



Program Directory for Document Composition Facility

Release 4.1

Release 4.1, Service Level SMC9619

Program Number 5748-XX9

FMIDs HSR1401, JSR1411, JSR1412, JSR1413

for Use with
MVS

Document Date: June, 2020

GI12-3357-00

Note!

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

This program directory, dated June, 2020, applies to Document Composition Facility (DCF/MVS Release 4.1) Release 4.1, Program Number 5748-XX9 for the following:

FMIDs	Feature Numbers	System Name
HSR1401	5190	MVS
JSR1411	5191	
JSR1412	5377	
JSR1413		

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1.0 Introduction

This document is intended for the system programmer responsible for program installation and maintenance. This document contains the following sections:

- Introduction

This section provides an overview of the Document Composition Facility, Version 1 Release 4.1, for MVS (DCF/MVS Release 4.1).

- Program Materials

This section shows the basic and optional program materials and documentation for DCF/MVS Release 4.1.

- Program Support

This section describes the IBM support available for DCF/MVS Release 4.1.

- Program and Service Level Information

This section lists the program level authorized program analysis reports (APARs) and service level program temporary fixes (PTFs) incorporated into DCF/MVS Release 4.1.

- Installation Requirements and Considerations

This section shows the resources and considerations for the installation and use of DCF/MVS Release 4.1.

- Installation Instructions

This section provides detailed installation instructions for DCF/MVS Release 4.1.

- Installation Verification Procedures

This section describes installation verification procedures (IVP) for each feature of DCF/MVS Release 4.1.

- Activate the Function of DCF/MVS Release 4.1

This section describes the procedures for activating the functions of DCF/MVS Release 4.1.

- Appendix A

This appendix provides the SMP/E modification control statements (SMPMCS) for DCF/MVS Release 4.1.

- Appendix B

This appendix provides the JCLIN for the DCF/MVS Release 4.1 base product and each feature.

- Appendix C

This appendix provides the IVP formatted sample document.

Do not use this program directory if you are installing DCF/MVS Release 4.1 with an MVS Custom-Built Installation Process Offering (CBIPO) (5751-CS1). Instead use the CBIPO related installation materials

(RIMs) provided with CBIPO. If necessary, the CBIPO RIMs point you to specific sections of the program directory as required.

If you are installing DCF/MVS Release 4.1 using the MVS Custom-Built Product Delivery Offering (CBPDO) (5751-CS3), use the softcopy program directory provided on the CBPDO tape. Your CBPDO contains a softcopy preventive service planning (PSP) upgrade for this product. All service and HOLDDATA for DCF/MVS Release 4.1 is included on the CBPDO tape.

Before installing DCF/MVS Release 4.1, read section 3.2, "Preventive Service Planning" on page 11. This section tells you how to find updates to the information and procedures in this program directory.

DCF/MVS Release 4.1 base product and features have been service updated to incorporate PTFs and APARs for this product since it was released. This product is now at Service Level SMC9619. The Service Level represents the weekly CBPDO service tape number that DCF/MVS Release 4.1 was updated to. To determine the latest level of PUT maintenance installed on the DCF/MVS Release 4.1 tape, refer to 4.0, "Program and Service Level Information" on page 13.

The following updates were made for the service updated DCF/MVS Release 4.1 tape:

- The DCF/MVS Release 4.1 base product (HSR1401) contains all maintenance listed in 4.0, "Program and Service Level Information" on page 13.
- The DCF/MVS Release 4.1 CICS feature (JSR1411) which utilizes the CICS macro level interface, has been enhanced to also utilize the CICS command level interface. The CICS feature also contains all maintenance listed in 4.0, "Program and Service Level Information" on page 13.
- The DCF/MVS Release 4.1 DLF feature (JSR1412) contains all maintenance listed in 4.0, "Program and Service Level Information" on page 13.
- The DCF/MVS Release 4.1 TSO feature (JSR1413) contains all maintenance listed in 4.0, "Program and Service Level Information" on page 13.

If you want to install the service updated base product or any feature to take advantage of the enhancements described above, you can use the directions in this program directory to do an SMP/E APPLY and ACCEPT of the FMIDs that you want to install.

The following change, that may affect the installation of the product, has been made to DCF/MVS Release 4.1 since the previous release:

- DCF/MVS Release 4.1 has several features packaged on the product tape. These features include:
 - Base product - FMID HSR1401
 - Customer Information Control System (CICS) feature - FMID JSR1411
- Note:** The CICS feature was referred to as the Advanced Text Management System (ATMS) feature in the previous release of DCF/MVS.
- Document Library Facility (DLF) feature - FMID JSR1412
 - Time Sharing Option (TSO) feature - FMID JSR1413.

DCF/MVS Release 4.1 is capable of formatting documents for the following printers:

- 3112 Page Printer Model 001
- 3116 Page Printer Models 001, 002, 003
- 3130 Advanced Function Printer Models 01S, 02S, 02D, 03S
- 3160 Advanced Function Printer Model 001
- 3800 Printing Subsystem Model 3, Model 6, and Model 8
- 3812 Page Printer Model 2
- 3816 Page Printer Model 01S and Model 01D
- 3820 Page Printer
- 3825 Page Printer
- 3827 Page Printer
- 3828 Advanced Function MICR Printer
- 3829 Advanced Function Printer
- 3831 Page Printer Model 001 (available only in Japan)
- 3835 Page Printer Model 001
- 3835 Advanced Function Printer Model 002
- 3900 Advanced Function Printer Model 001
- 3900 Advanced Function Standard Duplex Printing System Models D01 and D02
- 3900 Advanced Function Wide Duplex Printing System Models DW1 and DW2
- 3900 Wide Advanced Function Printer Models OW1 and OW3
- 3912 Page Printer Model NS1
- 3916 Page Printer Model NS1
- 3930 Page Printer Model 02S and Model 02D
- 3935 Advanced Function Printer Model 001
- LaserPrinter 4019 Model E01 and Model 001
- LaserPrinter 4028 Model AS1 and Model NS1
- LaserPrinter 5E Model 4029-010
- LaserPrinter 6 Model 4029-020
- LaserPrinter 10 Model 4029-030
- LaserPrinter 10L Model 4029-040
- LaserPrinter 4039 Model 10D, Model 10R, Model 12L, and Model 12R
- 4224 Printer Models 201, 202, 2C2, 2E2, 2E3
- 4230 Printer Model 202, Model 211, and Model 513 (in 4224 emulation mode only)
- 4234 Printer Model 07 and 011
- IBM 4250 Printer ¹
- 6400 Line Matrix Printer Models 004, 008, 012
- 6408 Line Matrix Printer Model CTA
- 6412 Line Matrix Printer Model CTA
- Other printers compatible at the data stream level

¹ The IBM 4250 requires the Composed Document Printing Facility (CDPF) (5668-997) licensed program to print DCF/MVS Release 4.1 output. Although you can still use DCF/MVS Release 4.1 to format for a 4250 Printer, the 4250 Printer and CDPF are no longer available from or supported by IBM.

2.0 Program Materials

An IBM program is identified by a program number. The program number for DCF/MVS Release 4.1 is 5748-XX9.

You can find a description of the features supported by DCF/MVS Release 4.1 in the program announcement material. See your IBM marketing representative for this information.

The following sections identify:

- The basic and optional program materials available with this program
- Publications useful during installation
- Available microfiche.

2.1 Basic Machine-Readable Material

The distribution medium for this program is a 9-track magnetic tape, written at 6250 bpi, 3480 cartridge, or 4mm cartridge. The tape or cartridge contains all the data needed for installation. It is installed using the SMP/E installation program. See 6.0, "Installation Instructions" on page 29 for more information about installing the program. Figure 1 describes the tape or cartridge. Figure 2 describes the file content of the program tape or cartridge.

<i>Figure 1. Basic Material - Program Tape</i>				
Medium	Feature Number	Physical Volume	External Tape Label	VOLSER
6250 tape	5191	1	DCF.MVS.BASE.1.4.0	SR1401
3480 cart.	5377	1	DCF.MVS.BASE.1.4.0	SR1401
4mm cart.	5728	1	DCF.MVS.BASE.1.4.0	SR1401

<i>Figure 2 (Page 1 of 3). Program Tape - File Content</i>				
VOLSER	File	Name	No. of Elements	Other Information
SR1401	1	SMPMCS	1	BLKSIZE= 6400
	2	IBM.HSR1401.F1	1	JCLIN BLKSIZE= 8800
	3	IBM.HSR1401.F2	427	BLKSIZE= 6144 DLIB= DCFDIST
	4	IBM.HSR1401.F3	18	BLKSIZE= 8800 DLIB= ADCFMAC

Figure 2 (Page 2 of 3). Program Tape - File Content

VOLSER	File	Name	No. of Elements	Other Information
5	IBM.HSR1401.F4		322	BLKSIZE= 8800 DLIB= ADCFGML
6	IBM.HSR1401.F5		25	BLKSIZE= 8800 DLIB= ADCFSAMP
7	IBM.HSR1401.F6		32	BLKSIZE= 8800 DLIB= ADCFIMAG
8	IBM.HSR1401.F7		67	BLKSIZE= 6233 DLIB= AFONTPS
9	IBM.HSR1401.F8		9	BLKSIZE= 8800 DLIB= ADCFASM
10	IBM.JSR1411.F1		1	JCLIN BLKSIZE= 8800
11	IBM.JSR1411.F2		29	BLKSIZE= 6144 DLIB= DCFDIST
12	IBM.JSR1411.F3		3	BLKSIZE= 8800 DLIB= ADCFMAC
13	IBM.JSR1411.F4		8	BLKSIZE= 8800 DLIB= ADCFSAMP
14	IBM.JSR1411.F5		3	BLKSIZE= 8800 DLIB= ADCFASM
15	IBM.JSR1412.F1		1	JCLIN BLKSIZE= 8800
16	IBM.JSR1412.F2		18	BLKSIZE= 6144 DLIB= DCFDIST
17	IBM.JSR1412.F3		1	BLKSIZE= 8800 DLIB= ADCFMAC
18	IBM.JSR1412.F4		5	BLKSIZE= 8800 DLIB= ADCFSAMP
19	IBM.JSR1412.F5		1	BLKSIZE= 8800 DLIB= ADCFASM
20	IBM.JSR1413.F1		1	JCLIN BLKSIZE= 8800
21	IBM.JSR1413.F2		22	BLKSIZE= 6144 DLIB= DCFDIST
22	IBM.JSR1413.F3		1	BLKSIZE= 8800 DLIB= ADCFMAC
23	IBM.JSR1413.F4		4	BLKSIZE= 8800 DLIB= ADCFSAMP

<i>Figure 2 (Page 3 of 3). Program Tape - File Content</i>				
VOLSER	File	Name	No. of Elements	Other Information
	24	IBM.JSR1413.F5	2	BLKSIZE= 8800 DLIB= ADCFASM

File 1 of the tape contains the DCF/MVS Release 4.1 System Modification Program modification control statements (SMPMCS). Files 2 through 24 contain the data sets that SMP/E processes.

2.2 Optional Machine-Readable Material

There are no optional machine-readable materials for DCF/MVS Release 4.1.

2.3 Program Publications

The following sections identify the basic and optional publications for DCF/MVS Release 4.1.

Other publications you may find useful during installation are also identified.

The majority of the DCF/MVS Release 4.1 basic and optional publications are available as displayable BookManager built BOOKs and as source files on a CD-ROM, SK25-1980.

2.3.1 Basic Program Publications

Figure 3 identifies the basic program publications for DCF/MVS Release 4.1. A copy of the *Document Composition Facility: MVS Program Directory* for Release 4.1 and one copy of each of these publications is included when you order the basic materials for DCF/MVS Release 4.1. For additional copies, contact your IBM representative.

<i>Figure 3. Basic Material - Program Publications</i>	
Publication Title	Order Number
<i>Document Composition Facility Licensed Program Specifications</i>	GH20-9159
<i>Document Composition Facility: Diagnosis Guide and Reference</i>	LH40-0209
<i>Document Composition Facility: Generalized Markup Language Starter Set User's Guide</i>	SH20-9186
<i>Document Composition Facility: Generalized Markup Language Starter Set Reference</i>	SH20-9187
<i>Document Composition Facility: SCRIPT/VS Text Programmer's Guide</i>	SH35-0069
<i>Document Composition Facility: SCRIPT/VS Language Reference</i>	SH35-0070
<i>Document Composition Facility: Generalized Markup Language (GML) Applications Guide</i>	G544-3305
<i>Document Composition Facility Messages</i>	SH35-0048

2.3.2 Optional Program Publications

Figure 4 identifies the optional program publications for DCF/MVS Release 4.1. These publications are available for a fee.

<i>Figure 4. Optional Material - Program Publications</i>	
Publication Title	Order/Form Number
<i>Document Composition Facility: ABOUT DCF</i>	G520-6362
<i>Document Composition Facility and Document Library Facility General Information</i>	GH20-9158
<i>Document Composition Facility: Text Programmer's Quick Reference</i>	SX26-3723
<i>Document Composition Facility: GML Starter Set Quick Reference Summary</i>	SX26-3719
<i>Document Composition Facility: Introduction to Generalized Markup Language</i>	G544-3192
<i>Document Composition Facility: Barcode User's Guide</i>	S544-3115
<i>Document Composition Facility: Generalized Markup Language Starter Set Implementation Guide</i>	SH35-0050
<i>Document Composition Facility Post-Processor Examples Language</i>	S544-3484
<i>Document Composition Facility: SCRIPT/VS User's Guide</i>	S544-3191
<i>Document Composition Facility: TSO Enhancements Guide</i>	G544-3345
<i>Document Composition Facility: Double Byte User's Guide</i>	S544-3795

2.3.3 Publications Useful during Installation or Execution

The following publications are not shipped with DCF/MVS Release 4.1 but are related to the installation or execution of the product. You can order publications by contacting your IBM representative.

<i>Figure 5. Useful Material - Program Publications</i>	
Publication Title	Order Number
<i>System Modification Program Extended Reference</i>	SC28-1107
<i>System Modification Program Extended User's Guide</i>	SC28-1302
<i>System Modification Program Extended Messages and Codes</i>	SC28-1108
<i>MVS/ESA SP Version 4 JCL User's Guide</i>	GC28-1653
<i>MVS/ESA SP Version 4 JCL Reference</i>	GC28-1654
<i>MVS/ESA SP Version 5 JCL User's Guide</i>	GC28-1473
<i>MVS/ESA SP Version 5 JCL Reference</i>	GC28-1479
<i>DFSMS/MVS Utilities</i>	SC26-4926
<i>MVS/Data Facility Product Version 3 Utilities</i>	SC26-4559
<i>CICS/MVS Customization Guide</i>	SC33-0507
<i>CICS/MVS Resource Definition Online</i>	SC33-0508
<i>CICS/MVS Resource Definition Macro</i>	SC33-0509
<i>CICS/MVS Operations Guide</i>	SC33-0510
<i>Document Library Facility Guide</i>	SH20-9165
<i>OS/390 MVS Product Management</i>	GC28-1730

2.4 Microfiche Support

There is no microfiche available for DCF/MVS Release 4.1.

3.0 Program Support

This section describes the IBM support available for DCF/MVS Release 4.1.

3.1 Program Services

This program is classified as a licensed program. Contact your IBM marketing representative or operations specialist system engineer (OPSSE) for specific information about available program services.

3.2 Preventive Service Planning

If you obtained DCF/MVS Release 4.1 in a CBPDO, there is HOLDDATA and PSP information for DCF/MVS Release 4.1 on the CBPDO tape.

Whether you obtained DCF/MVS Release 4.1 from IBM Software Manufacturing and Delivery independently, or obtained it in a CBPDO, you should check with your IBM Support Center or use either S/390 Software Xcel or IBMLink (ServiceLink) to see if there is additional preventive service planning (PSP) information before installing the product. To obtain this information, specify the following upgrade and subset values:

<i>Figure 6. Upgrade and Subset Values</i>		
Name	Upgrade	Subset
DCF/MVS Release 4.1 base	DCF141	HSR1401/9619
CICS feature	DCF141	JSR1411/9619
DLF feature	DCF141	JSR1412/9619
TSO feature	DCF141	JSR1413/9619

Note: The PSP SUBSET name reflects the Function Module Identifier (FMID) that was updated and the corresponding CBPDO weekly service tape that was used to supply the integrated PTFS. (Example; FMID/YYWW, where YY is the year and WW is the week of the CBPDO weekly service tape.).

The CBPDO weekly Service tape is the Service Level Indicator for any products updated by the Software Manufacturing Center (SMC) processes. If you wish to determine the latest level of PUT maintenance installed in this product, please refer to the 'Program and Service Level Information' section of this program directory.

3.3 Statement of Support Procedures

Report any difficulties you have using this program or this program directory to your IBM Support Center. If an APAR is required, the Support Center will provide the address to which any needed documentation can be sent.

Figure 7 identifies the component IDs (COMP ID) and the field engineering service numbers (FESN) for DCF/MVS Release 4.1.

<i>Figure 7. Component IDs and Field Engineering Service Numbers</i>			
FMID	COMPID	Component Name	FESN
HSR1401	5748XX900	MVS DCF Base	6596504
JSR1411	5748XX900	CICS Feature	6596504
JSR1412	5748XX900	DLF Feature	6596504
JSR1413	5748XX900	TSO Feature	6596504

4.0 Program and Service Level Information

This section identifies the program and service levels of DCF/MVS Release 4.1. The program level refers to the APAR fixes that are incorporated into the program. The service level refers to the PTFs that are incorporated.

This program is at Service Level SMC9619.

4.1 Program Level Information

The following APAR fixes against the previous release of DCF/MVS are incorporated into this release:

PL25549	PL33244	PL42195	PL53728	PL63440
PL25890	PL33318	PL43400	PL53801	PL64105
PL26797	PL33475	PL44035	PL54260	PL64613
PL27038	PL33528	PL44441	PL54349	PL64991
PL27082	PL33734	PL44771	PL54703	PL65001
PL27189	PL33782	PL45741	PL55728	PL67211
PL27695	PL33794	PL45907	PL56094	PL67375
PL28200	PL34234	PL46922	PL56096	PL67433
PL28299	PL34499	PL47800	PL57073	PL68118
PL28347	PL35169	PL48114	PL57111	PL68453
PL28418	PL35171	PL48123	PL57421	PL68945
PL28467	PL35658	PL48192	PL57458	PL69839
PL28509	PL35885	PL48446	PL57487	PL70040
PL28515	PL36152	PL48927	PL57505	PL70441
PL28555	PL36282	PL49731	PL57712	PL70880
PL28557	PL36694	PL49953	PL58100	PL72003
PL28604	PL36719	PL50025	PL58314	PL74270
PL28605	PL37163	PL50126	PL59800	PL74852
PL28620	PL38229	PL50690	PL60564	PL75215
PL28669	PL38539	PL50881	PL61206	PL75653
PL28806	PL38967	PL51577	PL61536	PL76365
PL29819	PL38983	PL51693	PL61547	PL76371
PL30725	PL39478	PL51695	PL63142	PL76461
PL30841	PL40392	PL51709	PL63269	PL77128
PL33054	PL41130	PL53712	PL63366	PL77146

The following APAR fixes against the current release of DCF/MVS Release 4.1 are incorporated into this service update Service Level SMC9619:

- **HSR1401**

AL82869	AL84178	AL84952	AL84983	AL84984
AL85274	AL85615	AL85713	AL86004	AL86094
AN00050	AN01068	AN01359	AN02189	AN02357
AN02768	AN02793	AN03363	AN03675	AN04560
AN04583	AN04715	AN05128	AN05242	AN05645
AN05659	AN05812	AN06643	AN06729	AN06731
AN06991	AN07143	AN07165	AN07754	AN07946
AN07971	AN08612	AN09050	AN10313	AN11639
AN11694	AN12771	AN12835	AN13247	AN13993
AN14472	AN15240	AN15953	AN17006	AN17352
AN18319	AN18366	AN18549	AN18646	AN19457
AN20920	AN21022	AN21493	AN23484	AN23493
AN23588	AN26194	AN27054	AN27252	AN27889
AN28045	AN29704	AN32077	AN32346	AN33681
AN33781	AN36365	AN36437	AN36605	AN43479
AN43928	AN44113	AN44597	AN45266	AN45270
AN46170	AN47431	AN47965	AN49004	AN49526
AN49605	AN49725	AN51355	AN55438	AN55877
AN55930	AN56958	AN60880	AN64006	AN68001
AN69168	AN69864	AN71151	AN73292	AN74513
AN75220	AN80272	AN80708	AN83691	AN83692
AN83946				

- **JSR1411**

AL85348	AL86004	AN02702	AN02786	AN02793
AN04325	AN04560	AN04583	AN11639	AN12161
AN13219	AN13386	AN13814	AN19457	AN21493
AN26283	AN27629	AN27883	AN33781	AN34475
AN36058	AN36437	AN39828	AN45270	AN47941
AN52116	AN58256	AN68001	AN69168	AN71567
AN76775	AN81842	AN83692		

- **JSR1412**

AL86004	AN02793	AN03423	AN04560	AN04583
AN05693	AN05703	AN10517	AN12770	AN13814
AN19457	AN21493	AN33781	AN36058	AN36437
AN38083	AN45270	AN68001	AN69168	AN83692

- JSR1413

AL84178	AL85348	AL86004	AN00138	AN01359
AN02875	AN03363	AN03423	AN03668	AN04120
AN04560	AN04583	AN04725	AN04727	AN05109
AN05525	AN05563	AN05703	AN09640	AN11639
AN11966	AN12106	AN12386	AN13386	AN13814
AN15112	AN18040	AN19457	AN20802	AN21299
AN21493	AN21554	AN23759	AN25608	AN30703
AN33781	AN36437	AN38532	AN39380	AN40588
AN41822	AN45270	AN49526	AN68001	AN69168
AN69864	AN83691	AN83692		

4.2 Service Level Information

The following PTFs containing the APAR fixes against the previous release of DCF/MVS, listed by FMID, are incorporated into this release:

- **HSR1132**

UL32451	UL35630	UL44606	UL57212	UL66408
UL32479	UL36028	UL45956	UL59307	UL66409
UL32495	UL36517	UL46371	UL60305	UL66410
UL32580	UL37157	UL46780	UL60591	UL66411
UL32603	UL39288	UL47159	UL60592	UL68152
UL32642	UL39289	UL47341	UL61967	UL69377
UL32683	UL39472	UL49010	UL61971	UL69923
UL32695	UL40193	UL49013	UL62604	UL69924
UL32701	UL40627	UL50670	UL62610	UL69925
UL32722	UL40892	UL51308	UL62619	UL69926
UL32729	UL41676	UL52138	UL62621	UL70688
UL32840	UL41838	UL54224	UL63620	UL70902
UL32957	UL41855	UL54225	UL65043	UL71349
UL33112	UL42066	UL54886	UL65158	UL75728
UL34047	UL42434	UL55557	UL65159	UL90218
UL34513	UL43210	UL56247	UL65160	UL90321
UL34725	UL43516	UL56249	UL65161	
UL34927	UL44188	UL56906	UL65499	
UL35154	UL44240	UL57209	UL65998	

- **JSR1133**

UL70874	UL70903	UL70905	UL71928	UL73295
UL70877	UL70904	UL71927	UL72483	UL73564

- **JSR1134**

UL70875	UL75073	UL76239	UL83228
UL70876	UL75074	UL76525	UL83291
UL71928	UL75075	UL76526	UL83383
UL72681	UL75076	UL77328	UL83459
UL73009	UL75137	UL77329	UL83462
UL73161	UL75353	UL77580	UL84020
UL74806	UL75575	UL78741	UL84021
UL74809	UL75766	UL80790	UL84811
UL74994	UL76034	UL82590	UL85722

- **JSR1135**

UL86170	UL88863	UL91401
UL87485	UL89429	UL92246
UL88827	UL91214	UL93517

The following APAR fixes against the current release of DCF/MVS Release 4.1 are incorporated into this service update Service Level SMC9619.

Note: COR-CLOSED PTFs are available for 'Corrective Service' and will be placed on the next available Program Update Tape (PUT). The following sub-categories for COR-CLOSED PTFs have been provided by the Software Manufacturing Center (SMC), Kingston:

SMCREC COR-CLOSED PTFs that have been researched and recommended for installation by the Software Manufacturing Center (SMC) in Kingston.

SMCCOR COR-CLOSED PTFs that have no special recommendations for installation.

- HSR1401

UL98434	UL98993	UL99237
UL99336	UN00168	UN00246
UN00399	UN01274	UN01896
UN03265	UN03267	UN03271
UN03700	UN04105	UN04155
UN04842	UN04923	UN06827
UN07308	UN08531	UN09157
UN09160	UN09164	UN09169
UN09212	UN09409	UN09657
UN09662	UN09800	UN09821
UN10520	UN10777	UN10782
UN10956	UN11291	UN11295
UN13062	UN14232	UN14235
UN15261	UN16488	UN16717
UN16728	UN16917	UN17233
UN17622	UN17891	UN19130
UN19551	UN19764	UN21008
UN21553	UN21561	UN21883
UN22395	UN24128	UN24131
UN24227	UN24479	UN26835
UN27751	UN28186	UN28190
UN29908	UN30668	UN33027
UN33030	UN34060	UN35841
UN37769	UN37796	UN45413
UN46529	UN46805	UN46951
UN47706	UN47883	UN49233
UN49885	UN50857	UN51807
UN54052	UN54695	UN54706
UN54962	UN57203-PUT9402	UN60657-PUT9404
UN61352-PUT9405	UN62480-PUT9405	UN62851-PUT9405
UN66175-PUT9408	UN69255-PUT9410	UN74121-PUT9503
UN75526-PUT9504	UN76628-PUT9505	UN76945-PUT9505
UN79388-PUT9507	UN80651-PUT9508	UN81519-PUT9509
UN87355-PUT9602	UN87504-PUT9602	UN89989-PUT9604
UN90494-SMCREC	UN90642-SMCCOR	

- JSR1411

UL99565	UN04156	UN04385
UN04919	UN05252	UN07309
UN15010	UN15120	UN15915
UN17623	UN21562	UN23533
UN24228	UN27178	UN28349
UN28529	UN35090	UN35842
UN39585	UN42781	UN45414
UN49234	UN52935	UN58443-PUT9404
UN63757-PUT9406	UN74122-PUT9503	UN75527-PUT9504
UN79261-PUT9507	UN87763-PUT9603	UN89372-PUT9604
UN89990-PUT9604		

- JSR1412

UN04157	UN07310	UN09572
UN09806	UN11305	UN13580
UN15011	UN16504	UN21563
UN24229	UN35843	UN39588
UN43162	UN45415	UN49235
UN74123-PUT9503	UN75528-PUT9504	UN89991-PUT9604

- JSR1413

UL98994	UL99566	UN01566
UN03268	UN04158	UN04379
UN07311	UN08448	UN08449
UN09177	UN09410	UN09807
UN09808	UN09817	UN11494
UN11666	UN13084	UN13477
UN13581	UN15012	UN15033
UN17624	UN19290	UN21564
UN22802	UN23534	UN23626
UN24230	UN25270	UN25271
UN26021	UN29299	UN32863
UN35088	UN35844	UN45015
UN45424	UN46804	UN48286
UN49236	UN49241	UN54707
UN74124-PUT9503	UN75529-PUT9504	UN76629-PUT9505
UN89992-PUT9604	UN90643-SMCCOR	

4.3 Cumulative Service Tape

If you received this product through CBPDO, you will not receive a cumulative service tape. Service information is included on the CBPDO tape.

If you received this product independently, a cumulative service tape may be included. This tape contains PTFs not incorporated into this program.

5.0 Installation Requirements and Considerations

The following sections identify the system requirements for installing and activating DCF/MVS Release 4.1. The information is categorized into two areas, each of which describes a distinct system environment:

1. The system used to install the program (driving system).
2. The system on which the program is installed (target system).

5.1 Driving System Requirements

The following section describes the environment of the driving system required to install DCF/MVS Release 4.1.

5.1.1 Operating System Requirements

DCF/MVS Release 4.1 requires that an MVS/SP operating system or higher be used on the driver system for installation.

5.1.2 Machine Requirements

There are no driver machine requirements for DCF/MVS Release 4.1.

5.1.3 Programming Requirements

System Modification Program Extended (SMP/E) Release 8.0 or higher is required on the driver system to install the base product and features.

5.1.4 DASD Storage Requirements

DCF/MVS Release 4.1 uses any storage device that is supported by the environment in which it is operating. See 5.2.4, "DASD Storage Requirements" on page 21 for additional information concerning the amount of storage required to install DCF/MVS Release 4.1.

5.2 Target System Requirements

The following section describes the environment of the target system required for installation and use of DCF/MVS Release 4.1.

5.2.1 Operating System Requirements

DCF/MVS Release 4.1 operates under the following operating systems:

- MVS/SP Version 3, Release 1.3 and above.
- MVS/ESA Version 4, Release 1.0 and above.
- MVS/ESA Version 5, Release 1.0 and above.
- OS/390 Release 1.0 and above.

5.2.2 Machine Requirements

DCF/MVS Release 4.1 operates on the IBM processors capable of supporting MVS/ESA Version 3 Release 1.3 or subsequent release and modification levels unless otherwise identified.

5.2.3 Programming Requirements

The following products are required for DCF/MVS Release 4.1 to install and run correctly:

- DCF/MVS Release 4.1 TSO feature (JSR1413) is designed to operate in an interactive environment under the control of TSO and the processors on which they are designed to operate.
- DCF/MVS Release 4.1 CICS feature (JSR1411) is designed to operate in an interactive environment under the control of CICS. If you are installing the CICS feature of DCF/MVS Release 4.1, the licensed program CICS/MVS Version 2 Release 1.0 or higher, is required.

DCF/MVS Release 4.1 utilizes the CICS command level interface and the CICS macro level interface. The CICS feature macro level interface cannot be used with CICS/MVS Version 3 Release 2.0 or higher.

- If you are installing the DLF feature (JSR1412), DCF/MVS Release 4.1 and the features must be installed in the same consolidated software inventory (CSI) as the DLF product (FMID HSL1302).
- When viewing documents containing included objects on the AFP Workbench Viewer, AFP Workbench Version 2 CSD level 2.15 must be installed.
- DCF/MVS Release 4.1 requires that special fonts be installed and available in a font library to produce page printer output.

The font defaults for DCF/MVS Release 4.1 and the Generalized Markup Language (GML) starter set for the 4250 Printer are:

- 5771-AAR - Monotype Times New Roman
- 5771-AAW - Typewriter and Pi Specials.

The font defaults for DCF/MVS Release 4.1 and the Generalized Markup Language (GML) starter set for IBM AFP page printers (such as the IBM 3820) are:

- 5771-ABA - Sonoran Serif
- 5771-ABC - Pi, Specials and Prestige.

The font defaults for DCF/MVS Release 4.1 and the Generalized Markup Language (GML) starter set for the IBM 4224 are the Courier and Essay typeface families. These fonts are shipped with the AFP Font Collection, 5648-113.

The font defaults for DCF/MVS Release 4.1 and the Generalized Markup Language (GML) starter set for the IBM 4028 are the Times Roman and Courier fonts. These fonts are shipped with the AFP Font Collection 5648-113.

5.2.4 DASD Storage Requirements

DCF/MVS Release 4.1 uses any storage device supported by the environment in which it is operating.

The data set *type* values shown in the tables that are in this section may have the values specified in Figure 8.

<i>Figure 8. Library Type Definition</i>		
Type	Usage	New or Existing
NU	Used only by this program	New
NM	Used by more than one program	New
EU	Used only by this program	Existing
EM	Used by more than one program	Existing

5.2.4.1 SMP/E Data Set Storage Requirements

Figure 9 shows the SMP/E storage requirements to install DCF/MVS Release 4.1. The DSSPACE parameters are identified in 3380 DASD tracks.

<i>Figure 9. Storage Requirements for SMP/E System Entries</i>	
SUB-ENTRY	Value
DSSPACE	(50,20,100) or greater
PEMAX	2000 or greater

Figure 10 on page 22 shows an estimate of the additional storage needed in the SMP/E data sets for DCF/MVS Release 4.1. The estimates must be added to those of any other programs and service being installed to determine the total storage requirements. To allocate all SMP/E data sets and DDDEFs, refer to *System Modification Program Extended Reference*.

Keep these points in mind:

- The number of blocks and directory blocks specified is the minimum storage required by DCF/MVS Release 4.1 when the program is being installed. You may want to specify additional storage and directory blocks to allow for maintenance.

- Data sets may be reblocked to a larger size for your system.

<i>Figure 10. Estimated Storage Requirements for SMP/E Data Sets</i>						
Data Set Name OR Library Name	DSORG	RECFM	LRECL	No. BLKS	BLK Size	No. DIR. BLKS
SMPPTS	PO	FB	80	50	6160	2
SMPSCDS	PO	FB	80	163	6160	106

5.2.4.2 Target and Distribution Library Storage Requirements

Figure 11 lists the target libraries (data sets) and Figure 12 on page 24 lists the distribution libraries (data sets) for DCF/MVS Release 4.1. Both figures give the attributes of the data sets required for the installation of DCF/MVS Release 4.1.

Note: The data sets defined in the following figures have a high level qualifier of *script*. If you change the high level qualifier to be a different name, then you must change all of the appropriate installation jobs to reflect that new name.

Keep these points in mind:

- If you are planning on installing other separately orderable features for DCF/MVS Release 4.1, please refer to those program directories to obtain information on the size of the target and distribution data sets. The data set sizes must be larger if you are installing these features.
- Data sets may be reblocked to a larger size for your system.
- The new target and distribution library data sets (type NU or NM), must be allocated as indicated in the table. See Figure 18 on page 36 for a job that allocates the new data sets.

<i>Figure 11. Storage Requirements for Target Libraries</i>		
Data Set Name or Library Name	Type	Data Set Information
script.R40.DCFLOAD	NM	RECFM = U LRECL = 0 BLKSIZE = 6144 Blocks = 1360 Dir. Blks = 12
script.R40.DCFSAMP	NM	RECFM = FB LRECL = 80 BLKSIZE = 6160 Blocks = 259 Dir. Blks = 6
script.R40.DCFMAC	NM	RECFM = FB LRECL = 80 BLKSIZE = 6160 Blocks = 101 Dir. Blks = 4
script.R40.DCFASM	NM	RECFM = FB LRECL = 80 BLKSIZE = 6160 Blocks = 300 Dir. Blks = 4
script.R40.MACLIB	NM	RECFM = FB LRECL = 80 BLKSIZE = 6160 Blocks = 356 Dir. Blks = 23
script.R40.DCFIMAGE	NU	RECFM = FB LRECL = 80 BLKSIZE = 6160 Blocks = 557 Dir. Blks = 4
script.R40.FONTPS	NM	RECFM = VB LRECL = 255 BLKSIZE = 6233 Blocks = 310 Dir. Blks = 12

<i>Figure 12. Storage Requirements for Distribution Libraries</i>		
Data Set Name or Library Name	Type	Data Set Information
script.R40.DCFDIST	NM	RECFM = U LRECL = 0 BLKSIZE = 6144 Blocks = 1134 Dir. Blks = 109
script.R40.ADCFSAMP	NM	RECFM = FB LRECL = 80 BLKSIZE = 6160 Blocks = 259 Dir. Blks = 6
script.R40.ADCFMAC	NM	RECFM = FB LRECL = 80 BLKSIZE = 6160 Blocks = 101 Dir. Blks = 4
script.R40.ADCFASM	NM	RECFM = FB LRECL = 80 BLKSIZE = 6160 Blocks = 300 Dir. Blks = 4
script.R40.AMACLIB	NM	RECFM = FB LRECL = 80 BLKSIZE = 6160 Blocks = 356 Dir. Blks = 23
script.R40.ADCFIMAG	NU	RECFM = FB LRECL = 80 BLKSIZE = 6160 Blocks = 557 Dir. Blks = 4
script.R40.AFONTPS	NM	RECFM = VB LRECL = 255 BLKSIZE = 6233 Blocks = 310 Dir. Blks = 12

5.3 Programming Considerations

The following list of programming considerations should be noted:

- IBM recommends that you RECEIVE, APPLY and ACCEPT all DCF/MVS Release 4.1 features together. If you install each feature individually, you must do an SMP/E ACCEPT of the base product (FMID HSR1401) before you install the additional features.

- DCF/MVS Release 4.1 can be tailored to fit your installation requirements. Refer to *Document Composition Facility: SCRIPT/VS Text Programmer's Guide* for additional information. Any source modules for a previous release of DCF/MVS that were changed for tailoring purposes, must be reapplied after DCF/MVS Release 4.1 is installed.
- If new fonts are installed or deleted for an IBM page printer, a new font library index must be created using the Font Library Index Program (FLIP) which is included with DCF/MVS Release 4.1. For information about creating this index, see 8.1, "Creating a Font Library Index" on page 71 or refer to *Document Composition Facility: SCRIPT/VS Text Programmer's Guide*.
- If PostScript fonts are added or deleted, the PostScript font index (DCFINDEX) must be modified. The Font Library Index Program (FLIP) cannot be used to create a font index for PostScript. For more information concerning the PostScript font index or PostScript font usage, refer to the appendix entitled "PostScript Information" in *Document Composition Facility: SCRIPT/VS Text Programmer's Guide*.
- The virtual storage requirements to format a document with DCF/MVS Release 4.1 are:
 - Minimum module: 435K
 - Each dictionary: 27K - 162K

The total amount of working storage depends on the complexity of the document being formatted. In general, a region size of 1 megabyte is adequate. Documents that are formatted for Advanced Function Printing (AFP) Printers require additional storage.

- The sizes of the dictionaries shipped with DCF/MVS Release 4.1 are listed in Figure 13.

<i>Figure 13. Dictionary Sizes</i>			
Language Code	Hex Bytes	Decimal Bytes	Kbytes
DAN	208E8	133,352	131
DUTH	28800	165,888	162
EAM	1A528	107,816	105
ECAN	1A580	107,904	106
EUK	1A5C0	107,968	106
FCAN	14E20	85,536	84
FIN	1C490	115,856	114
FNAT	15900	88,320	87
GERM	17710	96,016	94
ICE	1CBF0	117,744	115
ITAL	11908	71,944	71
NOR	192C8	103,112	101
POR	6898	26,776	27
SPAN	13B48	80,712	79
SWE	79D0	31,184	31

5.3.1 Considerations if DCF/MVS Release 3.x is Installed

If DCF/MVS Release 3.x is installed on your system, and you are installing DCF/MVS Release 4.1 into the same Consolidated Software Inventory (SMPCSI), it is necessary to define the DD statements (DDDEFS) for the DCFGML3 target library and ADCFGML3 distribution library.

The DD statements for these libraries are:

- DCFGML3 DD DSN=DCF.R3x.DCFGML3,DISP=OLD
- ADCFGML3 DD DSN=DCF.R3x.ADCFGML3,DISP=OLD

where x is the modification level of DCF/MVS Release 3 that is installed on your system.

These DDDEFS are required by SMP/E to properly delete the prior release of DCF/MVS.

5.4 System Considerations

There are no system considerations for DCF/MVS Release 4.1.

5.5 Special Considerations

DCF/MVS Release 4.1 was service updated since the original release of DCF/MVS Release 4.1. It is now at Service Level SMC9619. See 4.0, "Program and Service Level Information" on page 13 for information on service that has been rolled into this product.

The following updates were made for the service updated tape:

- The DCF/MVS Release 4.1 base product (HSR1401) contains all maintenance listed in 4.0, "Program and Service Level Information" on page 13.
- The DCF/MVS Release 4.1 CICS feature (JSR1411) which utilizes the CICS macro level interface, has been enhanced to also utilize the CICS command level interface. Additionally, support has been added to adapt the CICS interface to allow SCRIPT to be invoked from another application program using the DCF/CICS Interface Control Block but which does not require the CICS product. The CICS feature also contains all maintenance listed in 4.0, "Program and Service Level Information" on page 13.
- The DCF/MVS Release 4.1 DLF feature (JSR1412) contains all maintenance listed in 4.0, "Program and Service Level Information" on page 13.
- The DCF/MVS Release 4.1 TSO feature (JSR1413) contains all maintenance listed in 4.0, "Program and Service Level Information" on page 13.

If you want to install the service updated base product or any feature to take advantage of the enhancements described above, you can use the directions in this program directory to do an SMP/E APPLY and ACCEPT of the FMIDs that you want to install.

If you install the service updated base product and later add a feature, you must ACCEPT the service updated DCF/MVS Release 4.1 base product (HSR1401) prior to installing the additional feature.

If you install the service updated DCF/MVS Release 4.1 base product and later add a feature, or you install product maintenance, you may need to add the data set *script.R40.DCFMAC* to the SMP/E SYSLIB concatenation for assembly of DCF/MVS Release 4.1 source modules.

5.5.1 National Language Use Considerations

If your installation wants to use dictionaries and code pages (key board) other than the default English code pages and spelling and hyphenation dictionaries, three macros in the data set *script.R40.DCFMAC* must be modified.

To change the defaults, complete the following instructions:

- Change the default language specified in the DSMDEF macro
- For all page mode devices, the default font specified in the calls to the DSMLDT macro must be changed to specify the coded font that is appropriate for the particular country.
- Code the DSMACTT macro to provide translations from the installation's input codepoints to international codepage 500 for spell checking and hyphenation of accented characters to occur correctly.

Refer to *Document Composition Facility: SCRIPT/VS Text Programmer's Guide* for more information on the use of the DSMACTT, DSMDEF, and DSMLDT macros.

6.0 Installation Instructions

The following sections describe the step-by-step procedures to install and activate the functions of DCF/MVS Release 4.1.

If you obtained DCF/MVS Release 4.1 in a CBPDO, you can use the RIMLIB job on the CBPDO tape to do the SMP/E RECEIVE for DCF/MVS Release 4.1. All service, HOLDDATA, and preventive service planning (PSP) information is included on the CBPDO tape. For more information, refer to *MVS CBPDO Memo to User Extension* included with the CBPDO.

DCF/MVS Release 4.1 is installed using the SMP/E RECEIVE, APPLY, and ACCEPT method. The SMP/E dialog panels may be used for the installation of DCF/MVS Release 4.1. If you choose not to use the SMP/E dialog panels, sample JCL is provided for the installation of DCF/MVS Release 4.1.

All SMP/E install steps provided assume the existence of a cataloged procedure called SMPPROC containing all necessary DD statements for the execution of SMP/E. If your SMP/E procedure is not named SMPPROC, substitute your procedure name for SMPPROC. If you do not have an SMP/E procedure, refer to *System Modification Program Extended (SMP/E) User's Guide* or *System Modification Program Extended (SMP/E) Reference* for instructions to build one.

The SMPPROC procedure is not required when using the SMP/E dialog panels.

In the sample JCL provided, all sets to the global zone in SMP/E consolidated software inventory (SMPCSI) are GLOBAL. Sets to the target zone are *target*, and sets to the distribution zone are *dlib*. The appropriate target and distribution zone names must be substituted in the JCL for your installation if you do not use these names.

6.1 Unload Sample JCL

Sample JCL for the installation of DCF/MVS Release 4.1 is provided on the product tape to aid in SMP/E installation. These samples are unloaded from the tape into the data set *script.r40.jcllib*, where they are available for modification and use on your system.

The JCL shown in Figure 14 on page 30 is used to unload the sample JCL from the DCF/MVS Release 4.1 tape.

If the sample JCL is unloaded into a data set with a different name from *script.r40.jcllib*, all future references in this directory to the data set *script.r40.jcllib* must be replaced with that new name.

```

//UNLOAD JOB (acct. no.),'name',CLASS=A,MSGLEVEL=(1,1)
//*****
//* UNLOAD SAMPLE INSTALLATION JCL FROM TAPE
//* REPLACE TAPE FIELDS WITH VALID TAPE DRIVE NAME.
//*****
//
//STEP1 EXEC PGM=IEBCOPY
//SYSPRINT DD SYSOUT=*
//IN1 DD DSN=IBM.HSR1401.F5,UNIT=(tape,,DEFER),
// LABEL=(6,SL),VOL=SER=SR1401,DISP=(OLD,KEEP)
//IN2 DD DSN=IBM.JSR1411.F4,UNIT=(tape,,DEFER),
// LABEL=(13,SL),VOL=SER=SR1401,DISP=(OLD,KEEP)
//IN3 DD DSN=IBM.JSR1412.F4,UNIT=(tape,,DEFER),
// LABEL=(18,SL),VOL=SER=SR1401,DISP=(OLD,KEEP)
//OUT DD DSN=script.r40.jcllib,
// DISP=(NEW,CATLG,DELETE),
// UNIT=SYSDA,DCB=SYS1.PROCLIB,
// SPACE=(CYL,(1,1,14))
//SYSUT3 DD UNIT=SYSDA,SPACE=(CYL,(1,1))
//SYSUT4 DD UNIT=SYSDA,SPACE=(CYL,(1,1))
//SYSIN DD *
COPY OUTDD=OUT,INDD=IN1
COPY OUTDD=OUT,INDD=IN2
COPY OUTDD=OUT,INDD=IN3
//
//

```

Figure 14. Unload JCL

A return code of "0" should be received from the UNLOAD JCL.

After unloading these samples, data set *script.r40.jcllib* contains sample JCL for installing and customizing DCF/MVS Release 4.1. The installation JCL members are as follows:

- DSMATIS1 - IVP JCL for CICS macro interface - allocate sequential data set
- DSMATIS2 - IVP JCL for CICS command interface - modify CICS load modules
- DSMATIS3 - IVP JCL for CICS command interface - allocate sequential data set
- DSMATIS4 - IVP JCL for CICS command interface - create keyed VSAM files
- DSMATIV1 - IVP JCL for CICS macro interface - copy GML files to sequential data set
- DSMIVS01 - New data set allocation
- DSMIVS02 - Target library DD statements
- DSMIVS03 - Distribution library DD statements
- DSMIVS04 - Sample JCL to create SMP/E DDDEFs
- DSMIVS05 - Sample RECEIVE JCL
- DSMIVS06 - Sample APPLY CHECK JCL
- DSMIVS07 - Sample APPLY JCL
- DSMIVS08 - Sample ACCEPT CHECK JCL
- DSMIVS09 - Sample ACCEPT JCL
- DSMLOIVP - IVP JCL for DLF - format the sample document

DSMLOIV1 - IVP JCL for DLF - create test library VSAM files
DSMLOIV2 - IVP JCL for DLF - define test library and two users
DSMLOIV3 - IVP JCL for DLF - copy GML files to VSAM files.

Other members in *script.r40.jcllib* are not needed for the installation of DCF/MVS Release 4.1. After the product is installed, these members are available in other distribution library data sets.

6.2 Define Target and Distribution Library DDDEFs

SMP/E DDDEF entries for each target and distribution library data set should be defined at this time, if not already done.

The data sets defined in the following figures have a high level qualifier of *SCRIPT*. If you change the high level qualifier to be a different name, then you must change all of the appropriate installation jobs to reflect that new name. You must also change the DSMxxUOT modules and the DSMFPROF member in the MACLIB data set to reflect the new name. See *Document Composition Facility: SCRIPT/VS Text Programmer's Guide* for information about these modules.

The JCL in Figure 15 on page 32 is used to create the required SMP/E DDDEFs to install DCF/MVS Release 4.1. After the sample JCL is unloaded from the tape into the data set *script.r40.jcllib*, this JCL exists in the data set *script.r40.jcllib*(DSMIVS04). See 6.1, "Unload Sample JCL" on page 29 for information about unloading the sample JCL from the tape.

If the target and distribution data sets will be cataloged, the UNIT and VOLUME parameters in this JCL should be deleted prior to submitting this JCL. See 6.3, "Allocate Target and Distribution Libraries" on page 35 for information on allocating the target and distribution data sets.

Note: SMP/E dialog panels may be used to define these DDDEFs instead of this JCL.

Note: In order for maintenance updates to work correctly for DCF/MVS Release 4.1, you should make sure that the SMP/E SYSLIB concatenation contains the DDDEF for *script.R40.DCFMAC*.

```

//DSMIVS04 JOB 'acct. no.','name',MSGLEVEL=(1,1)
//SMP      EXEC SMPPROC
//*
//*****
/* ALLOCATE SMP/E DDDEFS FOR DCF
/* MODIFY THE UUUU, DVOL, TVOL, DLFVOL, TARGET AND DLIB
/* NAMES IN LOWER CASE AS APPROPRIATE FOR
/* YOUR INSTALLATION.
/* IF YOU ARE INSTALLING THE DLF FEATURE FOR
/* DCF, YOU MUST INCLUDE THE DLFLOAD DD STATEMENT
/* TO POINT TO THE LOAD LIBRARY FOR THE DLF
/* PRODUCT.
/* THE DISTRIBUTION LIBRARY DDDEFS ARE DEFINED
/* TO THE TARGET ZONE FOR RESTORE PURPOSES.
/*
/* Change History:
/* APAR      DATE      COMMENT
/* PN07165 91/10/25 Distribution libraries must use dvol
//*****
//SMP.SMPCNTL DD *
    SET BDY(target) .
    UCLIN .
    REP DDDEF(DCFLOAD)
        DATASET(script.R40.DCFLOAD)
        UNIT(uuuu) VOLUME(tv01)
        OLD .
    REP DDDEF(DCFSAMP)
        DATASET(script.R40.DCFSAMP)
        UNIT(uuuu) VOLUME(tv01)
        OLD .
    REP DDDEF(DCFMAC)
        DATASET(script.R40.DCFMAC)
        UNIT(uuuu) VOLUME(tv01)
        OLD .
    REP DDDEF(DCFASM)
        DATASET(script.R40.DCFASM)
        UNIT(uuuu) VOLUME(tv01)
        OLD .
    REP DDDEF(DCFGML)
        DATASET(script.R40.MACLIB)
        UNIT(uuuu) VOLUME(tv01)
        OLD .

```

Figure 15 (Part 1 of 3). Creating Target and Distribution DDDEFS


```

REP DDDEF (FONTPS)
  DATASET (script.R40.FONTPS)
  UNIT (uuuu) VOLUME (tvo1)
  OLD .
REP DDDEF (DCFIMAGE)
  DATASET (script.R40.DCFIMAGE)
  UNIT (uuuu) VOLUME (tvo1)
  OLD .
REP DDDEF (DLFLOAD)
  DATASET (dlf.r30.dlflload)
  UNIT (uuuu) VOLUME (dlfvo1)
  OLD .
REP DDDEF (DCFDIST)
  DATASET (script.R40.DCFDIST)
  UNIT (uuuu) VOLUME (dvo1)
  OLD .
REP DDDEF (ADCFSAMP)
  DATASET (script.R40.ADCFSAMP)
  UNIT (uuuu) VOLUME (dvo1)
  OLD .
REP DDDEF (ADCFMAC)
  DATASET (script.R40.ADCFMAC)
  UNIT (uuuu) VOLUME (dvo1)
  OLD .
REP DDDEF (ADCFASM)
  DATASET (script.R40.ADCFASM)
  UNIT (uuuu) VOLUME (dvo1)
  OLD .
REP DDDEF (ADCFGML)
  DATASET (script.R40.AMACLIB)
  UNIT (uuuu) VOLUME (dvo1)
  OLD .
REP DDDEF (AFONTPS)
  DATASET (script.R40.AFONTPS)
  UNIT (uuuu) VOLUME (dvo1)
  OLD .
REP DDDEF (ADCFIMAG)
  DATASET (script.R40.ADCFIMAG)
  UNIT (uuuu) VOLUME (dvo1)
  OLD .
ENDUCL .
SET BDY (dl1ib) .
UCLIN .

```

Figure 15 (Part 2 of 3). Creating Target and Distribution DDDEFs

```

      REP DDDEF(DCFDIST)
          DATASET(script.R40.DCFDIST)
          UNIT(uuuu) VOLUME(dvol)
          OLD .
      REP DDDEF(ADCFSAMP)
          DATASET(script.R40.ADCFSAMP)
          UNIT(uuuu) VOLUME(dvol)
          OLD .
      REP DDDEF(ADCFMAC)
          DATASET(script.R40.ADCFMAC)
          UNIT(uuuu) VOLUME(dvol)
          OLD .
      REP DDDEF(ADCFASM)
          DATASET(script.R40.ADCFASM)
          UNIT(uuuu) VOLUME(dvol)
          OLD .
      REP DDDEF(ADCFGML)
          DATASET(script.R40.AMACLIB)
          UNIT(uuuu) VOLUME(dvol)
          OLD .
      REP DDDEF(AFONTPS)
          DATASET(script.R40.AFONTPS)
          UNIT(uuuu) VOLUME(dvol)
          OLD .
      REP DDDEF(ADCFIMAG)
          DATASET(script.R40.ADCFIMAG)
          UNIT(uuuu) VOLUME(dvol)
          OLD .
      ENDUCL .
/*
//

```

Figure 15 (Part 3 of 3). Creating Target and Distribution DDDEFs

A return code of "4" and the message GIM27701W should be received from this JCL if the DDDEFs have never been created. A return code of "0" should be received if the DDDEFs were created previously.

If you do not use the DSMIVS04 JCL or dialog panels to create the SMP/E DDDEF entries, the DD statements in Figure 16 on page 35 can be used in the SMP/E job step for APPLY and RESTORE of DCF/MVS Release 4.1 to define the libraries for the target zone. After the sample JCL is unloaded from the tape into the data set *script.r40.jcllib*, this JCL exists in the data set *script.r40.jcllib(DSMIVS02)*. See 6.1, "Unload Sample JCL" on page 29 for information about unloading the sample JCL from the tape.

If you are installing the DLF feature of DCF/MVS Release 4.1, the DLF load library DD statement is required in SMP/E. Substitute the DLF load library name in the example with your installation's DLF load library data set name.

```
//DCFLOAD DD DSN=SCRIPT.R40.DCFLOAD,DISP=OLD
//DCFSAMP DD DSN=SCRIPT.R40.DCFSAMP,DISP=OLD
//DCFMAC DD DSN=SCRIPT.R40.DCFMAC,DISP=OLD
//DCFASM DD DSN=SCRIPT.R40.DCFASM,DISP=OLD
//DCFGL DD DSN=SCRIPT.R40.MACLIB,DISP=OLD
//FONTPS DD DSN=SCRIPT.R40.FONTPS,DISP=OLD
//DCFIMAGE DD DSN=SCRIPT.R40.DCFIMAGE,DISP=OLD
//*-----*
/* IF YOU ARE INSTALLING THE DLF FEATURE FOR DCF, YOU *
/* MUST INCLUDE THE FOLLOWING DD STATEMENT TO POINT TO *
/* THE LOAD LIBRARY FOR THE PRE-REQUISITE DLF PRODUCT. *
//*-----*
//DLFLOAD DD DSN=d1f.r30.d1fload,DISP=OLD
```

Figure 16. Target Library DD Statements

If you do not use the DSMIVS04 JCL or dialog panels to create the SMP/E DDDEF entries, the DD statements in Figure 17 can be used in the SMP/E job step for ACCEPT and RESTORE of DCF/MVS Release 4.1 to define the libraries for the distribution zone. After the sample JCL is unloaded from the tape into the data set *script.r40.jcllib*, this JCL exists in the data set *script.r40.jcllib*(DSMIVS03). See 6.1, “Unload Sample JCL” on page 29 for information about unloading the sample JCL from the tape.

```
//DCFDIST DD DSN=SCRIPT.R40.DCFDIST,DISP=OLD
//ADCFSAMP DD DSN=SCRIPT.R40.ADCFSAMP,DISP=OLD
//ADCFMAC DD DSN=SCRIPT.R40.ADCFMAC,DISP=OLD
//ADCFASM DD DSN=SCRIPT.R40.ADCFASM,DISP=OLD
//ADCFGL DD DSN=SCRIPT.R40.AMACLIB,DISP=OLD
//AFONTPS DD DSN=SCRIPT.R40.AFONTPS,DISP=OLD
//ADCFIMAG DD DSN=SCRIPT.R40.ADCFIMAG,DISP=OLD
```

Figure 17. Distribution Library DD Statements

6.3 Allocate Target and Distribution Libraries

The JCL in Figure 18 on page 36 is used to allocate new target and distribution data sets. After the sample JCL is unloaded from the tape into the data set *script.r40.jcllib*, this JCL exists in the data set *script.r40.jcllib*(DSMIVS01). See 6.1, “Unload Sample JCL” on page 29 for information about unloading the sample JCL from the tape.

The storage allocations set up in this JCL are in blocks. The primary allocations represent approximately 15 percent over the storage needed for DCF/MVS Release 4.1 and all features. This additional storage is to allow for maintenance. The secondary allocations represent approximately 10 percent of the primary allocations.

```

//ALLOCJOB JOB 'acct no.','name',MSGLEVEL=(1,1)
//*-----*
//*          PURPOSE OF JOB          *
//* TO ALLOCATE THE REQUIRED DISTRIBUTION AND TARGET *
//* LIBRARIES FOR SMP/E INSTALLATION OF DCF RELEASE 4.1 *
//*          *
//*          INSTRUCTIONS          *
//* 1. REPLACE THE JOB CARD ABOVE WITH ONE VALID FOR *
//* YOUR INSTALLATION. *
//*          *
//* 2. THIS JOB CONTAINS A INLINE PROCEDURE FOR ALLOCATING *
//* THE DATASETS. *
//*          *
//* USE THE DCFHLQ, DVOL, TVOL, AND UNIT KEYWORDS AS *
//* NEEDED TO SPECIFY THE DCF DATASET HIGH LEVEL *
//* QUALIFIER, DISTRIBUTION VOLUME, TARGET VOLUME, *
//* AND DEVICE TYPE, RESPECTIVELY. *
//*-----*
//*
//ALLOC   PROC DCFHLQ=SCRIPT, <- DCF HIGH LEVEL QUALIFIER
//          DVOL=,          <- DISTRIBUTION VOLUME
//          TVOL=,          <- TARGET VOLUME
//          UNIT=SYSDA      <- DEVICE TYPE
//ALLOC1   EXEC PGM=IEFBR14
//DCFDIST  DD DSN=&DCFHLQ..R40.DCFDIST,DISP=(NEW,CATLG),
//          DCB=(RECFM=U,LRECL=0,BLKSIZE=6144),
//          UNIT=&UNIT,VOL=SER=&DVOL,
//          SPACE=(6144,(1134,113,109))
//*
//DCFLOAD  DD DSN=&DCFHLQ..R40.DCFLOAD,DISP=(NEW,CATLG),
//          DCB=SYS1.LINKLIB,
//          UNIT=&UNIT,VOL=SER=&TVOL,
//          SPACE=(6144,(1360,136,12))
//*
//ADCFSAMP DD DSN=&DCFHLQ..R40.ADCFSAMP,DISP=(NEW,CATLG),
//          DCB=(RECFM=FB,LRECL=80,BLKSIZE=6160),
//          UNIT=&UNIT,VOL=SER=&DVOL,
//          SPACE=(6160,(259,26,6))
//*
//DCFSAMP  DD DSN=&DCFHLQ..R40.DCFSAMP,DISP=(NEW,CATLG),
//          DCB=*.ADCFSAMP,
//          UNIT=&UNIT,VOL=SER=&TVOL,
//          SPACE=(6160,(259,26,6))
//*

```

Figure 18 (Part 1 of 3). JCL to Allocate New Data Sets

```

//ADCFMAC DD DSN=&DCFHLQ..R40.ADCFMAC,DISP=(NEW,CATLG),
//          DCB=(RECFM=FB,LRECL=80,BLKSIZE=6160),
//          UNIT=&UNIT,VOL=SER=&DVOL,
//          SPACE=(6160,(101,10,4))
//*
//DCFMAC DD DSN=&DCFHLQ..R40.DCFMAC,DISP=(NEW,CATLG),
//          DCB=*.ADCFMAC,
//          UNIT=&UNIT,VOL=SER=&TVOL,
//          SPACE=(6160,(101,10,4))
//*
//ADCFASM DD DSN=&DCFHLQ..R40.ADCFASM,DISP=(NEW,CATLG),
//          DCB=(RECFM=FB,LRECL=80,BLKSIZE=6160),
//          UNIT=&UNIT,VOL=SER=&DVOL,
//          SPACE=(6160,(300,30,4))
//*
//DCFASM DD DSN=&DCFHLQ..R40.DCFASM,DISP=(NEW,CATLG),
//          DCB=*.ADCFASM,
//          UNIT=&UNIT,VOL=SER=&TVOL,
//          SPACE=(6160,(300,30,4))
//*
//ADCFGML DD DSN=&DCFHLQ..R40.AMACLIB,DISP=(NEW,CATLG),
//          DCB=(RECFM=FB,LRECL=80,BLKSIZE=6160),
//          UNIT=&UNIT,VOL=SER=&DVOL,
//          SPACE=(6160,(356,36,23))
//*
//DCFGML DD DSN=&DCFHLQ..R40.MACLIB,DISP=(NEW,CATLG),
//          DCB=*.ADCFGML,
//          UNIT=&UNIT,VOL=SER=&TVOL,
//          SPACE=(6160,(356,36,23))
//*
//ADCFIMAG DD DSN=&DCFHLQ..R40.ADCFIMAG,DISP=(NEW,CATLG),
//          DCB=(RECFM=FB,LRECL=80,BLKSIZE=6160),
//          UNIT=&UNIT,VOL=SER=&DVOL,
//          SPACE=(6160,(557,56,4))
//*
//DCFIMAGE DD DSN=&DCFHLQ..R40.DCFIMAGE,DISP=(NEW,CATLG),
//          DCB=*.ADCFIMAG,
//          UNIT=&UNIT,VOL=SER=&TVOL,
//          SPACE=(6160,(557,56,4))
//*
//AFONTPS DD DSN=&DCFHLQ..R40.AFONTPS,DISP=(NEW,CATLG),
//          DCB=(RECFM=VB,LRECL=255,BLKSIZE=6233),
//          UNIT=&UNIT,VOL=SER=&DVOL,
//          SPACE=(6233,(310,31,12))
//

```

Figure 18 (Part 2 of 3). JCL to Allocate New Data Sets

```

//FONTPS DD DSN=&DCFHLQ..R40.FONTPS,DISP=(NEW,CATLG),
//          DCB=*.AFONTPS,
//          UNIT=&UNIT,VOL=SER=&TVOL,
//          SPACE=(6233,(310,31,12))
//*
//EALLOC PEND
//*
//ALLOCAT EXEC ALLOC
/*

```

Figure 18 (Part 3 of 3). JCL to Allocate New Data Sets

A return code of "0" should be received from the ALLOCATE JCL.

6.4 Installation Steps

DCF/MVS Release 4.1 is divided into several FMIDs:

- Base product FMID (HSR1401)
- CICS feature FMID (JSR1411)
- DLF feature FMID (JSR1412)
- TSO feature FMID (JSR1413).

The base product FMID (HSR1401) must be installed. At least one feature FMID (JSR1411, JSR1412, or JSR1413) must be installed. All FMIDs that you want to install may be installed at the same time.

If you install the DLF feature (JSR1412), DCF/MVS Release 4.1 and the features must be installed in the same consolidated software inventory (CSI) as the DLF product (FMID HSL1302).

Before installing DCF/MVS Release 4.1, check the following:

- Ensure that the sample JCL is unloaded from the product tape. See 6.1, "Unload Sample JCL" on page 29 for instructions on unloading sample JCL from the product tape.
- Ensure that all programming requirements are satisfied. See 5.2.3, "Programming Requirements" on page 20 for programming requirements.
- Ensure that the SMP/E global zone OPTIONS entry is correct. See 5.2.4.1, "SMP/E Data Set Storage Requirements" on page 21 for the SMP/E global zone OPTIONS entry.
- Ensure that SMP/E DD definitions (DDDEFs) are defined. See 6.2, "Define Target and Distribution Library DDDEFs" on page 31 for SMP/E data definitions.
- Ensure that all required target and distribution library data sets are allocated. See 6.3, "Allocate Target and Distribution Libraries" on page 35 for data set allocations.

The following steps are performed to install the DCF/MVS Release 4.1 base product and features:

1. RECEIVE DCF/MVS Release 4.1 base product, FMID HSR1401, and applicable features, JSR1411, JSR1412, or JSR1413.
2. RECEIVE cumulative service tapes, if applicable.
3. Perform APPLY CHECK.
4. Load target libraries using APPLY.
5. Enable DCF/MVS Release 4.1 for OS/390 Systems
6. Perform ACCEPT CHECK.
7. Load distribution libraries using ACCEPT.
8. Perform the activities in 7.0, "Installation Verification Procedures" on page 47 to run the installation verification procedure for DCF/MVS Release 4.1.

6.4.1 RECEIVE DCF/MVS Release 4.1 Base Product and Features

Run the SMP/E RECEIVE JCL in Figure 19 to unload the DCF/MVS Release 4.1 base product data and feature data from the base tape into SMP/E temporary data sets. This JCL exists in the data set *script.r40.jcllib*(DSMIVS05).

The RECEIVE command should specify all FMIDs that you want to install. Valid FMIDs are HSR1401, JSR1411, JSR1412 and JSR1413.

The supplied sample JCL gives the RECEIVE for the base product and one feature. The feature FMID specified in this sample should be changed to reflect the features that you are installing.

Modify the job to specify the appropriate value for *tape*, and the appropriate *UNIT*, and *VOLSER* for the *SMPTLIB* data sets.

SMP/E dialog panels can be used instead of the supplied sample JCL.

Note: This step is bypassed if receiving the product from a CBPDO.

```
//JOB1      JOB 'acct no.','name',MSGLEVEL=(1,1)
//RECEIVE   EXEC SMPPROC
//SMP.SMPPTFIN DD DSN=SMPMCS,DISP=(OLD,PASS),
//           VOL=SER=SR1401,LABEL=(1,SL),
//           UNIT=(tape,,DEFER)
//SMP.SMPTLIB DD UNIT=xxxx,DISP=OLD,VOL=SER=nnnnnn
//SMP.SMPCNTL DD *
//           SET BDY(GLOBAL).
//           RECEIVE S(HSR1401,JSR1411) SYSMODS.
/*
```

Figure 19. RECEIVE JCL to RECEIVE Base Product and Feature

A return code of "0" should be received from the RECEIVE JCL.

6.4.2 RECEIVE Cumulative Service Tapes if Applicable

A cumulative service tape may be shipped with the product package. If no cumulative service tape is shipped or if the product is received by CBPDO, disregard this section.

You should create JCL similar to Figure 20 on page 40 to RECEIVE the PTFs and HOLDDATA from the cumulative service tape.

```
//RECEIVEC JOB 'account #','name',MSGLEVEL=(1,1)
//*****
//* Receive cumulative service data. The UNIT
//* and SOURCEID fields must be filled in.
//* SOURCEID is a unique name that will assign
//* a common identifier to the SYSMODS received.
//*****
//RECEIVEC EXEC SMPPROC
//SMPHOLD DD UNIT=tape,LABEL=(4,NL),DISP=SHR,
// VOL=SER=CUMTAP,
// DCB=(RECFM=FB,LRECL=80,BLKSIZE=7200)
//SMPPTFIN DD UNIT=tape,LABEL=(1,NL),DISP=SHR,
// VOL=SER=CUMTAP,
// DCB=(RECFM=FB,LRECL=80,BLKSIZE=7200)
//SMP.SMPCNTL DD *
// SET BDY(GLOBAL).
// RECEIVE SYSMODS HOLDDATA SOURCEID(sssssss).
//*
```

Figure 20. RECEIVE Job for Cumulative Service Tape

A return code of "0" should be received from this job.

If any of the PTFs on the tape have a system hold by the ++HOLD SYSTEM modification control statement with a reason ID equal to UCLIN, file 6 of the cumulative service tape will contain the UCLIN for that PTF. The instructions for the UCLIN are contained in the cover letter of the PTF.

6.4.3 Perform APPLY CHECK

Run the SMP/E APPLY CHECK JCL in Figure 21 on page 41 to determine which SYSMODs, if any, are missing from the product. Any missing SYSMODs should be RECEIVED before continuing with the installation of DCF/MVS Release 4.1.

The APPLY CHECK should specify all FMIDs that have been RECEIVED. Valid FMIDs are HSR1401, JSR1411, JSR1412 and JSR1413. The supplied sample JCL gives the APPLY CHECK for the base product and one feature. The feature FMID specified in this sample should be changed to reflect the features that you are installing.

To receive the full benefit of the SMP/E Causer SYSMOD Summary Report, do *not* bypass the following on the APPLY CHECK: PRE, ID, REQ, and IFREQ. This is because the SMP/E root cause analysis

identifies the cause only of **ERRORS** and not of **WARNINGS** (SYSMODs that are bypassed are treated as warnings, not errors, by SMP/E).

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

Modify the job to specify the appropriate value for *tape*, and the appropriate UNIT, and VOLSER for the SMPTLIB data sets.

This JCL exists in the data set *script.r40.jcllib*(DSMIVS06).

SMP/E dialog panels can be used instead of the supplied JCL.

```
//JOB3      JOB 'acct. no.', 'name', MSGLEVEL=(1,1)
//APPLY     EXEC SMPPROC
//SMP.SMPTLIB DD UNIT=xxxx, DISP=OLD, VOL=SER=nnnnnn
//SMP.SMPCNTL DD *
    SET BDY(target).
    APPLY CHECK S(HSR1401,JSR1411)
    BYPASS(PRE,ID,REQ,IFREQ,HOLDSYS,HOLDUSER,
    HOLDCLASS(UCLREL,ERREL)) GROUPEXTEND.
/*
```

Figure 21. APPLY CHECK JCL

If FMID JSR1413 has never been installed, you will receive message GIM61903W as follows:

```
GIM61903W      LMOD DSMTSS40 WAS NOT DELETED BY SYSMOD JSR1413
                BECAUSE DSMTSS40 IS NOT IN THE TARGET ZONE.
GIM61903W      LMOD DSMTXS40 WAS NOT DELETED BY SYSMOD JSR1413
                BECAUSE DSMTXS40 IS NOT IN THE TARGET ZONE.
```

and a return code of “4” should be received. If JSR1413 was previously installed, a return code of “0” should be received from APPLY CHECK.

6.4.4 Load Target Libraries using APPLY

Run the SMP/E APPLY JCL in Figure 22 on page 42 to load the product into SMP/E target libraries from SMP/E temporary data sets.

The APPLY should specify all FMIDs that have been RECEIVED. Valid FMIDs are HSR1401, JSR1411, JSR1412 and JSR1413.

The supplied sample JCL gives the APPLY for the base product and one feature. The feature FMID specified in this sample should be changed to reflect the features that you are installing.

Modify the job to specify the appropriate value for *tape*, and the appropriate UNIT, and VOLSER for the SMPTLIB data sets.

This JCL exists in the data set *script.r40.jcllib*(DSMIVS07).

SMP/E dialog panels can be used instead of the supplied JCL.

```
//JOB4      JOB 'acct. no.', 'name', MSGLEVEL=(1,1)
//APPLY     EXEC SMPPROC
//SMP.SMPTLIB DD UNIT=xxxx, DISP=OLD, VOL=SER=nnnnnn
//SMP.SMPCNTL DD *
    SET BDY(target).
    APPLY S(HSR1401, JSR1411)
    BYPASS(HOLDCLASS(UCLREL, ERREL))
    GROUPEXTEND COMPRESS(ALL).
/*
```

Figure 22. APPLY JCL

A return code of “4” should be received from the APPLY job. The messages that you receive will vary depending on the combination of FMIDs you install. The following messages are expected.

- If FMID JSR1413 has never been installed, you will receive message GIM61903W as follows:

```
GIM61903W      LMOD DSMTSS40 WAS NOT DELETED BY SYSMOD JSR1413
                BECAUSE DSMTSS40 IS NOT IN THE TARGET ZONE.
GIM61903W      LMOD DSMTXS40 WAS NOT DELETED BY SYSMOD JSR1413
                BECAUSE DSMTXS40 IS NOT IN THE TARGET ZONE.
```

If JSR1413 was previously installed, you will not receive the GIM61903W message.

- DFP linkage editor message IEW0461 or DFSMS binder message IEW2454W is expected for each of the following unused dictionary modules:
 - DSMATS30, DSMATS40 and DSMMVS40 if you are installing the CICS feature JSR1411
 - DSMLXS30 if you are installing the DLF feature JSR1412
 - DSMTXS40 if you are installing the TSO feature JSR1413

Message GIM23903W with return code 04 will be received for all modules included in these load modules, and for all other load modules that are processed by SMP/E in the same link-edit batch (SMP/E sequence number).

```
GIM23903W LINK-EDIT PROCESSING FOR SYSMOD xxxxxx WAS
SUCCESSFUL FOR MODULE xxxxxx IN THE DCFLOAD LIBRARY.
THE RETURN CODE WAS 04.
```

Figure 23 shows the unresolved reference modules associated with each load module.

If you install additional separately orderable features at the same time as DCF/MVS Release 4.1, refer to those feature program directories for a list of unresolved references.

<i>Figure 23. Unresolved Reference Load Modules</i>		
FMID	Load Module Name	Module Name
JSR1411	DSMATS30, DSMATS40 and DSMMVS40	DSMEQKEQ DSMEAVER DSMEUVER DSMECVER DSMGEVER DSMDUVER DSMSPVER DSMITVER DSMFNVER DSMFCVER DSMDAVER DSMFIVER DSMICVER DSMNOVER DSMPOVER DSMSWVER
JSR1412 and JSR1413	DSMLXS30 and DSMTXS40	DSMEQKEQ DSMEUVER DSMECVER DSMGEVER DSMDUVER DSMSPVER DSMITVER DSMFNVER DSMFCVER DSMDAVER DSMFIVER DSMICVER DSMNOVER DSMPOVER DSMSWVER

- The DFSMS Binder message IEW2646W is expected for load modules DSMATS30, DSMATS40, DSMIVPT, DSMMVS40, and DSMTXS40, and may be safely ignored:

```
IEW2646W ESD RMODE(24) CONFLICTS WITH USER-SPECIFIED
          RMODE(ANY) FOR SECTION xxxxxxxx.
```

- The DFSMS Binder message IEW2651W is expected for load modules DSMATS30, DSMIVPT, DSMESBEG, DSMEAVER, DSMEUVER, DSMECVER, DSMGEVER, DSMDUVER, DSMSPVER, DSMITVER, DSMFNVER, DSMFCVER, DSMDAVER, DSMFIVER, DSMICVER, DSMNOVER, DSMPOVER, DSMSWVER and may be safely ignored:

```
IEW2651W ESD AMODE 31 CONFLICTS WITH USER-SPECIFIED
          AMODE 24 FOR ENTRY POINT xxxxxxxx.
IEW2651W ESD AMODE 24 CONFLICTS WITH USER-SPECIFIED
          AMODE 31 FOR ENTRY POINT xxxxxxxx.
```

Any other error conditions should be investigated.

The Installation Verification Procedure can be run now. See 7.0, "Installation Verification Procedures" on page 47 for a description of these procedures.

6.4.5 Enable DCF/MVS Release 4.1 for OS/390 Systems

DCF/MVS Release 4.1 uses dynamic enablement when running on OS/390. If you are running on an OS/390 system, you must update the IFAPRDxx member of SYS1.PARMLIB to enable DCF/MVS Release 4.1. This step **must** be completed to allow full use of DCF/MVS Release 4.1 on OS/390. Before you can use DCF/MVS Release 4.1 on OS/390, you must insure that the active IFAPRDxx member has been updated with the correct information for DCF/MVS Release 4.1. DCF/MVS Release 4.1 provides a sample IFAPRDxx entry in member DCFPRDXX of the data set `SCRIPT.R40.DCFSAMP`. Copy DCFPRDXX into your active IFAPRDxx member of SYS1.PARMLIB to enable DCF/MVS Release 4.1.

For more information on OS/390 dynamic enablement, refer to *OS/390 MVS Product Management*, GC28-1730.

6.4.6 Perform ACCEPT CHECK

Run the SMP/E ACCEPT CHECK JCL in Figure 24 on page 45 to determine which SYSMODs, if any, are missing from the product. Any missing SYSMODs should be RECEIVED before continuing with the installation of DCF/MVS Release 4.1.

The ACCEPT CHECK should specify all FMIDs that have been RECEIVED. Valid FMIDs are HSR1401, JSR1411, JSR1412 and JSR1413.

The supplied sample JCL gives the ACCEPT CHECK for the base product and one feature. The feature FMID specified in this sample should be changed to reflect the features that you are installing.

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

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

Modify the job to specify the appropriate value for tape, and the appropriate UNIT, and VOLSER for the SMPTLIB data sets.

This JCL exists in the data set `script.r40.jcllib(DSMIVS08)`.

SMP/E dialog panels can be used instead of the supplied JCL.

```

//JOB5      JOB 'acct. no.', 'name', MSGLEVEL=(1,1)
//ACCEPT    EXEC SMPPROC
//SMP.SMPTLIB DD UNIT=xxxx, DISP=OLD, VOL=SER=nnnnnn
//SMP.SMPCNTL DD *
    SET BDY(dlib).
    ACCEPT S(HSR1401,JSR1411) CHECK GROUPEXTEND
    BYPASS(ID,PRE,REQ,IFREQ,HOLDSYS,HOLDUSER,
    HOLDCLASS(UCLREL,ERREL)).
/*

```

Figure 24. ACCEPT CHECK JCL

If FMID JSR1413 has never been installed, you will receive message GIM61903W as follows:

```

GIM61903W      LMOD DSMTSS40 WAS NOT DELETED BY SYSMOD JSR1413
                BECAUSE DSMTSS40 IS NOT IN THE DLIB ZONE.
GIM61903W      LMOD DSMTXS40 WAS NOT DELETED BY SYSMOD JSR1413
                BECAUSE DSMTXS40 IS NOT IN THE DLIB ZONE.

```

and a return code of “4” should be received.

These messages may be safely ignored. The ++DELETE for load modules DSMTSS40 and DSMTXS40 in the SMPMCS for JSR1413 causes this message to be generated during ACCEPT CHECK processing because LMOD entries are not stored in the DLIB zone.

If FMID JSR1413 was previously installed, a return code of “0” should be received from ACCEPT CHECK.

6.4.7 Load Distribution Libraries using ACCEPT

Run the SMP/E ACCEPT JCL in Figure 25 on page 46 to load the product into SMP/E distribution libraries from SMP/E temporary data sets.

The ACCEPT should specify all FMIDs that have been RECEIVED. Valid FMIDs are HSR1401, JSR1411, JSR1412 and JSR1413.

The supplied sample JCL gives the ACCEPT for the base product and one feature. The feature FMID specified in this sample should be changed to reflect the features that you are installing.

Modify the job to specify the appropriate value for tape, and the appropriate UNIT, and VOLSER for the SMPTLIB data sets.

This JCL exists in the data set *script.r40.jcllib*(DSMIVS09).

SMP/E dialog panels can be used instead of the supplied JCL.

```

//JOB6      JOB 'acct. no.','name',MSGLEVEL=(1,1)
//ACCEPT    EXEC SMPPROC
//SMP.SMPTLIB DD UNIT=xxxx,DISP=OLD,VOL=SER=nnnnnn
//SMP.SMPCNTL DD *
  SET BDY(dlib).
  ACCEPT S(HSR1401,JSR1411) GROUPEXTEND
  BYPASS(HOLDCLASS(UCLREL,ERREL))
  COMPRESS(ALL).
/*

```

Figure 25. ACCEPT JCL

If FMID JSR1413 has never been installed, you will receive message GIM61903W as follows:

```

GIM61903W    LMOD DSMTSS40 WAS NOT DELETED BY SYSMOD JSR1413
              BECAUSE DSMTSS40 IS NOT IN THE DLIB ZONE.
GIM61903W    LMOD DSMTXS40 WAS NOT DELETED BY SYSMOD JSR1413
              BECAUSE DSMTXS40 IS NOT IN THE DLIB ZONE.

```

and a return code of “4” should be received.

These messages may be safely ignored. The ++DELETE for load modules DSMTSS40 and DSMTXS40 in the SMPMCS for JSR1413 causes this message to be generated during ACCEPT processing because LMOD entries are not stored in the DLIB zone.

If FMID JSR1413 was previously installed, a return code of “0” should be received from ACCEPT CHECK.

7.0 Installation Verification Procedures

The following section describes the installation verification procedures (IVP). A separate IVP is given for each DCF/MVS Release 4.1 feature that can be installed (DLF, CICS, and TSO).

7.1 Installation Verification Procedures for DLF Feature

The installation verification procedure for the DLF feature is run using a test DLF library. Complete the following steps for the DLF feature IVP:

- Create DLF VSAM IVP test library data sets
- Define DLF IVP test library and two users
- Copy the GML starter set and sample document to the DLF test library
- Format the sample document.

All of the DLF IVP jobs reside in the data set *script.r40.jcllib*.

7.1.1 Create DLF VSAM IVP Test Library Data Sets

Run the DSMLOIV1 JCL in Figure 26 on page 48 to create VSAM files for a DLF IVP test library. This JCL exists in the data set *script.r40.jcllib*(DSMLOIV1).

The two VSAM files created are named *private.directry* and *private.source*. If your installation already has VSAM files by this name, the names must be altered before running the DSMLOIV1 JCL, or the DSMLOIV1 JCL must be changed to specify different data set names. If the JCL is changed to specify different data set names, then all future references to these data sets in this directory must be changed accordingly.

```

//DSMLOIV1 JOB 'acct. no.','name',MSGLEVEL=(1,1)
//*
//*****
//*      DEFINE PRIVATE LIBRARY
//*
//* INFORMATION INDICATED BY LOWER CASE LETTERS
//* MUST BE COMPLETED.
//*
//*****
//DEFLIBS EXEC PGM=IDCAMS,REGION=512K
//SYSPRINT DD SYSOUT=*
//DLFVOL DD UNIT=xxxx,VOL=SER=nnnnnn,DISP=OLD
//SYSIN DD *
DELETE private.directry CLUSTER PURGE
DEFINE
  CLUSTER
    (NAME (private.directry)
     FILE (DLFVOL) VOLUMES (nnnnnn)
     CYLINDERS (2) RECORDSIZE (64 256)
     FREESPACE (50 50) SHAREOPTIONS (2)
     ERASE SPEED INDEXED KEYS (30 0) IMBED
     READPW (rpass))
     INDEX (NAME(private.directry.index)
      CONTROLINTERVALSIZE (1024) )
     DATA (NAME(private.directry.data)
      CONTROLINTERVALSIZE (2048) )
DELETE private.source CLUSTER PURGE
DEFINE
  CLUSTER
    (NAME (private.source)
     FILE (DLFVOL) VOLUMES (nnnnnn)
     CYLINDERS (5) RECORDSIZE (4089 4089)
     SHAREOPTIONS (2)
     ERASE SPEED NONINDEXED
     READPW (rpass))
     DATA (NAME(private.source.data)
      CONTROLINTERVALSIZE (4096) )
/*

```

Figure 26. JCL to Create DLF IVP Test Data Sets

A return code of "0" should be received from the DSMLOIV1 JCL.

Note: If the data sets *private.directry* and *private.source* defined in this JCL were not defined prior to running this JCL, you should receive a return code of "8".

7.1.2 Define DLF IVP Test Library and Two Users

Run the DSMLOIV2 JCL in Figure 27 on page 49 to define the DLF IVP test library and two users necessary for testing. This JCL exists in the data set *script.r40.jcllib*(DSMLOIV2).

The STEPLIB DD statement in the JCL must be filled in with your installation's DLF load library data set name.

Note: The user number defined in this JCL is 1314151. If you do not use this number, you must modify this JCL, and also modify the module DSMLOUOT to reflect the new number. Refer to *Document Composition Facility: SCRIPT/VS Text Programmer's Guide* for information on changing the DSMLOUOT module.

```
//DSMLOIV2 JOB 'acct. no.', 'name', MSGLEVEL=(1,1)
/*
/* INFORMATION INDICATED BY LOWER CASE LETTERS
/* MUST BE COMPLETED
/*
//DEFCLUS EXEC PGM=DSMSPEXC, REGION=512K
//STEPLIB DD DSN=d1f.r30.d1fload, DISP=SHR
//SYSPRINT DD SYSOUT=*
//DSMLIST DD SYSOUT=*
//DSMPDIR DD DSN=private.directry, DISP=OLD
//DSMPTLIB DD DSN=private.source, DISP=OLD
//SYSIN DD *
    DEFINE SYSTEM
    DEFINE USER 1314151 LIBTYPE(PUBLIC) ADM
    DEFINE USER 12345 PASSWORD(/12345)
/*
```

Figure 27. JCL to Define DLF IVP Test Library

The following system messages should be received when this JCL is run. These messages are a peculiarity of DLF and may be ignored:

```
IEC130I DSMINDIR DD STATEMENT MISSING
IEC070I 203-204, ..., ... DSMPTLIB, ...
```

A return code of "0" should be received from the DSMLOIV2 JCL.

7.1.3 Copy GML Files and Sample Document

Run the DSMLOIV3 JCL in Figure 28 on page 50 to import the GML starter set macros, starter set profile, and a sample document into the Authorized Program Facility (APF) authorized DLF test library. This JCL exists in the data set *script.r40.jcllib*(DSMLOIV3).

The STEPLIB DD statement in the JCL must be filled in with your installation's DLF load library data set name.

Note: the DSMLOIV3 JCL should be run each time that a DCF/MVS Release 4.1 PTF contains changes to DSMLOIV3, or changes in the *script.R40.MACLIB* data set.

```
//DSMLOIV3 JOB 'acct. no.','name',MSGLEVEL=(1,1)
//*
//*****
//* IMPORT THE GML MACROS INTO DLF
//* USER LIBRARY 1314151
//*
//* INFORMATION INDICATED BY LOWER CASE LETTERS
//* MUST BE COMPLETED.
//*****
//IMPORT EXEC PGM=DSMSPEXC,PARM='NOLIST'
//STEPLIB DD DSN=d1f.r30.d1fload,DISP=SHR
//SYSPRINT DD SYSOUT=*
//DSMLIST DD SYSOUT=*
//DSMINDIR DD DSN=private.directry,DISP=SHR
//DSMINLIB DD DSN=private.source,DISP=SHR
//DSMPDIR DD DSN=private.directry,DISP=OLD
//DSMPTLIB DD DSN=private.source,DISP=OLD
//DSM#ACK DD DSN=SCRIPT.R40.MACLIB(DSM#ACK),DISP=OLD
//DSM#ADDS DD DSN=SCRIPT.R40.MACLIB(DSM#ADDS),DISP=OLD
//DSM#BCEV DD DSN=SCRIPT.R40.MACLIB(DSM#BCEV),DISP=OLD
//DSM#BDHD DD DSN=SCRIPT.R40.MACLIB(DSM#BDHD),DISP=OLD
//DSM#BIGN DD DSN=SCRIPT.R40.MACLIB(DSM#BIGN),DISP=OLD
//DSM#BINT DD DSN=SCRIPT.R40.MACLIB(DSM#BINT),DISP=OLD
//DSM#BLCL DD DSN=SCRIPT.R40.MACLIB(DSM#BLCL),DISP=OLD
//DSM#BSET DD DSN=SCRIPT.R40.MACLIB(DSM#BSET),DISP=OLD
//DSM#BXOF DD DSN=SCRIPT.R40.MACLIB(DSM#BXOF),DISP=OLD
//DSM#BXON DD DSN=SCRIPT.R40.MACLIB(DSM#BXON),DISP=OLD
//DSM#CB DD DSN=SCRIPT.R40.MACLIB(DSM#CB),DISP=OLD
//DSM#CDU DD DSN=SCRIPT.R40.MACLIB(DSM#CDU),DISP=OLD
//DSM#CKID DD DSN=SCRIPT.R40.MACLIB(DSM#CKID),DISP=OLD
//DSM#CKLT DD DSN=SCRIPT.R40.MACLIB(DSM#CKLT),DISP=OLD
//DSM#CKND DD DSN=SCRIPT.R40.MACLIB(DSM#CKND),DISP=OLD
//DSM#CNTX DD DSN=SCRIPT.R40.MACLIB(DSM#CNTX),DISP=OLD
//DSM#CNYR DD DSN=SCRIPT.R40.MACLIB(DSM#CNYR),DISP=OLD
//DSM#C39 DD DSN=SCRIPT.R40.MACLIB(DSM#C39),DISP=OLD
//DSM#DAT DD DSN=SCRIPT.R40.MACLIB(DSM#DAT),DISP=OLD
//DSM#DLER DD DSN=SCRIPT.R40.MACLIB(DSM#DLER),DISP=OLD
//DSM#DLIN DD DSN=SCRIPT.R40.MACLIB(DSM#DLIN),DISP=OLD
//DSM#DRWR DD DSN=SCRIPT.R40.MACLIB(DSM#DRWR),DISP=OLD
//DSM#DTOT DD DSN=SCRIPT.R40.MACLIB(DSM#DTOT),DISP=OLD
.
. (additional statements removed)
.
```

Figure 28. JCL to Import GML Starter Set Macros and Profile

A return code of "0" should be received from the DSMLOIV3 JCL.

7.1.4 Format the Sample Document

Run the DSMLOIVP JCL in Figure 29 on page 51 to format the sample document in the DLF library. The DSMLOIVP JCL exists in the data set *script.r40.jcllib*(DSMLOIVP).

The STEPLIB DD statement in the JCL must be filled in with your installation's DLF load library data set name.

```
//DSMLOIVP JOB 'acct. no.', 'name', MSGLEVEL=(1,1)
//*
//*****
//*          SCRIPT THE SAMPLE DOCUMENT
//*****
//*
//* INFORMATION INDICATED BY LOWER CASE LETTERS
//* MUST BE COMPLETED
//*
//DLFSTEP EXEC PGM=DSMSPEXC, PARM='LIST', REGION=2048K
//STEPLIB DD DSN=dlf.r30.dlflload, DISP=SHR
//SYSPRINT DD SYSOUT=*
//DSMLIST DD SYSOUT=*
//DSMINDIR DD DSN=private.directry, DISP=SHR
//DSMINLIB DD DSN=private.source, DISP=SHR
//DSMPTDIR DD DSN=private.directry, DISP=OLD
//DSMPTLIB DD DSN=private.source, DISP=OLD
//DSMUTMSG DD DSN=&&DSMUTMSG, UNIT=SYSDA, SPACE=(TRK, (5,5)),
//          DISP=NEW, DCB=(RECFM=VBM, LRECL=125, BLKSIZE=129)
//DSMUTTOC DD DSN=&&DSMUTTOC, UNIT=SYSDA, SPACE=(TRK, (5,5)),
//          DISP=NEW, DCB=(RECFM=VBM, LRECL=125, BLKSIZE=129)
//DSMUTWTF DD DSN=&&DSMUTWTF, UNIT=SYSDA, SPACE=(TRK, (5,5)),
//          DISP=NEW, DCB=(RECFM=VBM, LRECL=125, BLKSIZE=129)
//DSMTERMI DD DSN=&&DSMTERMI, UNIT=SYSDA, SPACE=(TRK, (5,5)),
//          DISP=NEW, DCB=(RECFM=VBM, LRECL=125, BLKSIZE=129)
//DSMTERMO DD DSN=&&DSMTERMO, UNIT=SYSDA, SPACE=(TRK, (5,5)),
//          DISP=NEW, DCB=(RECFM=VBM, LRECL=125, BLKSIZE=129)
//DSMUTDIM DD DSN=&&DSMUTDIM, UNIT=SYSDA, SPACE=(TRK, (5,5)),
//          DISP=NEW, DCB=(RECFM=VBM, LRECL=125, BLKSIZE=129)
//SYSIN DD *
AUTH 12345/12345
SCRIPT DSMIVC40 (CONT MES (I D) PROF (DSMPROF4) TWO PRINT
/*
```

Figure 29. JCL to Format the Sample Document

A return code of "0" should be received from the DSMLOIVP JCL.

See Appendix C, "IVP Formatted Sample Document" on page 83 for a copy of the formatted document. Your output will not be identical to the document in Appendix C, "IVP Formatted Sample Document" on

page 83, because of formatting differences between DCF/MVS Release 4.1 and the BookMaster application which is used to format this program directory.

If the sample document formats without error, the DLF feature is installed correctly.

7.2 Installation Verification Procedures for CICS Feature

DCF/MVS Release 4.1 CICS feature utilizes CICS command level interface and the CICS macro level interface. Additionally, support has been added to adapt the CICS interface to allow SCRIPT to be invoked from another application program using the DCF/CICS Interface Control Block, but which does not require the CICS product.

CICS/MVS Version 2.1.2 and lower, supports the CICS macro level interface. For CICS/MVS levels higher than CICS/MVS Version 2.1.2, the CICS Command Level Interface must be used.

The instructions in 7.2.1, "IVP for CICS Feature Using CICS Command Interface" are used for the IVP if you are utilizing the CICS command level interface, or if you have CICS Version 3 Release 2.0 or higher.

The instructions in 7.2.2, "IVP for CICS Feature Using CICS Macro Interface" on page 64 are used for the IVP if you are utilizing the CICS macro level interface.

The instructions in 7.2.3, "IVP for CICS Feature Using DCF/CICS Interface Control Block Without CICS" on page 67 are used for the IVP if you are utilizing the DCF/CICS Interface Control Block.

7.2.1 IVP for CICS Feature Using CICS Command Interface

This IVP is completed if you are utilizing the CICS command level interface. The load module DSMATS40 contains the command level interface modules.

Complete the following steps for the CICS command level IVP:

- Modify CICS load modules
- Allocate sequential data sets
- Allocate keyed VSAM files
- Make entries in the CICS File Control Table
- Make program entries in the CICS/VS Processing Program Table
- Create a transaction definition in the CICS Program Control Table
- Add resource definitions to active CICS system
- Format the sample document.

7.2.1.1 Modify CICS Load Modules

Run the DSMATIS2 JCL in Figure 30 on page 54 to include DFHEAI and DFHEAI0 from your version of CICS. The DCF/MVS Release 4.1 load modules DSMATS40 and DSMIVPT are replaced when this job is run. The DSMATIS2 JCL exists in the data set *script.r40.jcllib*(DSMATIS2).

Note: This job must be run again if your CICS versions of DFHEAI and DFHEAI0 change.

```

//DCFJCLC JOB 'acct no.','name',MSGLEVEL=(1,1)
//LINKAT40 EXEC PGM=HEWL,REGION=768K,
// PARM='AMODE=31,RMODE=ANY,RENT,XREF,LIST,LET,NCAL '
//SYSPRINT DD SYSOUT=*
//SYSUT1 DD UNIT=SYSDA,SPACE=(CYL,(5,1))
//DCFDIST DD DISP=OLD,DSN=SCRIPT.R40.DCFDIST
/*
/* REPLACE WITH YOUR CICS LIBRARY
/*
//CICSDIST DD DISP=OLD,DSN=cics.load.library
//DCFLOAD DD DISP=OLD,DSN=SCRIPT.R40.DCFLOAD
//SYSLMOD DD DISP=OLD,DSN=SCRIPT.R40.DCFLOAD
//SYSLIN DD *
INCLUDE CICSDIST(DFHEAI)
INCLUDE CICSDIST(DFHEAI0)
INCLUDE DCFLOAD(DSMATS40)
ORDER DFHEAI
ORDER DFHEAI0
.
. (additional order statements removed)
.
ORDER ADDRVCN
ENTRY DSMCIBEG
NAME DSMATS40(R)
/*
//LINKIVPT EXEC PGM=HEWL,REGION=768K,
// PARM='AMODE=31,RMODE=ANY,XREF,LIST,LET,NCAL '
//SYSPRINT DD SYSOUT=*
//SYSUT1 DD UNIT=SYSDA,SPACE=(CYL,(2,1))
//DCFLOAD DD DISP=OLD,DSN=SCRIPT.R40.DCFLOAD
/*
/* REPLACE WITH YOUR CICS LIBRARY
/*
//CICSDIST DD DISP=OLD,DSN=cics.load.library
//SYSLMOD DD DISP=OLD,DSN=SCRIPT.R40.DCFLOAD
//SYSLIN DD *
INCLUDE CICSDIST(DFHEAI)
INCLUDE CICSDIST(DFHEAI0)
INCLUDE DCFLOAD(DSMIVPT)
ORDER DFHEAI
ORDER DFHEAI0
ORDER DSMIVPT
ENTRY DSMIVPT
NAME DSMIVPT(R)
/*

```

Figure 30. JCL to Modify CICS Load Modules

A return code of "4" should be received from the DSMATIS2 JCL. You will receive unresolved external reference messages when this job is run. See Figure 23 on page 42 for a list of the module names that will receive an unresolved external reference message. If you are installing DCF/MVS Release 4.1 service update over an existing release of DCF, you will receive an IEW0241 message for DFHEI1. This message is acceptable.

7.2.1.2 Allocate Sequential Data Sets

Run the DSMATIS3 JCL in Figure 31 on page 56 to allocate two sequential data sets. The data set *script.dcfgml* will contain the GML macros, the data set *script.dcfdoc* will contain the IVP document. The DSMATIS3 JCL exists in the data set *script.r40.jcllib*(DSMATIS3).

```

//DSMATIS3 JOB 'acct no.','name',MSGLEVEL=(1,1)
//*
//*****
//*      CREATE KEYED SEQUENTIAL FILES
//*
//* INFORMATION INDICATED BY LOWER CASE LETTERS
//* MUST BE COMPLETED.
//*
//*****
//*
//CNVTIVP      EXEC PGM=DSMVSUTL,REGION=768K,PARM=IVP
//STEPLIB DD DISP=SHR,DSN=script.r40.dcfload
//SEQ DD DSN=script.r40.dcfload(DSMIVC40),
//          DISP=SHR
//LIB DD DUMMY
//VSAM DD DSN=script.dcfdoc,
//          DISP=(NEW,CATLG,DELETE),
//          UNIT=SYSDA,
//          SPACE=(TRK,(5,5),RLSE),
//          DCB=(BLKSIZE=272,LRECL=268,RECFM=VB)
//SYSOUT DD SYSOUT=*,
//          DCB=(BLKSIZE=133,LRECL=133,RECFM=FBA)
//SYSPRINT DD SYSOUT=*
//SYSUDUMP DD SYSOUT=*
//*
//CNVTGML      EXEC PGM=DSMVSUTL,REGION=768K,PARM=GML
//STEPLIB DD DISP=SHR,DSN=script.r40.dcfload
//SEQ DD DUMMY
//LIB DD DSN=script.r40.maclib,
//          DISP=SHR
//VSAM DD DSN=script.dcfgml,
//          DISP=(NEW,CATLG,DELETE),
//          UNIT=SYSDA,
//          SPACE=(TRK,(5,5),RLSE),
//          DCB=(BLKSIZE=272,LRECL=268,RECFM=VB)
//SYSOUT DD SYSOUT=*
//SYSPRINT DD SYSOUT=*
//SYSUDUMP DD SYSOUT=*
//

```

Figure 31. JCL to Allocate Sequential Data Set

A return code of "0" should be received from the DSMATIS3 JCL.

7.2.1.3 Allocate Keyed VSAM Files

Run the DSMATIS4 JCL in Figure 32 on page 58 to allocate keyed VSAM files and copy the sequential files created in DSMATIS3 into the VSAM files. These VSAM files can be used later by programs using the DCF/MVS Release 4.1 CICS command level interface. The DSMATIS4 JCL exists in the data set *script.r40.jcllib*(DSMATIS4).

Note: The DSMATIS3 and DSMATIS4 JCL must be run when a DCF/MVS Release 4.1 PTF causes a change to the *script.R40.MACLIB* data set in order to make those changes available to CICS.

```

//DSMATIS4 JOB 'acct no.','name',MSGLEVEL=(1,1)
//*
//*****
//*      DEFINE PRIVATE LIBRARY
//*
//* INFORMATION INDICATED BY LOWER CASE LETTERS
//* MUST BE COMPLETED.
//*
//*****
//*
//DEFINE EXEC PGM=IDCAMS,REGION=512K
//SYSIN DD *
  DEFINE CLUSTER                -
    (NAME(script.r40.dcfdoc)    -
     VOL(volser)                -
     REC(500)                   -
     RECSZ(80 268)              -
     KEYS(12 0)                 -
     FSPC(10 10)                -
     SHR(2 3))                  -
    INDEX(NAME(script.r40.dcfdoc.index) -
     CISZ(1024))                -
    DATA(NAME(script.r40.dcfdoc.data) -
     CISZ(4096))
  DEFINE CLUSTER                -
    (NAME(script.r40.dcfgm1)    -
     VOL(volser)                -
     REC(15000)                 -
     RECSZ(80 92)               -
     KEYS(12 0)                 -
     FSPC(10 10)                -
     SHR(2 3))                  -
    INDEX(NAME(script.r40.dcfgm1.index) -
     CISZ(1024))                -
    DATA(NAME(script.r40.dcfgm1.data) -
     CISZ(4096))
/*
//SYSPRINT DD SYSOUT=*
//*
//REPRO EXEC PGM=IDCAMS,REGION=512K
//SEQDOC DD DSN=script.dcfdoc,
//      DISP=OLD,
//      DCB=(BLKSIZE=272,LRECL=268,RECFM=VB)

```

Figure 32 (Part 1 of 2). JCL to Allocate Keyed VSAM Files

```

//DCFDOC DD DSN=script.r40.dcfdoc,
//      DISP=OLD
//SEQGML DD DSN=script.dcfgml,
//      DISP=OLD,
//      DCB=(BLKSIZE=272,LRECL=92,RECFM=VB)
//DCFGML DD DSN=script.r40.dcfgml,
//      DISP=OLD
//SYSIN DD *
      REPRO INFILE(SEQDOC) -
            OUTFILE(DCFDOC)
      REPRO INFILE(SEQGML) -
            OUTFILE(DCFGML)
/*
//SYSPRINT DD SYSOUT=*
/*

```

Figure 32 (Part 2 of 2). JCL to Allocate Keyed VSAM Files

A return code of "0" should be received from the DSMATIS4 JCL.

7.2.1.4 Make Entries in the CICS File Control Table

Make entries in the CICS File Control Table (FCT) to add the keyed VSAM files *script.r40.dcfdoc* and *script.r40.dcfgml*.

Make the following macro instruction entries in the FCT:

Note: These are not RDO instructions.

```

entry1  DFHFCT TYPE=FILE,
           ACCMETH=VSAM,
           FILE=DCFDOC,
           RECFORM=VARIABLE,
           RSL=PUBLIC,
           SERVREQ=(BROWSE),
           FILSTAT=(ENABLED,OPENED),
           DSNAME=script.r40.dcfdoc
entry2  DFHFCT TYPE=FILE,
           ACCMETH=VSAM,
           FILE=DCFGML,
           RECFORM=VARIABLE,
           RSL=PUBLIC,
           SERVREQ=(BROWSE),
           FILSTAT=(ENABLED,OPENED),
           DSNAME=script.r40.dcfgml

```

Figure 33. CICS FCT Macro Instruction Entries

The CICS DFHFCT must be reassembled after the entries are made. See *CICS/MVS Resource Definition Macro* manual for detailed information on creating entries in the FCT.

If you have CICS/VS Version 3, Release 2 or higher, RDO can be used to make the FCT entry. See *CICS/MVS Resource Definition Online* for information on creating transaction entries in the FCT using RDO.

7.2.1.5 Make Program Entries in CICS/VS Processing Program Table

Make program entries in the CICS/VS Processing Program Table (PPT) for the load modules DSMATS40 and DSMIVPT, and each of the dictionary load modules shown below.

- DSMDAVER - Danish
- DSMDUVER - Dutch
- DSMEAVER - American English
- DSMECVER - Canadian English
- DSMEUVER - United Kingdom English
- DSMFCVER - Canadian French
- DSMFIVER - Finnish
- DSMFNVER - French
- DSMGEVER - German
- DSMICVER - Icelandic
- DSMITVER - Italian
- DSMNOVER - Norwegian
- DSMPOVER - Portuguese
- DSMSPVER - Spanish
- DSMSWVER - Swedish

Note: If you are also utilizing the CICS macro level interface, you should include the load module DSMATS30 at this time.

If Resource Definition Online (RDO) is used, issue the following command to make an entry in the PPT:

```
CEDA DEFine Group (dcfppt) PROGram
```

where dcfppt is your PPT group name.

Fill in the menu fields as described in Figure 34 on page 61 to create an entry for the load module DSMATS40.

```

DEFINE Group(dcfppt) PROGram
OVERTYPE TO MODIFY
CEDA DEFine
  PROGram      ==> DSMATS40
  Group        ==> dcfppt
  Language     ==> Assembler      Cobol | Assembler | P1i | Rpg
  RELoad       ==> No              No | Yes
  RESident     ==> No              No | Yes
  RS1          ==> 00              0-24 | Public
  Status       ==> Enabled         Enabled | Disabled

```

Figure 34. RDO Menu to Make an Entry in CICS PPT

Make the same entry for DSMIVPT and each of the dictionary load modules. See *CICS/MVS Resource Definition Online* or *CICS/MVS Resource Definition Macro* manuals for detailed information on creating entries in the PPT.

If RDO is not used, the CICS/VS DFHPPT must be reassembled after the program entries are made.

7.2.1.6 Create Transaction Definition in the CICS Program Control Table

Create a transaction definition in the CICS Program Control Table (PCT) to add the four character transaction definition name: *IVP1*. Specify DSMIVPT as the program to which control is given to process the transaction.

If Resource Definition Online (RDO) is used, issue the following command to make an entry in the PCT:

```
CEDA DEFine Group (dcfpct) TRansaction
```

where dcfpct is your PCT group name.

Fill in the menu fields as described in Figure 35 on page 62 to create the transaction definition: *IVP1*.

```

DEFINE Group(dcfpct) TRansaction
OVERTYPE TO MODIFY
CEDA DEFine
  TRansaction ==> IVP1
  Group        ==> dcfpct
  PROGram      ==> DSMIVPT
  TWasize      ==> 02446          0-32767
  PROfile      ==>
  PArtitionset ==> 00            0-24 | Public
  Status       ==> Enabled      Enabled | Disabled
  PRIMedsize   ==> 00000        0-65520
REMOTE ATTRIBUTES
  REMOTESystem ==>
  REMOTename   ==>
  TRProf       ==>
  Localq       ==>
SCHEDULING
  PRIOrity     ==> 001
  TClass       ==> No           No | 1-10
ALIASES
  TAskreq      ==>
  Xtranid      ==>
RECOVERY
  DTImout      ==> No           NO | 1-7000
  Indoubt      ==> Backout      Backout | Commit | Wait
  REStart      ==> No           No | Yes
  SPurge       ==> No           No | Yes
  TPurge       ==> No           No | Yes
  DUmp         ==> Yes          Yes | No
  TRACe        ==> Yes          Yes | No
SECURITY
  Extsec       ==> No           No | Yes
  TRANsec      ==> 01           1-64
  RSL          ==> 00           0-64 | Public
  RSLC         ==> No           No | Yes | External

```

Figure 35. RDO Menu to Create Transaction Definition IVP1 in PCT

See *CICS/MVS Resource Definition Online* or *CICS/MVS Resource Definition Macro* manuals for detailed information on creating transaction entries in the PCT.

If RDO is not used, the CICS DFHPCT must be reassembled after the entries are made.

7.2.1.7 Add Resource Definitions to Active CICS System

If Resource Definition Online (RDO) is used, issue the following command to dynamically add the resource definitions in the named group into the active CICS system:

```
CEDA Install Group(dcfpct)
```

where dcfppt is your PPT group name.

After your PPT group name is installed, type over the dcfppt group name in the menu with the dcfpct group name to install your PCT group name. Figure 36 is an example of the menu that is viewed when you enter the Install Group command.

```
INSTALL GROUP(dcfppt)
OVERTYPE TO MODIFY
CEDA Install
  Group      ==> dcfpct

INSTALL SUCCESSFUL      TIME: HH.MM.SS  DATE: YY.DDD
```

Figure 36. RDO Menu to Install Resource Definitions to CICS

7.2.1.8 Format The Sample Document

Format the sample document in CICS using DSMATS40 by entering the transaction definition name: *IVP1*.

To ensure that the transaction completed successfully, browse the temporary storage message queue. Issue the CEBR command:

```
CEBR TMSGIVP1
```

The following message should be viewed:

```
SCRIPT/VS Release 4, Level (0.0)
```

To view the formatted document online, browse the temporary storage output queue. Issue the CEBR command:

```
CEBR IVP1OUTQ
```

to view the formatted document.

See Appendix C, "IVP Formatted Sample Document" on page 83 for a copy of the formatted document. Your output will not be identical to the document in Appendix C, "IVP Formatted Sample Document" on page 83, because of formatting differences between DCF/MVS Release 4.1 and the BookMaster application which is used to format this program directory.

If the sample document formats without error, the command level interface of the CICS feature is installed correctly.

7.2.2 IVP for CICS Feature Using CICS Macro Interface

This IVP is completed if you are utilizing the CICS macro level interface. The load module DSMATS30 contains the macro level interface modules.

This IVP is completed using the ATMS licensed program. ATMS supports an interface for all modification levels of DCF/MVS Release 2 or DCF/MVS Release 3. DCF/MVS Release 4.1 utilizes the DCF/MVS Release 3 interface to ATMS. ATMS is no longer supported by IBM. If you use a different CICS application to run DCF/MVS Release 4.1, you must modify the ATMS-specific steps as appropriate for your application.

Note: The steps in this section must be run when a DCF/MVS Release 4.1 PTF causes a change to the GML macros in *script.R40.DCFLOAD* data set in order to make those changes available to CICS/ATMS copy of the GML macros.

Complete the following steps for the CICS macro level IVP:

- Allocate the sequential data set *script.r40.seq*
- Make program entries in the CICS/VS DFHPPT
- Copy the GML starter set macros, starter set profile and sample document to the sequential data set
- Store the GML starter set macros, starter set profile, and sample document in the ATMS system operator storage
- Format the sample document.

All of the CICS IVP jobs reside in the data set *script.r40.jcllib*.

7.2.2.1 Allocate Sequential Data Set *script.r40.seq*

Run the DSMATIS1 JCL in Figure 37 on page 65 to allocate a sequential data set that will be used during CICS installation verification and later by DCF/MVS Release 4.1 customers. This JCL exists in the data set *script.r40.jcllib*(DSMATIS1).

If the data set name *script.r40.seq* in the JCL provided is changed to a different sequential data set name, all future references in this directory to the data set *script.r40.seq* must be replaced with that new name.


```

//ALLOCSEQ    JOB 'acct.no.','name',MSGLEVEL=(1,1)
//*
//*****
//* Allocate new data sets for CICS IVP
//* Information indicated by lower case letters
//* must be completed.
//*****
//ALLOC      EXEC PGM=IEFBR14
//ATMSSEQ    DD DSN=script.r40.seq,DISP=(NEW,CATLG),
//            DCB=(RECFM=FB,LRECL=80,BLKSIZE=800),
//            UNIT=xxxx,VOL=SER=nnnnnn,SPACE=(CYL,(2,2))
//*

```

Figure 37. Sequential Data Set Allocation for CICS IVP

A return code of "0" should be received from the DSMATIS1 JCL.

7.2.2.2 Make Program Entries in CICS/VS DFHPPT

Make program entries in the CICS/VS DFHPPT for the load module DSMATS30 and each of the dictionary load modules shown below.

- DSMDAVER - Danish
- DSMDUVER - Dutch
- DSMEAVER - American English
- DSMECVER - Canadian English
- DSMEUVER - United Kingdom English
- DSMFCVER - Canadian French
- DSMFIVER - Finnish
- DSMFNVER - French
- DSMGEVER - German
- DSMICVER - Icelandic
- DSMITVER - Italian
- DSMNOVER - Norwegian
- DSMPOVER - Portuguese
- DSMSPVER - Spanish
- DSMSWVER - Swedish

If Resource Definition Online (RDO) is used, issue the following command to make an entry in the PPT:

```
CEDA DEFine Group (dcfppt) PROgram
```

where dcfppt is your PPT group name.

Fill in the menu fields as described in Figure 38 on page 66 to create an entry for the load module DSMATS30.

```

DEFINE Group(dcfppt) PROGram
OVERTYPE TO MODIFY
CEDA DEFine
  PROGram      ==> DSMATS30
  Group        ==> dcfppt
  Language      ==> Assembler      Cobol | Assembler | Pl1 | Rpg
  REload        ==> No              No | Yes
  RESident      ==> No              No | Yes
  RS1           ==> 00              0-24 | Public
  Status        ==> Enabled          Enabled | Disabled

```

Figure 38. RDO Menu to Make an Entry in CICS PPT

Make the same entry for each of the dictionary load modules. See *CICS/MVS Resource Definition Online* or *CICS/MVS Resource Definition Macro* manuals for detailed information on creating entries in the PPT.

If RDO is not used, the CICS/VS DFHPPT must be reassembled after the program entries are made.

7.2.2.3 Copy GML Files and Sample Document

Run the JCL provided in the data set *script.r40.jcllib*(DSMATIV1) to copy the GML starter set macros, starter set profile, and sample document to the previously allocated data set *script.r40.seq*.

Header and trailer records are created when the DSMATIV1 JCL is run. The records are as follows:

- Header record: HEADER;DSM40DSMxxxx
where xxxx is the name of the macro
- Trailer record: !ATMSEOF!

A return code of "0" should be received from the DSMATIV1 JCL.

7.2.2.4 Store GML Files in ATMS System Operator Storage

The following step is specific to ATMS. If you are using a different CICS application to run DCF/MVS Release 4.1, you must modify this step as appropriate for your application.

Complete the following steps to store the GML starter set macros, starter set profile and sample document in the ATMS system operator storage.

1. Sign on to ATMS as operator 0 and type in the following command:

```
set;script;r3
```

2. Type in the following command:

```
$i;<dest>;PM02;all;owner
```

where <dest> is the name of the CICS/VS extrapartition destination which points to *script.r40.seq* defined in the CICS/VS Destination Control Table (DFHDCT).

Note: ATMS is case sensitive, the command shown above must be entered with the correct upper and lower case letters.

3. The message:

DESTID <dest> ABOUT TO BE OPENED:

will be displayed on your screen. Respond to the message by typing the letter c and pressing the enter key to continue.

This causes the GML starter set macros, starter set profile, and sample document to be stored in the ATMS system operator (SYSOP) permanent storage.

4. Sign off of ATMS as operator 0, and sign on to ATMS as the SYSOP. Type in the following commands:

```
build;m;DSM40  
connect;x;DSM40
```

7.2.2.5 Format the Sample Document

The following step is specific to ATMS. If you are using a different CICS application to run DCF/MVS Release 4.1, you must modify this step as appropriate for your application.

To format the sample document from ATMS, type in the following command:

```
script DSMIVC40 prof(dsmprof4) mes(i)
```

See Appendix C, "IVP Formatted Sample Document" on page 83 for a copy of the formatted document. Your output will not be identical to the document in Appendix C, "IVP Formatted Sample Document" on page 83, because of formatting differences between DCF/MVS Release 4.1 and the BookMaster application which is used to format this program directory.

If the sample document formats without error, the macro level interface for the CICS feature is installed correctly.

7.2.3 IVP for CICS Feature Using DCF/CICS Interface Control Block Without CICS

Support has been added to adapt the CICS interface to allow SCRIPT to be invoked from another application program using the DCF/CICS Interface Control Block but which does not require the CICS product.

The load module DSMMVS40 is similar to the load module DSMATS40 except that it does not depend on CICS command calls or macros. If you write an application program which also does not depend on CICS command calls or macros, you can use DSMMVS40 to invoke SCRIPT/VS as a subroutine.

The DSMMVS40 load module is a SCRIPT/VS formatter load module that allows an application program to invoke SCRIPT using the DSMEICB Interface Control Block. DSMMVS40 has the CICS dependencies removed and can be invoked by an application program without the CICS environment.

The load module DSMMIVP is a small sample application program to demonstrate how DSMMVS40 can be invoked. The DSMMIVP load module is provided in Assembler source format for you to use as a guide in making your own applications. Your application program must provide the necessary environmental services and use the DSMEICB Interface Control Block to communicate with SCRIPT/VS. The use of DSMEICB is documented in *SCRIPT/VS Text Programmers Guide* appendix titled *DCF Programming Interface for CICS*.

To verify the installation of the DSMMVS40 load module, run the sample IVP job in *script.R40.DCFSAMP*(DSMMVRUN).

A return code of "0" should be received. See Appendix C, "IVP Formatted Sample Document" on page 83 for a copy of the formatted document. Your output will not be identical to the document in Appendix C, "IVP Formatted Sample Document" on page 83, because of formatting differences between DCF/MVS Release 4.1 and the BookMaster application which is used to format this program directory.

If the sample document formats without error, the feature is installed correctly.

7.3 Installation Verification Procedures for TSO Feature

Complete the following steps for the TSO IVP:

- Make the DCF/MVS Release 4.1 load module available to the command processor
- Format the sample document.

7.3.1 Make the DCF/MVS Release 4.1 Load Module Available to the Command Processor

Make the DCF/MVS Release 4.1 load modules available to the command processor by including the load library data set *script.R40.DCFLOAD* in the TSO logon procedure. There are several ways to do this:

1. Point to the data set *script.R40.DCFLOAD* with a STEPLIB DD statement in the TSO logon procedure; then log off and log back on to TSO.
2. Put the data set *script.R40.DCFLOAD* into LNKLIST within the system data set *SYS1.PARMLIB*, then re-ipl the MVS system.

7.3.2 Format the Sample Document

Format the sample document by issuing the following command:

```
SCRIPT 'script.R40.DCFSAMP(DSMIVC40)' MES(I)
      PROF('script.R40.MACLIB(DSMPROF4)') LIB('script.R40.MACLIB')
```

See Appendix C, "IVP Formatted Sample Document" on page 83 for a copy of the formatted document. Your output will not be identical to the document in Appendix C, "IVP Formatted Sample Document" on

page 83, because of formatting differences between DCF/MVS Release 4.1 and the BookMaster application which is used to format this program directory.

If the sample document formats without error, the TSO feature is installed correctly.

7.3.3 Make Load Libraries Available to the General User

After the sample document is formatted correctly, the DCF/MVS Release 4.1 load library data set *script.R40.DCFLOAD* and the PostScript fonts data set *script.R40.FONTPS* must be made available to the general user.

8.0 Activate the Function of DCF/MVS Release 4.1

The following section describes how to activate some of the functions of DCF/MVS Release 4.1 after the product has been installed and the installation verification procedure has been completed.

8.1 Creating a Font Library Index

When fonts are installed or deleted, a font library index must be created for AFP fonts to be used by DCF/MVS Release 4.1. A sample job to create the font library index can be found in the data set *SCRIPT.R40.DCFSAMP(DSMFLIP)*. The DSMFLIP job is shown in Figure 39. If you have more than one AFP font library at your installation, you must run the DSMFLIP job once for each font library that you will be using.

Note: The DSMFLIP job in Figure 39 has been modified for formatting of this document.

```
//DSMFLIP JOB (acct info),'Programmer name',etc
//*-----*
/* Replace the job card above with your own.      *
//*-----*
/*-----*
/*IN THIS EXAMPLE WE DELETE AND ALLOCATE A NEW DATASET FOR THE
/*OUTPUT LISTING FROM THE FONT LIBRARY INDEX PROGRAM.
/*IF YOU PREFER, YOU CAN JUST USE SYSOUT FOR THE SYSPRINT
/*DDNAME ON THE DSMB0F40 STEP.
/*-----*
//DELETE EXEC PGM=IEFBR14
//DD1 DD DSN=userid.FONTLIBB.LISTING,DISP=(MOD,DELETE),
//      SPACE=(TRK,(0)),UNIT=SYSALLDA
//*
/*-----*
/* THIS TABLE IS TAKEN FROM THE
/*"SCRIPT/VS TEXT PROGRAMMER'S GUIDE"
/*-----*
/*+-----+-----*
/*] TABLE 17. FONT LIBRARY INDEX PROGRAM RETURN CODES
/*+-----+-----*
```

Figure 39 (Part 1 of 2). Job to Create Font Library Index

```

/*] RETURN]
/*] CODE ] MEANING
/*+-----+-----+-----+
/*] 0 ] NORMAL COMPLETION
/*] 4 ] LISTING FILE OPEN ERROR
/*] 8 ] NO FONT OBJECTS IN THE FONT LIBRARY
/*] 12 ] FONT LIBRARY OPEN ERROR
/*] 16 ] NOT ENOUGH STORAGE AVAILABLE FOR PROCESSING
/*] 20 ] FONT LIBRARY READ ERROR
/*] 24 ] UNABLE TO FIND FONT OBJECT IN THE FONT LIBRARY
/*] 28 ] UNABLE TO READ OR WRITE TO DISK
/*] 32 ] LIBRARIAN MACRO SERVICES ERROR
/*] 36 ] FONTLIB DATA SET BLOCKSIZE TOO SMALL
/*] 40 ] FONT LIBRARY MEMBER NAME TABLE OVERFLOW (MVS & VSE).
/*] ] THE INPUT FONT LIBRARY TOO LARGE TO BE PROCESSED BY
/*] ] FLIP. THE LIBRARY WILL BE SUBDIVIDED INTO TWO
/*] ] OR MORE SMALLER FONT LIBRARIES.
/*] 44 ] UNABLE TO ACCESS DISK SPECIFIED WITH FILEMODE (VM).
/*+-----+-----+-----+
//INDEX1 EXEC PGM=DSMB0F40
//STEPLIB DD DISP=SHR,DSN=SCRIPT.R40.DCFLOAD
//SYSPRINT DD DSN=*.DELETE.DD1,
//          DCB=(RECFM=VBM,LRECL=125,BLKSIZE=1022),
//          DISP=(NEW,CATLG),UNIT=SYSALLDA,VOL=SER=yourvol,
//          SPACE=(TRK,(5,5,0))
/*-----+-----+-----+
/*IF CONCATENATION IS USED FOR FONTLIB, YOU MUST USE THE NEW
/*FONTLIB DDNAME TO SPECIFY THE SINGLE PARTITIONED DATASET THAT
/*WILL CONTAIN THE DCFINDEX CREATED BY FLIP.
/*
/*IF YOUR FONTLIB IS NOT CONCATENATED, FONTLIB IS IGNORED. THE
/*DCFINDEX WILL BE CREATED IN THE SINGLE PARTITIONED DATA SET
/*REFERRED TO BY FONTLIB.
/*
/*IF FONTLIB IS A CONCATENATED DATA SET, ONLY THE 1ST OCCURRENCE
/*OF EACH MEMBER IS USED. SUBSEQUENT DUPLICATE MEMBERS FOUND IN
/*FONTLIB ARE IGNORED.
/*
/*WHEN YOU USE CONCATENATION FOR FONTLIB WITH FLIP, THE SAME
/*CONCATENATION ORDER MUST BE USED WITH SCRIPT/VS AND PSF. IF
/*SCRIPT/VS DOES NOT USE THE SAME CONCATENATION ORDER AS FLIP,
/*FORMATTING RESULTS ARE UNPREDICTABLE.
/*
/*-----+-----+-----+
//FONTLIB DD DISP=SHR,DSN=SYS1.FONTLIBB
//

```

Figure 39 (Part 2 of 2). Job to Create Font Library Index

A return code of "0" should be received from this job.

For more information concerning the creation of this index, refer to *Document Composition Facility: SCRIPT/VS Text Programmer's Guide*.

8.2 Using 3800 Printing Subsystem Fonts

There are fonts provided on the base product tape for the 3800 Printing Subsystem. Refer to *Document Composition Facility: SCRIPT/VS Text Programmer's Guide* for a description of the use and modification of these fonts.

8.3 Using PostScript Fonts

There are font metrics files, codepages, and a DCFINDEX provided on the base product tape for PostScript fonts. When PostScript fonts are added or deleted, the PostScript DCFINDEX must be modified. Refer to *Document Composition Facility: SCRIPT/VS Text Programmer's Guide* for more information.

8.4 Creating and Maintaining User Dictionaries

Refer to *Document Composition Facility: SCRIPT/VS Text Programmer's Guide* for information on creating and maintaining user dictionaries.

8.5 Using the DCF/MVS Release 4.1 Post-Processor Examples

There are post-processor examples provided on the DCF/MVS Release 4.1 base product tape. Refer to *Document Composition Facility: Post-Processor Examples* for a description of these examples.

8.6 Using PostScript with CICS

If your CICS application supports formatting for a PostScript device, the PostScript font information contained in the data set *script.R40.FONTPS* must be made available to your host font support routine. It is the responsibility of the CICS host to read and supply PostScript font information. Refer to *Document Composition Facility: SCRIPT/VS Text Programmer's Guide* for information on the operation of this interface.

8.7 Using Online Help

A TSO help file is provided for DCF/MVS Release 4.1 in the data set *script.R40.DCFSAMP(DCFTSO)*. To install the help data set, you must copy the DCFTSO member into a system library which is allocated to the DDNAME SYSHELP for users, and rename the member DCFTSO to member name SCRIPT. Users will then be able to get online help for DCF/MVS Release 4.1 by using the TSO HELP command.

Appendix A. DCF/MVS Release 4.1 SMPMCS

The entire set of SMP modification control statements for the installation can be obtained by printing the first file of the DCF/MVS Release 4.1 program tape.

This is the System Modification Program install logic for DCF/MVS Release 4.1:

A.1 HSR1401 (base product)

```
++FUNCTION(HSR1401 ) FESN(6596504 ) REWORK(1996131 )
                                     RFDSNPF(IBM ) FILES(8)

/*
THIS PRODUCT CONTAINS RESTRICTED MATERIALS OF IBM
- 5748-XX9 COPYRIGHT IBM CORP 1978, 1991
  LICENSED MATERIAL - PROGRAM
  PROPERTY OF IBM
  REFER TO COPYRIGHT INSTRUCTIONS
  FORM NUMBER G120-2083

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

*/
.
++VER(Z038 ) DELETE(HSR1132 HSR1200 HSR1202 HSR1204 HSR1302
                    HSR1306 JSR1133 JSR1134 JSR1135 JSR1310
                    JSR1311 JSR1312 JSR1320 JSR1321 JSR1322 )
SUP(AL82869 AL84178 AL84952 AL84983 AL84984
    AL85274 AL85615 AL85713 AL86004 AL86094
    AN00050 AN01068 AN01359 AN02189 AN02357
    AN02768 AN02793 AN03363 AN03675 AN04560
    AN04583 AN04715 AN05128 AN05242 AN05645
    AN05659 AN05812 AN06643 AN06729 AN06731
    AN06991 AN07143 AN07165 AN07754 AN07946
    AN07971 AN08612 AN09050 AN10313 AN11639
    AN11694 AN12771 AN12835 AN13247 AN13993
    AN14472 AN15240 AN15953 AN17006 AN17352
    AN18319 AN18366 AN18549 AN18646 AN19457
    AN20920 AN21022 AN21493 AN23484 AN23493
    AN23588 AN26194 AN27054 AN27252 AN27889
    AN28045 AN29704 AN32077 AN32346 AN33681
    AN33781 AN36365 AN36437 AN36605 AN43479
    AN43928 AN44113 AN44597 AN45266 AN45270
    AN46170 AN47431 AN47965 AN49004 AN49526
    AN49605 AN49725 AN51355 AN55438 AN55877
    AN55930 AN56958 AN60880 AN64006 AN68001
    AN69168 AN69864 AN71151 AN73292 AN74513
```

AN75220	AN80272	AN80708	AN83691	AN83692
AN83946	HSR1132	HSR1200	HSR1202	HSR1204
HSR1302	HSR1306	JSR1133	JSR1134	JSR1135
JSR1310	JSR1311	JSR1312	JSR1320	JSR1321
JSR1322	UL98434	UL98993	UL99237	UL99336
UN00168	UN00246	UN00399	UN01274	UN01896
UN03265	UN03267	UN03271	UN03700	UN04105
UN04155	UN04842	UN04923	UN06827	UN07308
UN08531	UN09157	UN09160	UN09164	UN09169
UN09212	UN09409	UN09657	UN09662	UN09800
UN09821	UN10520	UN10777	UN10782	UN10956
UN11291	UN11295	UN13062	UN14232	UN14235
UN15261	UN16488	UN16717	UN16728	UN16917
UN17233	UN17622	UN17891	UN19130	UN19551
UN19764	UN21008	UN21553	UN21561	UN21883
UN22395	UN24128	UN24131	UN24227	UN24479
UN26835	UN27751	UN28186	UN28190	UN29908
UN30668	UN33027	UN33030	UN34060	UN35841
UN37769	UN37796	UN45413	UN46529	UN46805
UN46951	UN47706	UN47883	UN49233	UN49885
UN50857	UN51807	UN54052	UN54695	UN54706
UN54962	UN57203	UN60657	UN61352	UN62480
UN62851	UN66175	UN69255	UN74121	UN75526
UN76628	UN76945	UN79388	UN80651	UN81519
UN87355	UN87504	UN89989	UN90494	UN90642) .
++IF FMID(JSR1417) REQ(UN45418 UN74126) .				
++IF FMID(JSR1415)				
REQ(UN07312 UN17625 UN24231 UN35845 UN45416) .				
++IF FMID(JSR1412)				
REQ(UN07310 UN21563 UN24229 UN35843 UN45415 UN49235				
UN74123 UN75528 UN89991) .				
++IF FMID(JSR1411)				
REQ(UN07309 UN17623 UN21562 UN24228 UN35842 UN45414				
UN49234 UN74122 UN75527 UN89990) .				
++IF FMID(JSR1413)				
REQ(UN07311 UN09410 UN17624 UN21564 UN24230 UN35844				
UN45424 UN49236 UN54707 UN74124 UN75529 UN76629				
UN89992 UN90643) .				
++IF FMID(JSR1416)				
REQ(UN19562 UN19765 UN21554 UN21565 UN21884 UN24232				
UN35846 UN45417 UN46952 UN51809 UN54708 UN54963				
UN74125 UN75530 UN76630 UN81520 UN89993 UN90644) .				
++JCLIN RELFILE(1) .				

A.2 JSR1411 (CICS feature)

```
++FUNCTION(JSR1411 ) FESN(6596504 ) REWORK(1996131 )
                                     RFDSNPF(IBM ) FILES(5)

/*
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*/
.
++VER(Z038 ) FMID(HSR1401 )
      REQ(UN07308 UN17622 UN24227 UN35841 UN45413
          UN49233 UN74121 UN75526 UN89989 )
      SUP(AL85348 AL86004 AN02702 AN02786 AN02793
          AN04325 AN04560 AN04583 AN11639 AN12161
          AN13219 AN13386 AN13814 AN19457 AN21493
          AN26283 AN27629 AN27883 AN33781 AN34475
          AN36058 AN36437 AN39828 AN45270 AN47941
          AN52116 AN58256 AN68001 AN69168 AN71567
          AN76775 AN81842 AN83692 UL99565 UN04156
          UN04385 UN04919 UN05252 UN07309 UN15010
          UN15120 UN15915 UN17623 UN21562 UN23533
          UN24228 UN27178 UN28349 UN28529 UN35090
          UN35842 UN39585 UN42781 UN45414 UN49234
          UN52935 UN58443 UN63757 UN74122 UN75527
          UN79261 UN87763 UN89372 UN89990 ) .
++IF FMID(JSR1417 ) REQ(UN45418 UN74126 ) .
++IF FMID(JSR1415 )
      REQ(UN07312 UN17625 UN24231 UN35845 UN45416 ) .
++IF FMID(JSR1412 )
      REQ(UN07310 UN24229 UN35843 UN45415 UN49235 UN74123
          UN75528 UN89991 ) .
++IF FMID(JSR1413 )
      REQ(UN07311 UN17624 UN21564 UN23534 UN24230 UN35844
          UN45424 UN49236 UN74124 UN75529 UN89992 ) .
++IF FMID(JSR1416 )
      REQ(UN21565 UN24232 UN35846 UN45417 UN74125 UN75530
          UN89993 ) .
++JCLIN                                RELFILE(1) .
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A.3 JSR1412 (DLF feature)

```
++FUNCTION(JSR1412 ) FESN(6596504 ) REWORK(1996131 )
                                RFDSNPFX(IBM ) FILES(5)

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*/
.
++VER(Z038 ) FMID(HSR1401 ) PRE(HSL1302 )
      REQ(UN07308 UN24227 UN35841 UN45413 UN49233
          UN74121 UN75526 UN89989 )
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          AN05693 AN05703 AN10517 AN12770 AN13814
          AN19457 AN21493 AN33781 AN36058 AN36437
          AN38083 AN45270 AN68001 AN69168 AN83692
          UN04157 UN07310 UN09572 UN09806 UN11305
          UN13580 UN15011 UN16504 UN21563 UN24229
          UN35843 UN39588 UN43162 UN45415 UN49235
          UN74123 UN75528 UN89991 ) .
++IF FMID(JSR1417 ) REQ(UN45418 UN74126 ) .
++IF FMID(JSR1415 )
      REQ(UN07312 UN24231 UN35845 UN45416 ) .
++IF FMID(JSR1413 )
      REQ(UN07311 UN09807 UN13581 UN21564 UN24230 UN35844
          UN45424 UN49236 UN74124 UN75529 UN89992 ) .
++IF FMID(JSR1411 )
      REQ(UN07309 UN24228 UN35842 UN45414 UN49234 UN74122
          UN75527 UN89990 ) .
++IF FMID(JSR1416 )
      REQ(UN21565 UN24232 UN35846 UN45417 UN74125 UN75530
          UN89993 ) .
++JCLIN                                RELFILE(1) .
```

A.4 JSR1413 (TSO feature)

```
++FUNCTION(JSR1413 ) FESN(6596504 ) REWORK(1996131 )
                                     RFDSNPF(IBM ) FILES(5)

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*/
.
++VER(Z038 ) FMID(HSR1401 )
    REQ(UN07308 UN09409 UN17622 UN21561 UN24227
        UN35841 UN45413 UN49233 UN54706 UN74121
        UN75526 UN89989 UN90642 )
    SUP(AL84178 AL85348 AL86004 AN00138 AN01359
        AN02875 AN03363 AN03423 AN03668 AN04120
        AN04560 AN04583 AN04725 AN04727 AN05109
        AN05525 AN05563 AN05703 AN09640 AN11639
        AN11966 AN12106 AN12386 AN13386 AN13814
        AN15112 AN18040 AN19457 AN20802 AN21299
        AN21493 AN21554 AN23759 AN25608 AN30703
        AN33781 AN36437 AN38532 AN39380 AN40588
        AN41822 AN45270 AN49526 AN68001 AN69168
        AN69864 AN83691 AN83692 UL98994 UL99566
        UN01566 UN03268 UN04158 UN04379 UN07311
        UN08448 UN08449 UN09177 UN09410 UN09807
        UN09808 UN09817 UN11494 UN11666 UN13084
        UN13477 UN13581 UN15012 UN15033 UN17624
        UN19290 UN21564 UN22802 UN23534 UN23626
        UN24230 UN25270 UN25271 UN26021 UN29299
        UN32863 UN35088 UN35844 UN45015 UN45424
        UN46804 UN48286 UN49236 UN49241 UN54707
        UN74124 UN75529 UN76629 UN89992 UN90643 ) .
++IF FMID(JSR1412 )
    REQ(UN07310 UN09806 UN13580 UN21563 UN24229 UN35843
        UN45415 UN49235 UN74123 UN75528 UN89991 ) .
++IF FMID(JSR1417 )
    REQ(UN22804 UN29380 UN45418 UN74126 ) .
```

```

++IF FMID(JSR1416 )
    REQ(UN22803 UN24232 UN29301 UN35846 UN45417 UN54708
        UN74125 UN75530 UN90644 ) .
++IF FMID(JSR1415 )
    REQ(UN17625 UN22844 UN24231 UN29300 UN35845 UN45416 ) .
++IF FMID(JSR1411 )
    REQ(UN07309 UN17623 UN21562 UN23533 UN24228 UN35842
        UN45414 UN49234 UN74122 UN75527 UN89990 ) .
++DELETE(DSMTSS40) SYSLIB(ALL      ) .
++DELETE(DSMTXS40) SYSLIB(ALL      ) .
++JCLIN                RELFILE(1) .

```

Appendix B. DCF/MVS Release 4.1 JCLIN

The JCLIN for DCF/MVS Release 4.1 base product is contained on the installation tape. Each FMID is listed below, and the data set where the JCLIN resides.

HSR1401 IBM.HSR1401.F1 (HSR1401)

JSR1411 IBM.JSR1411.F1 (JSR1411)

JSR1412 IBM.JSR1412.F1 (JSR1412)

JSR1413 IBM.JSR1413.F1 (JSR1413)

These files are loaded to disk by SMP/E when DCF/MVS Release 4.1 base product and features are SMP/E RECEIVED. You may browse or print the JCLIN files using TSO/E, ISPF, or IEBGENER.

Appendix C. IVP Formatted Sample Document

The following document is the formatted output from running the JCL to format the document for DCF/MVS Release 4.1. It is the formatted sample document in the data set *script.R40.DCFSAMP(DSMIVC40)*. Your output will be different from this example because of formatting differences between DCF/MVS Release 4.1 and the BookMaster application which is used to format this program directory. This example also has heading numbers C.1, C.1.1, C.1.2 and C.1.3 which will not appear in your output.

C.1 The Generalized Markup Language

To mark up a source document, you add information to it that enables a person or system to process it in some way. This added information is usually called markup. It consists of *control words* or, as in the case of the Generalized Markup Language, *tags*. Document markup is the primary means of indicating to a text processing system, such as SCRIPT/VS, how to process a document.

A document can be marked up in either of two ways:

- With specific markup, you indicate exactly how a document is to be formatted, such as with SCRIPT/VS control words.
- With general markup, you describe the elements of a source document without specifying how these elements are to be formatted, such as with Generalized Markup Language tags.

C.1.1 What Is Generalized Markup Language?

The Generalized Markup Language (GML) is markup that identifies the parts of a document rather than its format. For example, a book might have front matter, body, and back matter as its major divisions and within these divisions have subdivisions of chapters, sections, headings, paragraphs, examples, figures, lists, items in a list, and so on. A memo, on the other hand, might have the addressee, date, sender, subject, and reference as its major divisions as well as some of the same subdivisions as a book.

General markup is designed to be more natural to use than specific markup because thinking in terms of the content or purpose of the parts of a document is more natural than thinking in terms of how the parts should be processed or how they should appear when printed. A person doing general markup can concentrate on the text, without thinking about format.

C.1.2 Benefits of Using GML for SCRIPT/VS Text Processing

Some of the benefits in using GML when you are using SCRIPT/VS for text processing include:

- Alternative GML interpretation. A GML tag need not be limited to a single SCRIPT/VS interpretation. For example, a tag might indicate that a group of words in the text is a title. For one application, you might want titles to be underlined, but for another you might want them to be italicized. Each application could be satisfied by alternative GML interpretations, *with no change* to the source document or to the markup of titles.
- Ease of markup. GML tags are easy to remember because they can consist of terms and abbreviations commonly used to describe a document. Also, GML generally requires fewer characters to be entered for markup than a corresponding sequence of control words. The result is faster markup and keying of the document.
- Ease of text update. Such things as the numbering of items in an ordered list are left to the formatter. Thus, when an item is inserted or deleted, subsequent items do not have to be renumbered as they would have had to be if the numbers had been part of the source text.

- Uniformity of formatting style. Use of GML for all documents of a particular kind results in a single format for all of them without the people doing the markup having to think about the format. Similarly, a change in format for all the documents can be made by changing the way in which the GML is interpreted.
- Alternative output devices. Because GML describes the parts of the document and not its format, the user can exploit the formatting capabilities of an alternative output device without changing any of the GML tags; only their interpretation has to change. For example, the same document being initially proofed on an IBM 3270 display can later be printed on a 3800 Printing Subsystem for multiple draft copies, and finally on a 4250 printer for the master to be used for final reproduction. In each case, SCRIPT/VS will format to the unique capabilities of each device.

C.1.3 Basic Document Elements

The following table shows the basic document elements in the GML starter set.

address (:ADDRESS)	address line (:ALINE)
definition list (:DL)	definition term heading (:DTHD)
	definition description heading (:DDHD)
	definition term (:DT)
	definition description (:DD)
	list part (:LP)
example (:XMP)	
figure (:FIG)	figure caption (:FIGCAP)
	figure description (:FIGDESC)
footnote (:FN)	
glossary list (:GL)	glossary term (:GT)
	glossary definition (:GD)
	list part (:LP)
lists (:SL, :UL, :OL)	list item (:LI)
	list part (:LP)
long quotation (:LQ)	
note (:NOTE)	
paragraph (:P)	
paragraph continuation (:PC)	

table (:TABLE)

row (:ROW)

cell (:C)

header (:THD)

footer (:TFT)

table caption (:TCAP)

table description (:TDESC)

table note (:TNOTE)

Appendix D. Reader's Comments

Program Directory for Document Composition Facility Release 4.1

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

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

RATING SCALE						
very satisfied	<=====>			very dissatisfied	not applicable	
1	2	3	4	5	N	

	Satisfaction					
Ease of product installation	1	2	3	4	5	N
Contents of program directory	1	2	3	4	5	N
Installation Verification Programs	1	2	3	4	5	N
Time to install the product	1	2	3	4	5	N
Readability and organization of program directory tasks	1	2	3	4	5	N
Necessity of all installation tasks	1	2	3	4	5	N
Accuracy of the definition of the installation tasks	1	2	3	4	5	N
Technical level of the installation tasks	1	2	3	4	5	N
Ease of getting the system into production after installation	1	2	3	4	5	N

How did you order this product?

- ___ CBIPO
- ___ CBPDO
- ___ Independent
- ___ Other

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

- ___ Yes
- ___ No

Were the people who did the installation experienced with the installation of MVS products?

___ Yes

___ No

If yes, how many years? __

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

Please provide the following contact information:

Name and Job Title

Organization

Address

Telephone

Thank you for your participation.

Please send the completed form to (or give to your IBM representative who will forward it to the Document Composition Facility Development group):

IBM Printing Systems Company
Attention: Dept. DME/003G
Box 1900
Boulder, CO 80301-9191
USA



Program Number: 5748-XX9 5190
5191
5377

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GI12-3357-00

