



# **Nearline Control Solution**

**(SMC, MVS/HSC, MVS/CSC, LibraryStation)**

## **Installation Guide**

**Release 5.1**

**313486002**

## Proprietary Information Statement

This document and its contents are proprietary to Storage Technology Corporation and may be used only under the terms of the product license or nondisclosure agreement. The information in this document, including any associated software program, may not be reproduced, disclosed or distributed in any manner without the written consent of Storage Technology Corporation.

## Limitations on Warranties and Liability

**This document neither extends nor creates warranties of any nature, expressed or implied.** Storage Technology Corporation cannot accept any responsibility for your use of the information in this document or for your use of any associated software program. You are responsible for backing up your data. You should be careful to ensure that your use of the information complies with all applicable laws, rules, and regulations of the jurisdictions in which it is used.

**Warning:** No part or portion of this document may be reproduced in any manner or in any form without the written permission of Storage Technology Corporation.

## Restrictive Rights

Use, duplication, or disclosure by the U.S. Government is subject to restrictions as set forth in subparagraph (c) (1) (ii) of the Rights in Technical Data and Computer Software clause at DFARS 252.227–7013 or subparagraphs (c) (1) and (2) of the Commercial Computer Software — Restricted Rights at 48 CFR 52.227–19, as applicable.

**First Edition, December 2002**

**Part Number 313486002**

**EC 128601**

This edition applies to Release 5.1 of the Nearline Control Solution (NCS) software. Information in this publication is subject to change. Comments concerning the contents of this publication should be directed to:

Storage Technology Corporation  
Manager, Software Information Development  
One StorageTek Drive  
Louisville, Colorado 80028-5209

or

sid@stortek.com

© 2002 Storage Technology Corporation. All rights reserved. StorageTek, the StorageTek logo and the following are trademarks or registered trademarks of Storage Technology Corporation:

StorageTek®  
Automated Cartridge System Library Software (ACSL)™  
Common Library Services (CLS)™  
Client System Component (CSC)™  
Host Software Component (HSC)™  
LibraryStation™  
TimberLine™  
Silverton™  
RedWood™

Other products and names mentioned herein are for identification purposes only and may be trademarks of their respective companies.

## Document Effectivity

---

EC Number	Date	Doc Kit Number	Type	Effectivity
128601	December, 2002	---	First Edition	This document applies to the Nearline Control Solution, Version 5.1.



# Contents

---

<b>What's New With This Release?</b> .....	<b>xi</b>
What's New with SMC Release 5.1? .....	xi
What's New with HSC Release 5.1? .....	xiii
What's New with MVS/CSC Release 5.1? .....	xv
What's New with LibraryStation Release 5.1? .....	xvi
<b>About this Guide</b> .....	<b>xvii</b>
Intended Audience .....	xviii
Reader's Comments .....	xviii
About the Software .....	xviii
Conventions Used in this Guide .....	xviii
Typographic .....	xviii
Symbols .....	xviii
How this Guide is Organized .....	xix
Related Publications .....	xx
Technical Support .....	xxi
<b>Chapter 1. Performing NCS Pre-installation Tasks</b> .....	<b>1</b>
Overview .....	1
NCS Pre-Installation Notes .....	2
Installation Materials .....	2
Migration and Coexistence Considerations .....	2
NCS Product License Keys .....	3
NCS Installation Base Tape Contents .....	4
NCS Installation Checklist .....	5
Verifying NCS Software and Hardware Requirements .....	6
NCS Software Requirements .....	6
NCS Hardware Requirements .....	8
Verifying NCS Virtual Storage Requirements .....	9
Verifying MVS Virtual Storage Requirements for the SMC .....	9
Verifying MVS Virtual Storage Requirements for HSC .....	9
Verifying MVS Virtual Storage Requirements for MVS/CSC .....	10
Reviewing the NCS FMIDs .....	11
Unloading the SMP/E JCL Library .....	12
Setting up the SMP/E Environment .....	13
NCS SMP/E Requirements .....	13

Defining and Initializing the SMP/E CSI .....	14
Allocating NCS Target and Distribution Library Data Sets .....	15
Adding Required DDDEFs for NCS Target and Distribution Library Data Sets .....	17
Updating the SYSLIB Concatenation .....	17
<b>Chapter 2. Installing the NCS Functions and JES3 Support Functions .....</b>	<b>19</b>
Overview .....	19
Receiving the NCS Base Functions and Communication Functions (SMP/E RECEIVE) .....	20
Installing the NCS Base Functions (SMP/E APPLY and ACCEPT) .....	20
Applying the NCS Base Functions (SMP/E APPLY) .....	20
Accepting the NCS Base Functions (SMP/E ACCEPT) .....	20
Installing the SMC JES3 Support Function (SMP/E DDDEF, APPLY and ACCEPT) .....	21
Allocating NCS JES3 Target and Distribution Library Data Sets .....	21
Adding Required DDDEFs for the NCS JES3 Target and Distribution Library Data Sets ..	22
Applying the SMC JES3 Support Function (SMP/E APPLY) .....	22
Accepting the SMC JES3 Support Function (SMP/E ACCEPT) .....	22
Installing NCS Product Maintenance .....	22
<b>Chapter 3. Performing SMC Post-installation Tasks .....</b>	<b>23</b>
Overview .....	23
Adding the SMC Load Library to the Authorized Program List .....	24
Using IEAAPFzz to authorize the SMC Load Library .....	24
Using PROGzz to authorize the SMC Load Library .....	24
Defining the SMC as an MVS Subsystem .....	25
Tape Management System Interaction and the Subsystem Name Table .....	26
Unicenter CA-MIA Interaction and the Subsystem Name Table .....	27
SMC, TMS, and Unicenter CA-MIA Interaction and the Subsystem Name Table .....	27
Running SMC under MSTR and the Subsystem Name Table .....	28
Notes on Subsystem Name Table Modifications for SMC .....	28
Modifying the MVS Program Properties Table for SMC .....	29
<b>Chapter 4. Performing JES3 Post-Installation Tasks .....</b>	<b>31</b>
Overview .....	31
Assembling and Link-editing the SMCERSLV module for SMC .....	32
Authorizing the SMZ Load Library .....	32
Load Module Access for SMC and JES3 .....	32
Using IEAAPFzz to Authorize the SMZ Load Library .....	33
Using PROGzz to Authorize the SMZ Load Library .....	33
Creating and Installing SMC Type 1 Modifications .....	34
Creating SMC Type 1 Modifications .....	34
Installing SMC Type 1 Modifications .....	36
Creating and Installing the JES3 IATUX09 User Exit Modification for SMC .....	38
Creating the JES3 IATUX09 User Exit Modification for SMC .....	38
Installing the JES3 IATUX09 User Exit Modification for SMC .....	39
Creating and Installing the JES3 IATUX71 User Exit Modification for SMC .....	40
Creating the JES3 IATUX71 User Exit Modification for SMC .....	40

Installing the JES3 IATUX71 User Modification for SMC .....	41
<b>Chapter 5. Performing HSC Post-installation Tasks .....</b>	<b>43</b>
Overview .....	43
Defining the HSC as an MVS Subsystem .....	44
Adding the HSC Load Library to the Authorized Program List .....	45
Using IEAAPFxx to authorize the HSC Load Library .....	45
Using PROGxx to authorize the HSC Load Library .....	45
Adding the HSC User Exit Library to the Authorized Program List .....	46
Copying or Moving the SLSBPRESI Module to an MVS LINKLIST Library .....	46
Modifying the MVS Program Properties Table for HSC .....	46
Adding SMF Parameters for the HSC .....	47
HSC SMF Record Subtypes .....	47
Re-assembling the SLUCONDB (Scratch Conversion) Modules .....	48
<b>Chapter 6. Performing MVS/CSC Post-installation Tasks .....</b>	<b>49</b>
Overview .....	49
Defining the MVS/CSC as an MVS Subsystem .....	50
Defining Multiple MVS/CSC Subsystems Running on the Same MVS Host System .....	51
Adding MVS/CSC Libraries to the Authorized Program List .....	52
Using IEAAPFyy to authorize the MVS/CSC Load Libraries .....	52
Using PROGyy to authorize the MVS/CSC Load Libraries .....	53
Adding the MVS/CSC User Exit Library to the Authorized Program List .....	53
Copying or Moving the SCSBPRESI Module to an MVS LINKLIST Library .....	54
Modifying the MVS Program Properties Table for MVS/CSC .....	54
Allocating MVS/CSC Event-Log and Trace Data Sets .....	54
<b>Chapter 7. Performing LibraryStation Post-Installation Tasks .....</b>	<b>55</b>
Overview .....	55
Adding LibraryStation Libraries to the Authorized Program List .....	56
Using IEAAPFxx to authorize the LibraryStation Load Libraries .....	56
Using PROGxx to authorize the LibraryStation Load Libraries .....	57
Defining the Persistent Data File (Optional) .....	57
PDF Data Set Names .....	59
Volume Location .....	59
Values for Record Keywords .....	59
<b>Appendix A. NCS Samples, Source Code Modules, and Macros .....</b>	<b>61</b>
Overview .....	61
Sample Installation JCL .....	62
SMC Base and JES3 Samples, Source Code Modules, and Macros .....	63
HSC Samples, Source Code Modules, and Macros .....	65
MVS/CSC Samples, Source Code Modules, and Macros .....	72
LibraryStation Samples and Source Code Modules .....	75

<b>Appendix B. Installing Product Maintenance</b> .....	<b>77</b>
Overview .....	77
Maintenance Installation Data Sets .....	77
Maintenance Tape Descriptions .....	77
SMP/E Sample JCL .....	78
SMP/E RECEIVE an Accumulated PTF Tape .....	78
SMP/E RECEIVE a PUT .....	78
SMP/E APPLY JCL .....	78
SMP/E ACCEPT JCL .....	79
Separate HELD HSC PTFs .....	79
<b>Index</b> .....	<b>83</b>

## Tables

---

Table 1.	NCS Release 5.1 Installation Tape Contents .....	4
Table 2.	NCS Target Library Data Sets .....	15
Table 3.	NCS Distribution Library Data Sets .....	16
Table 4.	NCS JES3 Target and Distribution Library Data Sets .....	21
Table 5.	Trace and Event-Log Data Sets .....	54
Table 6.	PDF Data Set Names .....	59
Table 7.	Sample Installation JCL Members .....	62
Table 8.	SMC Samples .....	63
Table 9.	SMC Source Code Modules .....	63
Table 10.	SMC Macros .....	64
Table 11.	HSC Samples .....	65
Table 12.	HSC Source Code Modules .....	67
Table 13.	HSC Macros .....	67
Table 14.	MVS/CSC Samples .....	72
Table 15.	MVS/CSC Source Code Modules .....	73
Table 16.	MVS/CSC Macros .....	74
Table 17.	LibraryStation Samples .....	75
Table 18.	LibraryStation Source Code Modules .....	75



## What's New With This Release?

---

NCS Release 5.1 provides support for:

- SMC Release 5.1
- HSC Release 5.1
- MVS/CSC Release 5.1
- LibraryStation Release 5.1

### What's New with SMC Release 5.1?

SMC Release 5.1 includes the following changes and enhancements:

- SMP/E APPLY and ACCEPT installation steps for SMC are now included in the NCSAPPLY and NCSACCEPT sample members, respectively.
- If SMC is not active on an MVS host, allocation influence does not occur, SMS esoteric substitution is not performed, and MVS messages are not intercepted.
- The SMC performs all SMS esoteric substitution for the NCS solution.
- The SMS parameter is added for the ALLOCDEF and ALLOCJOB operator commands. This parameter is used to enable or disable the DFSMS interface.
- The SMC intercepts MVS messages related to mount, dismount, and swap, and directs mount and dismount requests to the appropriate library subsystem (HSC or MVS/CSC) on the host.
  - The USERMsg operator command allows specification of additional messages to be intercepted and passed to the library subsystem's user exit 01. This command can also be used to list the message identifiers for those messages that the SMC intercepts by default.
- The TRace operator command is updated to allow tracing of individual components within jobs or the SMC subsystem.
- The LList operator command no longer requires a Length parameter when Address is specified. When no length is provided, a default value of 100 (decimal 256) is used.
- SMC drive prioritization now allocates drives by rotation to reduce excessive wear on any one particular drive.

- The NOSEPool parameter is no longer supported for the ALLOCDef or ALLOCJob operator commands.
- For drives outside the library, the SMC recognizes drive characteristics specified in UNITATTR statements, even if these drives are not defined in nonlibrary esoterics (SLIBRY NNLBDRV parameter).
- For Tape Management Systems that supply a subpool, this subpool is interpreted by the SMC and used as the requested subpool name, unless overridden by user exit 01 or a TAPEREQ statement.
- Message changes, additions and deletions.

## What's New with HSC Release 5.1?

HSC 5.1 includes the following changes and enhancements:

- SMP/E APPLY and ACCEPT installation steps for HSC are now included in the NCSAPPLY and NCSACCPT sample members, respectively.
- The ALLOC operator command no longer honors the following parameters:
  - Gdgall
  - SMSAcsr
  - SMSMod
  - Unitaff
  - UXPrms
  - X02sub
  - X08sub.

The SMC provides allocation functions. Refer to the *SMC Configuration and Administration Guide* for more information.

- The allocation and job processing components of the TRace operator command have been moved to the SMC TRACE command. Specifically, support has ended in the HSC for the ALLCdata parameter and the following component names:
  - ALlocati
  - JES3Aloc
  - JES3Dira
  - JES3Msgs
  - JES3Sep
  - Job.

Refer to the *SMC Configuration and Administration Guide* for more information.

- Swap processing is now controlled by the SMC. Refer to the *SMC Configuration and Administration Guide* for more information.
- Volume ranges can be specified either as alphabetic or numeric ranges for all commands and utilities that allow ranges to be entered.
- The Scratch Conversion utility compares tape management data base (TMC) scratch entries to volume and VTV entries in the CDS and scratches only volumes in the CDS that are not already in scratch status. Volumes that are already scratch or are not library or virtual volumes are ignored.
- The PGMI SLSXREQM macro has been modified to include the SLXEXLM0, SLXEXLM1, and SLXEXLM2 fields. These fields are used for ExLM license key verification.
- The Intercepted Messages List appendix, formerly Appendix B in the *HSC System Programmer's Guide*, has been moved to the *SMC Configuration and Administration Guide*. The SMC is now responsible for intercepting MVS, JES3, and TMS mount, dismount, and swap messages.

- Support for StorageTek's T9940B Cartridge Subsystem and T9940B cartridge for Open Systems clients.
- Message changes, additions and deletions.

## What's New with MVS/CSC Release 5.1?

MVS/CSC 5.1 includes the following changes and enhancements:

- SMP/E APPLY and ACCEPT installation steps for MVS/CSC are now included in the NCSAPPLY and NCSACCPT sample members, respectively.
- The following ALTER operator command parameters and/or MVS/CSC startup parameters are no longer honored:
  - ALOCtime
  - GDGAll
  - JES3set
  - SMSAcsr
  - SMSMOD
  - UNITAff
  - UXPrms
  - X02sub
  - X08sub
  - XJ3sub.

The SMC provides allocation functions. Refer to the *SMC Configuration and Administration Guide* for more information.

- The allocation and job processing components of the Trace operator command have been moved to the SMC TRACE command. Specifically, support has ended in the MVS/CSC for the ALLCdata parameter and the following component names:
  - AL (allocation enhancement)
  - JP (job processing)
  - J3 (JES3)

Refer to the *SMC Configuration and Administration Guide* for more information.

- Volume ranges can be specified either as alphabetic or numeric ranges for all commands and utilities that allow ranges to be entered.
- Message changes, additions and deletions.

## What's New with LibraryStation Release 5.1?

LibraryStation 5.1 includes the following changes and enhancements:

- SMP/E APPLY and ACCEPT installation steps for LibraryStation are now included in the NCSAPPLY and NCSACCPT sample members, respectively.
- Volume ranges can be specified either as alphabetic or numeric ranges for all commands and utilities that allow ranges to be entered.
- Support for StorageTek's T9940B Cartridge Subsystem and T9940B cartridge for Open Systems clients.

## About this Guide

---

This guide describes how to install the StorageTek® Nearline Control Solution (NCS) product components for the IBM® MVS operating system. NCS product components include the following:

### **Storage Management Component (SMC)**

SMC is the interface between IBM's OS/390 and z/OS operating systems and StorageTek real and virtual tape hardware. SMC performs the allocation processing, message handling, and SMS processing for the NCS solution. It resides on the MVS host system with HSC and/or MVS/CSC, and communicates with these products to determine policies, volume locations, and drive ownership. The SMC is a **required** NCS component.

### **Host Software Component (HSC)**

Host Software Component controls the Automated Cartridge System (ACS). It runs as a subsystem on MVS. The library database records cell status, characteristics, and disposition of all cartridges stored in the library.

### **Client System Component (MVS/CSC)**

MVS/CSC provides client functions and communications between an MVS host and the Library Control System (LCS) or server residing on another MVS or non-MVS host. When combined with the LCS, MVS/CSC allows the MVS client to perform automatic tape handling on a StorageTek library product. In addition, the library can be shared by multiple host systems (both IBM and non-IBM). The MVS/CSC also allows the library to be attached to more than 16 MVS hosts, with MVS/CSC installed on each attached host system.

### **LibraryStation**

LibraryStation provides a communications interface between HSC and a client system running on another host (either MVS or open systems), allowing network clients to access the library services of a StorageTek Automated Cartridge System (ACS) through the MVS host system. LibraryStation executes in the HSC address space on MVS.



**Note:** For the purposes of this publication, **HSC** refers to the **MVS** implementation of StorageTek's Host Software Component.

## Intended Audience

This publication is intended for those responsible for installing the NCS software products.

## Reader's Comments

We'd like to know what you think about this guide. E-mail your comments to Software Information Development directly. Our Internet address is:

`sid@stortek.com`

Be sure to include the number and title of the guide you are referencing.

## About the Software

NCS Release 5.1 is supported by this guide.

## Conventions Used in this Guide

### Typographic

In the JCL examples in this guide and the sample JCL provided on the installation tape, some fields appear in lower case. You must update these fields to match your installation requirements.

### Symbols

The following symbols are used to highlight text in this guide:



**Note:** Information that may be of special interest to you. Notes are also used to point out exceptions to rules or procedures.



**Warning:** Information necessary to keep you from damaging your hardware or software.

## How this Guide is Organized

This guide contains the following chapters and appendices:

- **Chapter 1, “Performing NCS Pre-installation Tasks”** describes the pre-installation tasks for the SMC, HSC, MVS/CSC and LibraryStation products.
- **Chapter 2, “Installing the NCS Functions and JES3 Support Functions”** describes the installation tasks used to install the SMC, HSC, MVS/CSC, and LibraryStation base functions in the same SMP/E Consolidated System Inventory (CSI) zone. It also describes the installation tasks for the SMC JES3 support function.
- **Chapter 3, “Performing SMC Post-installation Tasks”** describes the post-installation tasks required to complete SMC installation.
- **Chapter 4, “Performing JES3 Post-Installation Tasks”** describes the post-installation tasks for JES3 environments running with TAPE SETUP processing.
- **Chapter 5, “Performing HSC Post-installation Tasks”** describes the post-installation tasks required to complete HSC installation.
- **Chapter 6, “Performing MVS/CSC Post-installation Tasks”** describes the post-installation tasks required to complete MVS/CSC installation.
- **Chapter 7, “Performing LibraryStation Post-Installation Tasks”** describes the post-installation tasks required to complete LibraryStation installation.
- **Appendix A, “NCS Samples, Source Code Modules, and Macros”** describes the samples, load modules, and macros included on the installation base tape.
- **Appendix B, “Installing Product Maintenance”** includes information used to install NCS maintenance.

An index is also included.

## Related Publications

The following publications may be included in this package, depending on which NCS product components you ordered:

### **StorageTek Nearline Control Solution (NCS) Publications**

- *NCS (SMC, HSC, MVS/CSC, LibraryStation) Installation Guide*
- *Requesting Help from Software Support*

### **StorageTek Storage Management Component (SMC) Publications**

- *SMC Configuration and Administration Guide*

### **StorageTek Host Software Component (MVS/HSC) Publications**

- *MVS/HSC Configuration Guide*
- *MVS/HSC Operator's Guide*
- *MVS/HSC System Programmer's Guide*
- *MVS/HSC Messages and Codes Guide*

### **StorageTek Client System Component (MVS/CSC) Publications**

- *MVS/CSC Configuration Guide*
- *MVS/CSC Operator's Guide*
- *MVS/CSC System Programmer's Guide*
- *MVS/CSC Messages and Codes Guide*

### **StorageTek LibraryStation Publications**

- *LibraryStation Configuration Guide*
- *LibraryStation Operator and System Programmer's Guide*
- *LibraryStation Messages and Codes Guide*

### **StorageTek Virtual Storage Manager Publications**

- *VTCS Installation and Configuration Guide*
- *VTCS Administration Guide*
- *VTCS Messages and Codes Guide*
- *VTCS Reference*

## Technical Support

StorageTek Software Support and the StorageTek Customer Resource Center (CRC) maintain information about known NCS Release 5.1 product updates. You can contact Software Support or access the CRC for the latest information available concerning product updates (i.e. documentation, PTFs, PUTs).

See the *Requesting Help from Software Support* guide (included in the NCS package) for information about contacting StorageTek for technical support or to request changes to software products. Or, access StorageTek's CRC homepage at:

<http://www.support.storagetek.com>



**Note:** You must obtain a login ID and password in order to access the CRC. You can request a login ID and password from the CRC homepage.



# Chapter 1. Performing NCS Pre-installation Tasks

---

## Overview

This chapter describes the tasks required to create SMP/E target and distribution zones in preparation for NCS installation.

The following topics are included:

- Pre-installation notes
- Installation base tape contents
- NCS installation checklist
- Verifying NCS software and hardware requirements
- Verifying NCS virtual storage requirements
- Reviewing the NCS FMIDs
- Unloading the SMP/E JCL library
- Setting up the SMP/E environment
- Allocating the NCS target and distribution library data sets
- Adding required DDDEFs for NCS target and distribution library data sets
- Updating the SYSLIB concatenation

# NCS Pre-Installation Notes

## Installation Materials

Included in this package are materials for Release 5.1 of the StorageTek Nearline Control Solution (NCS). These materials include the following:

- NCS 5.1 Installation Base Tape
- Accumulated PTF tape (if applicable), which contains all SMC, HSC, MVS/CSC, and LibraryStation PTFs since the base tape was created, or since the last Product Update Tape (PUT).
- PUT (if applicable), which contains SMC, HSC, MVS/CSC, and LibraryStation maintenance.



### Notes:

- Contact StorageTek Software Support for information about additional PTFs that might be required before installing the NCS product components. See the *Requesting Help from Software Support* guide for information about contacting StorageTek for technical support and for requesting changes to software products.
- If you are using HSC or MVS/CSC, the SMC software **must** be installed.
- If you plan to use StorageTek's Virtual Storage Manager (VSM) system in your NCS environment, refer to the VTCS documentation for installation and configuration considerations.

## Migration and Coexistence Considerations

If you are migrating from a previous NCS software release, study the appropriate migration and coexistence guidelines:

- For SMC, there are no specific migration requirements. However, SMC 5.1 requires that **all** other NCS software products executing on the same host also be at release 5.1.
- For HSC, see the "Migration and Coexistence" appendix in the *MVS/HSC Configuration Guide*.
- For LibraryStation, see the "Migration and Coexistence" appendix in the *LibraryStation Configuration Guide*.
- For MVS/CSC, see the "Migration and Coexistence" appendix in the *MVS/CSC Configuration Guide*.

## NCS Product License Keys

Once installed, certain NCS software products require license keys in order to initialize. License keys are **required** for the following products:

- HSC
- MVS/CSC
- LibraryStation

License keys are validated during initialization and immediately after midnight each day. The products listed above will **not** initialize without a valid license key.

License keys can be obtained through the StorageTek Customer Resource Center (CRC) at [www.support.storagetek.com](http://www.support.storagetek.com), or by contacting your StorageTek Software Manufacturing and Distribution Representative, Marketing Representative, or Systems Engineer. License keys are generally issued within 48 hours of request receipt.

Once a license key is assigned by StorageTek, you must make the license key information available to the HSC and/or MVS/CSC license key validation service.

- See the *HSC Configuration Guide* for information about configuring HSC and LibraryStation license keys.
- See the *MVS/CSC Configuration Guide* for information about configuring the MVS/CSC license key.

## NCS Installation Base Tape Contents

NCS Release 5.1 (including SMC, HSC, MVS/CSC, and LibraryStation) is distributed on a single standard label tape with a volume serial number of OS5100.

The following table lists the files included on this tape.

**Table 1. NCS Release 5.1 Installation Tape Contents**

<b>File</b>	<b>Data Set Name</b>	<b>Description</b>
1	SMPMCS	SMP/E control statements
2	SOS5100.F1	SOS5100 JCLIN
3	SOS5100.F2	SOS5100 samples
4	SOS5100.F3	SOS5100 source modules
5	SOS5100.F4	SOS5100 object modules
6	SCS5100.F1	SCS5100 JCLIN
7	SCS5100.F2	SCS5100 samples
8	SCS5100.F3	SCS5100 source modules
9	SCS5100.F4	SCS5100 object modules
10	SMC5100.F1	SMC5100 JCLIN
11	SMC5100.F2	SMC5100 samples
12	SMC5100.F3	SMC5100 object modules
13	SMZ5100.F1	SMZ5100 JCLIN
14	SMZ5100.F2	SMZ5100 samples
15	SMZ5100.F3	SMZ5100 macros
16	SMZ5100.F4	SMZ5100 source modules
17	SMZ5100.F5	SMZ5100 object modules
18	SOC5100.F1	SOC5100 JCLIN
19	SOC5100.F2	SOC5100 macros, samples and source modules
20	SOC5100.F3	SOC5100 object modules
21	SSCR65B.F1	SSCR65B JCLIN
22	SSCR65B.F2	SSCR65B object modules
23	SSCR65C.F1	SSCR65C JCLIN
24	SSCR65C.F2	SSCR65C object modules

## NCS Installation Checklist

Use the following checklist to verify that you have completed all NCS installation tasks.



### Notes:

- If you are using HSC or MVS/CSC, the SMC software **must** be installed.
- Sample members beginning with “NCS” contain steps for **all** NCS products. If you are **not** installing all products, edit these members as directed in the comments to install only the desired products.
- Sample members specified for steps 5-13 are included in the SMP/E JCL library (see page 12).
- Shaded steps apply **only** to JES3 environments. There are no longer specific JES3 components and installation processes for the HSC and MVS/CSC. **All** JES3 dependent processing is performed by the SMC.
- Region size in the sample NCS SMP/E JCL members is set to 5M. Verify that this region size is available on your system. If this size is not available, update the sample NCS SMP/E JCL members to change the region size to a suitable value.

Step	Description	Page	Sample Member Name	Notes
1	Verify NCS software and hardware requirements	6		
2	Verify NCS virtual storage requirements	9		
3	Review the NCS FMIDs	11		
4	Unload the SMP/E JCL Library	12		
5	Define and initialize the SMP/E CSI	14	ALLOCCSI	
6	Allocate the NCS target and distribution library data sets and their required DDDEF entries	15	NCSDDDEF	
7	Update the SYSLIB concatenation	17	ALLSYSLB	
8	RECEIVE the desired NCS functions and communication functions	20	NCSRECV	
9	APPLY the desired NCS functions	20	NCSAPPLY	
10	ACCEPT the desired NCS functions	20	NCSACCPT	
11	Allocate the SMC JES3 target and distribution library data sets and their required DDDEF entries	21	NCSJ3DEF	
12	APPLY the SMC JES3 support function	22	NCSJ3APP	
13	ACCEPT the SMC JES3 support function	22	NCSJ3ACC	
14	If applicable, install product maintenance	22		
15	Proceed with the post-installation tasks described in Chapters 3-7 to complete your installation			

# Verifying NCS Software and Hardware Requirements

The following sections list NCS software and hardware requirements.

## NCS Software Requirements

This section lists the NCS software requirements.

### Operating System Requirements

JES2 Environment	JES3 Environment
<ul style="list-style-type: none"><li>All IBM-supported versions of OS/390 and z/OS</li></ul> <p><b>Note:</b> If using TCP/IP, OS/390 version 2.7 or later is recommended.</p>	<ul style="list-style-type: none"><li>JES3 (All IBM-supported versions of OS/390 and z/OS)</li></ul> <p><b>Note:</b> If using TCP/IP, OS/390 version 2.7 or later is recommended.</p>

### Software Requirements

- SMC Release 5.1
- HSC Release 5.1
- MVS/CSC Release 5.1
- LibraryStation Release 5.1

## Communications Software Requirements

The following sections list the NCS communications software requirements.

### Client to Server Connection (MVS/CSC and LibraryStation) Software Requirements

TCP/IP*	SNA LU 6.2*	XCF*
<ul style="list-style-type: none"><li>• IBM TCP/IP Release 3.1 or higher</li><li>• Interlink TCPAccess Release 4.1 or higher</li><li>• Interlink CISCO IOS for OS/390 Release 1.0 or higher</li></ul>	<ul style="list-style-type: none"><li>• IBM ACF/VTAM Version 3.4.2 or higher</li><li>• IBM APPC/MVS communication services</li></ul>	<ul style="list-style-type: none"><li>• IBM XCF services</li></ul>

\* See your communications software documentation for specific communications hardware requirements.

### HSC Server System Communications Software Requirements

- IBM ACF/VTAM 3.4.2 or higher
- LMU Microcode Release 1.5.x or higher is required for multiple-level host-to-host communications.

## NCS Hardware Requirements

The following sections describe NCS hardware requirements.

### Processor Requirements

- IBM or IBM-compatible processor running MVS (any IBM-supported version of OS/390 and z/OS)

### Library Hardware Requirements

#### StorageTek ACSs

4400 ACS	9360 stand-alone ACS	9740 ACS
<ul style="list-style-type: none"><li>• Library Storage Modules (LSMs)—4410 (standard), 9310 (PowderHorn), or 9360 (WolfCreek)</li><li>• Library Control Units (LCUs)</li><li>• Library Management Unit (LMUs)*</li><li>• Cabling for LMUs to the LCUs and LCS</li></ul>	<ul style="list-style-type: none"><li>• LSMs—9360 (WolfCreek)</li><li>• Integrated LMU*</li></ul>	<ul style="list-style-type: none"><li>• LSMs—9740 (TimberWolf)**</li><li>• Integrated LMU*</li></ul>

\* LMU Microcode Release 1.5.x or higher is required.

\*\* LMU Microcode Release 1.6.x or higher is required for 9740 LSM and 9840 transport support.

#### StorageTek Tape Cartridge Subsystems

- 4480 Cartridge Subsystem (18-track)
- Silverton 4490 Cartridge Subsystem (36-track)
- TimberLine 9490 Cartridge Subsystem (36-track)
- TimberLine 9490EE Cartridge Subsystem (36-track)
- RedWood SD-3 Cartridge Subsystem (helical)
- 9840 Cartridge Subsystem
- T9840B Cartridge Subsystem
- T9940A Cartridge Subsystem

## Verifying NCS Virtual Storage Requirements

The following sections describe NCS virtual storage requirements.

### Verifying MVS Virtual Storage Requirements for the SMC

Virtual storage requirements for the SMC are defined as follows:

- In JES2, approximately 2.8 MB of ECSA above the 16M line for load modules and data structures.
- In JES3, an additional 800K of ECSA above the 16M line.
- There are no CSA requirements below the 16M line.



**Note:** The actual amount of ECSA varies slightly based on the size of the library and number of transports defined to MVS.

### Verifying MVS Virtual Storage Requirements for HSC

Virtual storage requirements for the HSC are defined as follows:

- Approximately 215K of ECSA above the 16M line for load modules and data structures.
- Approximately 20K of CSA below the 16M line for some load modules and data structures.
- An additional amount of ECSA above the line is dynamically acquired and released during operation of the HSC. The actual amount varies with the activity and size of the library, but would rarely, if ever, exceed an additional 10K.



**Notes:**

- The requirements listed above do not include storage space for Schedule Request Blocks.
- The actual amount of ECSA varies with the activity and size of the library, and the number of cartridge transports defined to MVS.
- You may also need to increase the amount of CSA when installing maintenance tapes, software enhancements, or new releases of the HSC.
- Approximately 400 bytes of the below-the-line CSA storage is located in subpool 228 (FIXED).
- To relieve the below-the-line CSA constraint and save approximately 16K of below-the-line CSA, place the following modules in an LPALIB:
  - SLSSPARS
  - SLSWMRT

## Verifying MVS Virtual Storage Requirements for MVS/CSC

Virtual storage requirements for the MVS/CSC are defined as follows:

- Approximately 200K of ECSA above the 16M line for load modules and data structures.
- Approximately 34K of CSA below the 16M line for some load modules and data structures.
- An additional amount of ECSA above the line is dynamically acquired and released during operation of the MVS/CSC and HSC. The actual amount varies with the activity and size of the library, but would rarely, if ever, exceed an additional 10K.



### Notes:

- The actual amount of ECSA varies with the activity and size of the library, and the number of cartridge transports defined to MVS.
- You may also need to increase the amount of CSA when installing maintenance tapes, software enhancements, or new releases of the MVS/CSC.

## Reviewing the NCS FMIDs

The NCS software product is packaged in standard SMP/E format. NCS is delivered as multiple function SYStem MODifications (SYSMODs). NCS Release 5.1 includes the following SMP/E FMIDs:

### **SMC5100**

The SMC5100 function contains the SMC load modules and samples.

### **SMZ5100**

The SMZ5100 function contains the SMC JES3 support load modules, distributed macros, and samples for MVS systems running JES3 Release 5.2.1, JES3 OS/390 Release 1.1 and higher, or JES3 z/OS Release 1.0 and higher.

### **SOS5100**

The SOS5100 function contains the HSC load modules, distributed macros, and HSC samples.

### **SCS5100**

The SCS5100 function contains the MVS/CSC load modules, distributed macros, and MVS/CSC samples.

### **SOC5100**

The SOC5100 function contains the LibraryStation load modules and samples.

### **SSCR65B**

The SSCR65B function contains network connectivity support required for MVS/CSC and/or LibraryStation.

### **SSCR65C**

The SSCR65C function contains C runtime support required for MVS/CSC and/or LibraryStation.



**Note:** The SMZ5100 FMID applies **only** to JES3 environments.

## Unloading the SMP/E JCL Library

Use the JCL example below to unload the SMP/E JCL members from file 2 of the NCS installation base tape to your SMP/E JCL library. These sample JCL members contain installation and maintenance examples.



**Note:** In the JCL examples in this document and the sample JCL provided on the installation base tape, some fields appear in lower case. These fields must be updated to match your installation requirements.

```
//jobname JOB your jobcard parameters
//UNLOAD EXEC PGM=IEBCOPY
//INDD DD DSN=SOS5100.F1,DISP=SHR,
// UNIT=tape-unit,VOL=SER=OS5100,LABEL=(2,SL)
//OUTDD DD DSN=your.smpe.jcllib,DISP=(NEW,CATLG),
// UNIT=SYSALLDA,
// SPACE=(TRK,(5,1,4)),
// DCB=(RECFM=FB,LRECL=80,BLKSIZE=3120)
//SYSPRINT DD SYSOUT=*
//SYSIN DD *
C I=INDD,O=OUTDD
E M=SOS5100
/*
```

## Setting up the SMP/E Environment

This section describes how to set up the SMP/E environment for installation of the NCS base functions and SMC JES3 support function. If you are installing maintenance, see Appendix B, “Installing Product Maintenance” on page 77.

The NCS products are installed using SMP/E. The SMP/E installation process involves RECEIVING, APPLYING, and ACCEPTING functions to install the NCS product components into the correct SMP/E target and distribution zones.



**Note:** StorageTek recommends that you SMP/E ACCEPT all NCS base product components.

### NCS SMP/E Requirements

SMP/E requirements for installing the NCS product components include the following:

- NCS **must** be installed with SMP/E. All installation instructions in this guide are based on SMP/E.
- StorageTek recommends that you install all NCS Release 5.1 product components (SMC 5.1, HSC 5.1, MVS/CSC 5.1, and LibraryStation 5.1) together in a new SMP/E CSI.
- Products from other vendors should **not** be installed in the same SMP/E CSI as NCS.



#### **Warning:**

- If you install an NCS Release 5.1 product component in an SMP/E CSI containing a previous release of that product, the previous release is deleted from the target and distribution zones. In addition, all SYSMODS for the previous release are deleted from the SMP/E CSI.
- Do **not** install LibraryStation Release 5.1 or MVS/CSC Release 5.1 and supportive SAS/C functions in an SMP/E CSI containing other StorageTek products with SAS/C functions you wish to preserve. Doing so may cause unpredictable results.

## Defining and Initializing the SMP/E CSI

You must define and initialize the SMP/E CSI. An example is contained in member ALLOCCSI of file 2 on the NCS installation base tape. Follow the instructions included in the comments of the ALLOCCSI member and run the job to define and initialize the SMP/E CSI.

Defining and initializing the SMP/E CSI includes the following steps.

1. Define the required SMP/E data sets.
2. Define the Consolidated Software Inventory (CSI) data set that contains the SMP/E global, target, and distribution zones for this release.
3. Initialize the SMP/E CSI.
4. Add zones, options, utilities, and DDDEF entries to the SMP/E CSI.

## Allocating NCS Target and Distribution Library Data Sets

You must allocate the NCS target and distribution library data sets shown in the following two tables, and add DDDEFs to the SMP/E CSI prior to installing NCS. An example is contained in member NCSDDDEF of file 2 on the NCS installation base tape. The numbers listed for directory blocks and blocks are the minimum required for the product.

**Table 2. NCS Target Library Data Sets**

Data Set Name	DSORG	RECFM	LRECL	BLKSIZE	Blocks	Directory Blocks
ncs_510.SMCLINK	PO	U	-	32760	400/30	30
ncs_510.SMCMAC	PO	FB	80	23440	20/10	5
ncs_510.SMCSAMP	PO	FB	80	23440	20/10	5
ncs_510.SLSLINK	PO	U	-	32760	300/30	100
ncs_510.SLSMAC	PO	FB	80	23440	100/50	50
ncs_510.SLSSAMP	PO	FB	80	23440	100/50	20
ncs_510.SACLINK	PO	U	-	32760	200/10	100
ncs_510.CSLLINK	PO	U	-	32760	50/10	20
ncs_510.SCSLINK	PO	U	-	32760	500/100	100
ncs_510.SCSMAC	PO	FB	80	23440	30/10	5
ncs_510.SCSSAMP	PO	FB	80	23440	30/10	5
ncs_510.SLCLINK	PO	U	-	32760	500/100	50
ncs_510.SLCSAMP	PO	FB	80	23440	30/10	5

**Table 3. NCS Distribution Library Data Sets**

Data Set Name	DSORG	RECFM	LRECL	BLKSIZE	Blocks	Directory Blocks
ncs_510.ASMCLINK	PO	U	-	32760	400/30	30
ncs_510.ASMCMAC	PO	FB	80	23440	20/10	5
ncs_510.ASMCSAMP	PO	FB	80	23440	20/10	5
ncs_510.ASLSLINK	PO	U	-	32760	300/30	200
ncs_510.ASLSMAC	PO	FB	80	23440	100/50	20
ncs_510.ASLSSAMP	PO	FB	80	23440	100/50	20
ncs_510.ASACLINK	PO	U	-	32760	200/10	100
ncs_510.ACSSLINK	PO	U	-	32760	50/10	20
ncs_510.ASCSLINK	PO	U	-	32760	500/100	100
ncs_510.ASCSMAC	PO	FB	80	23440	30/10	5
ncs_510.ASCSSAMP	PO	FB	80	23440	30/10	5
ncs_510.ASLCLINK	PO	U	-	32760	500/100	50
ncs_510.ASLCSAMP	PO	FB	80	23440	30/10	5



**Notes:**

- The tables in this chapter include ncs\_510 as the high-level qualifier for data sets. You can change the high-level qualifiers to conform to the naming conventions defined for your installation.
- The SMP/E DSSPACE parameter, which specifies the amount of space to be allocated to temporary RELFILE data sets, must be set to at least 150,100,150.

## Adding Required DDDEFs for NCS Target and Distribution Library Data Sets

For each product being installed, DDDEF entries are required for target and distribution libraries. An example for allocating these files and adding the DDDEF entries to the SMP/E CSI is contained in member NCSDDDEF of file 2 on the installation base tape.

The DDnames required for each DDDEF entry match the last qualifier of the data set name. For example, for data set ncs\_510.SMCLINK, the corresponding DDname is SMCLINK.

## Updating the SYSLIB Concatenation

Different versions of MVS/ESA JES3, and multiple tape management systems (for example TLMS and CA-1) are supported. Therefore, certain DDDEF entries must be added to the SMP/E CSI, and the SYSLIB concatenation must be modified to include the appropriate macro libraries.

An example for adding the required DDDEF entries to the SMP/E CSI and modifying the SYSLIB concatenation is contained in member ALLSYSLB of file 2 on the NCS installation base tape. Follow the instructions included in the prologue of ALLSYSLB and run the job to add the required DDDEF entries and modify the SYSLIB concatenation.



## Chapter 2. Installing the NCS Functions and JES3 Support Functions

---

### Overview

This chapter describes the tasks required to install the NCS base functions and JES3 support functions.

The following topics are included:

- Receiving the NCS base functions (SMP/E RECEIVE)
- Installing the NCS base functions (SMP/E APPLY and ACCEPT)
- Optionally, installing the NCS JES3 support functions (SMP/E DDDEF, APPLY and ACCEPT)
- Installing product maintenance

Before installing the NCS functions, verify that you have completed the pre-installation tasks described in Chapter 1, “Performing NCS Pre-installation Tasks” on page 1.

After completing the installation tasks described in this chapter, proceed with the post-installation tasks for each product being installed.

- **Chapter 3, “Performing SMC Post-installation Tasks”** describes the post-installation tasks required to complete SMC installation.
- **Chapter 4, “Performing JES3 Post-Installation Tasks”** describes the post-installation tasks for JES3 environments running with TAPE SETUP processing.
- **Chapter 5, “Performing HSC Post-installation Tasks”** describes the post-installation tasks required to complete HSC installation.
- **Chapter 6, “Performing MVS/CSC Post-installation Tasks”** describes the post-installation tasks required to complete MVS/CSC installation.
- **Chapter 7, “Performing LibraryStation Post-Installation Tasks”** describes the post-installation tasks required to complete LibraryStation installation.

## Receiving the NCS Base Functions and Communication Functions (SMP/E RECEIVE)

You must issue the SMP/E RECEIVE function to receive the functions you want to install into the target and distribution zones. You can use the NCSRECV sample member provided on file 2 of the NCS installation base tape, or the SMP/E Sysmod Management panels to receive the functions. See “Reviewing the NCS FMIDs” on page 11 for a list of NCS SMP/E FMIDs.

Follow the instructions in the prologue of the NCSRECV sample member and run the job to receive the functions you wish to install.



**Note:** If you install an NCS 5.1 product component in an SMP/E CSI containing a previous release of that product, the previous release is deleted from the target and distribution zones. In addition, all SYSMODS for the previous release are deleted from the SMP/E CSI. If you choose to do this, StorageTek recommends that you backup the NCS SMP/E CSI prior to installing the NCS 5.1 product components.

## Installing the NCS Base Functions (SMP/E APPLY and ACCEPT)

The following sections describe the procedures for installing the NCS base functions into the appropriate target and distribution zone.

### Applying the NCS Base Functions (SMP/E APPLY)

You can use the NCSAPPLY sample provided on file 2 of the NCS installation base tape, or the SMP/E Sysmod Management panels to install the NCS base functions into the appropriate target zone.

Follow the instructions in the prologue of the sample member and run the steps to install the functions into the target zone. The return code must be zero (0) for all steps executed in this job. If you receive a different return code, contact StorageTek Software Support.



**Note:** You can use the APPLY CHECK option as often as necessary to identify SMP/E processing problems before the actual APPLY process. All SMP/E detected problems must be resolved before the base functions can be successfully installed.

### Accepting the NCS Base Functions (SMP/E ACCEPT)

You can use the NCSACCPT sample provided on file 2 of the NCS installation base tape, or the SMP/E Sysmod Management panels to accept the NCS base functions into the appropriate distribution zone.



**Note:** You can use the ACCEPT CHECK option as often as necessary to identify SMP/E processing problems before the actual ACCEPT process. All SMP/E detected problems must be resolved before the base functions can be successfully installed.

## Installing the SMC JES3 Support Function (SMP/E DDDEF, APPLY and ACCEPT)

SMC provides support for JES3 with tape setup. Before proceeding with the JES3 support steps, ensure that you have done the following:

- SMP/E RECEIVE the JES3 FMID SMZ5100 (sample NCSRECV)
- Insert the correct JES3 macro library name in the SMP/E SYSLIB DDDEF (sample ALLSYSLB)
- SMP/E ACCEPT the SMC base function
- SMP/E APPLY all maintenance to the SMC base function
- If installing the SMC JES3 support function as shown in the NCSJ3DEF sample member (with the ASSEM option), an assembly and link-edit of the SMCERSLV module is automatically performed. When SMP/E processing assembles SMCERSLV, the symbol table may run out of space. To avoid this problem, add the following option to the SMP/E global zone utility options for ASMA90:

```
SIZE(MAX,ABOVE)
```

This allows SMP/E to utilize storage above the 16M line for the symbol table.

### Allocating NCS JES3 Target and Distribution Library Data Sets

You must allocate the NCS JES3 target and distribution library data sets shown in the following table, and add the DDDEFs to the SMP/E CSI prior to installing the NCS JES3 functions. An example is contained in member NCSJ3DEF of file 2 on the NCS installation base tape. The numbers listed for directory blocks and blocks are the minimum required for the product.

**Table 4. NCS JES3 Target and Distribution Library Data Sets**

Data Set Name	DSORG	RECFM	LRECL	BLKSIZE	Blocks	Directory Blocks
ncs_510.SMZLINK	PO	U	-	32760	20/10	5
ncs_510.ASMZLINK	PO	U	-	32760	20/10	5

## **Adding Required DDDEFs for the NCS JES3 Target and Distribution Library Data Sets**

DDDEF entries are required for NCS JES3 target and distribution libraries. An example for allocating the target and distribution libraries and adding the DDDEF entries is contained in member NCSJ3DEF of file 2 on the installation base tape.

The DDnames required for each DDDEF entry match the last qualifier of the data set name in Table 4, above. Thus, the DDnames needed for NCS JES3 DDDEFs are SMZLINK and ASMZLINK.

## **Applying the SMC JES3 Support Function (SMP/E APPLY)**

You can use the NCSJ3APP sample provided on file 2 of the NCS installation base tape, or the SMP/E Sysmod Management panels to install the JES3 support function into the appropriate target zone.

Follow the instructions in the prologue of the sample member and run the jobs to install the JES3 support functions into the target zone.

## **Accepting the SMC JES3 Support Function (SMP/E ACCEPT)**

You can use the NCSJ3ACC sample provided on file 2 of the NCS installation base tape, or the SMP/E Sysmod Management panels to accept the SMC JES3 support function into the appropriate distribution zone.

Follow the instructions in the prologue of the sample member and run the job to accept the JES3 support function into the distribution zone.

## **Installing NCS Product Maintenance**

If you received an accumulated maintenance tape with the NCS installation base tape, install the product maintenance. Information for this task can be found in Appendix B, “Installing Product Maintenance” on page 77. After NCS product maintenance is installed, proceed with the post-installation tasks for the NCS products you have installed.

# Chapter 3. Performing SMC Post-installation Tasks

---

## Overview

This chapter describes the required post-installation tasks for the SMC. The following topics are included:

- Adding the SMC load library to the authorized program list
- Optionally, defining the SMC as an MVS Subsystem
- Modifying the MVS Program Properties Table for SMC



### Notes:

- Before proceeding, verify that you have completed the installation tasks described in Chapters 1 and 2.
- If you are using JES3 with tape setup, you **must** perform the JES3 tasks described in Chapter 4, “Performing JES3 Post-Installation Tasks” on page 31.

## Adding the SMC Load Library to the Authorized Program List

The SMC must run as an authorized program. You must add the SMC load library to the authorized program list on your system. You can authorize the SMC load library by adding the load library to the IEAAPFzz member of SYS1.PARMLIB, or by adding the load library to the PROGzz member of SYS1.PARMLIB. You can also authorize the SMC load library dynamically.

The following sections describe the first two methods.

### Using IEAAPFzz to authorize the SMC Load Library

If you use the IEAAPFzz member of SYS1.PARMLIB to authorize the SMC load library, you must add the following entry to that list.

```
your.SMCLINK volser
```

This sample is contained in member IEAAPFzz of the SMC sample library. Before adding this sample to your authorized program list, edit the high level qualifier and volser with appropriate values for your system.



**Note:** If the SMC load library resides on an SMS-managed volume, you do not need to specify a volume in the authorized library entry. In this case, specify nothing after the library name, to indicate that SMS is managing the library. If you specify the wrong volume, the library will not be authorized.

### Using PROGzz to authorize the SMC Load Library

If you use the PROGzz member of SYS1.PARMLIB to authorize the SMC load library, you must add the following entries to that list.

```
APF ADD  
  DSNAME(your.SMCLINK)  
  VOLUME(volser) | SMS
```



**Note:** If the SMC load library resides on an SMS-managed volume, you do not need to specify a volume in the authorized library entry. In this case, specify the literal SMS after the library name, to indicate that SMS is managing the library. If you specify the wrong volume, the library will not be authorized.

## Defining the SMC as an MVS Subsystem

The SMC executes as an MVS dynamic subsystem. In many installations, the SMC does not need to be added to the MVS subsystem name table. However, if any of the following conditions are true, you **must** add the SMC to the MVS subsystem name table (SYS1.PARMLIB member IEFSSNzz) as required.

- If you are running SMC and a tape management system on the same host, and the tape management system is also executing as an MVS dynamic subsystem, StorageTek recommends that you add both the tape management system and the SMC to the subsystem name table to ensure the correct order of message processing. See “Tape Management System Interaction and the Subsystem Name Table” on page 26.
- If you are running SMC and the Unicenter CA-MIA product on the same host, StorageTek recommends that you add both Unicenter CA-MIA and the SMC to the subsystem name table to ensure the correct order of EDL processing. See “Unicenter CA-MIA Interaction and the Subsystem Name Table” on page 27.
- If you are running SMC, a tape management system, and the Unicenter CA-MIA product on the same host, StorageTek recommends that you add all three products to the subsystem name table. See “SMC, TMS, and Unicenter CA-MIA Interaction and the Subsystem Name Table” on page 27.
- If you wish to run the SMC under the master MVS subsystem (rather than under the primary Job Entry Subsystem), StorageTek recommends that you add the SMC to the subsystem name table. See “Running SMC under MSTR and the Subsystem Name Table” on page 28.

## Tape Management System Interaction and the Subsystem Name Table

If you are running a tape management system, you must ensure that it processes MVS mount messages **before** the SMC. To do this, add both the tape management system and the SMC to the subsystem name table with the (TMS) entry preceding the SMC entry. The following example shows entries for CA-1 Release 5.1 and above, and SMC.

```
SUBSYS SUBNAME(JES2) PRIMARY(YES) START(NO)
SUBSYS SUBNAME(TMS)
SUBSYS SUBNAME(SMCØ)
```

In installations with tape management systems executing on the same host, StorageTek recommends that you always add both the tape management system and the SMC to the subsystem name table.

The following table presents possible subsystem name definition scenarios for a tape management system and SMC when both are dynamic subsystems.

Is SMC defined in the subsystem name table?	Is TMS defined in the subsystem name table	Possible Issues
YES	YES	Supported and recommended. The TMS must precede the SMC in the table.
YES	NO	Not supported. The TMS cannot process MVS mount messages before the SMC.
NO	YES	Supported.
NO	NO	Supported but not recommended. You must ensure that the SMC is started after the TMS.

See “Notes on Subsystem Name Table Modifications for SMC” on page 28.

## Unicenter CA-MIA Interaction and the Subsystem Name Table

If you are running the Unicenter CA-MIA product, Computer Associates recommends that you add both SMC and Unicenter CA-MIA to the subsystem name table with the SMC entry preceding the entry for Unicenter CA-MIA. The following example shows entries for SMC and Unicenter CA-MIA.

```
SUBSYS SUBNAME(JES2) PRIMARY(YES) START(NO)
SUBSYS SUBNAME(SMCØ)
SUBSYS SUBNAME(MIA)
```

Unicenter CA-MIA compatibility also requires that the ALLOCDEF MIACOMPAT(ON) option be specified in SMC. See the *SMC Configuration and Administration Guide* for information about the ALLOCDEF command.

See “Notes on Subsystem Name Table Modifications for SMC” on page 28.

## SMC, TMS, and Unicenter CA-MIA Interaction and the Subsystem Name Table

If you are running SMC, a tape management system, and Unicenter CA-MIA all on the same host, StorageTek recommends that you add all three products to the subsystem name table in the order indicated in the following example:

```
SUBSYS SUBNAME(JES2) PRIMARY(YES) START(NO)
SUBSYS SUBNAME(TMS)
SUBSYS SUBNAME(SMCØ)
SUBSYS SUBNAME(MIA)
```

Unicenter CA-MIA compatibility also requires that the ALLOCDEF MIACOMPAT(ON) option be specified in SMC. See the *SMC Configuration and Administration Guide* for information about the ALLOCDEF command.

See “Notes on Subsystem Name Table Modifications for SMC” on page 28.

## Running SMC under MSTR and the Subsystem Name Table

If you wish to run the SMC under the MSTR subsystem rather than under the primary job entry subsystem, you must add the SMC to the subsystem name table to identify the subsystem name, as in the following example:

```
SUBSYS SUBNAME(SMCØ)
```

If your primary Job Entry Subsystem is JES3, then the SMC cannot run under MSTR, but must be executed under JES3.

If the SMC subsystem is to execute under MSTR, you must also include the MSTR option on the PARM parameter in the SMC START procedure. See the *SMC Configuration and Administration Guide* for information about creating the SMC START procedure.

An alternative to adding the SMC to the subsystem name table in order to execute under MSTR is to start the SMC subsystem with the SUB=MSTR parameter on the MVS start command. See the *SMC Configuration and Administration Guide* for information about executing the SMC start procedure.

See “Notes on Subsystem Name Table Modifications for SMC” below.

### Notes on Subsystem Name Table Modifications for SMC

- Other than the SUBNAME(name) parameter, no other parameters are required for the SMC subsystem definition.
- The SUBNAME(name) parameter specifies a 1-4 character name that normally corresponds to the SMC START procedure name. If the SMC subsystem name you define via the SUBNAME(name) parameter does not match the SMC START procedure name, you must include the SYSS option on the PARM parameter in the START procedure. See the *SMC Configuration and Administration Guide* for information about creating the SMC START procedure.
- You must use the keyword format of the SUBSYS command rather than the positional format. See the *IBM MVS/ESA Initialization And Tuning Reference* or the *IBM OS/390 Initialization And Tuning Reference* for more information about defining subsystem names.
- You must perform an IPL of the MVS host system before changes to the subsystem name table take effect.
- If you have added the Unicenter CA-MIA subsystem name to the subsystem name table, one of the following must be done:
  - The started task that uses this subsystem must be present in the PROCLIB concatenation for the master address space. This concatenation is defined in SYS1.PARMLIB(MSTJCLxx), under DD IEFPSI.
  - The Start command for Unicenter CA-MIA must specify the SUB=JES2 parameter, i.e. S CAMIA, SUB=JES2.

## Modifying the MVS Program Properties Table for SMC

You must modify the MVS Program Properties Table (PPT) to include an entry for the SMC subsystem.

 **Note:** The SMC must run in a low key (from 1-7). The examples in this section use key 3.

You must add the following entry to member SCHEDzz of SYS1.PARMLIB. This sample entry is in member SCHEDzz of the SMC sample library included on the installation base tape. The PPT entry is defined as follows:

```
PPT PGMNAME(SMCBINT),PRIV,SYST,KEY(3)
```

 **Note:** After modifying the SCHEDzz member, you must perform an IPL or dynamic update.



# Chapter 4. Performing JES3 Post-Installation Tasks

---

## Overview

This chapter contains required tasks for JES3 environments **with** TAPE SETUP processing. The following topics are included:

- Assembling and Link-editing the SMCERSLV module for SMC
- Authorizing the SMZ load library
- Creating and installing SMC Type 1 modifications
- Creating and installing the JES3 IATUX09 user modification for the SMC
- Creating and installing the JES3 IATUX71 user modification for the SMC



**Note:** This chapter does **not** apply to JES3 environments without TAPE SETUP processing.

## Assembling and Link-editing the SMCERSLV module for SMC

If you installed the SMC JES3 support function with the ASSEM option, a link-edit and assembly of the SMCERSLV module was automatically performed. The SMCERSLV module obtains the correct offsets and lengths of the JES3 macro fields required by the SMC.

After the initial assembly and link-edit of the SMCERSLV module, you must manually reassemble this module each time IBM maintenance is applied to the JES3 macros. You can run member SMCJRSLV of the SMC SAMPLIB, causing a reassembly of SMCERSLV when certain JES3 macros are updated.

The SMCJRSLV library member is run against the MVS/JES3 target and distribution zones. Follow the instructions contained in the prologue of the SMCJRSLV job, make any necessary changes and run the job.



**Warning:** StorageTek strongly recommends that you use the SMCJRSLV library member to reassemble the SMCERSLV module. Failure to reassemble the SMCERSLV module after applying maintenance to JES3 macros can result in unpredictable SMC operations.

## Authorizing the SMZ Load Library

### Load Module Access for SMC and JES3

All load modules in the SMZ load library must be accessible to the JES3 address space. This is accomplished using either of the following methods:

- Add the SMZLINK load library to the JES3 STEPLIB concatenation.
- Add the SMZLINK load library to the MVS LINKLIST library.



**Note:** A JES3 “hot start” is required to activate the modules listed above.

Module SMCERSLV must be accessible to the JES3 address space if the NOSMC parameter of the IATIIP1 Type 1 modification has been set to PROMPT. See page 34 for more information about this modification.

Module SMCERSLV must be accessible to the SMC address space. This module is automatically assembled into the SMCLINK library where the SMZ5100 FMID is installed.

## Using IEAPFzz to Authorize the SMZ Load Library

If you use the IEAPFzz member of SYS1.PARMLIB to authorize the SMZ load library, you must add the following entry to that list.

```
your.SMZLINK volser
```

This sample is contained in member IEAPFzz of the SMC sample library. Before adding this sample to your authorized program list, edit the high level qualifier and volser with the appropriate values for your system.



**Note:** If the SMZ load library resides on an SMS-managed volume, you do not need to specify a volume in the authorized library entry. If you specify the wrong volume, the library will not be authorized.

## Using PROGzz to Authorize the SMZ Load Library

If you use PROGzz member of SYS1.PARMLIB to authorize the SMZ load library, you must add the following entries to that list.

```
APF ADD  
  DSNAME(your.SMZLINK)  
  VOLUME(volser)
```



**Note:** If the SMC load library resides on an SMS-managed volume, you do not need to specify a volume in the authorized library entry. If you specify the wrong volume, the library will not be authorized.

## Creating and Installing SMC Type 1 Modifications

You must create and SMP/E install Type 1 modifications to certain JES3 modules for JES3 environments **with** TAPE SETUP processing.



**Note:** If you plan to run the SMC on an MVS/JES3 system where HSC, MVS/CSC, or a prior release of SMC is currently running, you must remove the existing Type 1 modifications and create and install the SMC Release 5.1 Type 1 modifications.

### Creating SMC Type 1 Modifications

Use the SMCEHOOK macro to create an SMC Type 1 modification for **each** of the following JES3 modules:

#### IATIICM (optional)

The type 1 modification to JES3 module IATIICM allows the SMC to retrieve DFSMS DATACLAS recording technique and media values when specified on the JCL DD statement. Install this modification **only** if your installation allows DATACLAS to be specified on JCL DD statements.

#### IATIIP1 (required)

The type 1 modification to JES3 module IATIIP1 allows the SMC to perform device exclusion. The SMCEHOOK macro provides an ACALL in the IATIIP1 module that allows the SMC to determine where a data set's volume resides, and substitutes an esoteric name based on the volume's location in the job's intermediate job summary table (IJS). JES3 then creates a job summary table (JST) for the job that is used during device preferencing and volume fetch processing. This Type 1 modification is required.

Code the NOSMC parameter of the SMCEHOOK macro to indicate the action you want JES3 C/I to take if SMC is not active when C/I processing occurs. Choose the parameter value based on whether or not you want JES3 allocation to proceed if the SMC has not initialized. Valid values and actions are listed in the following table.

NOSMC Value	Action
NOSMC=PROMPT	One C/I process prompts the operator to start SMC and waits for SMC initialization.
NOSMC=NONE	The C/I process continues with no StorageTek tape subsystem influence.

### **IATMDAL (required)**

The type 1 modification to JES3 module IATMDAL allows the SMC to perform device preferencing. The SMCEHOOK macro provides an ACALL in the IATMDAL module that allows the SMC to direct the allocation of transports to the closest LSM containing the volume (specific requests), or to the LSM containing the largest number of scratch volumes (non-specific requests). The JST created for the job is used during device preferencing and fetch processing. This Type 1 modification is required.

Code the TASKID parameter of the SMCEHOOK macro to indicate the task id for device preferencing. The value must be between 151 and 255 inclusive. The default is 203.

### **IATMDFE (optional)**

The Type 1 modification to JES3 module IATMDFE allows the SMC to suppress operator fetch messages for library cartridge transports during dynamic allocation. Install this modification if you wish to suppress these fetch messages. This user modification is optional.

## Installing SMC Type 1 Modifications

The prologue for the SMCEHOOK macro provides detailed instructions regarding its use. The SMCEHOOK macro resides in the SMCMAC library.

SMC sample members SMCUIICM, SMCUIIP1, SMCUMDAL, and SMCUMDFE contain examples of the SMC JES3 Type 1 modifications.

After creating the SMC Type 1 modifications to the JES3 modules, you must SMP/E install the Type 1 modifications. Use the SMC SAMPLIB member SMCJTYP1 to SMP/E install the SMC Type 1 modifications for IATIICM, IATIIP1, IATMDAL, and IATMDFE. The following figure shows the JCL included in the member SMCJTYP1.

```
//jobname JOB .....
//INSTTYP1 EXEC PGM=GIMSMP,REGION=4096K
//SMPCSI DD DSN=your.jes3.global.csi,DISP=SHR
//SMPPTFIN DD DSN=your.usermods,DISP=SHR
//SMPHOLD DD DUMMY
//SMPCNTL DD *
  SET BDY(GLOBAL).
  RECEIVE S(
    LUSIICM
    LUSIIP1
    LUSMDAL
    LUSMDFE
  ) .
  SET BDY(jes3-target-zone) .
  APPLY S(
    LUSIICM
    LUSIIP1
    LUSMDAL
    LUSMDFE
  ) .
/*
```

Perform the following steps:

1. Allocate the data set 'system.usermods' on DASD as RECFM=FB, DSORG=PS, LRECL=80, using your own data set naming conventions.



**Note:** Line numbering must be OFF when editing this data set as described in steps 2-4.

2. Copy SMC SAMPLIB members SMCUIIP1 and SMCUMDAL into 'system.usermods'. Perform the modifications documented at the top of both members.
3. Determine if the modification to IATIICM is appropriate for your system. If it is, copy the SMC SAMPLIB member SMCUIICM into 'system.usermods'. Perform the modification documented at the top of the member.
4. Determine if the modification to IATMDFE is appropriate for your system. If it is, copy the SMC SAMPLIB member SMCUMDFE into 'system.usermods'. Perform the modification documented at the top of the member.
5. Edit the SMC SAMPLIB member SMCJTYP1:
  - Change the JOB card to meet your local standards.
  - Change *your.jes3.global.csi* to the name of your JES3 global CSI.
  - Change *your.usermods* to the name you used for 'system.usermods', above.
  - Change *jes3-target-zone* to the JES3 SMP/E target zone name.
  - If you have decided not to install the modification to IATIICM, remove LUSIICM from the RECEIVE and APPLY statements.
  - If you have decided not to install the modification to IATMDFE, remove LUSMDFE from the RECEIVE and APPLY statements.
6. Submit the job.

## Creating and Installing the JES3 IATUX09 User Exit Modification for SMC

You must create and SMP/E install the JES3 IATUX09 user exit modification if you want to enable deferred mounting and suppression of operator fetch messages for library volumes.

### Creating the JES3 IATUX09 User Exit Modification for SMC

If you want to defer mounts and suppress fetch messages for library volumes during common allocation, you must create the JES3 IATUX09 user exit source and user modification.

The JES3 IATUX09 user exit modification allows the suppression of operator fetch messages for library cartridge transports, and enables the deferred mount processing function. The use of this user exit is optional. However, it must be installed in order to defer mounts and suppress fetch messages for library volumes during common allocation.

If your installation already utilizes JES3 user exit IATUX09, rename the existing user exit and place your new load module name in the SETC's operand field at label "&OLDUX09". See the SETC at label "&OLDUX09" in the sample user exit, SMC3UX09.

An example of the source is contained in SMC sample member SMC3UX09, and an example of the user modification is contained in SMC SAMPLIB member SMCUUX09.

## Installing the JES3 IATUX09 User Exit Modification for SMC

After you create the JES3 IATUX09 user exit modification, you must SMP/E install the user exit modification. Use sample library member SMCJUX09 to SMP/E install the JES3 user exit modification.

The following figure shows the JCL included in SMCJUX09.

```
//jobname JOB .....
//INSTUX09 EXEC PGM=GIMSMP,REGION=4096K
//SMPCSI DD DSN=your.jes3.global.csi,DISP=SHR
//SMPPTFIN DD DSN=your.usermods,DISP=SHR
//SMPHOLD DD DUMMY
//SMPCNTL DD *
  SET BDY(GLOBAL) .
  RECEIVE S(
    LUSUX09
  ) .
  SET BDY(jes3-target-zone) .
  APPLY S(
    LUSUX09
  ) .
/*
```

Perform the following steps:

1. Allocate the data set 'system.usermods' on DASD as RECFM=FB, DSORG=PS, LRECL=80, using your own data set naming conventions.
2. Copy SMC SAMPLIB members SMCUUX09 and SMC3UX09 into 'system.usermods'. Examine the instructions documented at the top of SMCUUX09, and perform any necessary modifications



**Note:** If you are already using IATUX09, you **must** rename the existing user exit modification.

3. Edit the SMC SAMPLIB member SMCJUX09:
  - Change the JOB card to meet your local standards.
  - Change *your.jes3.global.csi* to the name of your JES3 global CSI.
  - Change *your.usermods* to the name you used for 'system.usermods', above.
  - Change *jes3-target-zone* to the JES3 SMP/E target zone name.
4. Submit the job.

## Creating and Installing the JES3 IATUX71 User Exit Modification for SMC

You must create and SMP/E install the JES3 IATUX71 user exit modification if you want to enable JES3 mount message (IAT5210) processing for library volumes.

### Creating the JES3 IATUX71 User Exit Modification for SMC

If you want to enable JES3 mount messaging processing for library volumes, you must create the JES3 IATUX71 user exit source and user modification.

The JES3 IATUX71 user exit modification enables the mounting of the required volume in response to JES3 mount message IAT5210. This user exit is optional. However, it must be installed in order to enable JES3 mount message processing for library volumes if the library subsystem policy requests no mount deferral. For HSC, no mount deferral is requested by setting the ALLOC command parameter DEFER to OFF. For MVS/CSC, no mount deferral is requested by setting the DEFER startup parameter to NO or by resetting its value to NO with an ALTER command.

An example of the user exit modification is contained in SMC sample member SMCUUX71.

## Installing the JES3 IATUX71 User Modification for SMC

After creating the JES3 IATUX71 user exit modification, you must SMP/E install the user exit modification. Use sample library member SMCJUX71 to SMP/E install the JES3 user exit modification.

The following figure shows the JCL included in SMCJUX71.

```
//jobname JOB .....
//INSTUX71 EXEC PGM=GIMSMP,REGION=4096K
//SMPCSI DD DSN=your.jes3.global.csi,DISP=SHR
//SMPPTFIN DD DSN=your.usermods,DISP=SHR
//SMPHOLD DD DUMMY
//SMPCNTL DD *
  SET BDY(GLOBAL) .
  RECEIVE S(
    LUSUX71
  ) .
  SET BDY(jes3-target-zone) .
  APPLY S(
    LUSUX71
  ) .
/*
```

Perform the following steps:

1. Allocate the data set ‘system.usermods’ on DASD as RECFM=FB, DSORG=PS, LRECL=80, using your own data set naming conventions.
2. Copy SMC SAMPLIB members SMCUUX71 and SMC3UX71 into ‘system.usermods’. Follow the directions in “Creating the JES3 IATUX71 User Exit Modification for SMC” on page 40, examine the instructions at the beginning of SMC3UX71, and perform any necessary modifications



**Note:** If you are already using IATUX71, you **must** rename the existing user exit modification.

3. Edit the SMC SAMPLIB member SMCJUX71:
  - Change the JOB card to meet your local standards.
  - Change *your.jes3.global.csi* to the name of your JES3 global CSI.
  - Change *your.usermods* to the name you used for ‘system.usermods’, above.
  - Change *jes3-target-zone* to the JES3 SMP/E target zone name.
4. Submit the job.



# Chapter 5. Performing HSC Post-installation Tasks

---

## Overview

This chapter describes the required post-installation tasks for the HSC. The following topics are included:

- Defining the HSC as an MVS subsystem
- Adding the HSC load library to the authorized program list
- Adding the HSC user exit library to the authorized program list
- Copying or moving the SLSBPRESI module to an MVS LINKLIST library
- Modifying the MVS program properties table for HSC
- Adding SMF parameters for the HSC
- Re-assembling the SLUCONDB (Scratch Conversion) Modules



### Notes:

- Before proceeding, verify that you have completed the installation tasks described in Chapters 1 and 2.
- Once installed, The HSC **requires** a license key in order to initialize. See the *MVS/HSC Configuration Guide* for information about obtaining and configuring the HSC license key.

## Defining the HSC as an MVS Subsystem

HSC can either run under the master MVS subsystem, or as a secondary MVS subsystem.

- If you run HSC under the master MVS subsystem, you must add a line to your subsystem name table (SYS1.PARMLIB member IEFSSNxx) to identify the subsystem name. This is a one- to four-character name that corresponds to the procedure name for the HSC started task procedure.
- If you run HSC as a secondary MVS subsystem, you must add a line to your subsystem name table (SYS1.PARMLIB member IEFSSNxx) to identify the following:
  - The subsystem name. This is a one- to four-character name that corresponds to the procedure name for the HSC started task procedure.
  - The HSC subsystem initialization routine name, which must be SLSBPRES.

Assuming your HSC subsystem name is SLS0, the following lines correctly add HSC to your subsystem name table when running HSC under the master MVS subsystem, or as a secondary MVS subsystem. This sample entry is contained in member IEFSSNxx of the HSC sample library on the installation base tape.

```
SUBSYS SUBNAME(SLS0) INITRTN(SLSBPRES) /* keyword format */
```

You can also define the HSC subsystem name dynamically using the MVS SETSSI command. For example:

```
SETSSI ADD,SUB=SLS0 /* If running under master subsystem */  
or  
SETSSI ADD,SUB=SLS0,INITRTN=SLSBPRES /* If running as secondary subsystem */
```

where SLS0 is the HSC subsystem name, and SLSBPRES is the name of the HSC subsystem initialization routine.



### Notes:

- If the HSC subsystem name you define in the subsystem name table does not match the HSC started task procedure name, you must include the SYSS option on the PARM parameter in the started task procedure. See the *MVS/HSC Configuration Guide* for information about creating an HSC startup procedure.
- If you are not defining the HSC subsystem name dynamically, you must perform an IPL of the MVS host system before the HSC subsystem name entry takes effect.
- HSC no longer interacts with tape management systems in processing MVS messages. Therefore, the order of definition of the HSC subsystem and a tape

management subsystem is irrelevant. However, the SMC subsystem definition, if specified, must follow the tape management system entry.

- See the *IBM MVS/ESA Initialization and Tuning Reference* or the *IBM OS/390 Initialization and Tuning Reference* for more information about defining subsystem names.

## Adding the HSC Load Library to the Authorized Program List

The HSC must run as an authorized program. You must add the HSC load library to the authorized program list on your system. You can authorize the HSC load library by adding the load library to the IEAAPFxx member of SYS1.PARMLIB, or by adding the load library to the PROGxx member of SYS1.PARMLIB. You can also authorize the HSC load library dynamically.

The following sections describe each of these methods.

### Using IEAAPFxx to authorize the HSC Load Library

If you use the IEAAPFxx member of SYS1.PARMLIB to authorize the HSC load library, you must add the following entry to that list.

```
your.SLSLINK volser
```

This sample is contained in member IEAAPFxx of the HSC sample library. Before adding this sample to your authorized program list, edit the high level qualifier and volser with appropriate values for your system.



**Note:** If the HSC load library resides on an SMS-managed volume, you do not need to specify a volume in the authorized library entry. In this case, specify nothing after the library name, to indicate that SMS is managing the library. If you specify the wrong volume, the library will not be authorized.

### Using PROGxx to authorize the HSC Load Library

If you use the PROGxx member of SYS1.PARMLIB to authorize the HSC load library, you must add the following entries to that list.

```
APF ADD
  DSNAME(your.SLSLINK)
  VOLUME(volser) | SMS
```



**Note:** If the HSC load library resides on an SMS-managed volume, you do not need to specify a volume in the authorized library entry. In this case, specify the literal SMS after the library name to indicate that SMS is managing the library. If you specify the wrong volume, the library will not be authorized.

## Adding the HSC User Exit Library to the Authorized Program List

The HSC user exit library can either be the same as the HSC load library, or a separate library. If the HSC user exit library is a separate library, you must add the library to the authorized program list. For example:

```
SLS.SLSLINK    volser,  
SLS.USEREXIT.LOAD    volser
```

Before adding the library to the authorized program list, edit the high level qualifier and volser with appropriate values for your system.



**Note:** If the HSC user exit library resides on an SMS-managed volume, you do not need to specify a volume in the authorized library entry. If you specify the wrong volume, the library will not be authorized.

## Copying or Moving the SLSBPRESI Module to an MVS LINKLIST Library

The HSC subsystem pre-initialization routine module (SLSBPRESI), which resides in the SLSLINK library, must also reside in an MVS LINKLIST library if you are running the HSC as a secondary MVS subsystem. You can copy or move the SLSBPRESI module from SLSLINK to a LINKLIST library.

The SLSBPRESI pre-initialization routine module is functionally compatible between HSC releases. For future compatibility, however, StorageTek recommends you use the most current release of the SLSBPRESI pre-initialization module.

## Modifying the MVS Program Properties Table for HSC

You must modify the MVS Program Properties Table (PPT) to include an entry for the HSC subsystem.



**Note:** The HSC must run in a low key (from 1-7). The examples in this section use key 3.

You must add the following entry to member SCHEDxx of SYS1.PARMLIB. This sample entry is in member SCHEDxx of the HSC sample library on the installation base tape. The PPT entry is defined as follows:

```
PPT PGMNAME(SLSBINIT),PRIV,SYST,KEY(3)
```

## Adding SMF Parameters for the HSC

You must add two lines to your System Management Facility (SMF) parameters in SYS1.PARMLIB member SMFPRMxx to identify the following:

- HSC subsystem name
- HSC recording interval (the smaller the number, the more often data is recorded)
- HSC SMF record type
- HSC SMF record subtypes to be recorded (See “HSC SMF Record Subtypes” for a list of record subtypes that HSC can generate.)

Assuming your HSC subsystem name is SLS0, the following example shows the lines that add HSC to your SMF parameters.

```
SUBSYS(SLS0, INTERVAL(000100), TYPE(255))  
SUBPARM(SLS0(SUBTYPE(1,2,3,4,5,6,7,8)))
```

This sample is contained in member SMFPRMxx of the HSC sample library on the installation base tape.

### HSC SMF Record Subtypes

The following table lists the SMF record subtypes that HSC can generate.

Subtype	Description
1	LSM operations statistics
2	Vary Station command
3	MODify LSM command
4	LMU read statistics
5	Cartridge eject
6	Cartridge enter
7	Cartridge move
8	View command

If you do not specify the SUBTYPE parameter in your SMF options, HSC generates subtypes 1 through 6. You must code a SUBPARM parameter and include subtypes 7 and 8 to generate cartridge move and view records.

For more information about the SMF records, see the *MVS/HSC System Programmer's Guide*.

## Re-assembling the SLUCONDB (Scratch Conversion) Modules

Depending on your tape management system (TMS) and associated release level, you may need to re-assemble the SLUCONDB (Scratch Conversion) modules. This is also necessary if local modifications are made to certain modules.

Refer to Chapter 5, “Utility Functions” in the *MVS/HSC System Programmer’s Guide* for more information about the Scratch Conversion (SLUCONDB) Utility and re-assembly requirements.

# Chapter 6. Performing MVS/CSC Post-installation Tasks

---

## Overview

This chapter describes the required post-installation tasks for the MVS/CSC. The following topics are included:

- Defining the MVS/CSC as an MVS subsystem
- Adding MVS/CSC libraries to the authorized program list
- Adding the MVS/CSC user exit library to the authorized program list
- Copying or moving the SCSBPRES module to an MVS LINKLIST library
- Modifying the MVS program properties table for MVS/CSC
- Allocating MVS/CSC event-log and trace data sets



### Notes:

- Before proceeding, verify that you have completed the installation tasks described in Chapters 1 and 2.
- Once installed, The MVS/CSC **requires** a license key in order to initialize. See the *MVS/CSC Configuration Guide* for information about obtaining and configuring the MVS/CSC license key.

## Defining the MVS/CSC as an MVS Subsystem

MVS/CSC runs as a secondary MVS subsystem. You must add a line to your subsystem name table (SYS1.PARMLIB member IEFSSNyy) to identify the following:

- The MVS/CSC subsystem name. This is a one- to four-character name that corresponds to the procedure name for the MVS/CSC started task procedure.
- The MVS/CSC subsystem initialization routine name, which must be SCSBPRES.

Assuming your MVS/CSC subsystem name is CSC0, the following line correctly adds MVS/CSC to your subsystem name table. This sample entry is contained in member IEFSSNyy of the MVS/CSC sample library on the installation base tape.

```
SUBSYS SUBNAME(CSC0) INITRTN(SCSBPREI) /* keyword format */
```

You can also define the MVS/CSC subsystem name dynamically using the MVS SETSSI command. For example:

```
SETSSI ADD,SUB=CSC0,INITRTN=SCSBPREI
```

where CSC0 is the MVS/CSC subsystem name, and SCSBPRES is the name of the MVS/CSC subsystem initialization routine.



### Notes:

- If you are not defining the MVS/CSC subsystem name dynamically, you must perform an IPL of the MVS host system before the MVS/CSC subsystem name entry takes effect.
- MVS/CSC no longer interacts with tape management systems in processing MVS messages. Therefore, the order of definition of the HSC subsystem and a tape management subsystem is irrelevant. However, the SMC subsystem definition, if specified, must follow the tape management system entry.
- See the *IBM MVS/ESA Initialization and Tuning Reference* or the *IBM OS/390 Initialization and Tuning Reference* for more information about defining subsystem names.

## Defining Multiple MVS/CSC Subsystems Running on the Same MVS Host System

Multiple MVS/CSC subsystems can run on the same MVS host system. Each MVS/CSC must be defined as a separate MVS subsystem. Multiple MVS/CSC subsystems only require additional disk space for the multiple JCL startup procedures, additional startup parameter files, and optional event-log, trace, and TAPEREQ definition data sets.

If you intend to run multiple MVS/CSCs, each connected to a separate server, the following operating requirements and restrictions must be considered:

- All MVS/CSC subsystems may run from a single copy of executable modules.
- Each MVS/CSC requires its own MVS subsystem definition, cataloged procedure, startup parameters, virtual storage, and optional event-log, trace, and TAPEREQ definition data sets.
- MVS/CSC user exits should be the same version running for each MVS/CSC subsystem.
- Operator command prefix characters can be the same or different depending on local operating preferences.
- The SMC interrogates MVS/CSC subsystems using volume and policy information to determine which subsystem owns the allocation request. The order of interrogation is determined by the order of MVS/CSCs in the SSCVT table (the order in which the subsystems are defined in the IEFSSN<sub>yy</sub> member).



The following must be defined for each subsystem:

- Server attachment
- Startup parameter file
- Communications links
- MVS/CSC startup procedure

In addition, you can optionally define the following data sets for each subsystem:

- Event-log and trace data sets
- Tape request (TAPEREQ) data sets

The text from the USERDATA parameter specified in the startup parameter file is passed to these user exits. This text and the parameter list (containing job name, data set name, and other information) can be used to specify to the SMC which active MVS/CSC subsystem is considered the owner of the allocation request.

See the following books for more information.

- *MVS/CSC System Programmer's Guide* for more information about MVS/CSC user exits
- *MVS/CSC Configuration Guide* for information about MVS/CSC configuration tasks
- *MVS/CSC Operator's Guide* for information about MVS/CSC operating procedures

## Adding MVS/CSC Libraries to the Authorized Program List

The MVS/CSC must run as an authorized program. You must add the MVS/CSC load libraries to the authorized program list on your system. The MVS/CSC load libraries must exist in authorized program list (APF) authorized libraries SCSLINK and SACLINK.

You can authorize the MVS/CSC load libraries by adding the load libraries to the IEAAPFyy member of SYS1.PARMLIB, or by adding the load libraries to the PROGyy member of SYS1.PARMLIB. You can also authorize the MVS/CSC load libraries dynamically.

The following sections describe each of these methods.

### Using IEAAPFyy to authorize the MVS/CSC Load Libraries

If you use the IEAAPFyy member of SYS1.PARMLIB to authorize the MVS/CSC load libraries, you must add the following entries to that list.

```
your.SCSLINK volser,  
your.TCPLINK volser,  
your.SACLINK volser,  
your.CSLLINK volser
```

This sample is contained in member IEAAPFyy of the MVS/CSC sample library. Before adding this sample to your authorized program list, edit the high level qualifier and volser with appropriate values for your system.



#### Notes:

- If the MVS/CSC load libraries resides on an SMS-managed volume, you do not need to specify a volume in the authorized library entry. In this case, specify nothing after the library name, to indicate that SMS is managing the library. If you specify the wrong volume, the library will not be authorized.
- The TCPLINK load library is required if you are using Interlink TCPAccess or CISCO IOS. See your Interlink documentation for more information. If you are using IBM TCP/IP, this load library is not needed.

## Using PROGgy to authorize the MVS/CSC Load Libraries

If you use the PROGgy member of SYS1.PARMLIB to authorize the MVS/CSC load libraries, you must add the following entries to that list.

```
APF ADD
  DSNAME(your.SCSLINK)
  VOLUME(volser) | SMS
APF ADD
  DSNAME(your.TCPLINK)
  VOLUME(volser) | SMS
APF ADD
  DSNAME(your.SACLINK)
  VOLUME(volser) | SMS
APF ADD
  DSNAME(your.CSLLINK)
  VOLUME(volser) | SMS
```

This sample is contained in member PROGgy of the MVS/CSC sample library. Before adding this sample to your authorized program list, edit the high level qualifier and volser with appropriate values for your system.



### Notes:

- If the MVS/CSC load libraries resides on an SMS-managed volume, you do not need to specify a volume in the authorized library entry. In this case, specify the literal SMS after the library name to indicate that SMS is managing the library. If you specify the wrong volume, the library will not be authorized.
- The TCPLINK load library is required if you are using Interlink TCPaccess or CISCO IOS. See your Interlink documentation for more information. If you are using IBM TCP/IP, this load library is not needed.

## Adding the MVS/CSC User Exit Library to the Authorized Program List

The MVS/CSC user exit library can either be the same as the MVS/CSC load library, or a separate library. If the MVS/CSC user exit library is a separate library, you must add the library to the authorized program list. For example:

```
ncs_510.SCSLINK  volser,
ncs_510.USEREXIT.LOAD  volser
```

Before adding the library to the authorized program list, edit the high level qualifier and volser with appropriate values for your system.



**Note:** If the MVS/CSC user exit library resides on an SMS-managed volume, you do not need to specify a volume in the authorized library entry. If you specify the wrong volume, the library will not be authorized.

## Copying or Moving the SCSBPRES Module to an MVS LINKLIST Library

The MVS/CSC subsystem pre-initialization routine module (SCSBPREI), which resides in the SCSLINK library, must also reside in an MVS LINKLIST library. You can copy or move the SCSBPRES module from SCSLINK to a LINKLIST library.

The SCSBPRES pre-initialization routine module is functionally compatible between MVS/CSC releases. For future compatibility, however, StorageTek recommends you use the most current release of the SCSBPRES pre-initialization module.

## Modifying the MVS Program Properties Table for MVS/CSC

You must modify the MVS Program Properties Table (PPT) to include an entry for the MVS/CSC subsystem.



**Note:** The MVS/CSC must run in a low key (from 1-7). The examples in this section use key 3.

You must add the following entry to member SCHEDyy of SYS1.PARMLIB. This sample entry is in member SCHEDyy of the MVS/CSC sample library on the installation base tape. The PPT entry is defined as follows:

```
PPT PGMNAME(SCSBINIT),PRIV,SYST,KEY(3)
```

## Allocating MVS/CSC Event-Log and Trace Data Sets

The event-log data set is used to record events logged by MVS/CSC's Event Log facility. The trace data set is used to record trace output produced by MVS/CSC's Trace facility. If you plan to use MVS/CSC's Event Log and Trace facilities, you must allocate event-log and trace data sets to record the output that is produced by these facilities. The following table gives recommendations for size definitions. The numbers given for blocks are the minimum required for the data sets.

See the *MVS/CSC Configuration Guide* and the *MVS/CSC System Programmer's Guide* for more information about MVS/CSC's Event Log and Trace facilities.

**Table 5. Trace and Event-Log Data Sets**

Data Set	DSORG	RECFM	LRECL	BLKSIZE	3380 Tracks	Directory Blocks
TRACE	PS	VB	3076	10000	200	-
EVENT LOG	PS	VB	3076	10000	200	-

# Chapter 7. Performing LibraryStation Post-Installation Tasks

---

## Overview

This chapter describes the required post-installation tasks for LibraryStation. The following topics are included:

- Adding LibraryStation libraries to the authorized program list
- Optionally defining the Persistent Data File (PDF)



### Notes:

- Before proceeding, verify that you have completed the installation tasks described in Chapters 1 and 2.
- Once installed, The LibraryStation **requires** a license key in order to initialize. See the *MVS/HSC Configuration Guide* for information about obtaining and configuring the LibraryStation license key.

## Adding LibraryStation Libraries to the Authorized Program List

The LibraryStation must run as an authorized program. You must add the LibraryStation load libraries to the authorized program list on your system. The LibraryStation load libraries must exist in authorized program list (APF) authorized libraries SLCLINK and SACLINK.

You can authorize the LibraryStation load libraries by adding the load libraries to the IEAAPFxx member of SYS1.PARMLIB, or by adding the load libraries to the PROGxx member of SYS1.PARMLIB. You can also authorize the LibraryStation load libraries dynamically.

The following sections describe each of these methods.

### Using IEAAPFxx to authorize the LibraryStation Load Libraries

If you use the IEAAPFxx member of SYS1.PARMLIB to authorize the LibraryStation load libraries, you must add the following entries to that list.

```
your.SLCLINK volser,  
your.TCPLINK volser,  
your.SACLINK volser,  
your.CSLLINK volser
```

This sample is contained in member SLGAPFxx of the LibraryStation sample library. Before adding this sample to your authorized program list, edit the high level qualifier and volser with appropriate values for your system.



#### Notes:

- If the LibraryStation load library resides on an SMS-managed volume, you do not need to specify a volume in the authorized library entry. In this case, specify nothing after the library name, to indicate that SMS is managing the library. If you specify the wrong volume, the library will not be authorized.
- The TCPLINK load library is required if you are using Interlink TCPAccess or CISCO IOS TCP/IP communications. See your Interlink documentation for more information. If you are using IBM TCP/IP, this load library is not needed.

## Using PROGxx to authorize the LibraryStation Load Libraries

If you use the PROGxx member of SYS1.PARMLIB to authorize the LibraryStation load libraries, you must add the following entries to that list.

```
APF ADD
  DSNAME(your.SLCLINK)
  VOLUME(volser) | SMS
APF ADD
  DSNAME(your.TCPLINK)
  VOLUME(volser) | SMS
APF ADD
  DSNAME(your.SACLINK)
  VOLUME(volser) | SMS
APF ADD
  DSNAME(your.CSLLINK)
  VOLUME(volser) | SMS
```

This sample is contained in member SLGPRGxx of the LibraryStation sample library. Before adding this sample to your authorized program list, edit the high level qualifier and volser with appropriate values for your system.



### Notes:

- If the LibraryStation load libraries resides on an SMS-managed volume, you do not need to specify a volume in the authorized library entry. In this case, specify the literal SMS after the library name to indicate that SMS is managing the library. If you specify the wrong volume, the library will not be authorized.
- The TCPLINK load library is required if you are using Interlink TCPaccess or CISCO IOS. See your Interlink documentation for more information. If you are using IBM TCP/IP, this load library is not needed.

## Defining the Persistent Data File (Optional)



### Warning:

- If you are migrating from a previous release of LibraryStation, you must delete the existing PDF and define a new PDF for the new release.
- You must define a Persistent Data File (PDF) if LibraryStation is servicing heterogeneous clients (i.e. non-MVS clients). If LibraryStation is servicing MVS clients in a sysplex environment, **do not** define the PDF. The PDF is not supported for sysplex environments. See the *LibraryStation Configuration Guide* for more information about the PDF.
- If you are running multiple LibraryStations, see the *LibraryStation Configuration Guide* for special information regarding the PDF.

LibraryStation software includes a Database Manager (DBM) that is initialized during LibraryStation initialization. The DBM manages several persistent data objects that are not maintained by the HSC, including resource locks and drive status. Data objects

managed by the DBM are stored in one or more VSAM files. These files are collectively referred to as the PDF. The PDF contains volume records, drive records, and lockid records. You must define the PDF when LibraryStation is servicing heterogeneous clients. Use IDCAMS to define data sets for the PDF. The following figure shows the IDCAMS statements used to define the PDF. The JCL to define data sets for the PDF is contained in member SLGDBCR of the LibraryStation sample library on file 19 of the NCS installation base tape.

```

//SLGDBCR JOB  job card info
/**
/** NOTE: A minimum of 1 Meg of virtual storage is needed
/**       for this job (i.e., use REGION=1M on the job card)
/**
//CREATEDB EXEC PGM=IDCAMS
//SYSPRINT DD SYSOUT=*
//INPUT    DD *
000000000000 DB INITIALIZATION RECORD
//SYSIN    DD *
  DELETE (cluster_name) CLUSTER
  DEFINE CLUSTER (
    NAME(cluster_name)
    VOLUMES(volser)
    RECORDS(nr,2*nr)
    RECORDSIZE(30 100)
    KEYS(12 0)
    UNIQUE )
  REPRO INFILE(INPUT)
    OUTDATASET(cluster_name)
  DEFINE ALTERNATEINDEX (
    NAME(alternate_index_name)
    RELATE(cluster_name)
    KEYS(10 2)
    RECORDS(nr,2*nr)
    RECORDSIZE(27 27)
    VOLUMES(volser)
    UNIQUEKEY
    UNIQUE
    UPGRADE )
  DEFINE PATH (
    NAME(path_name)
    PATHENTRY(alternate_index_name))
  BLDINDEX
    INDATASET (cluster_name)
    OUTDATASET (alternate_index_name)
  LISTCAT ENTRIES (
    cluster_name
    alternate_index_name
    path_name) ALL
/**

```

You must supply or modify the following information:

- PDF Data set names
- Volume location of the PDF
- Record keyword values

## PDF Data Set Names

You must supply names for the data sets listed in the following table:

**Table 6. PDF Data Set Names**

NAME Keyword	Description
CLUSTER	The name for the SLSPDF base cluster ( <i>cluster_name</i> ), such as LSTAT.PDF.
ALTERNATEINDEX	The name for the SLSPDFX alternate index ( <i>alternate_index_name</i> ), such as LSTAT.PDFAIX.
PATH	The name for the path to SLSPDFX ( <i>path_name</i> ), such as LSTAT.PDFPATH.



**Note:** There is no predefined naming convention for data set names. You can use the same prefix for all three data sets and provide a unique file type for each name.

## Volume Location

A single PDF is defined for LibraryStation, and the host system where LibraryStation is initialized must have access to the DASD volume where the PDF is located. Therefore, in a multiple host environment where more than one host is capable of initializing LibraryStation, the PDF must be located on shared DASD that is accessible to each initializing host.

The volume where the PDF is to be allocated can be any available DASD. You identify the DASD by its volser (*volser*).

## Values for Record Keywords

The PDF record space calculation (*nr*) (shown below) is based on the maximum number of volumes (*nv*) that all client systems can have locked at one time, and the total number of tape cartridge drives that will be used by the network clients (*nd*).

$$\text{number of records (nr)} = (nv + nd) * 1.1$$

The secondary PDF space allocation is calculated as twice the number of records ( $2*nr$ ).

Setting primary records to 2000 and secondary records to 4000 should be adequate for most LibraryStation installations. However, if you want to verify the records for your specific installation, use the allocation formula with your site's number of volumes and network client data.



# Appendix A. NCS Samples, Source Code Modules, and Macros

---

## Overview

This appendix lists the sample installation JCL members used to install the NCS product components. It also lists the samples, load modules, and macros included with SMC, HSC, MVS/CSC, and LibraryStation.

## Sample Installation JCL

The following table lists the sample installation JCL members included in File 2 of the NCS installation base tape:

**Table 7. Sample Installation JCL Members**

Member Name	Description
ALLOCCSI	Sample JCL for defining and initializing the SMP/E CSI
ALLSYSLB	Sample JCL for adding required DDDEF entries and modifying the SYSLIB concatenation
MAINTACF	Sample JCL for SMP/E ACCEPT of maintenance in a mass mode for specific NCS FMIDs
MAINTACS	Sample JCL for SMP/E ACCEPT of maintenance for specific SYSMODs
MAINTAPF	Sample JCL for SMP/E APPLY of maintenance in mass mode for specific NCS FMIDs
MAINTAPS	Sample JCL for SMP/E APPLY of maintenance for specific SYSMODs
MAINTRCF	Sample JCL for SMP/E RECEIVE of maintenance for a specific NCS FMID
MAINTRCP	Sample JCL for SMP/E RECEIVE of maintenance for an NCS Product Update Tape (PUT)
MAINTRCS	Sample JCL for SMP/E RECEIVE of maintenance for specific SYSMODs
NCSACCPT	Sample JCL for SMP/E ACCEPT of the SMC, HSC, MVS/CSC, and LibraryStation functions
NCSAPPLY	Sample JCL for SMP/E APPLY of the SMC, HSC, MVS/CSC, and LibraryStation functions
NCSDDDEF	Sample JCL for adding required DDDEF entries for all NCS product components
NCSJ3ACC	Sample JCL for SMP/E ACCEPT of the SMC JES3 function
NCSJ3APP	Sample JCL for SMP/E APPLY of the SMC JES3 function
NCSJ3DEF	Sample JCL for adding required DDDEF entries for the SMC JES3 function
NCSRECV	Sample JCL for SMP/E RECEIVE of the SMC, HSC, MVS/CSC, and LibraryStation functions

## SMC Base and JES3 Samples, Source Code Modules, and Macros

The following tables list the SMC samples, source code modules and macros contained on the NCS installation tape:

**Table 8. SMC Samples**

Member Name	Description
GTFEXTR	Sample extract for SMC trace of a single job
GTFPARMS	Sample GTF parameters for SMC trace
GTFPROC	Sample GTF startup JCL
IEAAPFzz	Sample SMC APF list entries
IEFSSNzz	Sample SMC subsystem name table entry
PROGzz	Sample SMC APF list entries
SCHEDzz	Sample MVS Program Properties Table (PPT) entry for SMC
SMC3UX09	Sample SMC JES3 IATUX09 user exit source
SMC3UX71	Sample SMC JES3 IATUX71 user exit source
SMCCMDS	Sample command file for the SMCCMDS DD statement
SMCJRSLA	Sample JCL for assembling SMCERSLV
SMCJRSLV	Sample JCL for running UCLIN for SMCERSLV
SMCJTYP1	Sample JCL to SMP/E install the SMC Type 1 modifications
SMCJUX09	Sample JCL to SMP/E install the SMC IATUX09 user modification
SMCJUX71	Sample JCL to SMP/E install the SMC IATUX71 user modification
SMCPARMS	Sample parameter file for SMCPARMS DD statement
SMCPROC	Sample startup JCL
SMCUIICM	Sample IATIICM Type 1 modification
SMCUIIP1	Sample IATIIP1 Type 1 modification
SMCUMDAL	Sample IATMDAL Type 1 modification
SMCUMDFE	Sample IATMDFE Type 1 modification
SMCUUX09	Sample SMC JES3 IATUX09 user modification
SMCUUX71	Sample SMC JES3 IATUX71 user modification

**Table 9. SMC Source Code Modules**

Member Name	Description
SMCERSLV	Source code for JES3 macro field resolution routine

**Table 10. SMC Macros**

<b>Member Name</b>	<b>Description</b>
SMCEHOOK	SMC Type 1 modification macro
SMCEMFLD	JES3 macro field resolution block (used by SMCERSLV)

## HSC Samples, Source Code Modules, and Macros

The following tables list the HSC samples, source code modules, and macros contained on the NCS installation tape:

**Table 11. HSC Samples**

Member Name	Description
CVRLTR	Sample JCL to print the PUT cover letter from a PUT tape
GTFLMU	Sample MVS 2.X PARMLIB member to trace LMU requests
HSCAPPL	Sample APPL statement for HSC VTAM communications (LU 6.2)
IEAAPFxx	Sample HSC APF list entries
IEFSSNxx	Sample HSC subsystem name table entry
JCLACTV	Sample JCL to report on library performance
JCLARSLV	Sample JCL to reassemble/relink module SLSERSLV (JES3 only)
JCLAUDT	Sample JCL to audit library hardware
JCLBKUP	Sample JCL to backup the control data set
JCLCRT	Sample JCL to create the control data set
JCLEJCT	Sample JCL to eject cartridges from an ACS
JCLEXRS	Sample JCL to exercise an installation
JCLINIT	Sample JCL to initialize cartridges via the ACS
JCLOFLD	Sample JCL to offload control data set journals
JCLPROC	Sample HSC startup JCL
JCLRSTR	Sample to restore the control data set
JCLSCRD	Sample JCL for Scratch Redistribution Utility
JCLSCUP	Sample JCL for Scratch Update Utility
JCLTINIT	Sample JCL to initialize ACS cartridges using TMSTPNIT
JCLVOLR	Sample JCL to report on the volumes in the library
JCLVRFY	Sample JCL to verify an installation's LIBGEN
LIBGENnn	Sample LIBGEN source for INSTALL GUIDE examples
LIBGNJCL	Sample JCL to assemble and link a LIBGEN source file
MPFUSERX	Sample MPF user exit to retain TMS007 messages on MVS console
PROGxx	Sample PROGxx statement
SASTYPEx	Sample SAS source for SMF subtypes 1, 4, and 7
SCHEDxx	Sample MVS Program Properties Table (PPT) entry for HSC

**Table 11. HSC Samples (Continued)**

<b>Member Name</b>	<b>Description</b>
SENDEL	Sample SEN macro interface program
SENDISA	Sample SEN macro interface program
SENENA	Sample SEN macro interface program
SENQRST	Sample SEN macro interface program
SLS0	Sample HSC startup procedure
SLSSYS00	Sample HSC startup parameter file
SLSSYS12	Sample HSC PARMLIB member (release 1.2)
SLSSYS20	Sample HSC PARMLIB member (release 2.0)
SLSUX01	Default message intercept user exit
SLSUX02	Default JES2 non-specific allocation user exit
SLSUX03	Default scratch subpool user exit
SLSUX05	Default programmatic interface (PGMI) user exit
SLSUX06	Default database insert/delete user exit
SLSUX07	Default user exit word maintenance user exit
SLSUX08	Default JES2 specific allocation esoteric subs user exit
SLSUX09	Default JES2 defer allocation user exit
SLSUX10	Default JES2 GDG/UNITAFF separation user exit
SLSUX11	Default JES3 defer allocation user exit
SLSUX12	Default JES3 GDG/UNITAFF separation user exit
SLSUX13	Default JES3 specific allocation user exit
SLSUX14	Default volume access user exit
SLSUX15	Default command authority user exit
SMFPRMxx	Sample PARMLIB definitions for HSC SMF record subtypes
SPGxxxxx	Sample JCL from the System Programmer's Guide
STKINDEX	Index of HSC samples
STKTSTxx	Sample IVP programs
SWSJCRDB	Sample to configure VTCS information in a CDS
SWSJMVCR	Sample to generate an MVC report
SWSJVTVR	Sample to generate a VTV report
UX01SAM1	Sample HSC User Exit 01 to process mount messages

**Table 11. HSC Samples (Continued)**

Member Name	Description
UX02SAM0	Sample HSC User Exit 02 to influence scratch allocation (JES2)
UX03SAM2	Sample HSC User Exit 03 to define scratch subpools with names
UX06SAM1	Sample HSC User Exit 06 interface to a tape management system
UX07SAM1	Sample HSC User Exit 07 word maintenance
UX08SAM1	Sample HSC User Exit 08 to perform esoteric substitution for specific allocation requests based on jobname
UX09SAM1	Sample HSC User Exit 09 to influence MVS defer of mounts
UX09SAM2	Sample HSC User Exit 09 to MVS defer based on program (e.g. IEFBR14)
UX10SAM1	Sample HSC User Exit 10 to influence unit affinity separation (JES2)
UX11SAM1	Sample HSC User Exit 11 to influence MVS defer of mounts (JES3)
UX12SAM1	Sample HSC User Exit 12 to influence unit affinity separation (JES3)
UX13SAM1	Sample HSC User Exit 13 to perform esoteric substitution for specific allocation requests based on jobname
UX15SAM1	Sample HSC User Exit 15 to ensure command security

**Table 12. HSC Source Code Modules**

Member Name	Description
SLUCONDB	Source code for Scratch Conversion Utility
SLUDRCA1	Source code for Scratch Conversion Utility CA-1 (TMS) database READ routine
SLUDRTL	Source code for Scratch Conversion Utility CA-TLMS (TLMS) database READ routine
SLUDRRMM	Source code for Scratch Conversion Utility DFSMSrmm database READ routine

**Table 13. HSC Macros**

Member Name	Description
ACSRQ	format a parameter list for an ACS request
SLIACS	LIBGEN SLIACS macro
SLIALIST	LIBGEN SLIALIST macro
SLICOV	Global configuration constants & variables
SLIDLIST	LIBGEN SLIDLIST macro
SLIDRIVS	LIBGEN SLIDRIVS macro
SLIENDGN	LIBGEN SLIENDGN macro

**Table 13. HSC Macros**

Member Name	Description
SLIERMSG	LIBGEN error message macro
SLILBACS	LIBGEN ACS area
SLILBALS	LIBGEN ACLIST area
SLILBDLS	LIBGEN DRIVELST area
SLILBDRV	LIBGEN DRIVES area
SLILBEND	LIBGEN ENDGEN area
SLILBLIB	LIBGEN LIBRARY area
SLILBLSM	LIBGEN LSM area
SLILBREC	LIBGEN RECOVERY area
SLILBSTA	LIBGEN STATION area
SLILCV	Installation LCT constants - variables
SLILIBRY	LIBGEN LIBRARY macro
SLILSM	LIBGEN LSM macro
SLIPTPCK	LIBGEN SLIPTPCK macro
SLIRCVRY	LIBGEN RECOVERY macro
SLISTATN	LIBGEN STATION macro
SLSDILLT	LIBGEN LOCATION type
SLSDVAR	Distributed volume attribute record length
SLSSBLOG	INIT/TERM LOGREC record
SLSSBLOS	LSM operations statistics data area
SLSSCAPJ	CAP SMF EJECT record
SLSSCAPN	CAP SMF ENTER record
SLSSDJLR	Database journalling LOGREC map
SLSSFHDR	SMF record header
SLSSHLG1	Host communications LOGREC format 1
SLSSLHDR	LOGREC record header map
SLSSLLG1	LMU driver LOGREC format ONE
SLSSLLG2	LMU driver LOGREC format two
SLSSLLG3	LMU driver LOGREC format three
SLSSLLG4	LMU driver LOGREC format four

**Table 13. HSC Macros**

Member Name	Description
SLSSLLG5	LMU driver LOGREC format five
SLSSLLG6	LMU driver LOGREC format six
SLSSLSB	LMU AHS statistics buffer
SLSSMF07	HSC format 7 SMF record
SLSSMF08	HSC format 8 SMF record
SLSSMF09	HSC format 9 SMF record
SLSSMF10	HSC format 10 SMF record
SLSSMF11	HSC format 11 SMF record
SLSSMF12	HSC format 12 SMF record
SLSSMF13	HSC format 13 SMF record
SLSSMF14	HSC format 14 SMF record
SLSSMF15	HSC format 15 SMF record
SLSSMF16	HSC format 16 SMF record
SLSSMF17	HSC format 17 SMF record
SLSSMF18	HSC format 18 SMF record
SLSSMF19	HSC format 19 SMF record
SLSSMF20	HSC format 20 SMF record
SLSSMF21	HSC format 21 SMF record
SLSSMF22	HSC format 22 SMF record
SLSSMF23	HSC format 23 SMF record
SLSSMF24	HSC format 24 SMF record
SLSSMF25	HSC format 25 SMF record
SLSSMF26	HSC format 26 SMF record
SLSSMF27	HSC format 27 SMF record
SLSSMF28	HSC format 28 SMF record
SLSSMF29	HSC format 29 SMF record
SLSSMF30	HSC FORMAT 30 SMF record
SLSSMLSM	Modify LSM SMF record subtype map
SLSSPSWI	Primary/shadow switch LOGREC record
SLSSRL00	Recovery ERDS record 0

**Table 13. HSC Macros**

Member Name	Description
SLSSRL01	Recovery ERDS record 1
SLSSVLG1	VOL/CELL force unselect record
SLSSVSTA	VARY station SMF record subtype map
SLSUREQ	Batch API request processor
SLSSUREQM	Batch API interface mapping macro
SLSUX01P	HSC User Exit 01 parameter list
SLSUX02P	HSC User Exit 02 parameter list
SLSUX03P	HSC User Exit 03 parameter list
SLSUX04P	HSC User Exit 04 parameter list
SLSUX05P	HSC User Exit 05 parameter list
SLSUX06P	HSC User Exit 06 parameter list
SLSUX07P	HSC User Exit 07 parameter list
SLSUX08P	HSC User Exit 08 parameter list
SLSUX09P	HSC User Exit 09 parameter list
SLSUX10P	HSC User Exit 10 parameter list
SLSUX11P	HSC User Exit 11 parameter list
SLSUX12P	HSC User Exit 12 parameter list
SLSUX13P	HSC User Exit 13 parameter list
SLSUX14P	HSC User Exit 14 parameter list
SLSUX15P	HSC User Exit 15 parameter list
SLSXB2X	Translate 8 bits to a hex byte
SLSXREQ	Issue an ACS request
SLSXREQM	ACS user interface mapping macro
SLSXSEN	HSC Significant Event Notification (SEN) request
SLSXSENM	Significant Event Notification (SEN) request parm list map
SLUVADAT	Flat file ACS/LSM information DSECT
SLUVCDAT	Flat file static configuration data DSECT
SLUVDDAT	QCDS drive information DSECT
SLUVHDAT	Flat file host information DSECT
SLUVIDAT	Flat file CDS information DSECT

**Table 13. HSC Macros**

Member Name	Description
SLUVMDAT	Flat file MVC data DSECT
SLUVPDAT	QCDS CAP information DSECT
SLUVSDAT	Flat file ACS station address DSECT
SLUVTDAT	Flat file VTV data DSECT
SLUVVDAT	Flat file volume data DSECT
SLX	HSC external interface reply
SWSPGMIA	VTCS PGMI interface area
SWSUIO	VTCS UIO I/O request

## MVS/CSC Samples, Source Code Modules, and Macros

The following tables list the MVS/CSC samples, source code modules, and macros contained on the NCS installation tape:

**Table 14. MVS/CSC Samples**

Member Name	Description
APPCPMyy	Sample definition of a system base LU for APPC/MVS
CSCPARM0	Sample MVS/CSC startup parameter file that is an example of an attachment to a VM-based (CLS) server using VTAM communications
CSCPARM1	Sample MVS/CSC startup parameter file that is an example of an attachment to VM-based (CLS) dual servers using TCP/IP communications
CSCPARM2	Sample MVS/CSC startup parameter file that is an example of an attachment to a UNIX-based (ACSL) server using TCP/IP communications
CSCPARM3	Sample MVS/CSC startup parameter file that is an example of an attachment to an MVS-based (LibraryStation) server using TCP/IP communications
CSCPARM4	Sample MVS/CSC startup parameter file that is an example of an attachment to an MVS-based (LibraryStation) server using LU 6.2 communications
CSCPARM5	Sample MVS/CSC startup parameter file that is an example of an attachment to a UNIX-based (ACSL) server using LU 6.2 communications
CSCPARM6	Sample MVS/CSC startup parameter file that is an example of an attachment to an MVS-based (LibraryStation) server using XCF communications
CSCPROC	Sample startup JCL
DEFAPPC	Sample JCL to create APPC Side Information File
IEAAPFyy	Sample MVS/CSC APF list entries
IEFSSNyy	Sample MVS/CSC subsystem name table entry
JCLCFGV1	Sample JCL for Configuration Verification Utility to verify startup parameters and MVS system definitions only
JCLCFGV2	Sample JCL for Configuration Verification Utility to verify startup parameters, MVS system definitions, and the server configuration for compatibility
JCLCONDB	Sample JCL for Scratch Conversion Utility
JCLLOGR	Sample JCL for Event Log Report Utility
JCLSCRUP	Sample JCL for Scratch Update Utility
LU6APPL	Sample definition of a local LU for VTAM
PGMISAM1	Sample QVOLUME request issued within a single MVS/CSC subsystem environment
PGMISAM2	Sample QCSC and QVOLUME request issued within a multiple MVS/CSC subsystem environment
PROGyy	Sample MVS/CSC APF list entries
SCHEDyy	Sample MVS Program Properties Table (PPT) entry for MVS/CSC

**Table 14. MVS/CSC Samples (Continued)**

<b>Member Name</b>	<b>Description</b>
TREQSAM1	Sample TAPEREQ control statements
TREQSAM2	Sample TAPEREQ control statements
UX01CSC1	Sample MVS/CSC User Exit 01 to process mount messages
UX02CSC1	Sample MVS/CSC User Exit 02 to influence scratch allocation (JES2)
UX04CSC1	Sample MVS/CSC User Exit 04 to influence scratch allocation (JES3)
UX05CSC1	Sample MVS/CSC User Exit 05 which returns a non-operational return code
UX08CSC1	Sample MVS/CSC User Exit 08 to influence specific allocation (JES2)
UX09CSC1	Sample MVS/CSC User Exit 09 to influence MVS defer of mounts
UX10CSC1	Sample MVS/CSC User Exit 10 to influence unit affinity separation (JES2)
UX11CSC1	Sample MVS/CSC User Exit 11 to influence JES3 defer of mounts
UX12CSC1	Sample MVS/CSC User Exit 12 to influence unit affinity separation (JES3)
UX13CSC1	Sample MVS/CSC User Exit 13 to influence specific allocation (JES3)

**Table 15. MVS/CSC Source Code Modules**

<b>Member Name</b>	<b>Description</b>
SCUCONDB	Source code for Scratch Conversion Utility
SCUDRCA1	Source code for Scratch Conversion Utility CA-1 (TMS) database READ routine
SCUDRTLMS	Source code for Scratch Conversion Utility CA-TLMS (TMLMS) database READ routine
SCUDRRMM	Source code for Scratch Conversion Utility DFSMSrmm database READ routine
SCUDRZAR	Source code for Scratch Conversion Utility Zara database READ routine

**Table 16. MVS/CSC Macros**

<b>Member Name</b>	<b>Description</b>
SCSUX01P	MVS/CSC User Exit 01 parameter list
SCSUX02P	MVS/CSC User Exit 02 parameter list
SCSUX04P	MVS/CSC User Exit 04 parameter list
SCSUX05P	MVS/CSC User Exit 05 parameter list
SCSUX08P	MVS/CSC User Exit 08 parameter list
SCSUX09P	MVS/CSC User Exit 09 parameter list
SCSUX10P	MVS/CSC User Exit 10 parameter list
SCSUX11P	MVS/CSC User Exit 11 parameter list
SCSUX12P	MVS/CSC User Exit 12 parameter list
SCSUX13P	MVS/CSC User Exit 13 parameter list
SCSXREQ	Programmatic Interface request
SCSXREQM	Programmatic Interface mapping macro

## LibraryStation Samples and Source Code Modules

The following tables list the LibraryStation samples, source code modules, and macros contained on the NCS installation tape:

**Table 17. LibraryStation Samples**

<b>Member Name</b>	<b>Description</b>
SLGPROC	Sample LibraryStation startup JCL
SLGAPFxx	Sample LibraryStation APF list entries
SLGDBCR	Sample JCL for defining the LibraryStation PDF
SLGPRGxx	Sample LibraryStation APF list entries

**Table 18. LibraryStation Source Code Modules**

<b>Member Name</b>	<b>Description</b>
SLGDJCL	Sample JCL for running the SLGDIAG Installation Verification Program (IVP)
SLGDEXEC	Sample REXX exec for running the SLGDIAG IVP



## Appendix B. Installing Product Maintenance

---

### Overview

This appendix contains instructions for installing NCS product maintenance.

Before attempting to install NCS software maintenance, contact StorageTek Software Support for the latest information concerning installation.

Customer Services has established an independent phone line to Level 1 Software Support. This number is available for domestic U.S. software customers. Customer Services is committed to providing excellent service. Customers must have their site location number when calling. Refer to the *Requesting Help from Software Support* guide for more information about contacting StorageTek for assistance.

### Maintenance Installation Data Sets

NCS maintenance is installed with SMP/E. Thus, the SMP/E target and distribution libraries used for installation of the NCS base products are required. See page 15 for more information about these libraries.

### Maintenance Tape Descriptions

Product Update Tape (PUT) maintenance is distributed on a **standard label** tape. The volume serial number can be found on the cover letter included with the tape.

PTF maintenance is distributed on a **nonlabeled** tape (e.g. an All PTFs tape).

## SMP/E Sample JCL

Sample JCL members for installing NCS maintenance were unloaded during the installation process. See page 12 for more information. These JCL samples can be used to process maintenance in mass mode, or by individual SYSMOD.

### SMP/E RECEIVE an Accumulated PTF Tape

Sample members MAINTRCF and MAINTRCS provide sample JCL to perform an SMP/E RECEIVE for maintenance on an accumulated PTF tape. Choose one of the following methods:

- Use MAINTRCF to SMP/E RECEIVE maintenance by specific FMID.
- Use MAINTRCS to SMP/E RECEIVE maintenance by specific SYSMOD.

Read the instructions commented in the JCL for necessary modifications.

### SMP/E RECEIVE a PUT

Sample member MAINTRCP provides sample JCL to perform an SMP/E RECEIVE for maintenance on a Product Update Tape (PUT).

Read the instructions commented in the JCL for necessary modifications.

### SMP/E APPLY JCL

Sample members MAINTAPF and MAINTAPS provide sample JCL used to perform an SMP/E APPLY for maintenance. Choose one of the following methods:

- MAINTAPF to SMP/E APPLY maintenance by specific FMID.
- MAINTAPS to SMP/E APPLY maintenance by specific SYSMOD.

Read the instructions commented in the JCL for necessary modifications and procedures for performing an SMP/E APPLY CHECK followed by an actual SMP/E APPLY.



**Note:** You must specify the ASSEM option to the SMP/E statements in the sample JCL if:

- SMC JES3 FMIDs are included in the APPLY.
- HSC SAMPLIB members that require tape management macros to assemble correctly are included in the APPLY (i.e. SLUCONDB, SLUDRCA1, SLUDRRMM, or SLUDRTLTM).

## SMP/E ACCEPT JCL



**Note:** Performing an SMP/E ACCEPT for maintenance is **optional**.

Sample members MAINTACF and MAINTACS provide sample JCL to perform an SMP/E ACCEPT for maintenance. Choose one of the following methods:

- Use MAINTACF to SMP/E ACCEPT maintenance by specific FMID.
- Use MAINTACS to SMP/E ACCEPT maintenance by specific SYSMOD.

Read the instructions commented in the JCL for necessary modifications and procedures for performing an SMP/E ACCEPT CHECK followed by an actual SMP/E ACCEPT.

## Separate HELD HSC PTFs

Examine the output from the APPLY in the previous section to identify those PTFs that failed to be applied due to HOLDSYSTEM exception data. Examine the cover letters for those PTFs to determine if the PTFs are applicable to your environment. Generally, HSC SYSMODS with HOLDSYSTEM fall into two categories:

- SYSMODS that update the tape management system scratch conversion modules (SLUDRCA1, SLUDRTL, and SLUDRRMM).
- Those SYSMODS that have dependencies beyond control of the HSC SMP/E environment. For example, certain HSC PTFs may require a particular MVS PTF to be applied or you may need to update an automated operations package.

From the examination of the SYSMODS that were not applied due to HOLDSYSTEM exception data, create four lists of PTFs as follows:

### list 1

Tape management system PTFs for a tape management system that is not installed at your site.

### list 2

Tape management system PTFs where the tape management system is installed at your site and modification of the source is necessary.

### list 3

Non-tape management system PTFs that cannot be applied because your site does not comply with the conditions defined in the PTF cover letters.

### list 4

All other PTFs held for HOLDSYSTEM exception data. These are held PTFs that are applicable to your installation. Included are tape management system PTFs where the tape management system is installed at your site and you don't need to modify the source code.

## APPLY Applicable HSC HOLDSYSTEM SYSMODS

Use the following JCL to SMP/E APPLY applicable HOLDSYSTEM SYSMODS:

```
//jobname JOB .....
//S1      EXEC smpe-proc
//SMPCNTL DD *
          SET BDY(target-zone) .
          APPLY PTFS
            EXCLUDE(ptf1,ptf2,.....ptfn)
            GROUPEXTEND
            FORFMID(
              /SOS5100 HSC 5.1.0 Base HSC for MVS 5.2 and later  */
            )
          BYPASS(HOLDSYSTEM)
          ASSEM
/*
```



**Note:** The EXCLUDEd PTFs should consist of all PTFs in List 1, List 2, and List 3 (see “Separate HELD HSC PTFs” on page 79).

## APPLY Tape Management SYSMODS Without an ASSEMBLE

```
//jobname JOB .....
//S1      EXEC smpe-proc
//SMPCNTL DD *
          SET BDY(dlib-zone) .
          ACCEPT PTFS
            EXCLUDE(ptf1,ptf2,.....,ptfn)
            GROUPEXTEND
            FORFMID(
              /* SOS5100 HSC 5.1.0 Base for MVS 5.2 and later  */
            )
          BYPASS(HOLDSYSTEM).
/*
```

The EXCLUDE list should specify only the PTFs in List 3 (see “Separate HELD HSC PTFs” on page 79). This APPLY installs all HSC SYSMODS held for HOLDSYSTEM exception data where the PTFs are for:

- A tape management system installed at your site where you have determined that the HSC tape management components require modification.
- A tape management system that is not installed at your site.



**Note:** APPLYing the PTFs for Tape Management Systems (TMS) that are not installed at your site is desirable because:

- APPLYing these PTFs ensures that all TMS maintenance is current. This is important if you decide to change tape management systems. APPLYing these PTFs may also satisfy IFREQs.
- There is a separate HSC module for each tape management system. Maintenance for one TMS will not affect other tape management systems.
- You should have no problem APPLYing these PTFs because the ASSEM option is not specified.

This APPLY does not generate an assembly for the HSC tape management system source modules because the ASSEM option is not specified. The SAMPLIB data set is updated with new source versions. If required, you can now modify the source and reassemble the relevant module(s). See the note above.

After running the APPLY steps for HOLDSYSTEM SYSMODS and tape management SYSMODS without an ASSEMBLE, the only held PTFs that are not applied should be those you determined cannot be applied because you do not comply with their specific requirements (see “Separate HELD HSC PTFs” on page 79).



# Index

---

## A

- allocating
  - MVS/CSC event-log and trace data sets 54
  - NCS
    - distribution library data sets 15
    - JES3 target and distribution library data sets 21
    - target library data sets 15
- APF (authorized program list)
  - adding LibraryStation libraries 56
  - adding MVS/CSC libraries 52
  - adding MVS/CSC user exit library 53
  - adding MVS/HSC libraries 45
  - adding MVS/HSC user exit library 46
- assembling the SMCERSLV module 32
- audience for this guide xviii
- authorized program list (APF)
  - adding HSC libraries 45
  - adding HSC user exit library 46
  - adding LibraryStation libraries 56
  - adding MVS/CSC libraries 52
  - adding MVS/CSC user exit library 53

## C

- checklist, NCS 5
- coexistence, NCS software 2
- consolidated software inventory (CSI)
  - defining for NCS 14
  - initializing for NCS 14
- conventions, guide xviii
- CSI (consolidated software inventory) 14
- customer software support xxi

## D

- DDDEF entries
  - adding for JES3 22
  - adding for NCS 17
- distribution data sets, allocating for NCS 15

## E

- event-log data set, allocating 54

## F

- FMIDs, NCS 11

## G

- guide
  - audience definition xviii
  - conventions xviii
  - organization xix
  - related publications xx
  - technical support xxi

## H

- hardware requirements, NCS 8
- HSC
  - adding libraries to authorized program list (APF) 45
  - adding System Management Facility (SMF) parameters 47
  - adding user exit library to APF 46
  - defined xvii
  - defining as an MVS subsystem 44
  - macros 67
  - modifying MVS Program Properties Table (PPT) 46
  - samples 65
  - source code modules 67
  - virtual storage requirements 9

## I

- IATIICM Type 1 modification 34
- IATIIP1 Type 1 modification 34
- IATMDAL Type 1 modification 35
- IATMDFE Type 1 modification 35
- IATUX09 user exit modification 38
- IATUX71 user exit modification 40
- installation materials 2

## J

JCL, maintenance installation 78

### JES3

- adding required DDDEFS 22
- allocating target and distribution library data sets 21
- assembling the SMCERSLV module for SMC 32
- authorizing the SMZ load library 32
- creating and installing SMC Type 1 modifications 34
- IATUX09 user exit modification 38
- IATUX71 user exit modification 40
- SMP/E ACCEPT 22
- SMP/E APPLY 22

## L

### LibraryStation

- adding libraries to authorized program list (APF) 56
- defined xvii
- defining Persistent Data File (PDF) 57
- samples 75
- source code modules 75

license keys 3

## M

maintenance 22, 77

migration and coexistence considerations 2

migration, NCS software 2

### MVS LINKLIST

- copying SCSBPRESI module 54
- copying SLSBPRESI module 46
- moving SCSBPRESI module 54
- moving SLSBPRESI module 46

### MVS/CSC

- adding libraries to authorized program list (APF) 52
- adding user exit library to APF 53
- allocating event-log and trace data sets 54
- allocating trace data set 54
- defined xvii
- defining as MVS subsystem 50
- macros 74
- modifying MVS Program Properties Table (PPT) 54
- samples 72
- source code modules 73
- virtual storage requirements 10

## N

### NCS

- adding DDDEF entries 17
- defining and initializing the CSI 14
- FMIDs 11
- functions
  - SMP/E ACCEPT base 20

- SMP/E APPLY base 20
- SMP/E APPLY JES3 support 22
- SMP/E RECEIVE 20

- hardware requirements 8
- initializing CSI 14
- installation base tape contents 4
- installation checklist 5
- installation materials 2
- license keys 3
- maintenance 22
- migration and coexistence considerations 2
- modifying SYSLIB concatenation 17
- SMP/E environment 13
- software components xvii
- software requirements 6
- target and distribution library data sets 15
- virtual storage requirements 9

## O

organization of this guide xix

## P

PDF (Persistent Data File), defining for LibraryStation 57

### PPT (Program Properties Table)

- modifying for MVS/CSC 54
- modifying for MVS/HSC 46
- modifying for SMC 29

pre-installation tasks, NCS 1

product support xxi

### Program Properties Table (PPT)

- modifying for HSC 46
- modifying for MVS/CSC 54
- modifying for SMC 29

PTFs, installing 22

publications, related xx

PUTs, installing 22, 77

## S

### SCSBPREI module

- copying to MVS LINKLIST 54
- moving to MVS LINKLIST 54

### SLSBPRESI module

- copying to MVS LINKLIST 46
- moving to MVS LINKLIST 46

SLUCONDB, re-assembling for HSC 48

### SMC

- adding libraries to authorized program list (APF) 24
- defined xvii
- defining as an MVS subsystem 25
- macros 64
- modifying the MVS Program Properties Table 29

- samples 63
- source code modules 63
- virtual storage requirements 9
- SMCERSLV module, assembling 32
- SMF (System Management Facility) parameters, adding 47
- SMP/E
  - ACCEPT
    - NCS base functions 20
    - NCS JES3 support function 22
  - APPLY
    - NCS base functions 20
    - NCS JES3 support function 22
  - environment 13
  - JCL library, unloading 12
  - RECEIVE NCS functions 20
- software requirements
  - NCS 6
- subsystem name table
  - notes on modifying 28
  - running SMC under MSTR 28
  - SMC, TMS and Unicenter CA-MIA 27
  - TMS interaction 26
  - Unicenter CA-MIA 27
- support, technical xxi
- SYSLIB, updating for NCS 17
- System Management Facility (SMF) parameters, adding 47

## T

- Tape Management System (TMS), defining 25
- target library data sets, allocating 15
- technical support xxi
- trace data set, allocating 54

## V

- virtual storage requirements
  - HSC 9
  - MVS/CSC 10
  - SMC 9





