



**Program Directory for  
Advanced Communications Function  
Network Control Program (NCP)**

Version 7 Release 8, Modification Level 1

Program Number 5648-063

for Use with  
VSE/ESA

Document Date: July 2001

GI10-6623-00

**Note!**

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

This program directory, dated July 2001, applies to Network Control Program Version 7 Release 8, Modification Level 1 for VSE (NCP V7R8.1 VSE), program number 5648-063 for the following:

<b>CLC</b>	<b>Feature Numbers</b>	<b>System Names</b>
78G	5851/5852/6188	VSE/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 V7R8.1 VSE. You should read all of this program directory before installing the program, and then keep it for future reference.

This program directory contains the following sections:

- 2.0, "Program Materials" on page 3 identifies the basic program materials and documentation for NCP V7R8.1 VSE.
- 3.0, "Program Support" on page 9 describes the IBM support available for NCP V7R8.1 VSE.
- 4.0, "Program and Service Level Information" on page 10 contains information about the program and service level information incorporated into NCP V7R8.1 VSE.
- 5.0, "Installation Requirements and Considerations" on page 11 identifies the resources and considerations for installing NCP V7R8.1 VSE.
- 6.0, "Installation Instructions" on page 26 provides detailed installation instructions for NCP V7R8.1 VSE.
- Appendix A, "APARs Incorporated into this Program" on page 28 provides a list of APARs incorporated into NCP V7R8.1 VSE

Usage tiers are now included on the base product tape. You no longer need to install separate tapes for usage tiers.

There is no longer a separate generation sublibrary. The generation sublibrary is now contained in the production sublibrary.

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.

Before installing NCP V7R8.1 VSE, read 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.

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

A good place to start any task regarding this program is the *NCP V7R8, SSP V4R8, and EP R14 Library Directory*, SC30-4025. This directory gives you an overview of NCP, SSP, and EP and directs you to a variety of tasks related to these programs.

---

## 2.0 Program Materials

An IBM program is identified by a program number and a feature number. The program number for NCP V7R8.1 VSE 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 V7R8.1 VSE. 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
- Program publications
- Program source materials
- Publications useful during installation

---

### 2.1 Basic Machine-Readable Material

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

The distribution medium for this program is a 9-track magnetic tape (written at 6250 bpi), a 3480 cartridge, or a 4 mm cartridge. The tape or cartridge contains all the programs and data needed for installation. NCP V7R8.1 VSE is installed using MSHP. See section 6.0, "Installation Instructions" on page 26 for more information about how to install this program.

Figure 1 describes the program tape or cartridge.

<i>Figure 1. Basic Material: Program Tape</i>			
Medium	Feature Number	Physical Volume	External Label Identification
6250 tape	5851	1	NCP V7R8.1 VSE
3480 cart.	5852	1	NCP V7R8.1 VSE
4 mm cart.	6188	1	NCP V7R8.1 VSE

Figure 2 describes the file content of the program tape or cartridge.

<i>Figure 2 (Page 1 of 2). Program Tape: File Content</i>	
File	Name
1	Header

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

File	Name
2	Product ID & History file
3	Product Production Libraries

## 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, "Introduction" on page 1 for more information.

## 2.3 Program Publications

The following sections identify the basic, optional, and associated publications for NCP V7R8.1 VSE.

### 2.3.1 Basic Program Publications

Figure 3 identifies the basic *unlicensed* program publications for NCP V7R8.1 VSE. 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, Modification Level 1	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
NCP and 3745/46 Today	G325-3426

The above publications and this program directory are included only when you order the basic machine-readable material.

There are no basic *licensed* program publications for NCP V7R8.1 VSE.

## 2.3.2 Optional Program Publications

Figure 4 identifies the optional *unlicensed* program publications for NCP V7R8.1 VSE. 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
NCP Version 7 and X.25 NPSI Version 3 Planning and Installation	SC30-3470

Figure 5 identifies the optional *licensed* program publications for NCP V7R8.1 VSE. The first copy is available at no charge to licensees of the optional 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 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
NCP Version 7 and X.25 NPSI Version 3 Diagnosis, Customization, and Tuning	LY30-5610*	7105-8103

## 2.3.3 Softcopy Publications

All NCP V7R8.1 VSE 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 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 V7R8.1 VSE

Figure 7 lists publications that may be helpful when you use this program. To order copies, contact your IBM representative. A fee is charged for each publication.

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

<i>Figure 7. Publications Associated with NCP V7R8.1 VSE</i>	
<b>Publication Title</b>	<b>Form Number</b>
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*

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## 2.4 Program Source Materials

Microfiche is not provided with NCP V7R8.1 VSE. 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 may be useful during the installation of this program. To order copies, contact your IBM representative. A fee is charged for each publication.

<i>Figure 8. Publications Useful During Installation</i>	
<b>Publication Title</b>	<b>Form Number</b>
VSE/ESA V2R2 Planning	SC33-6603
VSE/ESA V2R3 Planning	SC33-6603
VSE/ESA V2R4 Planning	SC33-6703
VSE/ESA V2R4 Installation	SC33-6704
VSE/ESA V2R4 Administration	SC33-6705
VSE/ESA V2R4 Operation	SC33-6706
VSE/ESA V2R4 System Control Statements	SC33-6713
VSE/ESA POWER V6R4 Administration and Operation	SC33-6733
VSE/ICCF V6R4 User's Guide	SC33-6739



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## 3.0 Program Support

This section describes the IBM support available for NCP V7R8.1 VSE.

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### 3.1 Preventive Service Planning

Before installing NCP V7R8.1 VSE, check with your IBM Support Center or use either Information/Access or SoftwareXcel Extended to see whether there is additional Preventive Service Planning (PSP) information. To obtain this information, specify the following UPGRADE and SUBSET values:

<i>Figure 9. PSP Information</i>		
<b>UPGRADE</b>	<b>SUBSET</b>	<b>RETAIN Release</b>
NCP781	78G	78G

If you have received NCP V7R8.1 VSE only from IBM Software Distribution, then before installing NCP V7R8.1 VSE, you should also check with your IBM Support Center or use either Information/Access or SoftwareXcel Extended to see if there is additional PSP information.

---

### 3.2 Statement of Support Procedures

For help with problem determination and problem source identification, refer to *NCP, SSP, and EP Diagnosis Guide*. 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 10 identifies the component ID (COMPID) and RETAIN Release for NCP V7R8.1 VSE.

<i>Figure 10. Component ID</i>		
<b>COMP ID</b>	<b>Component Name</b>	<b>REL</b>
564806300	NCP V7R8.1 VSE	78G

---

## **4.0 Program and Service Level Information**

This section identifies the program and service level of NCP V7R8.1 VSE. The program level refers to the APAR fixes incorporated into the program. The service level refers to the PTFs integrated into the product. Information about the cumulative service tape is also provided.

---

### **4.1 Program Level Information**

See Appendix A, "APARs Incorporated into this Program" on page 28 for a list of APAR fixes against previous releases incorporated into this release.

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### **4.2 Service Level Information**

No PTFs against this release of NCP have been incorporated into the product tape.

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### **4.3 Cumulative Service Tape**

A cumulative service tape, containing PTFs not incorporated into this release, may be included with this program.

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## 5.0 Installation Requirements and Considerations

The following sections identify the system requirements for installing NCP V7R8.1 VSE. In most cases, you can install NCP V7R8.1 VSE on a running system (target system). However, sometimes two systems may be required. If two systems are required, then the following terminology is used:

1. The system used to install the program (driving system).  
(There is no driving system in an NCP V7R8.1 VSE environment.)
2. The system on which the program is installed (target system).

---

### 5.1 Target System Requirements

This section describes the environment of the target system required to install NCP V7R8.1 VSE.

#### 5.1.1 Operating System Requirements

The operating system requirements for NCP V7R8.1 VSE are defined by SSP V4R8.1 VSE, licensed program number 5868-064.

#### 5.1.2 Machine Requirements

The target system can run in any hardware environment that supports the required software.

#### 5.1.3 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>.

#### 5.1.4 DASD Storage Requirements

Figure 11 provides the space requirements for installing this program. Space requirements are larger than needed for installation to allow for PTF service which may be applied at a later date.

Device Type	Tracks	Blocks
3380	730	N/A
3390	690	N/A
FBA	N/A	45260

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## 5.2 Program Considerations

This following sections list the programming considerations for installing NCP V7R8.1 VSE.

### 5.2.1 Operating System Requirements

The operating system requirements for NCP V7R8.1 VSE are defined by SSP V4R8.1 VSE , licensed program number 5868-064.

### 5.2.2 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 and later, and X.25 ODLC.

When the 3746 Model 900 is attached, the NCP V7R8.1 VSE 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:

<b>EC Number</b>	<b>Model</b>
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, 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 V7R8.1 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.

## 5.2.3 Programming Requirements

### 5.2.3.1 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 V4R8.1 for VSE. In addition to providing the generation function for this release, SSP provides utilities for loading, dumping, and trace formatting for NCP.

NCP V7R8.1 VSE 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 V4R8.1
- 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 or later

### 5.2.3.2 Functional Requisites

This program supports 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:

- TME10 NetView for OS/390 V1R1 or later
- 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 V7R8.1 VSE as long as program services are available for the particular level of NCP.

- NCP V7R8.1
- NCP V7R8
- NCP V7R7
- NCP V7R6
- NCP V7R5
- NCP V7R4
- NCP V7R3
- NCP V7R2
- NCP V7R1



- NCP V6R3
- NCP V6R2
- NCP V5R4
- NCP V4R3.1

### 5.2.3.3 Compatibility Requisites

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

#### 5.2.3.3.1 NCP:

The NCP APAR listed in Figure 13 is required for NCP V7R1 NTRI Subarea Links to be compatible with NCP V7R8.1.

<i>Figure 13. NCP APAR Required for NCP V7R1 Compatibility with NCP V7R8.1</i>	
<b>Product Name</b>	<b>APAR</b>
NCP V7R1	IR32286

#### 5.2.3.3.2 NPSI:

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

<i>Figure 14. NPSI APAR Required for Incoming Call Failure for Lack of Logical Resources</i>	
<b>Product Name</b>	<b>APAR</b>
NPSI V3R9	IR40805

#### 5.2.3.3.3 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.

*Figure 15. VTAM APARs Required to Cause BIND to be Extended*

<b>Product Name</b>	<b>APAR</b>
OS/390 V2R7	OW36244
OS/390 V2R6	OW36244
OS/390 V2R5	OW36244
VTAM V4R4	OW32193
VTAM V4R3 MVS/ESA	OW32193

The VTAM APAR shown in Figure 16 is required for 3745 and 3746 Model 900 Frame Relay Switched Dial Backup support.

*Figure 16. VTAM APAR Required for Frame Relay Switched Dial Backup Support*

<b>Product Name</b>	<b>APAR</b>
VTAM V4R4	OW27985

The VTAM APAR shown in Figure 17 is required for APPN Logical Resource Depletion Notification.

*Figure 17. VTAM APAR Required for APPN Logical Resource Depletion Notification*

<b>Product Name</b>	<b>APAR</b>
VTAM V4R4	OW25754

The VTAM APAR shown in Figure 18 is required for PU and LU Name Association between Host and Downstream device support.

*Figure 18. VTAM APAR Required for PU and LU Name Association between Host and Downstream Device Support*

<b>Product Name</b>	<b>APAR</b>
VTAM V4R4	OW25501

The VTAM APARs shown in Figure 19 are required for IP support over 3745 frame-relay switched physical lines.

*Figure 19. VTAM APARs Required for IP Support Over 3745 Frame-Relay Switched Physical Lines*

<b>Product Name</b>	<b>APAR</b>
VTAM V4R4	OW34198
OS/390 V2R5	OW34198
OS/390 V2R6	OW34198

The VTAM APARs listed in Figure 20 on page 19 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>	
<b>Product Name</b>	<b>APAR</b>
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>	
<b>Product Name</b>	<b>APAR</b>
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>	
<b>Product Name</b>	<b>APAR</b>
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>	
<b>Product Name</b>	<b>APAR</b>
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>	
<b>Product Name</b>	<b>APAR</b>
VTAM V3R4.1 MVS/ESA	OY55462
VTAM V3R4.1 MVS/ESA	OY55304

The VTAM APARs listed in Figure 25 on page 20 are required for compatibility with NCP Frame Relay support.

<i>Figure 25. VTAM APARs Required for Compatibility with NCP Frame Relay</i>	
<b>Product Name</b>	<b>APAR</b>
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>	
<b>Product Name</b>	<b>APAR</b>
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>	
<b>Product Name</b>	<b>APAR</b>
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>	
<b>Product Name</b>	<b>APAR</b>
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>	
<b>Product Name</b>	<b>APAR</b>
VTAM V3R4.1 MVS/ESA	OY55988
VTAM V3R4.1 VM/ESA	VM59204

#### **5.2.3.3.4 NPM:**

The NPM APAR listed in Figure 30 is required for compatibility with NCP V7R8.1 VSE. This APAR is also required for the NCP Internet Protocol over Token Ring function.

<i>Figure 30. NPM APAR Required for NCP V7R8.1 and NCP IP Over Token Ring</i>	
<b>Product Name</b>	<b>APAR</b>
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>	
<b>Product Name</b>	<b>APAR</b>
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>	
<b>Product Name</b>	<b>APAR</b>
NPM V2R2 MVS/ESA	OW10584

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

*Figure 33. NPM APAR Required for 3746 Model 900 Processor*

<b>Product Name</b>	<b>APAR</b>
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 APARs Required for 3746 Model 900 X.25 NPSI</i>	
<b>Product Name</b>	<b>APAR</b>
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>	
<b>Product Name</b>	<b>APAR</b>
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>	
<b>Product Name</b>	<b>APAR</b>
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>	
<b>Product Name</b>	<b>APAR</b>
NPM V2R2 MVS/ESA	OW07715
NPM V2R2 VM/ESA	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>	
<b>Product Name</b>	<b>APAR</b>
NPM V2R2	OW19297

### 5.2.3.3.5 TCAM:

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

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

### 5.2.3.3.6 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>	
<b>Product Name</b>	<b>APAR</b>
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>	
<b>Product Name</b>	<b>APAR</b>
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>	
<b>Product Name</b>	<b>APAR</b>
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>	
<b>Product Name</b>	<b>APAR</b>
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>	
<b>Product Name</b>	<b>APAR</b>
TCP/IP V3R1 MVS	PN80904

## **5.2.4 System Considerations**

There are no system considerations for NCP V7R8.1 VSE.

## **5.2.5 Special Considerations**

There are no special considerations for NCP V7R8.1 VSE.

---

## 6.0 Installation Instructions

This program is installed in a VSE/ESA operating system. It is supplied as a copy of the production library, which includes modules and macros belonging to this program. In addition, a history file containing installation records for this program is supplied. Installation restores the production sublibrary and updates the VSE system history file.

Because VSE/ESA supports multiple releases of the same product, it is not necessary to delete earlier levels of the NCP product already installed on your system.

---

### 6.1 Installing NCP V7R8.1 VSE

Complete the following steps to install this product:

1. Define the VSE product library.
2. Install the production sublibrary.

#### 6.1.1 Step 1: Define VSE Product Library

This step is unnecessary if you want to install this program into an existing VSE library. Run the JCL sample shown in Figure 45 if you want to define a new library for this program. Labels and library names in the following JCL are arbitrary.

```
// JOB DEFINE A VSE PRODUCT LIBRARY
// DLBL vvvv,'vse.ncp.lib',2099/365,SD
// EXTENT ,xxxxxx,1,0,yyyy,zzzz
// EXEC LIBR
//   DEFINE LIB=vvvv
/*
/&
xxxxxx = VOLID OF LIBRARY PACK
yyyy   = STARTING TRACK OF LIBRARY
zzzz   = SIZE OF THE LIBRARY IN TRACKS
vvvv   = VSE PRODUCT LIBRARY
```

Figure 45. Sample JCL to Define a VSE Library

#### 6.1.2 Step 2: Install Production Sublibrary

The target library must be online during installation procedures, and label information must be available in the label area. Installation of the production sublibrary is required.

Figure 46 provides sample JCL to install the production sublibrary using MSHP.

```
// JOB INSTALL PRODUCT
// OPTION CATAL
// ASSGN SYS006,cuu
// MTC REW,SYS006
// EXEC MSHP
  INSTALL PRODUCT FROMTAPE PRODUCTION INTO=vvvv.ssss
/*
/&
cuu      =INPUT TAPE ADDRESS
vvvv     =PRODUCT LIBRARY NAME
ssss     =PRODUCT SUBLIB  NAME
```

Figure 46. Sample JCL to Install Production Sublibrary

If an earlier level of NCP is already installed, the following message is displayed:

```
M231D INSTALLATION WILL SUPERSEDE PRODUCT xxxxxx.
```

Respond by entering KEEP if you want to keep the old version or DELETE if you want to delete it.

---

## 6.2 Installation Using the VSE Interactive Interface

This product can also be installed using the VSE/ICCF installation dialogues. From the VSE FUNCTION SELECTION panel, select menu item 1, INSTALLATION. From the INSTALLATION panel, select menu item 1 to access the INSTALL PROGRAMS panel. You will be prompted for information required by the dialogues to create the product installation job. Note that the default target sublibrary is PRD2.PROD and the default history file is the VSE System History file.

If you wish to modify the default installation parameters, it is necessary to change these values in the appropriate panels, as well as in the JCL generated by the JOB DISPOSITION panel. The installation job may be executed immediately or saved in an ICCF library for verification and later execution.

---

## Appendix A. APARs Incorporated into this Program

The following NCP V7R8 APARs are incorporated into this program:

IR41340	IR42060	IR43201
IR41344	IR42083	IR43209
IR41346	IR42302	IR43305
IR41348	IR42306	IR43469
IR41350	IR42321	IR43581
IR41352	IR42375	IR43685
IR41356	IR42410	IR43732
IR41357	IR42423	IR43744
IR41437	IR42434	IR44026
IR41500	IR42445	IR44303
IR41527	IR42467	IR44313
IR41529	IR42482	IR44430
IR41573	IR42548	IR44512
IR41616	IR42559	IR44622
IR41686	IR42598	IR44971
IR41737	IR42601	IR44991
IR41827	IR42602	IR45066
IR41861	IR42611	IR45563
IR41941	IR42862	IR45564
IR41977	IR42921	IR45565
IR41995	IR43070	IR45700
IR41999	IR43180	

# Reader's Comments

## Program Directory for Network Control Program (NCP) Version 7 Release 8, Modification Level 1 for VSE

You may use this form to comment about this document, its organization, or subject matter with the understanding that IBM may use or distribute whatever information you supply in any way it believes appropriate without incurring any obligation to you.

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
Contents of program directory	1	2	3	4	5	N
Installation Verification Programs	1	2	3	4	5	N
Time to install the product	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
Ease of getting the system into production after installation	1	2	3	4	5	N

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

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- Package

If this product was ordered as part of a 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 these products?

- Yes
- No

If yes, how many years? \_\_\_

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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Please send the completed form to (or give it to your IBM representative who will forward it to the NCP V7R8.1 VSE Development group):

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**NCP V7R8.1 VSE  
VSE/ESA**

**Publication No. GI10-6623-00**

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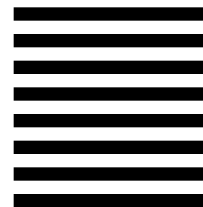
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