	OY52318

The VTAM APARs listed in Figure 24 are required to delay activating logical links until the associated physical resources are active.

<i>Figure 24. VTAM APARs Required to Delay Activating Logical Links</i>	
Product Name	APAR
VTAM V3R4.1 MVS/ESA	OY55462
VTAM V3R4.1 MVS/ESA	OY55304

The VTAM APARs listed in Figure 25 are required for compatibility with NCP Frame Relay support.

<i>Figure 25. VTAM APARs Required for Compatibility with NCP Frame Relay</i>	
Product Name	APAR
VTAM V4R2 MVS/ESA	OW04338
VTAM V4R2 MVS/ESA	OW04575
VTAM V4R2 MVS/ESA	OW05013
VTAM V4R2 MVS/ESA	OW06065

The VTAM APARs listed in Figure 26 are required to support the NCP ESCON function.

<i>Figure 26. VTAM APARs Required to Support NCP ESCON</i>	
Product Name	APAR
VTAM V3R4 MVS/ESA	OY58783
VTAM V3R4.1 MVS/ESA	OY58783
VTAM V3R4.1 MVS/ESA	OY52595
VTAM V3R4.1 MVS/ESA	OY52888
VTAM V3R4.1 MVS/ESA	OY57157

The VTAM APARs listed in Figure 27 are required to reduce the number of messages generated when a ROUTE INOP occurs.

<i>Figure 27. VTAM APARs Required to Perform Route INOP Reduction</i>	
Product Name	APAR
VTAM V3R4 MVS/ESA	OY48223
VTAM V3R4.1 MVS/ESA	OY48223
VTAM V3R4.1 VM/ESA	VM57910

The VTAM APARs listed in Figure 28 are required to avoid VTAM error messages when coding the MAXDATA keyword for PU4s in the NCP definition.

<i>Figure 28. VTAM APARs Required for Coding MAXDATA for PU4s</i>	
Product Name	APAR
VTAM V3R4 MVS/ESA	OY58078
VTAM V3R4.1 MVS/ESA	OY58078
VTAM V3R4.1 VM/ESA	VM54904
VTAM V3R4.1 VSE/ESA	DY42989

The VTAM APARs listed in Figure 29 are required for users of NetView and STATMON.

<i>Figure 29. VTAM APARs Required for NetView and STATMON</i>	
Product Name	APAR
VTAM V3R4.1 MVS/ESA	OY55988
VTAM V3R4.1 VM/ESA	VM59204

5.1.2.5.4 NPM:

The NPM APAR listed in Figure 30 is required for compatibility with NCP V7R8 VM. This APAR is also required for the NCP Internet Protocol over Token Ring function.

<i>Figure 30. NPM APAR Required for NCP V7R8 VM and NCP IP Over Token Ring</i>	
Product Name	APAR
NPM V2R2 MVS/ESA	OW12520

The NPM APAR listed in Figure 31 is required for ODLC LAN HPR data collection.

<i>Figure 31. NPM APAR Required for ODLC LAN HPR Data Collection</i>	
Product Name	APAR
NPM V2R2 MVS/ESA	OW17876

The NPM APAR listed in Figure 32 is required for the 3746 Model 900 TIC3 utilization NPM information function.

<i>Figure 32. NPM APAR Required for 3746 Model 900 TIC3</i>	
Product Name	APAR
NPM V2R2 MVS/ESA	OW10584

The NPM APAR listed in Figure 33 is required for the 3746 Model 900 processor utilization NPM information function.

<i>Figure 33. NPM APAR Required for 3746 Model 900 Processor</i>	
Product Name	APAR
NPM V2R2 MVS/ESA	OW08565

The NPM APAR listed in Figure 34 is required for the 3746 Model 900 X.25 NPSI function.

<i>Figure 34. NPM APAR Required for 3746 Model 900 X.25 NPSI</i>	
Product Name	APAR
NPM V2R2 MVS/ESA	OW10583

The NPM APAR listed in Figure 35 is required for the NCP Dynamic Control Blocks function.

<i>Figure 35. NPM APAR Required for NCP Dynamic Control Blocks</i>	
Product Name	APAR
NPM V2R2 MVS/ESA	OW09271

The NPM APAR listed in Figure 36 is required for compatibility with NCP.

<i>Figure 36. NPM APAR Required for NCP</i>	
Product Name	APAR
NPM V1R6 MVS	OY66928

The NPM APARs listed in Figure 37 are required for compatibility with NCP Frame Relay on 3746 Model 900 support.

<i>Figure 37. NPM APARs Required for Compatibility with NCP Frame Relay</i>	
Product Name	APAR
NPM V2R2 MVS/ESA	OW07715
NPM V2R2 VM	VM61164

The NPM APAR listed in Figure 38 is required for the 3746 Model 900 X.25 ODLC function.

<i>Figure 38. NPM APAR Required for 3746 Model 900 X.25 ODLC Function</i>	
Product Name	APAR
NPM V2R2	OW19297

5.1.2.5.5 TCAM:

The TCAM APAR listed in Figure 39 is required if your NCP is channel-attached to TCAM.

<i>Figure 39. TCAM APAR</i>	
Product Name	APAR
TCAM V2R4 MVS	OY25731

5.1.2.5.6 TCP/IP:

The TCP/IP APAR listed in Figure 40 is required for Variable Length Subnet Mask support.

<i>Figure 40. TCP/IP APAR Required for Variable Length Subnet Mask</i>	
Product Name	APAR
TCP/IP V3R2	PQ02781

The TCP/IP APAR listed in Figure 41 is required for RIP V2 support.

<i>Figure 41. TCP/IP APAR Required for RIP V2 Support</i>	
Product Name	APAR
TCP/IP V3R2	PQ02781

The TCP/IP APARs listed in Figure 42 are required for the Dynamic Internet Routing over Frame Relay function.

<i>Figure 42. TCP/IP APARs Required for Dynamic Routing Over Frame Relay</i>	
Product Name	APAR
TCP/IP V3R1 MVS	PN66582
TCP/IP V3R1 MVS	PN68188
TCP/IP V3R1 MVS	PN69619
TCP/IP V3R1 MVS	PN69951
TCP/IP V3R1 MVS	PN72929

The TCP/IP APAR listed in Figure 43 is required for Direct IP Channel Communication.

<i>Figure 43. TCP/IP APAR Required for Direct IP Channel Communication</i>	
Product Name	APAR
TCP/IP V3R1 MVS	PN75734

The TCP/IP APAR listed in Figure 44 is required for the IP NCPROUTE Direct over Channel function.

<i>Figure 44. TCP/IP APAR Required for IP NCPROUTE Direct over Channel</i>	
Product Name	APAR
TCP/IP V3R1 MVS	PN80904

5.2 Program Installation and Service Considerations

This section describes items that should be considered before you install or service NCP V7R8 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). Refer to the *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 NCP V7R8 VM strictly using the MAINT user ID, but will use a new user ID—P648063J. 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 installation procedure 6.2, "Plan Your Installation For NCP V7R8 VM" step 6 on page 29, rather than after you have installed this product.

5.3 DASD Storage and User ID Requirements

Figure 45 lists the user IDs, minidisks and default SFS directory names that are used to install and service NCP V7R8 VM.

Important Installation Notes:

- User ID(s) and minidisks or SFS directories will be defined in 6.2, "Plan Your Installation For NCP V7R8 VM" on page 28 and are listed here so that you can get an idea of the resources that you will need prior to allocating them.
- P648063J 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 Override (PPF) to reflect this change. This can be done in 6.2, "Plan Your Installation For NCP V7R8 VM" step 6 on page 29.
- If you choose to install NCP V7R8 VM on a common user ID the default minidisk addresses for NCP V7R8 VM may already be defined. If any of the default minidisks required by NCP V7R8 VM are already in use you will have to create an override to change the default minidisks for NCP V7R8 VM so they are unique.

Figure 45. DASD Storage Requirements for Target Minidisks

Minidisk owner (user ID)	Default Address	Storage in Cylinders		FB-512 Blocks	SFS 4-K Blocks	Usage
		DASD	CYLS			Default SFS Directory Name
P648063J	2B2	3390 3380 9345	60 70 70	87000	11000	Contains all the base code shipped with NCP V7R8 VM. VMSYS:P648063J.NCP.OBJECT
P648063J	2C2	3390 3380 9345	4 5 5	6000	750	Contains customization files. This disk may also be used for local modifications. VMSYS:P648063J.NCP.SAMPLE
P648063J	2D2	3390 3380 9345	25 30 30	36000	4500	Contains serviced files. VMSYS:P648063J.NCP.DELTA
P648063J	2A6	3390 3380 9345	16 20 20	24000	3000	Contains AUX files and software inventory tables that represent the test service level of NCP V7R8 VM. VMSYS:P648063J.NCP.APPLYALT
P648063J	2A2	3390 3380 9345	16 20 20	24000	3000	Contains AUX files and software inventory tables that represent the service level of NCP V7R8 VM that is currently in production. VMSYS:P648063J.NCP.APPLYPRD
P648063J	400	3390 3380 9345	90 115 115	138000	17250	Test BUILD disk. This code will be copied to a production disk. VMSYS:P648063J.NCP.TRUN
P648063J	401	3390 3380 9345	90 115 115	138000	17250	Production BUILD disk. Files from the test BUILD disk are copied here for application use. VMSYS:P648063J.NCP.RUN
P648063J	191	3390 3380 9345	90 115 115	138000	17250	P648063J user ID's 191 minidisk. VMSYS:P648063J.

Note: Cylinder values defined in this table are based on a 4-K block size. FB-512 block and SFS values are derived from the 3380 cylinder values in this table. The FBA blocks are listed as 1/2-K but should be CMS formatted at 1K size. 74 000 4-K blocks are needed for SFS install.

6.0 Installation Instructions

This section describes the installation methods and the step-by-step procedures to install NCP V7R8 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, refer to “Understanding Dialogs with the System” in *VM/ESA Installation Guide*.

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

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 NCP V7R8 VM, adapt these instructions as needed for your environment.

Note!

The sample console output presented throughout these instructions was produced on a VM/ESA 2.2.0 system. If you are installing NCP V7R8 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 NCP V7R8 VM using VMSES/E.

- Plan Your Installation

Use the VMFINS command to load several VMSES/E files from the product tape and to obtain NCP V7R8 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 NCP V7R8 VM.

- Install the NCP V7R8 VM Product

Use the VMFINS command to load the NCP V7R8 VM product files from tape to the test BUILD and BASE minidisks/directories. VMFINS is used to update the VM SYSBLDS file used by VMSES/E for software inventory management.

- Place NCP V7R8 VM Files into Production

Once the product files have been installed and the operation of NCP V7R8 VM is satisfactory, the product files are copied from the test BUILD disk to the production BUILD disk.

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

6.2 Plan Your Installation For NCP V7R8 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 and minidisk/SFS directory requirements
 - required products

To obtain planning information for your environment:

1 Log on as NCP V7R8 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 NCP V7R8 VM installation tape and attach it to NCP V7R8 VM installation planner 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 MAINT 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 only obtain read access (R/O) to this minidisk. If this occurs, you need to have that user re-link the 51D in read-only mode (RR), and 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 NCP V7R8 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 NCP V7R8 VM.

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

vmfins install ppf 5648063J {NCP | NCPSFS} (plan nomemo)

Use **NCP** for installing on minidisks or **NCPSFS** 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 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 NCP V7R8 VM. For example, you need to specify your PPF override file name instead of 5648063J 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 the *VMSES/E Introduction and Reference* before you continue.
- c. For more information about changing the VMSYS file pool name, refer to *VMSES/E Introduction and Reference*.

```
VMFINS2760I VMFINS processing started
VMFREQ2805I Product 5648063J component NCP passed requisite checking
Do you want to create an override for 5648063J NCP (prodid 5648063J)?
Enter 0 (No), 1 (Yes) or 2 (Exit)
0
VMFRMT2760I VMFRMT processing started
VMFRMT2760I VMFRMT processing completed successfully
VMFPLA1909I 5648063J PLANINFO created on your A-disk
VMFINS2760I VMFINS processing completed successfully
```

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

vmfview install

6.3 Allocate Resources for Installing NCP V7R8 VM

Use the planning information in the 5648063J PLANINFO file, created in the **PLAN** step, to:

- Create the P648063J user directory for minidisk install

OR

- Create the P648063J user directory for SFS install

6.3.1 Installing NCP V7R8 VM on Minidisk

- 1 Obtain the user directory from the 5648063J PLANINFO file.

Note: The user directory entry is located at the bottom of the PLANINFO file of the resource section; these entries will contain all of the links and privilege classes necessary for the P648063J user ID. Use the directory entry found in PLANINFO as a model for input to your system directory.

- 2 Add the MDISK statements to the directory entry for P648063J. Use Figure 45 on page 25 to obtain the minidisk requirements.

- 3 If you are installing NCP V7R8 VM on a VM/ESA 370 system, the following directory entry change must be made:

- For the P648063J directory entry:
 - Change the user ID storage from 24M to 16M.
 - Comment out or remove the MACHINE XA statement from the directory entry.

- 4 Add the P648063J directory to the system directory. Change the password for P648063J from xxxxx to a valid password, in accordance with your security guidelines.

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

Note

All minidisks for the P648063J user ID must be formatted before installing NCP V7R8 VM.

6.3.2 Installing NCP V7R8 VM in SFS Directories

- 1 Obtain the user directory from the 5648063J PLANINFO file.

Note: The user directory entry is located at the bottom of the PLANINFO file of the resource section; these entries contain all of the links and privilege classes necessary for the P648063J user ID. Use the directory entry found in PLANINFO as a model for input to your system directory.

- 2 If you are installing NCP V7R8 VM on a VM/ESA 370 Feature system, the following directory entry change must be made:

- For the P648063J directory entry:
 - Change the user ID storage from 24M to 16M.

- Comment out or remove the MACHINE XA statement from the directory entry.
- 3** Add the P648063J directory to the system directory. Change the password for P648063J 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.
- 5** An SFS install also requires 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 NCP V7R8 VM SFS directories, the 4K block requirements for each NCP V7R8 VM are summarized in Figure 45 on page 25

This information is used when enrolling the P648063J to the VMSYS filepool.
 - b** Enroll user P648063J in the VMSYS filepool using the ENROLL USER command:

```
ENROLL USER P648063J 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 NCP V7R8 VM. 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 NCP V7R8 VM, you need to add space to the filepool. See *VM/ESA SFS/CRR Planning, Administration, and Operation* for information about adding space to a filepool.
 - d** Create the necessary subdirectories listed in the 5648063J PLANINFO file using the CREATE DIRECTORY command.

set filepool vmsys:
create directory *dirid*

dirid is the name of the SFS directory you're creating, such as:

```
create directory vmsys:P648063J.NCP
create directory vmsys:P648063J.NCP.object
:
```

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

A complete list of default NCP SFS directories is provided in Figure 45 on page 25.

- e** If you intend to use an SFS directory as the work space for the P648063J user ID, include the following IPL control statement in the P648063J directory entry:

```
IPL CMS PARM FILEPOOL VMSYS
```

This will cause CMS to automatically access the P648063J's top directory as file mode A.

6.4 Install NCP V7R8 VM

The *ppfname* used throughout these installation instructions is **5648063J**, which assumes you are using the PPF supplied by IBM for NCP V7R8 VM. If you have your own PPF override file for NCP V7R8 VM, you should use your file's *ppfname* instead of **5648063J**. The *ppfname* you use should be used **throughout** the rest of this procedure.

- 1** Log on to the installation user ID **P648063J**.
- 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 Establish write access to the Software Inventory disk, if it is not already linked R/W.

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

```
link MAINT 51d 51d mr
access 51d d
```

- 5 Mount the NCP V7R8 VM installation tape and attach it to P648063J at virtual address 181. The VMFINS EXEC requires the tape drive to be at virtual address 181.

- 6 Install NCP V7R8 VM.

Notes:

If you have already created a PPF override file, you should specify your override file name after the **PPF** keyword for the following VMFINS command.

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 "Installing Products with VMFINS" and "Install Scenarios" chapters in *VMSES/E Introduction and Reference* to decide how to proceed.

```
vmfins install ppf 5648063J {NCP | NCPSFS} (nomemo nolink
```

Use **NCP** for installing on minidisks or **NCPSFS** for installing in Shared File System directories.

The NOLINK option indicates that you don't want VMFINS to link to the appropriate minidisks, only access them if not accessed.

```

VMFINS2760I VMFINS processing started
VMFREQ2805I Product 5648063J component NCP passed requisite checking
Do you want to create an override for 5648063J NCP (prodid 5648063J)?
Enter 0 (No), 1 (Yes) or 2 (Exit)
0
VMFINT2760I VMFINST processing started
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  400   SES400
VMFUTL2205I BASE1      J     R/W  2B2   SES2B2
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 BASE1 2B2 (J)
VMFRCA2159I Loaded 2509 part(s) to BASE1 2B2 (J)
VMFREC1851I (6 of 6) VMFRCALL processing BUILD
VMFRCA2159I Loading part(s) to BUILD0 400 (I)
VMFRCA2159I Loaded 2 part(s) to BUILD0 400 (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 proceeding. For information about handling specific error messages, refer to *VM/ESA System Messages and Codes*, or use on-line HELP.

vmfview install

6.4.1 Update Build Status Table for NCP V7R8 VM

- 1 Update the VM SYSBLDS software inventory file for NCP V7R8 VM.

vmfins build ppf 5648063J {NCP | NCPSFS} (serviced nolink

Use **NCP** for installing on minidisks or **NCPSFS** 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 5648063J 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, refer to *VM/ESA: System Messages and Codes*, or use on-line HELP.

vmfview install

6.5 Place NCP V7R8 VM Into Production

This section describes the procedure to place the new NCP V7R8 VM into production.

6.5.1 Copy NCP V7R8 VM Files Into Production

- 1 Log on to P648063J user ID. This user ID owns the disk that will contain the “production” level of the NCP V7R8 VM code.

a If installing using minidisks

```
access 400 e
access 401 f
vmfcopy * * e = = f2 (prodid 5648063J%NCP olddate replace
```

The VMFCOPY command will update the VMSES
PARTCAT file on the 401 disk.

b If installing using Shared File System

```
access P648063J.NCP.trun e
access P648063J.NCP.run f
vmfcopy * * e = = f2 (prodid 5648063J%NCP olddate replace
```

The VMFCOPY command will update the VMSES
PARTCAT file on the 401 disk.

NCP V7R8 VM is now installed and built on your system.

7.0 Service Instructions

This section contains the procedure to install CORrective service to NCP V7R8 VM. VMSES/E is used to install service for NCP V7R8 VM.

To become more familiar with service using VMSES/E, you should read the introductory chapters in the *VMSES/E Introduction and Reference*. These manuals also contain 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 otherwise directed. 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.

7.1 VMSES/E Service Process Overview

The following is a brief description of the main steps in servicing NCP V7R8 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

Once the service is satisfactorily tested, it should be put into production by copying the new service to the production disk, re-saving the NSS (Named Saved System).

7.2 Servicing NCP V7R8 VM

This section describes the procedure to service NCP V7R8 VM.

7.2.1 Prepare to Receive Service

The *ppfname* used throughout these servicing instructions is **5648063J**, which assumes you are using the PPF supplied by IBM for NCP V7R8 VM. If you have your own PPF override file for NCP V7R8 VM, you should use your file's *ppfname* instead of **5648063J**. The *ppfname* you use should be used **throughout** the rest of this procedure, unless otherwise stated differently.

1 Log onto NCP V7R8 VM service user ID **P648063J**

2 Establish access to the software inventory disk.

Note: If the MAINT 51D minidisk was accessed R/O, you need to have the user that has it accessed R/W link it R/O. You can then 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 NCP V7R8 VM CORrective service tape mounted and attached to **P648063J**.

4 Establish the correct minidisk access order.

vmfsetup 5648063J {NCP | NCPSFS}

5648063J is the PPF that was shipped with the product. If you have your own PPF override, you should substitute your PPF name for 5648063J.

Use **NCP** for installing on minidisks or **NCPSFS** 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), refer to Appendix A, "Receiving Service for VMSES Envelopes", section "Receive Service Documentation", in the *VM/ESA Service Guide*. Remember to substitute the *ppfname* and *compname* used for servicing NCP V7R8 VM in the instructions shown in that Appendix. Then return back to this program directory and continue with step 7 on page 41 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 Clear the alternate APPLY disk to ensure that you have a clean disk for new service.

vmfmrdsk 5648063J {NCP | NCPSFS} apply

Use **NCP** for installing on minidisks or **NCPSFS** 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 proceeding. For information about handling specific error messages, refer to *VM/ESA System Messages and Codes*, or use on-line HELP.

vmfview mrd

7.2.2 Receive the Service

Note: If you are installing multiple service tapes, you can receive all of the service for this prodid before applying and building it.

Electronic Service

If you are receiving service from Service Link (electronic service), refer to Appendix A, "Receiving Service for VMSES Envelopes", section "Receive the Service", in the *VM/ESA Service Guide*. Remember to substitute the *ppfname* and *compname* used for servicing NCP V7R8 VM in the instructions shown in that Appendix. Then return back to this program directory and continue with section 7.2.3, "Apply the Service."

For **each** service tape you want to receive, do the following:

- 1 Receive the service.

vmfrec ppf 5648063J {NCP | NCPSFS}

Use **NCP** for installing on minidisks or **NCPSFS** 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, refer to *VM/ESA System Messages and Codes*, or use on-line HELP.

vmfview receive

7.2.3 Apply the Service

- 1 Apply the new service.

vmfapply ppf 5648063J {NCP | NCPSFS}

Use **NCP** for installing on minidisks or **NCPSFS** 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 proceeding. For information about handling specific error messages, refer to *VM/ESA System Messages and Codes*, or use on-line HELP.

vmfview apply

Note

If you get message VMFAPP2120W, re-apply any local modifications before building the new NCP V7R8 VM. Refer to *VM/ESA Service Guide*. Follow the steps that are applicable to your local modification.

The following substitutions need to be made:

- **esalcl** should be **5648063J**
- **esa** should be **5648063J**
- *compname* should be **NCP** or **NCPSFS** (minidisk or SFS)
- *appid* should be **5648063J**
- *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 when you get to the “Rebuilding Objects” step in *VM/ESA Service Guide*, you should return 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 5648063J {NCP | NCPSFS} (status

Use **NCP** for installing on minidisks or **NCPSFS** for installing in Shared File System directories.

This command updates the Build Status Table.

Note

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

```
VMFBLD2185R The following source product parameter files
             have been serviced:
VMFBLD2185R 5648063J $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 5648063J $PPF
             on 191 (A) from level $PFnnnnn
```

vmfppf 5648063J {NCP | NCPSFS}

Note: If you created your own PPF override, use your PPF name instead of 5648063J.

Use **NCP** for installing on minidisks or **NCPSFS** for installing in Shared File System directories.

**copyfile 5648063J \$PPF a = = d (olddate replace
erase 5648063J \$PPF a**

Note: **Do not** use your own PPF name in place of 5648063J for the COPYFILE and ERASE commands.

vmfblid ppf 5648063J {NCP | NCPSFS} (status

1

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

Use **NCP** for installing on minidisks or **NCPSFS** 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 NCP V7R8 VM serviced parts.

vmfblid ppf 5648063J {NCP | NCPSFS} (serviced

Use **NCP** for installing on minidisks or **NCPSFS** 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 proceeding. For information about handling specific error messages, refer to *VM/ESA System Messages and Codes*, or use on-line HELP.

vmfview build

7.3 Place the New NCP V7R8 VM Service Into Production

This section describes the procedure to place the new NCP V7R8 VM Service into production.

7.3.1 Copy the New NCP V7R8 VM Serviced Files Into Production

- 1 Log on to P648063J user ID. This user ID owns the disk that will contain the “production” level of the NCP V7R8 VM code.
 - a If installing using minidisks

access 400 e
access 401 f
vmfcopy * * e = = f2 (prodid 5648063J%NCP olddate replace

The VMFCOPY command will update the VMSES
PARTCAT file on the 401 disk.

b If installing using Shared File System

access P648063J.NCP.trun e
access P648063J.NCP.run f
vmfcopy * * e = = f2 (prodid 5648063J%NCP olddate replace

The VMFCOPY command will update the VMSES
PARTCAT file on the 401 disk.

You have finished servicing NCP V7R8 VM.

Appendix A. APARs Incorporated into This Program

The following NCP V7R7 APARs are incorporated into this program:

IR38629	IR38896	IR39347	IR40255
IR38630	IR38877	IR39420	IR40420
IR38631	IR38945	IR39614	IR40408
IR38632	IR38969	IR39867	IR40537
IR38633	IR38930	IR39942	IR40454
IR38634	IR39028	IR39960	IR40677
IR38681	IR38983	IR39998	IR40583
IR38664	IR39114	IR40066	IR40724
IR38846	IR39191	IR40063	IR40823
IR38858	IR39193	IR40131	IR40786
IR38861	IR39238	IR40132	IR40877
IR38883	IR39333	IR40133	IR40886
IR38819	IR39339	IR40094	IR40899

Reader's Comments

Program Directory for Network Control Program Version 7 Release 8 for VM

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Accuracy of the definition of the installation tasks	1	2	3	4	5	N
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Design & Information Development
Dept. CGF/Bldg. 656
International Business Machines Corporation
PO Box 12195
RESEARCH TRIANGLE PARK NC 27709-9990

FAX Number: 1-800-253-3520

E-Mail: <http://www.networking.ibm.com/feedback/pubsurv.html>



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