



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

Version 7 Release 8

Program Number 5648-063

FMID HNC7802

for Use with
MVS/ESA
OS/390

Document Date: September 1999

G110-6594-00

Note!

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

A form for reader's comments appears at the back of this publication. When you send information to IBM, you grant IBM a nonexclusive right to use or distribute the information in any way it believes appropriate without incurring any obligation to you.

© **Copyright International Business Machines Corporation 1984, 1999. All rights reserved.**

US Government Users Restricted Rights – Use, duplication or disclosure restricted by GSA ADP Schedule Contract with IBM Corp.

Contents

Notices	vii
Trademarks	viii
1.0 Introduction	1
1.1 NCP V7R8 MVS Description	3
1.1.1 Transmission Control	3
1.1.2 Communication Control	3
1.1.3 Error Recording/Recovery and Diagnostics	3
1.1.4 Emulation Mode Support	3
1.2 NCP V7R8 MVS FMIDs	3
2.0 Program Materials	5
2.1 Basic Machine-Readable Material	5
2.2 Optional Machine-Readable Material	6
2.3 Program Publications	6
2.3.1 Basic Program Publications	6
2.3.2 Optional Program Publications	7
2.3.3 Softcopy Publications	8
2.3.4 Publications Associated with NCP V7R8 MVS	8
2.4 Program Source Materials	9
2.5 Publications Useful During Installation	10
3.0 Program Support	11
3.1 Program Services	11
3.2 Preventive Service Planning	11
3.3 Statement of Support Procedures	11
4.0 Program and Service Level Information	13
4.1 Program Level Information	13
4.2 Service Level Information	13
4.3 Cumulative Service Tape	13
5.0 Installation Requirements and Considerations	15
5.1 Driving System Requirements	15
5.1.1 Machine Requirements	15
5.1.2 Programming Requirements	15
5.2 Target System Requirements	16
5.2.1 Machine Requirements	16
5.2.1.1 Controller RPQs	19
5.2.2 Programming Requisites	19
5.2.2.1 Minimum Requisites	19
5.2.2.2 Functional Requisites	20

5.2.2.2.1	Host-Resident Programs	20
5.2.2.2.2	Controller-Resident Programs	21
5.2.2.2.3	Softcopy-Enabling Programs	22
5.2.2.3	Compatibility Requisites	22
5.2.2.3.1	NCP	22
5.2.2.3.2	NPSI	23
5.2.2.3.3	VTAM	23
5.2.2.3.4	NPM	26
5.2.2.3.5	TCAM	28
5.2.2.3.6	TCP/IP	28
5.2.2.4	Toleration/Coexistence Requisites	29
5.2.2.5	Incompatibility (Negative) Requisites	29
5.2.3	DASD Storage Requirements	30
5.2.4	Storage Requirements for SMPCSI VSAM Cluster	31
5.2.5	Storage Requirements for SMP/E Work Data Sets	31
5.3	FMIDs Deleted	33
5.4	Special Considerations	33
6.0	Installation Instructions	35
6.1	Installing NCP V7R8 MVS	35
6.1.1	SMP/E Considerations for Installing NCP V7R8 MVS	35
6.1.2	SMP/E Environment	35
6.1.3	SMP/E Options Subentry Values	36
6.1.4	Unload the Sample JCL from the Product Tape	37
6.1.5	Perform SMP/E RECEIVE	38
6.1.6	Allocate SMP/E Target and Distribution Libraries	39
6.1.7	Create DDDEF Entries	41
6.1.8	Perform SMP/E APPLY CHECK	43
6.1.9	Perform SMP/E APPLY	44
6.1.10	Perform SMP/E ACCEPT CHECK	45
6.1.11	Perform SMP/E ACCEPT	46
6.2	Post-Installation Information	46
6.3	Post-Installation Considerations	47
6.3.1	For an NCP-Only System	47
6.3.2	For a PEP (NCP and EP) System	47
6.3.3	For an EP Standalone System	47
Appendix A.	NCP V7R8 MVS Install Logic	49
A.1	SMP/E Modification Control Statements	49
Appendix B.	APARs Incorporated into this Program	51
Appendix C.	Creating and Initializing SMP/E Control Data Sets	53
C.1	Allocate Non-VSAM SMP/E Data Sets (Optional)	53
C.2	Allocate the VSAM CSI Data Sets (Optional)	54
C.3	Initialize the VSAM CSI Data Sets (Optional)	57

C.4 Create DDDEF Entries for SMP/E Data Sets (Optional)	59
C.5 Rejecting SMPTLIBs (Optional)	63
Reader's Comments	65

Figures

1. Basic Material: Program Tape	5
2. Program Tape: File Content	6
3. Basic Material: Unlicensed Publications	6
4. Optional Material: Unlicensed Publications	7
5. Optional Material: Licensed Publications	7
6. Optional Material: Licensed Publications	8
7. Publications Associated with NCP V7R8 MVS	8
8. Publications Useful During Installation	10
9. PSP Upgrade and Subset ID	11
10. Component IDs	11
11. Driving System Software Requirements	15
12. Minimum Microcode Levels for the 3745	18
13. 3745 RPQs	19
14. Minimum Requisites	20
15. Host-Resident Programs/Functional Requisites	20
16. Controller-Resident Programs/Functional Requisites	21
17. Functional Requisites	22
18. NCP APAR Required for NCP V7R1 Compatibility with NCP V7R8.	22
19. NPSI APAR Required for Incoming Call Failure for Lack of Logical Resources	23
20. VTAM APARs Required to Cause BIND to be Extended	23
21. VTAM APARs Required for IP Support over 3745 Frame Relay Switched Physical Lines.	23
22. VTAM APAR Required for Frame Relay Switched Dial Backup Support	23
23. VTAM APAR Required for APPN Logical Resource Depletion Notification	24
24. VTAM APAR Required for PU and LU Name Association between Host and Downstream Device Support	24
25. VTAM APARs Required for NCP Frame Relay Over Token Ring	24
26. VTAM APAR Required for Compatibility with NCP Spare SDLC Lines	24
27. VTAM APARs Required for Compatibility with NCP Frame Relay	24
28. APAR Required for NCP IP Over FR Dynamic Reconfiguration function	25
29. VTAM APARs Required for Selective NNNA Support	25
30. VTAM APARs Required to Delay Activating Logical Links	25
31. VTAM APARs Required to Support NCP ESCON	25
32. VTAM APARs Required to Perform Route INOP Reduction	26
33. VTAM APARs Required for Coding MAXDATA for PU4s	26
34. VTAM APARs Required for NetView and STATMON.	26

35.	NPM APAR Required for NCP V7R8 MVS and NCP IP Over Token Ring	26
36.	NPM APAR Required for ODLC LAN HPR Data Collection	27
37.	NPM APAR Required for 3746 Model 900 TIC3	27
38.	NPM APAR Required for 3746 Model 900 Processor	27
39.	NPM APAR Required for 3746 Model 900 X.25 NPSI	27
40.	NPM APAR Required for NCP Dynamic Control Blocks	27
41.	NPM APAR Required for NCP	27
42.	NPM APARs Required for Compatibility with NCP Frame Relay	28
43.	NPM APAR Required for 3746 Model 900 X.25 ODLC function	28
44.	TCAM APAR	28
45.	TCP/IP APAR Required for Variable Length Subnet Mask	28
46.	TCP/IP APAR Required for RIP V2 Support	28
47.	TCP/IP APARs Required for Dynamic Internet Routing Over Frame Relay	29
48.	TCP/IP APAR Required for Direct IP Channel Communication	29
49.	TCP/IP APAR Required for IP NCPROUTE Direct Over Channel	29
50.	Total DASD Tracks Required by NCP V7R8 MVS	30
51.	Storage Requirements for SMPCSI VSAM Cluster	31
52.	Storage Requirements for SMP/E Work Data Sets	31
53.	Storage Requirements for SMP/E Data Sets	32
54.	Storage Requirements for NCP V7R8 MVS Target Libraries	32
55.	Storage Requirements for NCP V7R8 MVS Distribution Libraries	32
56.	Storage Requirements for NCP and NCP-Related Products	33
57.	SMP/E Options Subentry Values	36
58.	JCL to Unload the Sample JCL From the Product Tape	37
59.	JCL to Receive NCP V7R8 MVS from the Product Tape	38
60.	JCL to Allocate the SMP/E Target and Distribution Libraries	39
61.	JCL to Create DDDEF Entries	41
62.	JCL to Perform SMP/E APPLY CHECK	43
63.	JCL to Update the NCP V7R8 MVS Target Libraries	44
64.	JCL to Perform an SMP/E ACCEPT CHECK	45
65.	JCL to Perform an SMP/E ACCEPT	46
66.	Portion of the SMP Installation Logic	49
67.	Sample Job to Print SMPMCS	50
68.	JCL to Allocate Non-VSAM SMP/E Data Sets (Optional)	53
69.	JCL to Allocate CSI Data Set (Optional)	54
70.	JCL to Add Necessary Entries and Utilities to SMP/E CSI Data Sets (Optional)	57
71.	JCL to Create SMP/E Control Data Set DDDEF Entries	59
72.	JCL to Reject SMP/E Entries and SMPTLIB (Optional)	63

Notices

References in this document to IBM products, programs, or services do not imply that IBM intends to make these available in all countries in which IBM operates. Any reference to an IBM product, program, or service is not intended to state or imply that only IBM's product, program, or service may be used. Any functionally equivalent product, program, or service that does not infringe on any of IBM's intellectual property rights may be used instead of the IBM product, program, or service. Evaluation and verification of operation in conjunction with other products, except those expressly designated by IBM, is the user's responsibility.

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.

IBM may have patents or pending patent applications covering subject matter in this document. The furnishing of this document does not give you any license to these patents. You can send license inquiries, in writing, to the

IBM Director of Licensing
IBM Corporation
North Castle Drive
Armonk, NY 10504-1785
U.S.A.

Licensees of this program who wish to have information about it for the purpose of enabling: (i) the exchange of information between independently created programs and other programs (including this one) and (ii) the mutual use of the information which has been exchanged, should contact:

Site Counsel
IBM Corporation
P.O. Box 12195
3039 Cornwallis
Research Triangle Park, NC 27709 2195
USA

Such information may be available, subject to appropriate terms and conditions, including in some cases, payment of a fee.

The licensed program described in this document and all licensed material available for it are provided by IBM under terms of the IBM Customer Agreement.

This document is not intended for production use and is furnished as is without any warranty of any kind, and all warranties are hereby disclaimed including the warranties of merchantability and fitness for a particular purpose.

For online versions of this book, we authorize you to:

- Copy, modify, and print the documentation contained on the media, for use within your enterprise, provided you reproduce the copyright notice, all warning statements, and other required statements on each copy or partial copy.
- Transfer the original unaltered copy of the documentation when you transfer the related IBM product (which may be either machines you own, or programs, if the program's license terms permit a transfer). You must, at the same time, destroy all other copies of the documentation.

You are responsible for payment of any taxes, including personal property taxes, resulting from this authorization.

THERE ARE NO WARRANTIES, EXPRESS OR IMPLIED, INCLUDING THE WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE.

Some jurisdictions do not allow the exclusion of implied warranties, so the above exclusion may not apply to you.

Your failure to comply with the terms above terminates this authorization. Upon termination, you must destroy your machine readable documentation.

Trademarks

The following terms are trademarks of the IBM Corporation in the United States or other countries or both:

APPN	MVS/ESA	RETAIN
BookManager	MVS/XA	ServerPac
eNetwork	NetView	SystemPac
ESCON	OS/2	S/390
IBM	OS/390	VM/ESA
IBMLink	ProductPac	VTAM

Adobe and Acrobat are trademarks of Adobe Systems Incorporated.

Microsoft, Windows, and the Windows95 logo are trademarks of Microsoft Corp.

Pentium is a trademark of Intel Corp.

TME 10 is a trademark of Tivoli Systems, Inc.

Other company, product, and service names, may be trademarks or service marks of others.

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 Network Control Program. This publication refers to Network Control Program as NCP V7R8 MVS. 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:

- 2.0, "Program Materials" on page 5 identifies the basic and optional program materials and documentation for NCP V7R8 MVS.
- 3.0, "Program Support" on page 11 describes the IBM support available for NCP V7R8 MVS.
- 4.0, "Program and Service Level Information" on page 13 lists the APARs (program level) and PTFs (service level) incorporated into NCP V7R8 MVS.
- 5.0, "Installation Requirements and Considerations" on page 15 identifies the resources and considerations for installing and using NCP V7R8 MVS.
- 6.0, "Installation Instructions" on page 35 provides detailed installation instructions for NCP V7R8 MVS.
- Appendix A, "NCP V7R8 MVS Install Logic" on page 49 provides the install logic for NCP V7R8 MVS.
- Appendix B, "APARs Incorporated into this Program" on page 51 lists the APARs incorporated into NCP V7R8 MVS.
- Appendix C, "Creating and Initializing SMP/E Control Data Sets" on page 53 describes the jobs used to create and initialize the SMPMCS and the SMP/E control data sets.

Before installing NCP V7R8 MVS, read 3.2, "Preventive Service Planning" on page 11. 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 (297-342) dated September 9, 1997 for additional licensing instructions.

Airline Control Interconnect (ALCI) RPQ is a free feature offered in NCP V7R8. Previously, you were required to license, order, and install the ALCI RPQ as a separate feature. Starting with NCP V7R6, the ALCI RPQ has been incorporated into the NCP base product tape. You are no longer required to order and install separate media for ALCI. You must continue to license the ALCI feature as in previous

releases. Refer to the NCP V7R8 announcement letter (299-223) dated August 17, 1999 for additional hardware requirements information.

Starting with EP R14, users of EP Standalone must install NCP. Users of PEP and EP Standalone will now install EP in the NCP distribution libraries, ANCPMAC1 and ANCPMOD1, using the NCP target and distribution zones. A single EP installation can now be used in environments requiring both PEP and EP Standalone.

IBM recommends that you use an OS/390 ServerPac to install this level of NCP. If you use a ServerPac, you get the service integrated in the product. ServerPac is available at no additional charge when you have an OS/390 license.

Do not use this program directory if you are installing NCP V7R8 MVS with an MVS Custom-Built Installation Process Offering (CBIPO), SystemPac, or ServerPac. When using these offerings, use the jobs and documentation supplied with the offering. This documentation may point you to specific sections of the program directory as required.

If you are installing NCP V7R8 MVS using the MVS Custom-Built Product Delivery Offering (CBPDO) (5751-CS3), use the softcopy program directory provided on the CBPDO tape. Your CBPDO contains a softcopy preventive service planning (PSP) upgrade for this product. All service and HOLDDATA for NCP V7R8 MVS are included on the CBPDO tape.

To facilitate the installation of NCP V7R8 MVS, all JCL statements that appear in this program directory are also in machine-readable format on the product tape. The JCL is contained in Relative File 1, DLIB=ANCPSPAMP, MEMBER=NCPINJCL. The JCL to unload the installation JCL is shown in Figure 58 on page 37.

All occurrences of lower case variables must be changed to the appropriate uppercase values in order for the JCL to execute properly.

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 comments and suggestions help improve this program directory and make installation easier.

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.

1.1 NCP V7R8 MVS Description

NCP V7R8 MVS executes in the IBM 3745 Communication Controller for which it has been generated and into which it has been loaded.

NCP V7R8 MVS performs a wide range of functions for the data communication network, such as transmission control, communication control, error recording and recovery, and diagnosis.

1.1.1 Transmission Control

Standard functions of the network control program include: recognizing and reacting appropriately to control characters, controlling communication line time-outs, checking for errors. It also includes assembling serial bit-streams, received from a data link, into characters in a buffer.

1.1.2 Communication Control

The network control program takes over most of the control of the links from the communication access method, performing such functions as data link activation and deactivation, control character insertion and deletion, dynamic buffering, and communication line speed selection.

1.1.3 Error Recording/Recovery and Diagnostics

The network control program maintains several types of error records and provides diagnostic capabilities. These include permanent line error recording, statistics recording, dynamic display of controller storage, and online testing. This support is provided in combination with the IBM 3745 maintenance and operator subsystem (MOSS) and the appropriate operator console.

1.1.4 Emulation Mode Support

When executing in a channel-attached communication controller, NCP V7R8 MVS can operate data links in emulation mode as well as network control mode, through the partitioned emulation programming (PEP) extension to NCP V7R8 MVS. The PEP extension allows the communication controller to emulate most operations of an IBM 2701 Data Adapter Unit or an IBM 2702 or 2703 Transmission Control Unit (or any combination of the three) for certain data links, while performing network control functions for other links. For the IBM 3745, the facilities offered by MOSS and the appropriate operator console are available to the user of emulation mode support.

1.2 NCP V7R8 MVS FMIDs

NCP V7R8 MVS consists of FMID HNC7802.

2.0 Program Materials

An IBM program is identified by a program number and a feature number. The program number for NCP V7R8 MVS is 5648-063.

Basic Machine-Readable Materials are materials that are supplied under the base license and feature code, and are required for the use of the product. Optional Machine-Readable Materials are orderable under separate feature codes, and are not required for the product to function.

The program announcement material describes the features supported by NCP V7R8 MVS. Ask your IBM representative for this information if you have not already received a copy.

2.1 Basic Machine-Readable Material

The distribution medium for this program is a 9-track magnetic tape (written at 6250 BPI), a 3480 cartridge, or 4mm cartridge. The tape or cartridge contains all the programs and data needed for installation. It is installed using SMP/E, and is in SMP/E RELFILE format. See 6.0, "Installation Instructions" on page 35 for more information about how to install the program.

Figure 1 describes the tape or cartridge. Figure 2 on page 6 describes the file content of the program tape or cartridge.

Notes:

1. If you are installing NCP V7R8 MVS using the MVS Custom-Built Product Delivery Offering (CBPDO) (5751-CS3), some of the information in these figures may not be valid. Consult the CBPDO documentation for actual values.
2. The program tape and cartridge contain "Restricted Materials of IBM."

Medium	Feature Number	Physical Volume	External Label Identification	VOLSER
6250 tape	5801	1	MVSOBJ HNC7802	NC7802
3480 cart.	5802	1	MVSOBJ HNC7802	NC7802
4 mm cart.	6498	1	MVSOBJ HNC7802	NC7802

Figure 2. Program Tape: File Content

VOLSER	File	Name	Dist Library	RECFM	LRECL	BLK SIZE
NC7802	1	SMPMCS		FB	80	6400
NC7802	2	IBM.HNC7802.F1	JCLIN ANCPMAC1 ANCPSTAMP	FB	80	8800
NC7802	3	IBM.HNC7802.F2	ANCPMOD1	U	0	6144

2.2 Optional Machine-Readable Material

No optional machine-readable materials are provided for NCP V7R8 MVS.

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 MVS.

2.3.1 Basic Program Publications

Figure 3 identifies the basic *unlicensed* program publications for NCP V7R8 MVS. One copy of each of these publications is included when you order the basic materials for NCP V7R8 MVS. 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

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

2.3.2 Optional Program Publications

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

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

<i>Figure 4. Optional Material: Unlicensed Publications</i>		
Publication Title	Form Number	Feature Number
NCP Version 7 and X.25 NPSI Version 3 Planning and Installation	SC30-3470	None
ALCI Licensed Program Specifications	GH33-7054	None
ALCI Installation and Operation	SH33-7013	None

Figure 5 identifies the optional *licensed* program publications for NCP V7R8 MVS. 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.

<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
ALCI Diagnosis Guide and Reference	LY33-7027*	7102-8102

2.3.3 Softcopy Publications

All NCP V7R8 MVS 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. Optional Material: Licensed Publications</i>		
Publication Title	Form Number	Feature Number
ACF/NCP, ACF/SSP, EP, NPSI, and NTuneMON Softcopy Collection Kit CD-ROM	LK2T-0414*	7110-8110

You can read the books on the Softcopy Collection Kit CD-ROM using any of the following products:

- IBM Library Reader, a limited-function BookManager product shipped on the CD.
- The full-function IBM BookManager product, available for a variety of platforms, including MVS. For more information, or to order BookManager for your platform, refer to the IBM BookManager home page at <http://booksrv2.raleigh.ibm.com>.
- Adobe Acrobat Reader, available for downloading at <http://www.adobe.com/prodindex/acrobat/readstep.html>. The Softcopy Collection Kit CD-ROM includes Acrobat Reader (PDF) book files for NCP V7R7 and later.

2.3.4 Publications Associated with NCP V7R8 MVS

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 (Page 1 of 2). Publications Associated with NCP V7R8 MVS</i>	
Publication Title	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

Figure 7 (Page 2 of 2). Publications Associated with NCP V7R8 MVS

Publication Title	Form Number
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*

2.4 Program Source Materials

Customers with access to View Program Listings (VPL), such as through S/390 SoftwareXcel, can use the VPL facility for online viewing of available program listings. Those customers without access to VPL can contact their IBM representative.

2.5 Publications Useful During Installation

The publications listed in Figure 8 may be useful during the installation of NCP V7R8 MVS. To order copies, contact your IBM representative.

<i>Figure 8. Publications Useful During Installation</i>	
Publication Title	Form Number
MVS Software Manufacturing Offerings General Information	GC23-0351
MVS/ESA JCL Reference	GC28-1829
MVS/ESA JCL User's Guide	GC28-1830
MVS/ESA System Codes	GC28-1815
MVS/ESA System Messages Volume 1	GC28-1812
MVS/ESA System Messages Volume 2	GC28-1813
OS/390 MVS JCL Reference	GC28-1757
OS/390 MVS JCL User's Guide	GC28-1758
OS/390 MVS System Codes	GC28-1780
OS/390 MVS System Messages, Vol 1 (ABA-ASA)	GC28-1784
OS/390 MVS System Messages, Vol 2 (ASB-EWX)	GC28-1785
OS/390 MVS System Messages, Vol 3 (GDE-IEB)	GC28-1786
OS/390 MVS System Messages, Vol 4 (IEC-IFD)	GC28-1787
OS/390 MVS System Messages, Vol 5 (IGD-IZP)	GC28-1788
OS/390 SMP/E Commands	SC28-1805
OS/390 SMP/E Messages and Codes	SC28-1738
OS/390 SMP/E Reference	SC28-1806
OS/390 SMP/E User's Guide	SC28-1740
SMP/E: Messages and Codes	SC28-1108
SMP/E: Reference Guide	SC28-1107
SMP/E: User's Guide	SC28-1302

3.0 Program Support

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

3.1 Program Services

Contact your IBM representative for specific information about available program services.

3.2 Preventive Service Planning

Before installing NCP V7R8 MVS, you should review the current Preventive Service Planning (PSP) information. If you obtained NCP V7R8 MVS as part of a CBPDO, there is HOLDDATA and PSP information included on the CBPDO tape.

If you obtained NCP V7R8 MVS on a product tape, or if the CBPDO is more than two weeks old when you install it, you should contact the IBM Support Center or use S/390 SoftwareXcel to obtain the current "PSP Bucket".

PSP Buckets are identified by UPGRADEs, which specify product levels, and SUBSETs, which specify the FMIDs for a product level. The UPGRADE and SUBSET values for NCP V7R8 MVS are:

UPGRADE	SUBSET	Description
NCP780	HNC7802	NCP V7R8 MVS

3.3 Statement of Support Procedures

For help with problem determination and problem source identification, refer to *Network Control Program, System Support Programs, and Emulation Program 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) for NCP V7R8 MVS.

FMID	COMPID	Component Name	RETAIN Release
HNC7802	564806300	NCP V7R8	802

4.0 Program and Service Level Information

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

4.1 Program Level Information

See Appendix B, "APARs Incorporated into this Program" on page 51 for a list of APAR fixes against previous releases of NCP incorporated into this release.

4.2 Service Level Information

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

4.3 Cumulative Service Tape

A cumulative service tape, containing PTFs not incorporated into this release, might be included with this program. If this tape is included, it will be used in Section 6.2, "Post-Installation Information" on page 46. Installation instructions for cumulative service tapes can be found in the SMP/E publications.

If you received this product as part of a CBPDO or a ProductPac, PTFs not incorporated into this release are provided on the tape, and a separate cumulative service tape will not be provided.

5.0 Installation Requirements and Considerations

The following sections identify the system requirements for installing and activating NCP V7R8 MVS. The following terminology is used:

- *Driving system*: the system used to install the program.
- *Target system*: the system on which the program is installed.

In many cases, the same system can be used as both a driving system and a target system. However, you may want to set up a clone of your system to use as a target system by making a separate IPL-able copy of the running system. The clone should include copies of all system libraries that SMP/E updates, copies of the SMP/E CSI data sets that describe the system libraries, and your PARMLIB and PROCLIB.

Some cases where two systems should be used include the following:

- When installing a new level of a product that is already installed, the new product will delete the old one. By installing onto a separate target system, you can test the new product while still keeping the old one in production.
- When installing a product that shares libraries or load modules with other products, the installation can disrupt the other products. Installing onto a test system or clone will allow you to assess these impacts without disrupting your production system.

5.1 Driving System Requirements

This section describes the environment of the driving system required to install NCP V7R8 MVS.

5.1.1 Machine Requirements

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

5.1.2 Programming Requirements

Figure 11. Driving System Software Requirements

Program Number	Product Name and Minimum VRM/Service Level
5668-949	System Modification Program/Extended (SMP/E) R8.1 or Higher with IR40155
5647-A01	OS/390 V2R7 or Higher, or IR40155 on Prior Releases

5.2 Target System Requirements

This section describes the environment of the target system required to install and use NCP V7R8 MVS.

5.2.1 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 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, 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.

5.2.1.1 Controller RPQs:

NCP V7R8 MVS, through the Airline Control Interconnect feature, provides support for the 3745 RPQs listed in Figure 13.

Airline Control (ALCI) RPQ is a free feature offered in NCP V7R8. Previously, you were required to license, order, and install the ALCI RPQ as a separate feature. Starting with NCP V7R6, the ALCI RPQ has been incorporated into the NCP base product tape. You are no longer required to order and install separate media for ALCI. You must continue to license the ALCI feature as in previous releases.

Refer to the NCP V7R8 announcement letter dated August 17, 1999 for additional hardware requirements information.

<i>Figure 13. 3745 RPQs</i>	
RPQ Number	Controller
7L1092	3745 Models 210, 310, 410, 610, 21A, 31A, 41A, 61A
7L1216	3745 Models 210, 310, 410, 610, 21A, 31A, 41A, 61A
7L1148	3745 Model 170
7L1148	3745 Model 160 (EMEA Countries)
7L1213	3745 Model 160 (EMEA Countries)

5.2.2 Programming Requisites

5.2.2.1 Minimum Requisites:

A minimum requisite is defined as one of the following:

1. *Installation Requisite:* A product that is required at installation time. i.e. this product **will not install** successfully unless this requisite is met. This includes products that are specified as REQs, PREs, or CALLLIBs.

2. *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 MVS. In addition to providing the generation function for this release, SSP provides utilities for loading, dumping, and trace formatting for NCP.

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.

<i>Figure 14. Minimum Requisites</i>			
Program Number	Product Name and Minimum VRM/Service Level		Install Req?
5655-041	System Support Program V4R8		No
5735-RC3	TCAM V2R4		No
5647-A01	SNA Services feature of eNetwork Communications Server for OS/390 V2R4 or later		No
5645-001	SNA Services feature of eNetwork Communications Server for OS/390 R1, R2, or R3		No
5695-117	VTAM V4R3 MVS/ESA or later		No
5685-085	VTAM V3R4.2 MVS/ESA		No

Note: Refer to section 5.2.2.3, “Compatibility Requisites” on page 22 for specific requirements for VTAM and TCAM.

5.2.2.2 Functional Requisites:

A functional requisite is defined as a product that is *not* required for the successful installation of this product or for the base function of the product, but *is* needed at run time for a specific function of this product to work. This includes products that are specified as IF REQs.

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

5.2.2.2.1 Host-Resident Programs

<i>Figure 15 (Page 1 of 2). Host-Resident Programs/Functional Requisites</i>			
Program Number	Product Name and Minimum VRM/Service Level	Function	Install Req?
5648-141	NTuneMON V2R6	NTuneMON	No

Figure 15 (Page 2 of 2). Host-Resident Programs/Functional Requisites

Program Number	Product Name and Minimum VRM/Service Level	Function	Install Req?
5655-007	NetView V3R1 MVS/ESA	NetView	No
5685-111	NetView V2R4 MVS/ESA	NetView	No
5697-B82	TME 10 NetView for OS/390 R1 or higher	NetView	No
5655-043	NetView Performance Monitor V2R2 or higher	NetView Performance Monitor	No
5665-333	NetView Performance Monitor V1R6	NetView Performance Monitor	No
5748-T14	Transaction Processing Facility (TPF) V4	Transaction Processing Facility	No
Note: 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. See Controller RPQs for related 3745 RPQs supported by NCP V7R8 MVS.			
5655-HAL	TCP/IP V3R1 or higher	TCP/IP	No

Refer to section 5.2.2.3, “Compatibility Requisites” on page 22 for specific requirements for these programs.

5.2.2.2 Controller-Resident Programs:

One or more of the following programs can reside in the controller depending upon the specific requirements of the customer installation.

Figure 16 (Page 1 of 2). Controller-Resident Programs/Functional Requisites

Program Number	Product Name and Minimum VRM/Service Level	Function	Install Req?
5735-XXB	Emulation Program (EP) R14	Emulation Program	No
5735-XX7	Network Terminal Option (NTO) R11	Network Terminal Option	No
5668-963	Network Routing Facility (NRF) R9	Network Routing Facility	No
5668-035	X.25 NCP Packet Switching Interface (NPSI) V3R9	X.25 NCP Packet Switching Interface	No

Figure 16 (Page 2 of 2). Controller-Resident Programs/Functional Requisites

Program Number	Product Name and Minimum VRM/Service Level	Function	Install Req?
5668-042	X.21 Short Hold Mode/Multiple Port Sharing (X.21 SH/MPS) V2R3.1	X.21 Short Hold Mode/Multiple Port Sharing	No
5685-035	X.25 SNA Interconnection (XI) Program Product V2R4.2	X.25 SNA Interconnection	No

Note: Use of the Partitioned Emulation Programming (PEP) extension of NCP for MVS requires the appropriate release of the Emulation Program (EP) for IBM Communication Controllers.

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

Figure 17. Functional Requisites

Program Number	Product Name and Minimum VRM/Service Level	Function	Install Req?
5668-854	NCP V4R3.1	NCP	No
5668-738	NCP V5R4	NCP	No
5668-231	NCP V6R2 or higher	NCP	No
5648-063	NCP V7R1 or higher	NCP	No

5.2.2.2.3 Softcopy-Enabling Programs:

See 2.3.3, "Softcopy Publications" on page 8 for a list of the programs that can access the books on the Softcopy Collection Kit CD-ROM.

5.2.2.3 Compatibility Requisites:

The following sections contain system considerations for NCP, NPSI, VTAM, NPM, TCAM, and TCP/IP.

5.2.2.3.1 NCP:

The NCP APAR listed in Figure 18 is required for NCP V7R1 NTRI subarea links to be compatible with NCP V7R8.

Figure 18. NCP APAR Required for NCP V7R1 Compatibility with NCP V7R8.

Product Name	APAR
NCP V7R1	IR32286

5.2.2.3.2 NPSI:

The NPSI APAR listed in Figure 19 is required for an alert to be issued when a NPSI incoming call fails due to a lack of logical resources.

<i>Figure 19. NPSI APAR Required for Incoming Call Failure for Lack of Logical Resources</i>	
Product Name	APAR
NPSI V3R9	IR40805

5.2.2.3.3 VTAM:

The VTAM APARs listed in Figure 20 are required to cause a BIND to be extended, if the BF(SLU) is an APPN link.

<i>Figure 20. VTAM APARs Required to Cause BIND to be Extended</i>	
Product Name	APAR
VTAM V4R4	OW32193
VTAM V4R3 MVS/ESA	OW32193
OS/390 V2R7	OW36244
OS/390 V2R6	OW36244
OS/390 V2R5	OW36244

The VTAM APARs listed in Figure 21 are required for IP support over 3745 Frame Relay Switched physical lines.

<i>Figure 21. VTAM APARs Required for IP Support over 3745 Frame Relay Switched Physical Lines.</i>	
Product Name	APAR
OS/390 V2R6	OW34198
OS/390 V2R5	OW34198
VTAM V4R4	OW34198

The VTAM APAR listed in Figure 22 is required for 3745 and 3746 Model 900 Frame Relay Switched Dial Backup support.

<i>Figure 22. VTAM APAR Required for Frame Relay Switched Dial Backup Support</i>	
Product Name	APAR
VTAM V4R4	OW27985

The VTAM APAR listed in Figure 23 is required for APPN Logical Resource Depletion Notification.

<i>Figure 23. VTAM APAR Required for APPN Logical Resource Depletion Notification</i>	
Product Name	APAR
VTAM V4R4	OW25754

The VTAM APAR listed in Figure 24 is required for PU and LU Name Association between Host and Downstream Device support.

<i>Figure 24. 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 25 are required for the NCP Frame Relay over Token Ring function.

<i>Figure 25. 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 26 is required for compatibility with NCP Spare SDLC lines support.

<i>Figure 26. VTAM APAR Required for Compatibility with NCP Spare SDLC Lines</i>	
Product Name	APAR
VTAM V4R2 MVS/ESA	OW06708

The VTAM APARs listed in Figure 27 are required for compatibility with NCP Frame Relay support.

<i>Figure 27. 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 APAR listed in Figure 28 is required for the NCP Internet Protocol over Frame Relay Dynamic Reconfiguration function.

<i>Figure 28. APAR Required for NCP IP Over FR Dynamic Reconfiguration function</i>	
Product Name	APAR
VTAM V4R3 MVS/ESA	OW15600

The VTAM APARs listed in Figure 29 are required for selective NNNA support.

<i>Figure 29. VTAM APARs Required for Selective NNNA Support</i>	
Product Name	APAR
VTAM V3R4.1 MVS/ESA	OY52318
VTAM V3R4 MVS/ESA	OY52318

The VTAM APARs listed in Figure 30 are required to delay activating logical links until the associated physical resources are active.

<i>Figure 30. 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 31 are required to support the NCP ESCON function.

<i>Figure 31. 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 32 are required to reduce the number of messages generated when a ROUTE INOP occurs.

<i>Figure 32. VTAM APARs Required to Perform Route INOP Reduction</i>	
Product Name	APAR
VTAM V3R4.1 MVS/ESA	OY48223
VTAM V3R4 MVS/ESA	OY48223
VTAM V3R4.1 VM/ESA	VM57910

The VTAM APARs listed in Figure 33 are required to avoid VTAM error messages when coding the MAXDATA keyword for PU4s in the NCP definition.

<i>Figure 33. VTAM APARs Required for Coding MAXDATA for PU4s</i>	
Product Name	APAR
VTAM V3R4.1 MVS/ESA	OY58078
VTAM V3R4 MVS/ESA	OY58078
VTAM V3R4 VSE/ESA	DY42989
VTAM V3R4.1 VM/ESA	VM54904

The VTAM APARs listed in Figure 34 are required for users of NetView and STATMON.

<i>Figure 34. VTAM APARs Required for NetView and STATMON.</i>	
Product Name	APAR
VTAM V3R4.1 MVS/ESA	OY55988
VTAM V3R4.1 VM/ESA	VM59204

5.2.2.3.4 NPM:

The NPM APAR listed in Figure 35 is required for compatibility with NCP V7R8 MVS. This APAR is also required for the NCP Internet Protocol over Token Ring function.

<i>Figure 35. NPM APAR Required for NCP V7R8 MVS and NCP IP Over Token Ring</i>	
Product Name	APAR
NPM V2R2 MVS/ESA	OW12520

The NPM APAR listed in Figure 36 is required for ODLC LAN HPR data collection.

<i>Figure 36. NPM APAR Required for ODLC LAN HPR Data Collection</i>	
Product Name	APAR
NPM V2R2 MVS/ESA	OW17876

The NPM APAR listed in Figure 37 is required for the 3746 Model 900 TIC3 utilization NPM information function.

<i>Figure 37. NPM APAR Required for 3746 Model 900 TIC3</i>	
Product Name	APAR
NPM V2R2 MVS/ESA	OW10584

The NPM APAR listed in Figure 38 is required for the 3746 Model 900 processor utilization NPM information function.

<i>Figure 38. NPM APAR Required for 3746 Model 900 Processor</i>	
Product Name	APAR
NPM V2R2 MVS/ESA	OW08565

The NPM APAR listed in Figure 39 is required for the 3746 Model 900 X.25 NPSI function.

<i>Figure 39. 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 40 is required for the NCP Dynamic Control Blocks function.

<i>Figure 40. NPM APAR Required for NCP Dynamic Control Blocks</i>	
Product Name	APAR
NPM V2R2 MVS/ESA	OW09271

The NPM APAR listed in Figure 41 is required for compatibility with NCP.

<i>Figure 41. NPM APAR Required for NCP</i>	
Product Name	APAR
NPM V1R6 MVS	OY66928

The NPM APARs listed in Figure 42 are required for compatibility with NCP Frame Relay on 3746 Model 900 support.

<i>Figure 42. 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 43 is required for the 3746 Model 900 X.25 ODLC function.

<i>Figure 43. NPM APAR Required for 3746 Model 900 X.25 ODLC function</i>	
Product Name	APAR
NPM V2R2	OW19297

5.2.2.3.5 TCAM:

The TCAM APAR listed in Figure 44 is required if your NCP is channel-attached to TCAM.

<i>Figure 44. TCAM APAR</i>	
Product Name	APAR
TCAM V2R4 MVS	OY25731

5.2.2.3.6 TCP/IP:

The TCP/IP APAR listed in Figure 45 is required for Variable Length Subnet Mask support.

<i>Figure 45. TCP/IP APAR Required for Variable Length Subnet Mask</i>	
Product Name	APAR
TCP/IP V3R2	PQ02781

The TCP/IP APAR listed in Figure 46 is required for RIP V2 support.

<i>Figure 46. TCP/IP APAR Required for RIP V2 Support</i>	
Product Name	APAR
TCP/IP V3R2	PQ02781

The TCP/IP APARs listed in Figure 47 are required for the Dynamic Internet Routing over Frame Relay function.

<i>Figure 47. TCP/IP APARs Required for Dynamic Internet 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 48 is required for Direct IP Channel Communication.

<i>Figure 48. 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 49 is required for IP NCPROUTE Direct over Channel function.

<i>Figure 49. TCP/IP APAR Required for IP NCPROUTE Direct Over Channel</i>	
Product Name	APAR
TCP/IP V3R1 MVS	PN80904

5.2.2.4 Toleration/Coexistence Requisites:

A toleration/coexistence requisite is defined as a product which must be present on a sharing system. These systems can be other systems in a multisystem environment (not necessarily sysplex), a shared DASD environment (such as test and production), or systems that reuse the same DASD at different time intervals.

There are no toleration/coexistence requisites required.

5.2.2.5 Incompatibility (Negative) Requisites:

A negative requisite identifies products which must *not* be installed on the same system as this product.

There are no incompatible products associated with this product.

5.2.3 DASD Storage Requirements

NCP V7R8 MVS libraries can reside on 3380 or 3390 DASD.

Space requirements for SMP/E libraries (data sets) must take into consideration other programs that may use these libraries. The following products share data sets:

- NCP V7R8
- EP R14
- NTO R11
- NRF R9
- NTuneMON V2R6

Figure 50 lists the total space required for each type of library.

<i>Figure 50. Total DASD Tracks Required by NCP V7R8 MVS</i>		
Library Type	3380 Tracks	3390 Tracks
Target	788	660
Distribution	790	661

Notes:

1. IBM recommends use of system determined blocksizes for efficient DASD utilization for all non-RECFM U data sets. For RECFM U data sets, IBM recommends a blocksize of 32760, which is the most efficient from a performance and DASD utilization perspective.
2. Abbreviations used for the data set type are:
 - U** Unique data set used by only the FMIDs listed. In order to determine the correct storage needed for this data set, this table provides all required information; no other tables (or program directories) need to be referenced for the data set size.
 - S** Shared data set used by more than the FMIDs listed. In order to determine the correct storage needed for this data set, the storage size given in this table needs to be added to other tables (perhaps in other program directories). If the data set already exists, it must have enough free space to accommodate the storage size given in this table.

If you currently have a previous release of this product installed in these libraries, the installation of this release will delete the old one and reclaim the space used by the old release and any service that had been installed. You can determine whether or not these libraries have enough space by deleting the old release with a dummy function, compressing the libraries, and comparing the space requirements with the free space in the libraries.

NCP, EP, NTO, NRF, and NTuneNCP share target and distribution libraries (data sets). If you install these products, you must allocate additional space for these data sets. Refer to the appropriate program directories for storage requirements for these products.

For more information on the names and sizes of the required data sets, please refer to 6.1.6, "Allocate SMP/E Target and Distribution Libraries" on page 39.

5.2.4 Storage Requirements for SMPCSI VSAM Cluster

Figure 51 provides the storage requirements for the SMPCSI VSAM cluster.

<i>Figure 51. Storage Requirements for SMPCSI VSAM Cluster</i>		
DASD	Cylinders Required for SMPCSI DATA	Cylinders Required for SMPCSI INDEX
3380/3390	(16 3)	(3 3)

5.2.5 Storage Requirements for SMP/E Work Data Sets

<i>Figure 52. Storage Requirements for SMP/E Work Data Sets</i>									
Library DDNAME	T Y P E	D S O R G E	R E C O R D	L E N G T H	No. of Blks	BLK SIZE	No. of 3380/ Trks	No. of 3390 Trks	No. of DIR Blks
SMPWRK1	S	PO	FB	80	2	8800	1	1	5
SMPWRK2	S	PO	FB	80	2	8800	1	1	5
SMPWRK3	S	PO	FB	80	2	3200	1	1	20
SMPWRK4	S	PO	FB	80	2	3200	1	1	5
SMPWRK6	S	PO	FB	80	9	8800	2	2	500
SYSUT1	S	PS	--	--	1575	--	225	175	0
SYSUT2	S	PS	--	--	1575	--	225	175	0
SYSUT3	S	PS	--	--	1575	--	225	175	0
SYSUT4	S	PS	--	--	1575	--	225	175	0

The following table provides an estimate of the storage needed in the SMP/E data sets for NCP V7R8 MVS. The estimates must be added to those of any other programs and service being installed to determine the total additional storage requirements.

Figure 53. Storage Requirements for SMP/E Data Sets

Library DDNAME	T Y P E	D S R G	R E C F M	L R E C L	No. of Blks	BLK SIZE	No. of 3380/ 9345 Trks	No. of 3390 Trks	No. of DIR Blks
SMPHOLD	S	PS	FB	80	5	8800	1	2	0
SMPMTS	S	PO	FB	80	757	8800	152	152	512
SMPPTS	S	PO	FB	80	500	8800	100	101	250
SMPSCDS	S	PO	FB	80	157	8800	32	32	53
SMPSTS	S	PO	FB	80	150	8800	30	25	99
SMPLOG	S	PS	VB	80	330	8800	66	55	0

The following figures list the target and distribution libraries (data sets) and their attributes required to install NCP V7R8 MVS. The storage requirements of NCP V7R8 MVS must be added to the storage required by other programs having data in the same data set (library).

Figure 54. Storage Requirements for NCP V7R8 MVS Target Libraries

Library DDNAME	T Y P E	D S R G	R E C F M	L R E C L	No. of Blks	BLK SIZE	No. of 3380/ 9345 Trks	No. of 3390 Trks	No. of DIR Blks
SNCPMAC1	S	PO	FB	80	1071	0	536	465	61
SNCPMOD1	S	PO	U	0	255	32760	252	195	280

Figure 55. Storage Requirements for NCP V7R8 MVS Distribution Libraries

Library DDNAME	T Y P E	D S R G	R E C F M	L R E C L	No. of Blks	BLK SIZE	No. of 3380/ 9345 Trks	No. of 3390 Trks	No. of DIR Blks
ANCPMAC1	S	PO	FB	80	1071	0	536	465	61
ANCPMOD1	S	PO	U	0	255	32760	252	195	280
ANCP SAMP	S	PO	FB	80	4	0	2	1	1

NCP, EP, NTO, NRF, and the NTuneNCP tuning feature of NTuneMON share target and distribution libraries (data sets). If you install more than one of these products, you must allocate additional space for these data sets. Figure 56 shows the data sets and the space used by each of the products. To obtain an estimate of the total space needed, add the values for the products you are installing. If you install any other routines into these data sets, you will need additional space for those routines.

Figure 56. Storage Requirements for NCP and NCP-Related Products

Data Set Name or Library Name	NCP V7R8		EP R14		NTO R11		NRF R9		NTuneMON V2R5	
	Blk	Dir. Blk	Blk	Dir. Blk	Blk	Dir. Blk	Blk	Dir. Blk	Blk	Dir. Blk
SNCPMAC1	1071	61	20	1	52	3	57	2	–	–
SNCPMOD1	255	280	62	6	98	17	87	17	2	2
ANCPMAC1	1071	61	20	1	52	3	57	2	–	–
ANCPMOD1	255	280	62	6	98	17	87	17	2	2
ANCP SAMP	4	1	2	2	3	1	2	1	–	–

5.3 FMIDs Deleted

Installing NCP V7R8 MVS will result in the deletion of FMIDs. Please see the SMPMCS file in Appendix A for the FMIDs deleted by NCP V7R8.

5.4 Special Considerations

NCP V7R8 MVS has no special considerations for the target system.

6.0 Installation Instructions

This chapter describes the installation method and the step-by-step procedures to install the functions of NCP V7R8 MVS.

Please note the following:

- If you want to install NCP V7R8 MVS into its own SMP/E environment, consult the SMP/E manuals for instructions on creating and initializing the SMPCSI and the SMP/E control data sets. Several optional sample jobs to create and initialize the SMPCSI and the SMP/E control data sets are provided in Appendix C, Creating and Initializing SMP/E Control Data Sets.
- Sample jobs have been provided to help perform some or all of the installation tasks. The SMP/E jobs assume that all DDDEF entries required for SMP/E execution have been defined in the appropriate zones.
- The SMP/E dialogs may be used instead of the sample jobs to accomplish the SMP/E installation steps.

6.1 Installing NCP V7R8 MVS

6.1.1 SMP/E Considerations for Installing NCP V7R8 MVS

This release of NCP V7R8 MVS is installed using the SMP/E RECEIVE, APPLY, and ACCEPT commands. The SMP/E dialogs may be used to accomplish the SMP/E installation steps.

6.1.2 SMP/E Environment

All SMP/E installation jobs provided assume that all necessary DD statements for the execution of SMP/E are defined using DDDEFs.

Sample jobs are provided to assist you in installing NCP V7R8 MVS. After the RECEIVE step has been completed, the sample jobs can be found in SMPTLIB: **IBM.HNC7802.F1**. Make a copy of these jobs in your own library and modify them to use during the installation of NCP V7R8 MVS. The sample jobs are:

NCPRECEV	Sample RECEIVE job
NCPALLOC	Sample job to allocate target and distribution libraries
NCPDDDEF	Sample job to define SMP/E DDDEFs
NCPAPPCK	Sample APPLY CHECK job
NCPAPPLY	Sample APPLY job
NCPACCCK	Sample ACCEPT CHECK job
NCPACCEP	Sample ACCEPT job

In the sample SMP/E jobs provided, the name of the SMP/E CSI is `ncpzxxxz.GLOBAL.CSI`. The global zone name in the SMP/E CSI is `GLOBAL`. The distribution zone name is `ncpdlib`. The target zone name is `ncptgt`. You should update the sample jobs to reflect the CSI and zone names used at your installation.

6.1.3 SMP/E Options Subentry Values

The recommended values for some SMP/E CSI subentries are shown in Figure 57. Use of values lower than these may result in failures in the installation process. `DSSPACE` is a subentry in the `GLOBAL` options entry. `PEMAX` is a subentry of the `GENERAL` entry in the `GLOBAL` options entry. Refer to the SMP/E manuals for instructions on updating the global zone.

<i>Figure 57. SMP/E Options Subentry Values</i>		
SUB-ENTRY	Value	Comment
DSSPACE	(500,100,500)	Primary, Secondary, and Directory Blocks
PEMAX	8756	The SMP/E default is larger than what is specified here

6.1.4 Unload the Sample JCL from the Product Tape

Sample installation jobs are provided on the distribution tape to help you install NCP V7R8 MVS. The following sample JCL will copy the NCP V7R8 MVS jobs from the tape. See Figure 58 for the JCL to unload the NCP V7R8 MVS sample installation JCL from the product tape.

```
//NCPINJCL JOB (account info),'pgmrs name',MSGLEVEL=(1,1)
//*****
//* SAMPLE JCL TO UNLOAD THE NCP V7R8 SAMPLE INSTALLATION JCL *
//* FROM THE PRODUCT TAPE. *
//* *
//* BEFORE USING THIS JOB, YOU WILL HAVE TO MAKE THE FOLLOWING *
//* MODIFICATIONS: *
//* *
//* 1. CHANGE THE JOB CARD TO MEET YOUR SYSTEM REQUIREMENTS *
//* 2. CHANGE tape TO THE PRODUCT TAPE OR CARTRIDGE *
//* 3. CHANGE xxxxxx TO THE VOLUME SERIAL OF THE DASD WHERE THE*
//* DATA SET WILL RESIDE *
//* *
//* EXPECTED RETURN CODE: THIS JOB SHOULD END WITH RETURN CODE *
//* ZERO. *
//*****
//COPY EXEC PGM=IEBCOPY
//SYSPRINT DD SYSOUT=A
//TAPEIN DD DSN=IBM.HNC7802.F1,VOL=SER=NC7802,
// UNIT=tape,DISP=OLD,LABEL=(2,SL)
//DISKOUT DD DSN=IBM.HNC7802.INSTALL.JCL,VOL=SER=xxxxxx,
// SPACE=(CYL,(1,1,5)),DISP=(NEW,KEEP),
// UNIT=SYSDA
//SYSUT3 DD UNIT=SYSDA,SPACE=(80,(15,1))
//SYSIN DD *
COPY I=TAPEIN,0=DISKOUT
SELECT MEMBER=NCPINJCL
//*
```

Figure 58. JCL to Unload the Sample JCL From the Product Tape

Expected Return Codes and Messages:

NCPINJCL job ends with return code equal zero (RC=0).

The JCL is contained in Relative File 1, DLIB=ANCPSAMP, MEMBER=NCPINJCL.

You can also access the sample installation jobs by performing an SMP/E RECEIVE for FMID HNC7802, and then copying the jobs from dataset **hlq.IBM.HNC7802.F1** to a work dataset for editing and submission.

6.1.5 Perform SMP/E RECEIVE

Edit and submit sample job NCPRECEV to perform the SMP/E RECEIVE for NCP V7R8 MVS. Consult the instructions in the sample job for more information. See Figure 59 for the JCL to Receive NCP V7R8 MVS from the product tape.

```
//NCPRECEV JOB (account info),'pgmrs name',MSGLEVEL=(1,1)
//*****
//* RECEIVE NCP V7R8 FROM THE PRODUCT TAPE *
//* *
//* BEFORE USING THIS JOB, YOU WILL HAVE TO MAKE THE FOLLOWING *
//* MODIFICATIONS: *
//* *
//* 1. CHANGE THE JOB CARD TO MEET YOUR SYSTEM REQUIREMENTS *
//* 2. CHANGE ncpzzzzz TO THE HIGH LEVEL QUALIFIER FOR YOUR *
//* DATA SETS *
//* 3. CHANGE xxxxxx TO THE VOLUME SERIAL OF THE DASD WHERE THE*
//* DATA SET WILL RESIDE *
//* 4. CHANGE tape TO THE PRODUCT TAPE OR CARTRIDGE *
//* *
//* EXPECTED RETURN CODE: THIS JOB SHOULD END WITH RETURN CODE *
//* ZERO *
//*****
//RECV EXEC PGM=GIMSMP,PARM='DATE=U',REGION=4096K,
// TIME=1440
//SMPOUT DD SYSOUT=A
//SYSPRINT DD SYSOUT=A
//SMPCSI DD DSN=ncpzzzzz.GLOBAL.CSI,DISP=SHR
//SMPTLIB DD UNIT=SYSDA,DISP=OLD,VOL=SER=xxxxxx
//SMPPTFIN DD UNIT=tape,DISP=OLD,VOL=SER=NC7802,
// LABEL=(,SL),DSN=SMPMCS
//SMPCNTL DD *
// SET BDY(GLOBAL) .
// RECEIVE SELECT(HNC7802) SYSMODS LIST .
//*
```

Figure 59. JCL to Receive NCP V7R8 MVS from the Product Tape

NOTE: if you obtained NCP V7R8 MVS as part of a CBPDO, you can use the RCVPDO job found in the CBPDO RIMLIB data set to RECEIVE the NCP V7R8 MVS FMIDs as well as any service, HOLDDATA, or preventive service planning (PSP) information included on the CBPDO tape. For more information, refer to the documentation included with the CBPDO.

Expected Return Codes and Messages:

NCPRECEV job ends with return code equal zero (RC=0).

6.1.6 Allocate SMP/E Target and Distribution Libraries

Edit and submit sample job NCPALLOC to allocate the SMP/E target and distribution libraries for NCP V7R8 MVS. Consult the instructions in Figure 60 for more information.

```
//NCPALLOC JOB (account info),'pgmrs name',MSGLEVEL=(1,1)
//*****
//* ALLOCATE THE SMP/E TARGET AND DISTRIBUTION LIBRARIES FOR *
//* NCP V7R8 *
//* *
//* BEFORE USING THIS JOB, YOU WILL HAVE TO MAKE THE FOLLOWING *
//* MODIFICATIONS: *
//* *
//* 1. CHANGE THE JOB CARD TO MEET YOUR SYSTEM REQUIREMENTS *
//* 2. CHANGE ncpzzzzz TO THE HIGH LEVEL QUALIFIER FOR YOUR *
//* DATA SETS *
//* 3. CHANGE xxxxxx TO THE VOLUME SERIAL OF THE DASD WHERE THE*
//* DATA SET WILL RESIDE *
//* *
//* NOTE: THE DATA SET SIZES IN THIS SAMPLE ARE FOR NCP ONLY. *
//* NCP SHARES THESE DATA SETS WITH EP, NTO, NRF AND NTUNEMON. *
//* REFER TO THE DASD STORAGE REQUIREMENTS SECTION OF THE *
//* PROGRAM DIRECTORY FOR THE AMOUNT OF ADDITIONAL STORAGE YOU *
//* WILL NEED TO ALLOCATE FOR EACH PRODUCT YOU PLAN TO INSTALL *
//* INTO THESE SHARED DATA SETS. THE ACTUAL DATA SET SIZES HAVE *
//* BEEN INCREASED SLIGHTLY TO ALLOW FOR MAINTENANCE. *
//* *
//* EXPECTED RETURN CODE: THIS JOB SHOULD END WITH RETURN CODE *
//* ZERO *
//*****
//ALLOCATE EXEC PGM=IEFBR14
//SYSPRINT DD SYSOUT=A
//*****
//* DD STATEMENTS FOR THE TARGET LIBRARIES *
//*****
//SNCPMAC1 DD DSN=ncpzzzzz.SNCPMAC1,VOL=SER=xxxxxx,
// DCB=(RECFM=FB,LRECL=80,BLKSIZE=0),
// UNIT=SYSALLDA,SPACE=(8800,(3606,20,70)),
// DISP=(NEW,CATLG)
//SNCPMOD1 DD DSN=ncpzzzzz.SNCPMOD1,VOL=SER=xxxxxx,
// DCB=(RECFM=U,LRECL=0,BLKSIZE=32760),
// UNIT=SYSALLDA,SPACE=(32760,(350,35,310)),
// DISP=(NEW,CATLG)
```

Figure 60 (Part 1 of 2). JCL to Allocate the SMP/E Target and Distribution Libraries

```

//*****
//* DD STATEMENTS FOR THE DISTRIBUTION LIBRARIES *
//*****
//ANCPMAC1 DD DSN=ncpzxxx.ANCPMAC1,VOL=SER=xxxxxx,
//           DCB=(RECFM=FB,LRECL=80,BLKSIZE=0),
//           UNIT=SYSALLDA,SPACE=(8800,(3606,20,70)),
//           DISP=(NEW,CATLG)
//ANCPMOD1 DD DSN=ncpzxxx.ANCPMOD1,VOL=SER=xxxxxx,
//           DCB=(RECFM=U,LRECL=0,BLKSIZE=32760),
//           UNIT=SYSALLDA,SPACE=(32760,(350,35,310)),
//           DISP=(NEW,CATLG)
//ANCPXSAMP DD DSN=ncpzxxx.ANCPXSAMP,VOL=SER=xxxxxx,
//           DCB=(RECFM=FB,LRECL=80,BLKSIZE=0),
//           UNIT=SYSALLDA,SPACE=(8800,(12,2,6)),
//           DISP=(NEW,CATLG)
//*

```

Figure 60 (Part 2 of 2). JCL to Allocate the SMP/E Target and Distribution Libraries

Expected Return Codes and Messages:

NCPALLOC job ends with return code equal zero (RC=0).

6.1.7 Create DDDEF Entries

Edit and submit sample job NCPDDDEF to create DDDEF entries for the SMP/E target and distribution libraries for NCP V7R8 MVS. Consult the instructions in Figure 61 for more information.

```
//NCPDDDEF JOB (account info),'pgmrs name',MSGLEVEL=(1,1)
//*****
/** CREATE THE DDDEFS FOR NCP V7R8 *
/** *
/** BEFORE USING THIS JOB, YOU WILL HAVE TO MAKE THE FOLLOWING *
/** MODIFICATIONS: *
/** *
/** 1. CHANGE THE JOB CARD TO MEET YOUR SYSTEM REQUIREMENTS *
/** 2. CHANGE ncpzzzzz TO THE HIGH LEVEL QUALIFIER FOR YOUR *
/** DATA SETS *
/** 3. CHANGE ncpdlib TO THE DISTRIBUTION ZONE FOR NCP *
/** 4. CHANGE xxxxxx TO THE VOLUME SERIAL OF THE DASD WHERE THE*
/** DATA SET WILL RESIDE *
/** 5. CHANGE ncptgt TO THE TARGET ZONE FOR NCP *
/** *
/** EXPECTED RETURN CODE: THIS JOB SHOULD END WITH RETURN CODE *
/** ZERO. IF ANY OF THE DDDEF ENTRIES ALREADY EXIST, THE JOB *
/** WILL END WITH RETURN CODE EIGHT. YOU WILL HAVE TO EXAMINE *
/** THE OUTPUT TO DETERMINE THE CAUSE OF THE NON-ZERO RETURN *
/** CODE. *
/** *****
/** ADD THE DISTRIBUTION LIBRARY DD NAMES TO THE DISTRIBUTION *
/** ZONE *
/** *****
//DZONE EXEC PGM=GIMSMP,PARM='DATE=U',REGION=4096K,
// TIME=1440
//SMPOUT DD SYSOUT=A
//SYSPRINT DD SYSOUT=A
//SMPLOG DD DSN=ncpzzzzz.SMPLOG,DISP=SHR
//SMPPTS DD DSN=ncpzzzzz.SMPPTS,DISP=SHR
//SMPCSI DD DSN=ncpzzzzz.GLOBAL.CSI,DISP=SHR
```

Figure 61 (Part 1 of 2). JCL to Create DDDEF Entries

```

//SMPCNTL DD *
  SET BDY(ncpdlib) .
  UCLIN .
  ADD DDDEF(ANCPMAC1) DATASET(ncpzxxxx.ANCPMAC1)
      VOLUME(xxxxxx) UNIT(SYSALLDA) WAITFORDSN SHR .
  ADD DDDEF(ANCPMOD1) DATASET(ncpzxxxx.ANCPMOD1)
      VOLUME(xxxxxx) UNIT(SYSALLDA) WAITFORDSN SHR .
  ADD DDDEF(ANCPXSAMP) DATASET(ncpzxxxx.ANCPXSAMP)
      VOLUME(xxxxxx) UNIT(SYSALLDA) WAITFORDSN SHR .
  ADD DDDEF(SNCPMAC1) DATASET(ncpzxxxx.SNCPMAC1)
      VOLUME(xxxxxx) UNIT(SYSALLDA) WAITFORDSN SHR .
  ENDUCL
  /*****/
  /* ADD THE DISTRIBUTION LIBRARY AND TARGET LIBRARY DD NAMES */
  /* TO THE TARGET ZONE */
  /*****/
.
//TZONE EXEC PGM=GIMSMP,PARM='DATE=U',REGION=4096K,
// TIME=1440
//SMPOUT DD SYSOUT=A
//SYSPRINT DD SYSOUT=A
//SMPLOG DD DSN=ncpzxxxx.SMPLOG,DISP=SHR
//SMPPTS DD DSN=ncpzxxxx.SMPPTS,DISP=SHR
//SMPCSI DD DSN=ncpzxxxx.GLOBAL.CSI,DISP=SHR
//SMPCNTL DD *
  SET BDY(ncptgt) .
  UCLIN .
  ADD DDDEF(ANCPMAC1) DATASET(ncpzxxxx.ANCPMAC1)
      VOLUME(xxxxxx) UNIT(SYSALLDA) WAITFORDSN SHR .
  ADD DDDEF(ANCPMOD1) DATASET(ncpzxxxx.ANCPMOD1)
      VOLUME(xxxxxx) UNIT(SYSALLDA) WAITFORDSN SHR .
  ADD DDDEF(ANCPXSAMP) DATASET(ncpzxxxx.ANCPXSAMP)
      VOLUME(xxxxxx) UNIT(SYSALLDA) WAITFORDSN SHR .
  ADD DDDEF(SNCPMAC1) DATASET(ncpzxxxx.SNCPMAC1)
      VOLUME(xxxxxx) UNIT(SYSALLDA) WAITFORDSN SHR .
  ADD DDDEF(SNCPMOD1) DATASET(ncpzxxxx.SNCPMOD1)
      VOLUME(xxxxxx) UNIT(SYSALLDA) WAITFORDSN SHR .
  ENDUCL .
  /*

```

Figure 61 (Part 2 of 2). JCL to Create DDDEF Entries

Expected Return Codes and Messages:

NCPDDDEF job ends with return code equal zero (RC=0). If any of the DDDEF entries already exist, the NCPDDDEF job will end with return code of 8 (RC=8). Check the output to determine the cause of the non-zero return code.

6.1.8 Perform SMP/E APPLY CHECK

Edit and submit sample job NCPAPPCK to perform an SMP/E APPLY CHECK for NCP V7R8 MVS. Consult the instructions in Figure 62 for more information.

To receive the full benefit of the SMP/E Causer SYSMOD Summary Report, do *not* bypass the following on the APPLY CHECK: PRE, ID, REQ, and IFREQ. This is because the SMP/E root cause analysis identifies the cause only of **ERRORS** and not of **WARNINGS** (SYSMODs that are bypassed are treated as warnings, not errors, by SMP/E).

The GROUPEXTEND operand indicates that SMP/E apply all requisite SYSMODs. The requisite SYSMODS might be applicable to other functions.

```
//NCPAPPCK JOB (account info),'pgmrs name',MSGLEVEL=(1,1)
//*****
/** BEFORE UPDATING THE NCP TARGET LIBRARIES CHECK FOR ERRORS, *
/** THE LIBRARIES AFFECTED, AND ANY SYSMODS THAT WOULD BE *
/** REGRESSED. *
/** BEFORE USING THIS JOB, YOU WILL HAVE TO MAKE THE FOLLOWING *
/** MODIFICATIONS: *
/** *
/** 1. CHANGE THE JOB CARD TO MEET YOUR SYSTEM REQUIREMENTS *
/** 2. CHANGE ncpzzzzz TO THE HIGH LEVEL QUALIFIER FOR YOUR *
/** DATA SETS *
/** 3. CHANGE ncptgt TO THE TARGET ZONE FOR NCP *
/** *
/** EXPECTED RETURN CODE: THIS JOB SHOULD END WITH RETURN CODE *
/** ZERO *
//*****
//APPCK EXEC PGM=GIMSMP,PARM='DATE=U',REGION=4096K,
// TIME=1440
//SMPCSI DD DSN=ncpzzzzz.GLOBAL.CSI,DISP=SHR
//SMPCNTL DD *
SET BDY(ncptgt) .
APPLY SELECT(HNC7802) CHECK .
/**
```

Figure 62. JCL to Perform SMP/E APPLY CHECK

Expected Return Codes and Messages:

NCPAPPCK job ends with return code equal zero (RC=0).

6.1.9 Perform SMP/E APPLY

Edit and submit sample job NCPAPPLY to perform an SMP/E APPLY for NCP V7R8 MVS. Consult the instructions in Figure 63 for more information.

```
//NCPAPPLY JOB (account info),'pgmrs name',MSGLEVEL=(1,1)
//*****
//* UPDATE THE NCP TARGET LIBRARIES *
//* * *
//* BEFORE USING THIS JOB, YOU WILL HAVE TO MAKE THE FOLLOWING *
//* MODIFICATIONS: *
//* * *
//* 1. CHANGE THE JOB CARD TO MEET YOUR SYSTEM REQUIREMENTS *
//* 2. CHANGE ncpzzzzz TO THE HIGH LEVEL QUALIFIER FOR YOUR *
//* DATA SETS *
//* 3. CHANGE ncptgt TO THE TARGET ZONE FOR NCP *
//* * *
//* EXPECTED RETURN CODE: THIS JOB SHOULD END WITH RETURN CODE *
//* ZERO *
//*****
//APPLY EXEC PGM=GIMSMP,PARM='DATE=U',REGION=4096K,
// TIME=1440
//SMPCSI DD DSN=ncpzzzzz.GLOBAL.CSI,DISP=SHR
//SMPCNTL DD *
// SET BDY(ncptgt) .
// APPLY SELECT(HNC7802) .
//*
```

Figure 63. JCL to Update the NCP V7R8 MVS Target Libraries

Expected Return Codes and Messages:

NCPAPPLY job ends with return code equal zero (RC=0).

6.1.10 Perform SMP/E ACCEPT CHECK

Edit and submit sample job NCPACCK to perform an SMP/E ACCEPT CHECK for NCP V7R8 MVS. Consult the instructions in Figure 64 for more information.

To receive the full benefit of the SMP/E Causer SYSMOD Summary Report, do *not* bypass the following on the ACCEPT CHECK: PRE, ID, REQ, and IFREQ. This is because the SMP/E root cause analysis identifies the cause only of **ERRORS** and not of **WARNINGS** (SYSMODs that are bypassed are treated as warnings, not errors, by SMP/E).

The GROUPEXTEND operand indicates that SMP/E accept all requisite SYSMODs. The requisite SYSMODS might be applicable to other functions.

```
//NCPACCK JOB (account info),'pgmrs name',MSGLEVEL=(1,1)
//*****
/** BEFORE UPDATING THE NCP DISTRIBUTION LIBRARIES CHECK FOR *
/** ERRORS, THE LIBRARIES AFFECTED, AND ANY SYSMODS THAT WOULD *
/** BE REGRESSED *
/** *
/** BEFORE USING THIS JOB, YOU WILL HAVE TO MAKE THE FOLLOWING *
/** MODIFICATIONS: *
/** *
/** 1. CHANGE THE JOB CARD TO MEET YOUR SYSTEM REQUIREMENTS *
/** 2. CHANGE ncpzzzzz TO THE HIGH LEVEL QUALIFIER FOR YOUR *
/** DATA SETS *
/** 3. CHANGE ncpdlib TO THE DISTRIBUTION ZONE FOR NCP *
/** *
/** EXPECTED RETURN CODE: THIS JOB SHOULD END WITH RETURN CODE *
/** ZERO *
//*****
//ACCK EXEC PGM=GIMSMP,PARM='DATE=U',REGION=4096K,
// TIME=1440
//SMPCSI DD DSN=ncpzzzzz.GLOBAL.CSI,DISP=SHR
//SMPCNTL DD *
SET BDY(ncpdlib) .
ACCEPT SELECT(HNC7802) CHECK .
/**
```

Figure 64. JCL to Perform an SMP/E ACCEPT CHECK

Expected Return Codes and Messages:

NCPACCK job ends with return code equal zero (RC=0).

6.1.11 Perform SMP/E ACCEPT

Edit and submit sample job NCPACCEP to perform an SMP/E ACCEPT for NCP V7R8 MVS. Consult the instructions in Figure 65 for more information.

Before using SMP/E to load new distribution libraries, it is recommended that you set the ACCJCLIN indicator in the distribution zone. This will cause entries produced from JCLIN to be saved in the distribution zone whenever a SYSMOD containing inline JCLIN is ACCEPTed. For more information on the ACCJCLIN indicator, see the description of inline JCLIN in the SMP/E manuals.

```
//NCPACCEP JOB (account info),'pgmrs name',MSGLEVEL=(1,1)
//*****
//* UPDATE THE NCP DISTRIBUTION LIBRARIES *
//* *
//* BEFORE USING THIS JOB, YOU WILL HAVE TO MAKE THE FOLLOWING *
//* MODIFICATIONS: *
//* *
//* 1. CHANGE THE JOB CARD TO MEET YOUR SYSTEM REQUIREMENTS *
//* 2. CHANGE ncpzzzzz TO THE HIGH LEVEL QUALIFIER FOR YOUR *
//* DATA SETS *
//* 3. CHANGE ncpdlib TO THE DISTRIBUTION ZONE FOR NCP *
//* *
//* EXPECTED RETURN CODE: THIS JOB SHOULD END WITH RETURN CODE *
//* ZERO *
//*****
//ACCEPT EXEC PGM=GIMSMP,PARM='DATE=U',REGION=4096K,
// TIME=1440
//SMPCSI DD DSN=ncpzzzzz.GLOBAL.CSI,DISP=SHR
//SMPCNTL DD *
// SET BDY(ncpdlib) .
// ACCEPT SELECT(HNC7802) .
//*
```

Figure 65. JCL to Perform an SMP/E ACCEPT

Expected Return Codes and Messages:

NCPACCEP job ends with return code equal zero (RC=0).

6.2 Post-Installation Information

The SSP, NCP, and controller-resident NCP-related products share post-installation procedures. After you install all products needed for the system environment, your system is ready for post-installation maintenance processing. If a PTF cumulative service tape is included with the order, install the maintenance now.

If PTFs containing replacement modules are being ACCEPTed, SMP/E ACCEPT processing will linkedit/bind the modules into the distribution libraries. During this processing, the Linkage Editor or Binder

might issue messages documenting unresolved external references, resulting in a return code of 4 from the ACCEPT step. These messages can be ignored because the distribution libraries are not executable and the unresolved external references will not affect the executable system libraries.

To re-linkedit the NCP load modules under SMP/E, you may need to add a LOADNCP DD statement to the DDDEF job. The LOADNCP DD statement must point to the library that contains your NCP load modules. For an example, see the SYSLMOD DD statement in the *Network Control Program, System Support Programs, and Emulation Program Generation and Loading Guide*.

Run the HONE Configurator to determine your new load module size after installation. Storage requirements and load module size usually change from release to release, which affects the number of buffers in the buffer pool. Contact your IBM representative for assistance.

6.3 Post-Installation Considerations

This section contains post-installation considerations for an NCP-only system, a PEP system, and an EP Standalone system.

6.3.1 For an NCP-Only System

If you are installing an NCP-only system and have not already installed the SSP product, refer to the SSP program directory for product information and installation instructions. If you have already installed SSP, you have completed installation for an NCP-only system, and you are ready to generate NCP.

6.3.2 For a PEP (NCP and EP) System

If you are installing a PEP system and have not already installed the SSP or EP product, refer to the appropriate program directory for product information and installation instructions. You should install these products before generating NCP. If you have already installed both the SSP and EP products, you have completed installation of a PEP system, and you are ready to generate NCP and PEP.

6.3.3 For an EP Standalone System

If you are installing an EP standalone environment you must install NCP and EP. After NCP is installed, refer to the EP program directory for EP product information and installation instructions. If you have not installed SSP, refer to the SSP program directory for product information and installation instructions. If you have installed NCP, EP, and SSP, you have completed installation for an EP standalone system and you are ready to generate EP.

Appendix A. NCP V7R8 MVS Install Logic

A.1 SMP/E Modification Control Statements

The SMP/E Modification Control Statements (SMPMCS) for NCP V7R8 MVS are contained in the SMPMCS file on the installation tape. The SMPMCS for each FMID in the product will be loaded to the SMPPTS dataset, with a member name matching the FMID, when the FMID is SMP/E RECEIVED. You may browse or print these members using TSO/E, ISPF, or IEBGENER (or IEBPTPCH).

Figure 66 provides a portion of the installation logic for NCP V7R8 MVS.

```
++FUNCTION(HNC7802) FESN(0566620) REWORK(1999210)
  RFDSNPF(IBM) /* TIME=10.27.14 DATE=07/29/99 */
  DESCRIPTION(ACF NCP) FILES(2)
  /*****
  /* COPYRIGHT = LICENSED MATERIALS - PROPERTY OF IBM */
  /* THIS PRODUCT CONTAINS "RESTRICTED MATERIALS OF IBM"*/
  /* 5648-063 (C) COPYRIGHT IBM CORP, 1984, 1999. */
  /* ALL RIGHTS RESERVED. */
  /* U.S. GOVERNMENT USERS RESTRICTED RIGHTS - */
  /* USE, DUPLICATION OR DISCLOSURE RESTRICTED BY */
  /* GSA ADP SCHEDULE CONTRACT WITH IBM CORP. */
  /* SEE COPYRIGHT INSTRUCTIONS. */
  /*****
  .
  ++VER(P004)
    DELETE(ENC0100,ENC1200,ENC1201,ENC1300,HNC2100,HNC2103,
    HNC2105,HNC3103,HNC3106,HNC3107,HNC4103,HNC4105,HNC4203,
    HNC4205,HSS4105,JSS4106,HNC5102,HNC4255,HNC5104,HNC4300,
    HNC5202,HNC5212,HNC4310,HNC5302,HNC5312,HNC5402,HNC6102,
    HNC6202,HNC6302,HNC7102,HNC7202,HNC7303,HNC7402,HNC7502,
    HNC7602,HNC7702)
  .
  ++JCLIN RELFILE(1) .
```

Figure 66. Portion of the SMP Installation Logic

Figure 67 provides a sample job to print the SMPMCS.

```
//NCPLOGIC JOB (account info),'pgmrs name',MSGLEVEL=(1,1)
//*****
//* PRINT THE SMPMCS FILE FROM THE NCP V7R8 PRODUCT TAPE      *
//*                                                           *
//* BEFORE USING THIS JOB, YOU WILL HAVE TO MAKE THE FOLLOWING *
//* MODIFICATIONS:                                           *
//*                                                           *
//* 1. CHANGE THE JOB CARD TO MEET YOUR SYSTEM REQUIREMENTS *
//* 2. CHANGE TAPE TO THE PRODUCT TAPE OR CARTRIDGE         *
//*                                                           *
//* EXPECTED RETURN CODE: THIS JOB SHOULD END WITH RETURN CODE *
//* ZERO                                                      *
//*****
//GENER EXEC PGM=IEBGENER
//SYSPRINT DD SYSOUT=A
//SYSUT1 DD UNIT=tape,DISP=OLD,VOL=SER=NC7802,
// LABEL=(1,SL),DSN=SMPMCS
//SYSUT2 DD SYSOUT=A
//SYSIN DD DUMMY
//*
```

Figure 67. Sample Job to Print SMPMCS

Expected Return Codes and Messages:

NCPLOGIC job ends with return code equal zero (RC=0).

Appendix B. 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

Appendix C. Creating and Initializing SMP/E Control Data Sets

These sample jobs can be used to create and initialize the SMPCSI and the SMP/E control data sets, if you choose to create an new SMP/E environment.

C.1 Allocate Non-VSAM SMP/E Data Sets (Optional)

Sample job NONVSAM allocates the non-VSAM SMP/E data sets for NCP V7R8 MVS. See Figure 68 for the JCL to allocate the SMP/E non-VSAM data sets.

```
//NONVSAM JOB (account info),'pgmrs name',MSGLEVEL=(1,1)
//*****
//* IF YOU CHOOSE TO CREATE A NEW SMP/E ENVIRONMENT, THIS JOB *
//* ALLOCATES ALL THE NECESSARY NON-VSAM SMP/E DATA SETS *
//* *
//* BEFORE USING THIS JOB, YOU WILL HAVE TO MAKE THE FOLLOWING *
//* MODIFICATIONS: *
//* *
//* 1. CHANGE THE JOB CARD TO MEET YOUR SYSTEM REQUIREMENTS *
//* 2. CHANGE ncpzzzzz TO THE HIGH LEVEL QUALIFIER FOR YOUR *
//* DATA SETS *
//* 3. CHANGE xxxxxx TO THE VOLUME SERIAL OF THE DASD WHERE THE*
//* DATA SET WILL RESIDE *
//* *
//* EXPECTED RETURN CODE: THIS JOB SHOULD END WITH RETURN CODE *
//* ZERO *
//*****
//ALLOCATE EXEC PGM=IEFBR14
//SMPHOLD DD DSN=ncpzzzzz.SMPHOLD,VOL=SER=xxxxxx,
// DCB=(RECFM=FB,LRECL=80,BLKSIZE=8800,DSORG=PS),
// UNIT=SYSDA,DISP=(NEW,CATLG),SPACE=(8800,(5))
//SMPMTS DD DSN=ncpzzzzz.SMPMTS,VOL=SER=xxxxxx,
// DCB=(RECFM=FB,LRECL=80,BLKSIZE=8800),
// UNIT=SYSDA,SPACE=(8800,(757,30,512)),
// DISP=(NEW,CATLG)
```

Figure 68 (Part 1 of 2). JCL to Allocate Non-VSAM SMP/E Data Sets (Optional)

```

//SMPPTS DD DSN=ncpzxxxx.SMPPTS,VOL=SER=xxxxxx,
// DCB=(RECFM=FB,LRECL=80,BLKSIZE=8800),
// UNIT=SYSDA,SPACE=(8800,(500,30,250)),
// DISP=(NEW,CATLG)
//SMPSCDS DD DSN=ncpzxxxx.SMPSCDS,VOL=SER=xxxxxx,
// DCB=(RECFM=FB,LRECL=80,BLKSIZE=8800),
// UNIT=SYSDA,SPACE=(8800,(157,10,53)),
// DISP=(NEW,CATLG)
//SMPSTS DD DSN=ncpzxxxx.SMPSTS,VOL=SER=xxxxxx,
// DCB=(RECFM=FB,LRECL=80,BLKSIZE=8800),
// UNIT=SYSDA,SPACE=(8800,(150,10,99)),
// DISP=(NEW,CATLG)
//SMPLOG DD DSN=ncpzxxxx.SMPLOG,VOL=SER=xxxxxx,
// DCB=(LRECL=80,RECFM=VB,BLKSIZE=8800),
// UNIT=SYSDA,SPACE=(8800,(330,30)),
// DISP=(NEW,CATLG)
//*

```

Figure 68 (Part 2 of 2). JCL to Allocate Non-VSAM SMP/E Data Sets (Optional)

Expected Return Codes and Messages:

NONVSAM job ends with return code equal zero (RC=0).

C.2 Allocate the VSAM CSI Data Sets (Optional)

Sample job CSIALLOC allocates the SMP/E Consolidated Software Inventory (CSI) data set for NCP V7R8 MVS. See Figure 69 for the JCL to allocate the CSI data set.

```

//CSIALLOC JOB (account info),'pgmrs name',MSGLEVEL=(1,1)
//*****
/** IF YOU CHOOSE TO CREATE A NEW SMP/E ENVIRONMENT, THIS JOB *
/** ALLOCATES THE SMP/E CONSOLIDATED SOFTWARE INVENTORY (CSI) *
/** DATA SETS FOR NCP *
/** *
/** BEFORE USING THIS JOB, YOU WILL HAVE TO MAKE THE FOLLOWING *
/** MODIFICATIONS: *
/** *
/** 1. CHANGE THE JOB CARD TO MEET YOUR SYSTEM REQUIREMENTS *
/** 2. CHANGE ncpzxxxx TO THE HIGH LEVEL QUALIFIER FOR YOUR *
/** DATA SETS *

```

Figure 69 (Part 1 of 3). JCL to Allocate CSI Data Set (Optional)

```

/** 3. CHANGE xxxxxx TO THE VOLUME SERIAL OF THE DASD WHERE THE*
/** DATA SET WILL RESIDE *
/** 4. CHANGE catalog name TO THE CATALOG FOR THE VSAM CSI DATA*
/** SET *
/** *
/** EXPECTED RETURN CODE: THIS JOB SHOULD END WITH RETURN CODE *
/** ZERO *
/*******
//ALLOCATE EXEC PGM=IDCAMS
//ZPOOL DD DSN=SYS1.MACLIB(GIMZPOOL),DISP=SHR
//SYSPRINT DD SYSOUT=A
//SYSIN DD *
  DEFINE CLUSTER(
    NAME(ncpzxxx.GLOBAL.CSI)
    FREESPACE(10,5)
    KEYS(24 0)
    RECORDSIZE(24 143)
    SHAREOPTIONS(2,3)
    UNIQUE
    VOLUMES(xxxxxx)
  )
  DATA(
    NAME(ncpzxxx.GLOBAL.DATA)
    CONTROLINTERVALSIZE(4096)
    CYLINDERS(1 1)
  )
  INDEX(
    NAME(ncpzxxx.GLOBAL.INDEX)
    CYLINDERS(1 1)
    IMBED
  )
  CATALOG(catalog name)
  DEFINE CLUSTER(
    NAME(ncpzxxx.TZONE.CSI)
    FREESPACE(10,5)
    KEYS(24 0)
    RECORDSIZE(24 143)
    SHAREOPTIONS(2,3)
    UNIQUE
    VOLUMES(xxxxxx)
  )

```

Figure 69 (Part 2 of 3). JCL to Allocate CSI Data Set (Optional)

```

        DATA(
            NAME(ncpzxxxx.TZONE.DATA)
            CONTROLINTERVALSIZE(4096)
            CYLINDERS(10 1)
        )
        INDEX(
            NAME(ncpzxxxx.TZONE.INDEX)
            CYLINDERS(1 1)
            IMBED
        )
        CATALOG(catalog name)
DEFINE CLUSTER(
        NAME(ncpzxxxx.DZONE.CSI)
        FREESPACE(10,5)
        KEYS(24 0)
        RECORDSIZE(24 143)
        SHAREOPTIONS(2,3)
        UNIQUE
        VOLUMES(xxxxxx)
    )
        DATA(
            NAME(ncpzxxxx.DZONE.DATA)
            CONTROLINTERVALSIZE(4096)
            CYLINDERS(5 1)
        )
        INDEX(
            NAME(ncpzxxxx.DZONE.INDEX)
            CYLINDERS(1 1)
            IMBED
        )
        CATALOG(catalog name)
/*****
/* INITIALIZE THE CSI DATA SETS
*****/
REPRO OUTDATASET(ncpzxxxx.GLOBAL.CSI) INFILE(ZPOOL)
REPRO OUTDATASET(ncpzxxxx.TZONE.CSI) INFILE(ZPOOL)
REPRO OUTDATASET(ncpzxxxx.DZONE.CSI) INFILE(ZPOOL)
/**

```

Figure 69 (Part 3 of 3). JCL to Allocate CSI Data Set (Optional)

Expected Return Codes and Messages:

CSIALLOC job ends with return code equal zero (RC=0).

C.3 Initialize the VSAM CSI Data Sets (Optional)

Sample job CSIOPTS initializes the VSAM CSI dataset for NCP V7R8 MVS. See Figure 70 for the JCL to add necessary entries and utilities to SMP/E CSI data sets.

```
//CSIOPTS JOB (account info),'pgmrs name',MSGLEVEL=(1,1)
//*****
/* IF YOU CHOOSE TO CREATE A NEW SMP/E ENVIRONMENT, THIS JOB *
/* INITIALIZES THE SMP/E CONSOLIDATED SOFTWARE INVENTORY (CSI) *
/* DATA SETS FOR NCP *
/* *
/* BEFORE USING THIS JOB, YOU WILL HAVE TO MAKE THE FOLLOWING *
/* MODIFICATIONS: *
/* *
/* 1. CHANGE THE JOB CARD TO MEET YOUR SYSTEM REQUIREMENTS *
/* 2. CHANGE ncpzzzzz TO THE HIGH LEVEL QUALIFIER FOR YOUR *
/* DATA SETS *
/* 3. CHANGE ncptgt TO THE TARGET ZONE FOR NCP *
/* 4. CHANGE ncpdlib TO THE DISTRIBUTION ZONE FOR NCP *
/* 5. CHANGE smpe TO THE DSPREFIX FOR THE SMPPLIBS *
/* *
/* EXPECTED RETURN CODE: THIS JOB SHOULD END WITH RETURN CODE *
/* ZERO *
//*****
//INIT EXEC PGM=GIMSMP,PARM='DATE=U',REGION=4096K,
// TIME=1440
//SMPCSI DD DSN=ncpzzzzz.GLOBAL.CSI,DISP=SHR
//SMPLOG DD DSN=ncpzzzzz.SMPLOG,DISP=SHR
//SMPPTS DD DSN=ncpzzzzz.SMPPTS,DISP=SHR
//SMPCNTL DD *
SET BDY(GLOBAL) /* SETTING CSI UTILITIES AND PARAMETERS */
/*****
/* FOR ADDITIONAL INFORMATION, SEE SMP/E REFERENCE */
/* "CSI GLOBALZONE OPTIONS ENTRY" */
/* ALSO SEE "SYS1.SAMPLIB(GIMSAMPU)" */
/*****
.
UCLIN .
ADD GLOBALZONE /* SETUP ZONE DEFN ENTRY - GLOBAL ZONE */
SREL(P004) /* SREL VALUE */
OPTIONS(OPTNCP) /* DEFAULT OPTIONS ENTRY FOR NCP */
ZONEINDEX( /* ZONE INDICES */
(ncptgt,ncpzzzzz.TZONE.CSI,TARGET) /* NCP TARGET ZONE */
(ncpdlib,ncpzzzzz.DZONE.CSI,DLIB)) /* NCP DLIB ZONE */
```

Figure 70 (Part 1 of 2). JCL to Add Necessary Entries and Utilities to SMP/E CSI Data Sets (Optional)

```

ADD OPTIONS(OPTNCP)          /* - ADD AN OPTIONS ENTRY */
  DSPREFIX(smp)             /* DSN PREFIX FOR SMPTLIB DATA SETS */
  DSSPACE(500,100,500) /* SPACE ALLOC. SMPTLIB DATA SETS */
  NUCID(1)                  /* MVS ONLY OPERAND */
  PAGELN(58)                /* SETUP SMPOUT PAGELNGTH */
  PEMAX(8756)               /* SET LARGE PEMAX VALUE */
  NOPURGE                   /* RETAIN ALL SMP DATASETS */
  RETRYDDN(ALL) .          /* RETRY ALL COMPRESSES */
ADD UTILITY(IEWL)           /* LINKAGE EDITOR UTILITY */
  NAME(IEWL)                /* PROGRAM NAME */
  PARM(SIZE=(4096K,64K),LET,LIST,XREF,NCAL) . /* PARM */
ADD OPTIONS(OPTNCP)
  LKED(IEWL) .
ADD UTILITY(IEBCOPY)       /* COMPRESS UTILITY ENTRY */
  NAME(IEBCOPY) .          /* PROGRAM NAME */
ADD OPTIONS(OPTNCP)       /* CONNECT TO OPTIONS */
  COMP(IEBCOPY) .          /* COMPRESS INFO NOW HERE */
ENDUCL .
SET BDY(ncptgt) .         /* INITIALIZE TARGET ZONE */
UCLIN .
  ADD TARGETZONE(ncptgt)   /* SETUP ZONE DEFINITION ENTRY */
  SREL(P004)               /* SREL VALUE */
  RELATED(ncpdlib)         /* RELATED DLIB ZONE NAME */
  OPTIONS(OPTNCP) .       /* --- ADD AN OPTIONS ENTRY */
ENDUCL .
SET BDY(ncpdlib) .        /* INITIALIZE DLIB ZONE */
UCLIN .
  ADD DLIBZONE(ncpdlib)   /* SETUP ZONE DEFINITION ENTRY */
  SREL(P004)               /* SREL VALUE */
  RELATED(ncptgt)          /* RELATED TARGET ZONE NAME */
  OPTIONS(OPTNCP) .       /* --- ADD AN OPTIONS ENTRY */
ENDUCL .
SET BDY(GLOBAL) .         /* GO BACK TO GLOBAL ZONE */
LIST ALLZONES .           /* VERIFY CSI INITIALIZATION */
/*

```

Figure 70 (Part 2 of 2). JCL to Add Necessary Entries and Utilities to SMP/E CSI Data Sets (Optional)

Expected Return Codes and Messages:

CSIOPTS job ends with return code equal zero (RC=0).

C.4 Create DDDEF Entries for SMP/E Data Sets (Optional)

The following is an example of a job to create DDDEF entries for the SMP/E control data sets. See Figure 71 for the JCL to create SMP/E control data set DDDEF entries.

```
//DDDEF JOB (account info),'pgmrs name',MSGLEVEL=(1,1)
//*****
/** IF YOU CHOOSE TO CREATE A NEW SMP/E ENVIRONMENT, THIS JOB *
/** CREATES THE DDDEFS FOR THE SMP/E DATA SETS *
/** *
/** BEFORE USING THIS JOB, YOU WILL HAVE TO MAKE THE FOLLOWING *
/** MODIFICATIONS: *
/** *
/** 1. CHANGE THE JOB CARD TO MEET YOUR SYSTEM REQUIREMENTS *
/** 2. CHANGE ncpzzzzz TO THE HIGH LEVEL QUALIFIER FOR YOUR *
/** DATA SETS *
/** 3. CHANGE xxxxxx TO THE VOLUME SERIAL OF THE DASD WHERE THE*
/** DATA SET WILL RESIDE *
/** 4. CHANGE ncpdlib TO THE DISTRIBUTION ZONE FOR NCP *
/** 5. CHANGE ncptgt TO THE TARGET ZONE FOR NCP *
/** *
/** EXPECTED RETURN CODE: THIS JOB SHOULD END WITH RETURN CODE *
/** ZERO. IF ANY OF THE DDDEF ENTRIES ALREADY EXIST, THE JOB *
/** WILL END WITH RETURN CODE EIGHT. YOU WILL HAVE TO EXAMINE *
/** THE OUTPUT TO DETERMINE THE CAUSE OF THE NON-ZERO RETURN *
/** CODE. *
/** *****
/** ADD THE SMP LIBRARY DD NAMES TO THE GLOBAL ZONE *
/** *****
//GZONE EXEC PGM=GIMSMP,PARM='DATE=U',REGION=4096K,
// TIME=1440
//SMPOUT DD SYSOUT=A
//SYSPRINT DD SYSOUT=A
//SMPLOG DD DSN=ncpzzzzz.SMPLOG,DISP=SHR
//SMPPTS DD DSN=ncpzzzzz.SMPPTS,DISP=SHR
//SMPCSI DD DSN=ncpzzzzz.GLOBAL.CSI,DISP=SHR
```

Figure 71 (Part 1 of 4). JCL to Create SMP/E Control Data Set DDDEF Entries

```

//SMPCNTL DD *
  SET BDY(GLOBAL) .
  UCLIN .
  ADD DDDEF(SMPOUT)  SYSOUT(A) .
  ADD DDDEF(SYSPRINT) SYSOUT(A) .
  ADD DDDEF(SYSUT1)  UNIT(SYSDA) SPACE(15,5) CYL .
  ADD DDDEF(SYSUT2)  UNIT(SYSDA) SPACE(15,5) CYL .
  ADD DDDEF(SYSUT3)  UNIT(SYSDA) SPACE(15,5) CYL .
  ADD DDDEF(SYSUT4)  UNIT(SYSDA) SPACE(15,5) CYL .

  ADD DDDEF(SMPWRK1) UNIT(SYSDA) SPACE(2,1) DIR(5) DELETE
                    BLK(8800) .
  ADD DDDEF(SMPWRK2) UNIT(SYSDA) SPACE(2,1) DIR(5) DELETE
                    BLK(8800) .
  ADD DDDEF(SMPWRK3) UNIT(SYSDA) SPACE(2,1) DIR(20) DELETE
                    BLK(3200) .
  ADD DDDEF(SMPWRK4) UNIT(SYSDA) SPACE(2,1) DIR(5) DELETE
                    BLK(3200) .
  ADD DDDEF(SMPWRK6) UNIT(SYSDA) SPACE(9,1) DIR(500) DELETE
                    BLK(8800) .
  ADD DDDEF(SMPLOG)  DATASET(ncpzzzzz.SMPLOG) VOLUME(xxxxxx)
                    UNIT(SYSDA) MOD .
  ADD DDDEF(SMPHOLD) DATASET(ncpzzzzz.SMPHOLD) VOLUME(xxxxxx)
                    UNIT(SYSDA) MOD .
  ADD DDDEF(SMPMTS)  DATASET(ncpzzzzz.SMPMTS) VOLUME(xxxxxx)
                    UNIT(SYSDA) SHR .
  ADD DDDEF(SMPPTS)  DATASET(ncpzzzzz.SMPPTS) VOLUME(xxxxxx)
                    UNIT(SYSDA) SHR .
  ADD DDDEF(SMPSCDS) DATASET(ncpzzzzz.SMPSCDS) VOLUME(xxxxxx)
                    UNIT(SYSDA) SHR .
  ADD DDDEF(SMPSTS)  DATASET(ncpzzzzz.SMPSTS) VOLUME(xxxxxx)
                    UNIT(SYSDA) SHR .

  ENDUCL
  /*****
  /* ADD THE DISTRIBUTION LIBRARY DD NAMES TO THE DISTRIBUTION*/
  /* ZONE ***** */
  /*****

//DZONE EXEC PGM=GIMSMP,PARM='DATE=U',REGION=4096K,
//      TIME=1440
//SMPOUT DD SYSOUT=A
//SYSPRINT DD SYSOUT=A
//SMPLOG DD DSN=ncpzzzzz.SMPLOG,DISP=SHR
//SMPPTS DD DSN=ncpzzzzz.SMPPTS,DISP=SHR
//SMPCSI DD DSN=ncpzzzzz.GLOBAL.CSI,DISP=SHR

```

Figure 71 (Part 2 of 4). JCL to Create SMP/E Control Data Set DDDEF Entries

```

//SMPCNTL DD *
  SET BDY(ncpdlib) .
  UCLIN .
  ADD DDDEF(SMPOUT)  SYSOUT(A) .
  ADD DDDEF(SYSPRINT) SYSOUT(A) .
  ADD DDDEF(SYSUT1)  UNIT(SYSDA) SPACE(15,5) CYL .
  ADD DDDEF(SYSUT2)  UNIT(SYSDA) SPACE(15,5) CYL .
  ADD DDDEF(SYSUT3)  UNIT(SYSDA) SPACE(15,5) CYL .
  ADD DDDEF(SYSUT4)  UNIT(SYSDA) SPACE(15,5) CYL .

  ADD DDDEF(SMPWRK1) UNIT(SYSDA) SPACE(2,1) DIR(5) DELETE
                    BLK(8800) .
  ADD DDDEF(SMPWRK2) UNIT(SYSDA) SPACE(2,1) DIR(5) DELETE
                    BLK(8800) .
  ADD DDDEF(SMPWRK3) UNIT(SYSDA) SPACE(2,1) DIR(20) DELETE
                    BLK(3200) .
  ADD DDDEF(SMPWRK4) UNIT(SYSDA) SPACE(2,1) DIR(5) DELETE
                    BLK(3200) .
  ADD DDDEF(SMPWRK6) UNIT(SYSDA) SPACE(9,1) DIR(500) DELETE
                    BLK(8800) .
  ADD DDDEF(SMPLOG)  DATASET(ncpzzzzz.SMPLOG) VOLUME(xxxxxx)
                    UNIT(SYSDA) MOD .
  ADD DDDEF(SMPHOLD) DATASET(ncpzzzzz.SMPHOLD) VOLUME(xxxxxx)
                    UNIT(SYSDA) MOD .
  ADD DDDEF(SMPMPTS) DATASET(ncpzzzzz.SMPMPTS) VOLUME(xxxxxx)
                    UNIT(SYSDA) SHR .
  ADD DDDEF(SMPPTS)  DATASET(ncpzzzzz.SMPPTS) VOLUME(xxxxxx)
                    UNIT(SYSDA) SHR .
  ADD DDDEF(SMPSCDS) DATASET(ncpzzzzz.SMPSCDS) VOLUME(xxxxxx)
                    UNIT(SYSDA) SHR .
  ADD DDDEF(SMPSTS)  DATASET(ncpzzzzz.SMPSTS) VOLUME(xxxxxx)
                    UNIT(SYSDA) SHR .
  ADD DDDEF(SYSLIB)  CONCAT(SMPMPTS,SNCPMAC1) .
  ENDUCL
  /*****
  /* ADD THE DISTRIBUTION LIBRARY AND TARGET LIBRARY DD NAMES */
  /* TO THE TARGET ZONE */
  /*****
.
//TZONE EXEC PGM=GIMSMP,PARM='DATE=U',REGION=4096K,
// TIME=1440
//SMPOUT DD SYSOUT=A
//SYSPRINT DD SYSOUT=A
//SMPLOG DD DSN=ncpzzzzz.SMPLOG,DISP=SHR
//SMPPTS DD DSN=ncpzzzzz.SMPPTS,DISP=SHR
//SMPCSI DD DSN=ncpzzzzz.GLOBAL.CSI,DISP=SHR

```

Figure 71 (Part 3 of 4). JCL to Create SMP/E Control Data Set DDDEF Entries

```

//SMPCNTL DD *
  SET BDY(ncptgt) .
  UCLIN .
  ADD DDDEF(SMPOUT)  SYSOUT(A) .
  ADD DDDEF(SYSPRINT) SYSOUT(A) .
  ADD DDDEF(SYSUT1)  UNIT(SYSDA) SPACE(15,5) CYL .
  ADD DDDEF(SYSUT2)  UNIT(SYSDA) SPACE(15,5) CYL .
  ADD DDDEF(SYSUT3)  UNIT(SYSDA) SPACE(15,5) CYL .
  ADD DDDEF(SYSUT4)  UNIT(SYSDA) SPACE(15,5) CYL .

  ADD DDDEF(SMPWRK1) UNIT(SYSDA) SPACE(2,1) DIR(5) DELETE
                    BLK(8800) .
  ADD DDDEF(SMPWRK2) UNIT(SYSDA) SPACE(2,1) DIR(5) DELETE
                    BLK(8800) .
  ADD DDDEF(SMPWRK3) UNIT(SYSDA) SPACE(2,1) DIR(20) DELETE
                    BLK(3200) .
  ADD DDDEF(SMPWRK4) UNIT(SYSDA) SPACE(2,1) DIR(5) DELETE
                    BLK(3200) .
  ADD DDDEF(SMPWRK6) UNIT(SYSDA) SPACE(9,1) DIR(500) DELETE
                    BLK(8800) .
  ADD DDDEF(SMPLOG)  DATASET(ncpzxxxx.SMPLOG) VOLUME(xxxxxx)
                    UNIT(SYSDA) MOD .
  ADD DDDEF(SMPHOLD) DATASET(ncpzxxxx.SMPHOLD) VOLUME(xxxxxx)
                    UNIT(SYSDA) MOD .
  ADD DDDEF(SMPMPTS) DATASET(ncpzxxxx.SMPMPTS) VOLUME(xxxxxx)
                    UNIT(SYSDA) SHR .
  ADD DDDEF(SMPPTS)  DATASET(ncpzxxxx.SMPPTS) VOLUME(xxxxxx)
                    UNIT(SYSDA) SHR .
  ADD DDDEF(SMPSCDS) DATASET(ncpzxxxx.SMPSCDS) VOLUME(xxxxxx)
                    UNIT(SYSDA) SHR .
  ADD DDDEF(SMPSTS)  DATASET(ncpzxxxx.SMPSTS) VOLUME(xxxxxx)
                    UNIT(SYSDA) SHR .
  ADD DDDEF(SYSLIB)  CONCAT(SMPMPTS,SNCPMAC1) .
  ENDUCL .
//*

```

Figure 71 (Part 4 of 4). JCL to Create SMP/E Control Data Set DDDEF Entries

Expected Return Codes and Messages:

DDDEF job ends with return code equal zero (RC=0). If any of the DDDEF entries already exist, the DDDEF job will end with a return code of 8 (RC=8). Check the output to determine the cause of the non-zero return code.

C.5 Rejecting SMPTLIBs (Optional)

After your installation is complete you can cleanup the SMP/E refiles. If you kept the NOPURGE option in the sample CSIOPTS JCL (shown in Figure 70 on page 57), you can reject the SMPTLIBs using the JCL shown in Figure 72.

```
//NCPREJ JOB (account info),'pgmrs name',MSGLEVEL=(1,1)
//*****
/** IF YOU CHOOSE TO CREATE A NEW SMP/E ENVIRONMENT, THIS JOB *
/** DELETES SOME OF THE CONSOLIDATED SOFTWARE INVENTORY (CSI) *
/** ENTRIES FROM THE SMPTLIB DATA SETS. IT DOES NOT DELETE *
/** NCP V7R8, SSP V4R8, or NTUNEMON V2R6 FROM THE CSI. *
/** THIS JOB WILL DELETE: *
/**     GLOBAL ZONE SYSMOD ENTRIES *
/**     HOLDATA ENTRIES *
/**     SMPPTS MCS ENTRIES *
/**     ANY ASSOCIATED SMPTLIB ENTRIES *
/** *
/** BEFORE USING THIS JOB, YOU WILL HAVE TO MAKE THE FOLLOWING *
/** MODIFICATIONS: *
/** *
/** 1. CHANGE THE JOB CARD TO MEET YOUR SYSTEM REQUIREMENTS *
/** 2. CHANGE ncpzzzzz TO THE HIGH LEVEL QUALIFIER FOR YOUR *
/**     DATA SETS *
/** *
/** EXPECTED RETURN CODE: THIS JOB WILL END WITH A NONZERO *
/** RETURN CODE IF THE SMPTLIBS HAVE BEEN PURGED FOR HNC7802, *
/** HSP4480, or HRA2602. *
/*******
//      EXEC PGM=GIMSMP,PARM='DATE=U',REGION=4096K,
//          TIME=1440
//SMPDOUT DD SYSOUT=A
//SYSPRINT DD SYSOUT=A
//SMPCSI DD DSN=ncpzzzzz.GLOBAL.CSI,DISP=SHR
//SMPCNTL DD *
//          SET BDY(GLOBAL) .
//          REJECT S(HNC7802,HSP4480,HRA2602)
//          BYPASS(APPLYCHECK,ACCEPTCHECK) .
/**
```

Figure 72. JCL to Reject SMP/E Entries and SMPTLIB (Optional)

Expected Return Codes and Messages:

NCPREJ job ends with return code equal zero (RC=0), unless the SMPTLIB data sets have been purged.

Reader's Comments

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

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?

- Independent
- 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:

Please provide the following contact information:

Name and Job Title

Organization

Address

Telephone

Thank you for your participation.

Please send the completed form to (or give it to your IBM representative who will forward it to the Network Control Program Development group):

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>



Program Number: 5648-063 5801
5802
6498

Printed in U.S.A.

GI10-6594-00

