



Program Directory for MQSeries for OS/390

Version 2 Release 1, Modification Level 0

Program Number 5655-A95

FMID HMQ2100

for Use with
OS/390

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GI10-2501-00

Note!

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

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

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1.0 Introduction

This program directory is intended for the system programmer responsible for program installation and maintenance. It contains information concerning the material and procedures associated with the installation of IBM MQSeries for OS/390. This publication refers to IBM MQSeries for OS/390 as MQSeries for OS/390. You should read all of this program directory before installing the program and then keep it for future reference.

The program directory contains the following sections:

- 2.0, "Program materials" on page 3 identifies the basic and optional program materials and documentation for MQSeries for OS/390.
- 3.0, "Program support" on page 8 describes the IBM support available for MQSeries for OS/390.
- 4.0, "Program and service level information" on page 10 lists the APARs (program level) and PTFs (service level) incorporated into MQSeries for OS/390.
- 5.0, "Installation requirements and considerations" on page 12 identifies the resources and considerations for installing and using MQSeries for OS/390.
- 6.0, "Installation instructions" on page 20 provides detailed installation instructions for MQSeries for OS/390. It also describes the procedures for activating the functions of MQSeries for OS/390, or refers to appropriate publications.
- Appendix A, "MQSeries for OS/390 install logic" on page 40 provides the install logic for MQSeries for OS/390.

Before installing MQSeries for OS/390, read 3.2, "Preventive service planning" on page 8. This section tells you how to find any updates to the information and procedures in this program directory.

Do not use this program directory if you are installing MQSeries for OS/390 with a SystemPac, or ServerPac. When using these offerings, use the jobs and documentation supplied with the offering. This documentation might point you to specific sections of the program directory as required.

If you are installing MQSeries for OS/390 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 MQSeries for OS/390 are included on the CBPDO tape.

1.1 MQSeries for OS/390 Description

MQSeries for OS/390 lets OS/390 applications use message queuing to participate in message-driven processing. With message-driven processing, applications can communicate across different platforms by using the appropriate MQSeries products. All MQSeries products implement a common application programming interface whatever platform the applications run on. The calls made by the applications and the messages they exchange are common.

Introduction

1.2 MQSeries for OS/390 FMIDs

MQSeries for OS/390 consists of the following FMIDs:

- HMQ2100
- JMQ2101
- JMQ2102
- JMQ2103
- JMQ2104
- JMQ2105
- JMQ2107

2.0 Program materials

An IBM program is identified by a program number and a feature number. The program number for MQSeries for OS/390 is 5655-A95.

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

The program announcement material describes the features supported by MQSeries for OS/390. Ask your IBM representative for this information if you have not already received a copy.

2.1 Basic machine-readable material

The distribution medium for this program is 9-track magnetic tape (written at 6250 BPI), 3480 cartridge, or 4mm cartridge. The tape or cartridge contains all the programs and data needed for installation. It is installed using SMP/E, and is in SMP/E RELFILE format. See 6.0, "Installation instructions" on page 20 for more information about how to install the program.

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

Note: If you are installing MQSeries for OS/390 using the MVS Custom-Built Product Delivery Offering (CBPDO) (5751-CS3), some of the information in these figures might not be valid. Consult the CBPDO documentation for actual values.

Figure 1. Basic material: program tapes

Medium	Feature Number	Physical Volume	External Label Identification	VOLSER
6250 tape	5811	1	MQ FOR OS/390 V2.1	MQ2100
3480 cart.	5812	1	MQ FOR OS/390 V2.1	MQ2100
4mm cart.	5337	1	MQ FOR OS/390 V2.1	MQ2100
6250 tape	6004	1	MQ CLIENT FEATURE	MQ2107
3480 cart.	6005	1	MQ CLIENT FEATURE	MQ2107
4mm cart.	6085	1	MQ CLIENT FEATURE	MQ2107

Figure 2 (Page 1 of 3). Program tapes: file content

VOLSER	File	Name	Dist Library	RECFM	LRECL	BLK SIZE
MQ2100	1	SMPMCS	n/a	FB	80	8800

Program materials

Figure 2 (Page 2 of 3). Program tapes: file content

VOLSER	File	Name	Dist Library	RECFM	LRECL	BLK SIZE
2	IBM.HMQ2100.F1		n/a	FB	80	27920
3	IBM.HMQ2100.F2		ACSQINST	FB	80	8800
4	IBM.HMQ2100.F3		ACSQASMS	FB	80	8800
5	IBM.HMQ2100.F4		ACSQCLST	FB	80	8800
6	IBM.HMQ2100.F5		ACSQCOBC	FB	80	8800
7	IBM.HMQ2100.F6		ACSQCOBS	FB	80	8800
8	IBM.HMQ2100.F7		ACSQCPPS	FB	80	8800
9	IBM.HMQ2100.F8		ACSQC37S	FB	80	8800
10	IBM.HMQ2100.F9		ACSQC370	FB	80	8800
11	IBM.HMQ2100.F10		ACSQDEFS	FB	80	8800
12	IBM.HMQ2100.F11		ACSQEXEC	FB	80	8800
13	IBM.HMQ2100.F12		ACSQHPPS	VB	130	8800
14	IBM.HMQ2100.F13		ACSQMACS	FB	80	8800
15	IBM.HMQ2100.F14		ACSQMAPS	FB	80	8800
16	IBM.HMQ2100.F15		ACSQMOD	U	0	6144
17	IBM.HMQ2100.F16		ACSQPLIC	FB	80	8800
18	IBM.HMQ2100.F17		ACSQPLIS	FB	80	8800
19	IBM.HMQ2100.F18		ACSQPNLA	FB	80	8800
20	IBM.HMQ2100.F19		ACSQPROC	FB	80	8800
21	IBM.HMQ2100.F20		ACSQSKL	FB	80	8800
22	IBM.JMQ2101.F1		n/a	FB	80	27920
23	IBM.JMQ2101.F2		ACSQMOD	U	0	6144
24	IBM.JMQ2101.F3		ACSQMSGGE	FB	80	8800
25	IBM.JMQ2101.F4		ACSQPNLE	FB	80	8800
26	IBM.JMQ2101.F5		ACSQTBLE	FB	80	8800
27	IBM.JMQ2102.F1		n/a	FB	80	27920
28	IBM.JMQ2102.F2		ACSQMOD	U	0	6144
29	IBM.JMQ2102.F3		ACSQMSGK	FB	80	8800
30	IBM.JMQ2102.F4		ACSQPNLK	FB	80	8800
31	IBM.JMQ2102.F5		ACSQTBLK	FB	80	8800
32	IBM.JMQ2103.F1		n/a	FB	80	27920

Figure 2 (Page 3 of 3). Program tapes: file content

VOLSER	File	Name	Dist Library	RECFM	LRECL	BLK SIZE
	33	IBM.JMQ2103.F2	ACSQMOD	U	0	6144
	34	IBM.JMQ2103.F3	ACSQMSGC	FB	80	8800
	35	IBM.JMQ2103.F4	ACSQPNLC	FB	80	8800
	36	IBM.JMQ2103.F5	ACSQTBLC	FB	80	8800
	37	IBM.JMQ2104.F1	n/a	FB	80	27920
	38	IBM.JMQ2104.F2	ACSQMOD	U	0	6144
	39	IBM.JMQ2104.F3	ACSQMSGU	FB	80	8800
	40	IBM.JMQ2104.F4	ACSQPNLU	FB	80	8800
	41	IBM.JMQ2104.F5	ACSQTBLU	FB	80	8800
	42	IBM.JMQ2105.F1	n/a	FB	80	27920
	43	IBM.JMQ2105.F2	ACSQMOD	U	0	6144
MQ2107	1	SMPMCS	n/a	FB	80	8800
	2	IBM.JMQ2107.F1	n/a	FB	80	8800
	3	IBM.JMQ2107.F2	ACSQMOD	U	0	6144

2.2 Optional machine-readable material

The distribution medium for this program is 9-track magnetic tape (written at 6250 BPI), 3480 cartridge, or 4mm cartridge.

Figure 3 through Figure 4 describe the tapes or cartridges, and the file content of these tapes and cartridges.

Use SMP/E to load the optional materials from the tape.

Figure 3. Optional material: Japanese language feature

Medium	Feature Number	Physical Volume	External Label Identification	VOLSER
6250 tape	5821	1	MQ FOR OS/390 V2.1	MQ2100
3480 cart.	5822	1	MQ FOR OS/390 V2.1	MQ2100
4mm cart.	6180	1	MQ FOR OS/390 V2.1	MQ2100

Program materials

Figure 4. Optional material: Simplified Chinese language feature

Medium	Feature Number	Physical Volume	External Label Identification	VOLSER
6250 tape	6181	1	MQ FOR OS/390 V2.1	MQ2100
3480 cart.	6182	1	MQ FOR OS/390 V2.1	MQ2100
4mm cart.	6183	1	MQ FOR OS/390 V2.1	MQ2100

2.3 Program publications

The following sections identify the basic and optional publications for MQSeries for OS/390.

2.3.1 Basic program publications

Figure 5 identifies the basic unlicensed program publications for MQSeries for OS/390. One copy of each of these publications is included when you order the basic materials for MQSeries for OS/390. For additional copies, contact your IBM representative.

Figure 5. Basic material: unlicensed publications

Publication Title	Form Number
MQSeries Application Programming Guide	SC33-0807
MQSeries Intercommunication	SC33-1872
MQSeries Application Programming Reference	SC33-1673
MQSeries Planning Guide	GC33-1349
MQSeries for OS/390 Licensed Program Specifications	GC34-5377
MQSeries Command Reference	SC33-1369
MQSeries Programmable System Management	SC33-1482
MQSeries Clients	GC33-1632
MQSeries Using C++	SC33-1877
MQSeries Application Programming Reference Summary	SX33-6095
MQSeries Queue Manager Clusters	SC34-5349
MQSeries for OS/390 System Management Guide	SC34-5374
MQSeries for OS/390 Messages and Codes	GC34-5375
MQSeries for OS/390 Problem Determination Guide	GC34-5376
Transaction Processing and Data Collection (CD)	SK2T-0730

2.3.2 Optional program publications

No optional publications are provided for MQSeries for OS/390.

2.4 Program source materials

No program source materials or viewable program listings are provided for MQSeries for OS/390.

2.5 Publications useful during installation

<i>Figure 6. Publications useful during installation</i>	
Publication Title	Form Number
OS/390 SMP/E Commands	SC28-1805
OS/390 SMP/E Reference	SC28-1806
OS/390 SMP/E User's Guide	SC28-1740
OS/390 SMP/E Messages and Codes	SC28-1738
OS/390 MVS JCL Reference	GC28-1757

Program support

3.0 Program support

This section describes the IBM support available for MQSeries for OS/390.

3.1 Program services

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

3.2 Preventive service planning

Before installing MQSeries for OS/390, you should review the current Preventive Service Planning (PSP) information. If you obtained MQSeries for OS/390 as part of a CBPDO, there is HOLDDATA and PSP information included on the CBPDO tape.

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

PSP Buckets are identified by UPGRADEs, which specify product levels, and SUBSETs, which specify the FMIDs for a product level. The UPGRADE and SUBSET values for MQSeries for OS/390 are:

Figure 7. PSP upgrade and subset ID

UPGRADE	SUBSET	Description
MQMESA	HMQ2100	MQSeries for OS/390 - base program
MQMESA	JMQ2101	U.S. English language feature
MQMESA	JMQ2102	Japanese language feature
MQMESA	JMQ2103	Simplified Chinese language feature
MQMESA	JMQ2104	U.S. English (uppercase) language feature
MQMESA	JMQ2105	CICS mover feature
MQMESA	JMQ2107	Client attachment feature

3.3 Statement of support procedures

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

Figure 8 identifies the component IDs (COMPID) for MQSeries for OS/390.

Figure 8. Component IDs

FMID	COMPID	Component Name	RETAIN Release
HMQ2100	5655A9500	MQSeries for OS/390 - base program	100
JMQ2101	5655A9500	U.S. English language feature	101
JMQ2102	5655A9500	Japanese language feature	102
JMQ2103	5655A9500	Simplified Chinese language feature	103
JMQ2104	5655A9500	U.S. English (upper case) language feature	104
JMQ2105	5655A9500	CICS mover feature	105
JMQ2107	5655A9500	Client attachment feature	107

Program and service level information

4.0 Program and service level information

This section identifies the program and any relevant service levels of MQSeries for OS/390. The program level refers to the APAR fixes incorporated into the program. The service level refers to the PTFs integrated. Information about the cumulative service tape is also provided.

4.1 Program level information

The following APAR fixes against previous releases of MQSeries for OS/390 have been incorporated into this release.

UQ08128	UQ12618	UQ17098	UQ21025
UQ08129	UQ12843	UQ17099	UQ21026
UQ09463	UQ12849	UQ17355	UQ21027
UQ09472	UQ12850	UQ17709	UQ21029
UQ09641	UQ12851	UQ17769	UQ21030
UQ09782	UQ12854	UQ17832	UQ21300
UQ09872	UQ12855	UQ17930	UQ21545
UQ10116	UQ13220	UQ17937	UQ21726
UQ10125	UQ14477	UQ18008	UQ21771
UQ10131	UQ14697	UQ18172	UQ21798
UQ10182	UQ14938	UQ18408	UQ21800
UQ10566	UQ15605	UQ18649	UQ21801
UQ10568	UQ15629	UQ18650	UQ21802
UQ10648	UQ15630	UQ18651	UQ21803
UQ10759	UQ15635	UQ18727	UQ21813
UQ10760	UQ15669	UQ18729	UQ21814
UQ10895	UQ15691	UQ18730	UQ21817
UQ10898	UQ15971	UQ18797	UQ21953
UQ11145	UQ16166	UQ19249	UQ21978
UQ11148	UQ16169	UQ19250	UQ21979
UQ11155	UQ16203	UQ19251	UQ21980
UQ11545	UQ16204	UQ19314	UQ21981
UQ11546	UQ16205	UQ19576	UQ22286
UQ11547	UQ16210	UQ19672	UQ22289
UQ11616	UQ16211	UQ19674	UQ22296
UQ11909	UQ16212	UQ20204	UQ22333
UQ11942	UQ16626	UQ20254	UQ22336
UQ12137	UQ16627	UQ20255	UQ22337
UQ12154	UQ16632	UQ20256	UQ22671
UQ12306	UQ16637	UQ20257	UQ23424
UQ12354	UQ16796	UQ20929	UQ23485
UQ12358	UQ17097	UQ20965	UQ23552

Program and service level information

UQ23560	UQ23736	UQ23755	UQ23898
UQ23575	UQ23738	UQ23760	UQ23902
UQ23576	UQ23739	UQ23762	UQ24377
UQ23702	UQ23740	UQ23764	UQ24385
UQ23711	UQ23741	UQ23790	
UQ23715	UQ23742	UQ23895	

4.2 Service level information

No PTFs against this release of MQSeries for OS/390 have been incorporated into the product tape.

4.3 Cumulative service tape

A cumulative service tape, containing PTFs not incorporated into this release, might be included with this program. Installation instructions for cumulative service tapes can be found in the SMP/E publications.

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

Installation requirements and considerations

5.0 Installation requirements and considerations

The following sections identify the system requirements for installing and activating MQSeries for OS/390. The following terminology is used:

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

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

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

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

5.1 Driving system requirements

This section describes the environment of the driving system required to install MQSeries for OS/390.

5.1.1 Machine requirements

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

5.1.2 Programming requirements

Figure 9. Driving system software requirements

Program Number	Product Name and Minimum VRM/Service Level
5647-A01	OS/390 Version 2.4 or higher

5.2 Target system requirements

This section describes the environment of the target system required to install and use MQSeries for OS/390.

5.2.1 Machine requirements

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

5.2.2 Programming requisites

5.2.2.1 Minimum requisites: A minimum requisite is defined as one of the following:

1. *Installation Requisite:* A product that is required at installation time. i.e. this product **will not install** successfully unless this requisite is met. This includes products that are specified as REQs, PREs, or CALLLIBs.
2. *Run Time Requisite:* A product that is **not** required for the successful installation of this product, but **is** needed at run time in order for this product to work.

<i>Figure 10. Minimum requisites</i>		
Program Number	Product Name and Minimum VRM/Service Level	Install Req?
5647-A01	OS/390 Version 2.4 or higher	Yes

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

<i>Figure 11 (Page 1 of 2). Functional requisites</i>			
Program Number	Product Name and Minimum VRM/Service Level	Function	Install Req?
5696-234	High Level Assembler Version 1.2 or higher	Assembler applications	No
5647-A01	IBM OS/390 C/C++	C and C++ applications	No
5647-A01	ISPF Version 4.2.1 or higher	Operations and control panels	No
5655-176	IMS Version 5.1 or higher	IMS applications	No
5647-A01	OS/390 Version 2.6 or higher	Workload manager	No
5655-A96	MQSeries WorkFlow Version 3.1 or higher	Workload manager	No
	TCPaccess Version 4.1 or higher	Interlink TCP/IP	No
Any one of the following:			
5688-235	IBM PL/I for MVS and VM Version 1.1 or higher	PL/I applications	No
5688-235	IBM SAA AD/Cycle PL/I MVS & VM	PL/I applications	No

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Figure 11 (Page 2 of 2). Functional requisites

Program Number	Product Name and Minimum VRM/Service Level	Function	Install Req?
Any one of the following:			
5655-018	CICS for MVS/ESA Version 4.1 or higher	CICS applications	No
5655-147	CICS Transaction Server for OS/390 (any version)	CICS applications	No
Any one of the following:			
5688-197	IBM SAA AD/Cycle COBOL/370	COBOL applications	No
5688-197	IBM COBOL for OS/390 and VM	COBOL applications	No
5688-197	IBM COBOL for MVS and VM	COBOL applications	No

5.2.3 DASD storage requirements

MQSeries for OS/390 libraries can reside on any type of DASD.

Figure 12 lists the total space required for each type of library.

Figure 12. Total DASD space required by MQSeries for OS/390

Library Type	Total Space Required
Target	1355 tracks
Distribution	1399 tracks

Notes:

1. The data set sizes specified contain 15% extra space. You might want to revise these numbers based on your plans for adding additional function or service.
2. IBM recommends use of system determined block sizes for efficient DASD utilization for all non-RECFM U data sets. For RECFM U data sets, IBM recommends a block size of 32760, which is the most efficient from a performance and DASD utilization perspective.

If you choose not to use system determined block sizes, use the block sizes and numbers of blocks specified to allocate the data sets. Data sets can be reblocked to a larger size. Please note that the maximum allowable block size will depend on the type of DASD on which the data set will reside; for example, the block size of data sets on a 3350 DASD cannot exceed 19,069.

3. Abbreviations used for the data set type are:

U Unique data set used by only the FMIDs listed. In order to determine the correct storage needed for this data set, this table provides all required information; no other tables (or program directories) need to be referenced for the data set size.

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- S** Shared data set used by more than the FMIDs listed. In order to determine the correct storage needed for this data set, the storage size given in this table needs to be added to other tables (perhaps in other program directories). If the data set already exists, it must have enough free space to accommodate the storage size given in this table.

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

Figure 13. Storage requirements for SMP/E work data sets

Library DDNAME	T Y P E	D S R G	R E C M	L R E C L	No. of Blks	BLK SIZE	No. of 3380/ 9345 Trks	No. of 3390 Trks	No. of DIR Blks
SMPWRK1	S	PO	FB	80	5930	6160			111
SMPWRK2	S	PO	FB	80	5930	6160			111
SMPWRK3	S	PO	FB	80	6160	3120			111
SMPWRK4	S	PO	FB	80	6160	3120			111
SMPWRK6	S	PO	FB	80	5930	6160			111
SYSUT1	U	PS	--	--	11630	6160			0
SYSUT2	U	PS	--	--	11630	6160			0
SYSUT3	U	PS	--	--	11630	6160			0
SYSUT4	U	PS	--	--	11630	6160			0

The following table provides an estimate of the storage needed in the SMP/E data sets for MQSeries for OS/390. The estimates must be added to those of any other programs and service being installed to determine the total additional storage requirements.

Figure 14 (Page 1 of 2). Storage requirements for SMP/E data sets

Library DDNAME	T Y P E	D S R G	R E C M	L R E C L	No. of Blks	BLK SIZE	No. of 3380/ 9345 Trks	No. of 3390 Trks	No. of DIR Blks
SMPLTS	S	PO	U	0	142	32760	142	142	50
SMPMTS	S	PO	FB	80	84	8800	17	14	100
SMPPTS	S	PO	FB	80	366	8800	74	61	100
SMPSCDS	S	PO	FB	80	168	8800	34	28	100

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Figure 14 (Page 2 of 2). Storage requirements for SMP/E data sets

Library DDNAME	T Y P E	D S R G	R E C M	L R C L	No. of Blks	BLK SIZE	No. of 3380/ Trks	No. of 3390 Trks	No. of DIR Blks
SMPSTS	S	PO	FB	80	84	8800	17	14	100

The following figures list the target and distribution libraries (data sets) and their attributes required to install MQSeries for OS/390. The storage requirements of MQSeries for OS/390 must be added to the storage required by other programs having data in the same data set (library).

Figure 15 (Page 1 of 2). Storage requirements for MQSeries for OS/390 target libraries

Library DDNAME	T Y P E	D S R G	R E C M	L R C L	No. of 3380/ 9345 Trks	No. of 3390 Trks	No. of DIR Blks
SCSQANLC	U	PO	U	0	14	14	10
SCSQANLE	U	PO	U	0	12	12	8
SCSQANLK	U	PO	U	0	15	15	10
SCSQANLU	U	PO	U	0	12	12	8
SCSQASMS	U	PO	FB	80	14	14	3
SCSQAUTH	U	PO	U	0	435	435	302
SCSQCICS	U	PO	U	0	32	32	10
SCSQCLST	U	PO	FB	80	6	6	3
SCSQCOBC	U	PO	FB	80	19	19	3
SCSQCOBS	U	PO	FB	80	48	48	3
SCSQCPPS	U	PO	FB	80	8	8	3
SCSQC37S	U	PO	FB	80	45	45	3
SCSQC370	U	PO	FB	80	15	15	3
SCSQDEFS	U	PO	FB	80	52	52	3
SCSQEXEC	U	PO	FB	80	19	19	3
SCSQHPPS	U	PO	FB	80	10	10	3
SCSQINST	U	PO	FB	80	16	16	3
SCSQLINK	U	PO	U	0	4	4	3
SCSQLOAD	U	PO	U	0	37	37	13
SCSQMACS	U	PO	FB	80	33	33	3

Installation requirements and considerations

Figure 15 (Page 2 of 2). Storage requirements for MQSeries for OS/390 target libraries

Library DDNAME	T Y P E	D S R G	R E F M	L R E C L	No. of 3380/ 9345 Trks	No. of 3390 Trks	No. of DIR Blks
SCSQMAPS	U	PO	FB	80	8	8	3
SCSQMSGC	U	PO	FB	80	8	8	3
SCSQMSGE	U	PO	FB	80	8	8	3
SCSQMSGK	U	PO	FB	80	8	8	3
SCSQMSGU	U	PO	FB	80	8	8	3
SCSQMVR1	U	PO	U	0	87	87	3
SCSQMVR2	U	PO	U	0	55	55	4
SCSQPLIC	U	PO	FB	80	14	14	3
SCSQPLIS	U	PO	FB	80	7	7	3
SCSQPNLA	U	PO	FB	80	8	8	3
SCSQPNLC	U	PO	FB	80	43	43	32
SCSQPNLE	U	PO	FB	80	45	45	34
SCSQPNLK	U	PO	FB	80	46	46	34
SCSQPNLU	U	PO	FB	80	45	45	33
SCSQPROC	U	PO	FB	80	20	20	4
SCSQSKL	U	PO	FB	80	9	9	3
SCSQSNLC	U	PO	U	0	3	3	3
SCSQSNLE	U	PO	U	0	3	3	3
SCSQSNLK	U	PO	U	0	3	3	3
SCSQSNLU	U	PO	U	0	3	3	3
SCSQTBLC	U	PO	FB	80	2	2	3
SCSQTBLE	U	PO	FB	80	2	2	3
SCSQTBLK	U	PO	FB	80	2	2	3
SCSQTBLU	U	PO	FB	80	2	2	3

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Figure 16 (Page 1 of 2). Storage requirements for MQSeries for OS/390 distribution libraries

Library DDNAME	T Y P E	D S R G	R E C F M	L R E C L	No. of 3380/ 9345 Trks	No. of 3390 Trks	No. of DIR Blks
ACSQASMS	U	PO	FB	80	14	14	3
ACSQCLST	U	PO	FB	80	6	6	3
ACSQCOBC	U	PO	FB	80	19	19	3
ACSQCOBS	U	PO	FB	80	48	48	3
ACSQCPPS	U	PO	FB	80	8	8	3
ACSQC37S	U	PO	FB	80	45	45	3
ACSQC370	U	PO	FB	80	15	15	3
ACSQDEFS	U	PO	FB	80	52	52	3
ACSQEXEC	U	PO	FB	80	19	19	3
ACSQHPPS	U	PO	FB	80	10	10	3
ACSQINST	U	PO	FB	80	6	6	3
ACSQMACS	U	PO	FB	80	33	33	3
ACSQMAPS	U	PO	FB	80	8	8	3
ACSQMOD	U	PO	U	0	856	856	588
ACSQMSGC	U	PO	FB	80	8	8	3
ACSQMSGE	U	PO	FB	80	8	8	3
ACSQMSGK	U	PO	FB	80	8	8	3
ACSQMSGU	U	PO	FB	80	8	8	3
ACSQPLIC	U	PO	FB	80	14	14	3
ACSQPLIS	U	PO	FB	80	7	7	3
ACSQPNLA	U	PO	FB	80	8	8	3
ACSQPNLC	U	PO	FB	80	43	43	32
ACSQPNLE	U	PO	FB	80	45	45	34
ACSQPNLK	U	PO	FB	80	46	46	34
ACSQPNLU	U	PO	FB	80	45	45	33
ACSQPROC	U	PO	FB	80	20	20	4
ACSQSKL	U	PO	FB	80	9	9	3
ACSQTBLC	U	PO	FB	80	2	2	3
ACSQTBLE	U	PO	FB	80	2	2	3

Installation requirements and considerations

Figure 16 (Page 2 of 2). Storage requirements for MQSeries for OS/390 distribution libraries

Library DDNAME	T Y P E	D S R G	R E C F M	L R E C L	No. of 3380/ 9345 Trks	No. of 3390 Trks	No. of DIR Blks
ACSQTBLK	U	PO	FB	80	2	2	3
ACSQTBLU	U	PO	FB	80	2	2	3

5.3 FMIDs deleted

Installing MQSeries for OS/390 will result in the deletion of the following FMIDs:

Figure 17. FMIDs deleted

Deleted FMID	Deleting FMID	Description
HML7110, HML7112, HML7115, HML7118, HML7122, HML7130, JML7121, JML7125, JML7129, JML7133, JML7138, JML7143,	HMQ2100	MQSeries for OS/390 - base program
JML7111, JML7113, JML7116, JML7119, JML7123, JML7131, JML7140	JMQ2101	U.S. English language feature
JML7112, JML7114, JML7117, JML7120, JML7124, JML7132, JML7141	JMQ2102	Japanese language feature
JML7126, JML7134, JML7142	JMQ2103	Simplified Chinese language feature
JML7127, JML7135, JML7139	JMQ2104	U.S. English (upper case) language feature
JML7128, JML7136	JMQ2107	Client attachment feature

5.4 Special considerations

MQSeries for OS/390 has no special considerations for the target system.

6.0 Installation instructions

This chapter describes the installation method and step-by-step procedures to install MQSeries for OS/390. The *MQSeries for OS/390 System Management Guide* describes the further step-by-step procedures to customize the functions of MQSeries for OS/390.

MQSeries for OS/390 can be installed using either of the following methods:

- As part of a system package, such as CBPDO, SystemPac, or CustomPac
- Stand-alone using SMP/E

If you are installing MQSeries for OS/390 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 MQSeries for OS/390 are included on the CBPDO tape. Follow the instructions supplied with the CBPDO package to RECEIVE MQSeries for OS/390 onto your system. Follow the steps in this program directory to complete the installation, substituting the names you have used to RECEIVE MQSeries for OS/390 where appropriate, and omitting the RECEIVE step as shown in 6.3.5.1, "SMP/E RECEIVE" on page 33 of this program directory.

If you are installing MQSeries for OS/390 as part of a CustomPac, refer to the documentation supplied with the package for instructions.

When you have installed MQSeries for OS/390, refer to 6.4.1, "Library contents after installation" on page 37 for information on where MQSeries for OS/390 resides, and the *MQSeries for OS/390 System Management Guide* for information on testing and activating MQSeries for OS/390.

If you are installing MQSeries for OS/390 stand-alone, follow the instructions in 6.3, "Installing MQSeries for OS/390" on page 22.

If you are migrating from a previous version of MQSeries for OS/390, please read Appendix D, "Migration considerations" on page 45 before you start.

Automatic relinking

The installation process uses CALLLIBS. You can choose to perform an extra step when you install MQSeries for OS/390 to take advantage of automatic relinking when service is applied to certain corequisite products. The optional LINK job is described in Appendix C, "Enabling automatic relinking after service is applied" on page 43

6.1 The components of MQSeries for OS/390

MQSeries for OS/390 has several components, and optional features. These are explained here:

Required features:

- BASE

This comprises all the basic function for MQSeries and includes the MQSeries-CICS bridge and the distributed queuing facility (supporting both TCP/IP and LU 6.2 communications)

- U.S. English (mixed case) language support

Optional features

- Language support features
 - Japanese language support
 - Simplified Chinese language support
 - U.S. English (uppercase) support

- CICS mover feature

Select this feature if you want to use CICS ISC for distributed queuing instead of the distributed queuing facility that is supplied with the base feature.

- Client attachment feature

Select this feature if you want to connect MQSeries clients to MQSeries for OS/390.

6.2 MQSeries for OS/390 libraries

All MQSeries for OS/390 supplied load modules in the following libraries are reentrant and can be placed in the LPA if desired:

- SCSQAUTH
- SCSQANLC
- SCSQANLE
- SCSQANLK
- SCSQANLU
- SCSQMVR1
- SCSQMVR2

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6.3 Installing MQSeries for OS/390

The installation process for MQSeries for OS/390 uses the SMP/E RECEIVE, APPLY, and ACCEPT commands to read the installation tape and place MQSeries for OS/390 into the appropriate system libraries. If you need more information than is given in this document, refer to a full description of SMP/E in the *SMP/E User's Guide* and *SMP/E Reference* books.

SMP/E is also used to apply preventive or corrective service after MQSeries for OS/390 has been installed.

If you are migrating from a previous version of MQSeries for OS/390, please read Appendix D, "Migration considerations" on page 45 before you start.

This section covers the following topics. You are recommended to read all these sections **before** you start to install MQSeries for OS/390.

- 6.3.1, "Installation summary for MQSeries for OS/390"
- 6.3.2, "Prepare to install MQSeries for OS/390" on page 23
- 6.3.3, "Create the installation JCL" on page 26
- 6.3.4, "Prepare the installation environment" on page 30
- 6.3.5, "Use SMP/E to install MQSeries for OS/390" on page 32

When you have installed and customized MQSeries for OS/390, you need to perform an IPL of OS/390 to activate changes made to the early code.

6.3.1 Installation summary for MQSeries for OS/390

The steps you have to perform to install MQSeries for OS/390 are summarized below. Sample JCL is provided for all these steps except 1, 2, and 3.

1. Obtain the latest Preventive Service Planning (PSP) information, which contains the list of required actions and service and apply any relevant service. See Section 3.0, "Program support" on page 8 for details.
2. If you are migrating from a previous version of MQSeries for OS/390, please read Appendix D, "Migration considerations" on page 45 before you start.
3. Before installing MQSeries for OS/390, you must choose names and values for a number of parameters. These names and values depend on the standards that apply to your enterprise. You also need to decide whether you want to install any of the optional features.
4. Read the sample installation JCL and CLIST from tape and customize it. The names and values you have chosen above are used to modify the required JCL, as shown in 6.3.3, "Create the installation JCL" on page 26.
5. Set up an SMP/E environment. This environment must be tailored for MQSeries for OS/390.
6. Add DDDEF statements to the SMP/E environment to define the target and distribution libraries to SMP/E.

7. Allocate the target and distribution libraries.
8. Run the SMP/E RECEIVE job to unload the required features from the base product tape.
9. Run the SMP/E APPLY job to install the features into the target libraries.
10. Run the SMP/E ACCEPT job to install the features into the distribution libraries.
11. Run the SMP/E LINK job if you want to enable automatic relinking after service is applied. This job is optional; if you want to use it, read Appendix C, “Enabling automatic relinking after service is applied” on page 43 before you go any further with installing MQSeries for OS/390 in order to understand the additional things you need to do when performing the other installation tasks.
12. If required, install the client attachment feature using the procedure described in 6.3.6, “Installing the client attachment feature” on page 34.

When MQSeries for OS/390 has been installed, use SMP/E to install preventative or corrective service if required.

6.3.2 Prepare to install MQSeries for OS/390

Before you install MQSeries for OS/390, you must make the following decisions and preparations. The decisions that you make here effect the customization of the sample JCL provided with MQSeries for OS/390. You should write down the appropriate values as you work through this section. Where applicable, space has been provided in Figure 18, Figure 19 on page 25, and Figure 20 on page 26 to note the values assigned.

1. Decide which parts of MQSeries for OS/390 you wish to install; the parts available are described in 6.1, “The components of MQSeries for OS/390” on page 21.
2. Ensure that you have the correct pre-requisite products installed. For information about pre-requisite products, and the levels of these products required to install and use MQSeries for OS/390, see 5.1.2, “Programming requirements” on page 12.
3. Plan the environment that you are going to install MQSeries for OS/390 in to. You need to decide:
 - The space requirements (see 5.2.3, “DASD storage requirements” on page 14)
 - The high-level qualifiers to use (see 6.3.2.1, “High-level qualifiers”)
 - Disk volume and unit names (see 6.3.2.2, “Volume and unit names” on page 25)
 - The SMP/E environment, for which you need to decide whether to install into a new SMP/E environment or into an existing SMP/E environment (see 6.3.2.3, “SMP/E environment” on page 25).

6.3.2.1 High-level qualifiers: Use Figure 18 to plan the high-level qualifiers for the MQSeries for OS/390 data sets.

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Figure 18. High-level qualifiers for data set names

Parameter name in the sample JCL provided	Default value	Assigned value	Description
CSSQUAL	SYS1		High-level qualifiers for the OS/390 callable service library CSSLIB.
DHLQUAL	MQSERIES.DLIB		High-level qualifiers for the MQSeries for OS/390 distribution data sets.
DHQ	DHQ		High-level qualifiers for the UCSQINST data set into which the installation JCL will be loaded from tape.
LEQUAL	PP.ADLE370		High-level qualifiers for the Language Environment target libraries.
SHLQUAL	MQSERIES.SMPE		High-level qualifiers for the new SMP/E data sets that you are going to use to install MQSeries for OS/390. If you are going to install into existing data sets, this name is already defined.
TCPQUAL	PP.TCPIP		High-level qualifiers for the IBM TCP/IP target libraries.
THLQUAL	MQSERIES.TLIB		High-level qualifiers for the MQSeries for OS/390 target data sets.
THQ	THQ		High-level qualifiers for the TCSQINST data set into which the customized installation JCL will be placed.

Note: If required, DHQ can be the same as DHLQUAL and THQ can be the same as THLQUAL.

If these high-level qualifiers do not already exist, you must define them to RACF, or any other security product you are using, and have ALIAS definitions in the master catalog.

The TSO user ID used to install or service MQSeries for OS/390 requires RACF ALTER access to these high-level qualifiers. See the *MQSeries for OS/390 System Management Guide* for details of the security authorization required for running MQSeries for OS/390.

If you are going to use the Spool Display and Search Facility (SDSF) to look at the output from the installation jobs, you must have authorization to use the prefix CSQ8* to view them, or you must customize

the names of the jobs to use a prefix to which you are authorized. This can be done using the JCPREF option in CSQ8SYSJ as described in 6.3.3.2, “Customize the sample installation JCL” on page 28.

6.3.2.2 Volume and unit names: Plan the volume and unit names shown in Figure 19. These are used by the supplied sample JCL during the installation of MQSeries for OS/390. You must decide where you are going to install the product, taking into account the space requirements (see Figure 16 on page 18 and Figure 15 on page 16) and how frequently the data sets are going to be accessed.

<i>Figure 19. Volume and unit names</i>			
Parameter Name in the Sample Jobs	Values Required	Value Specified	Description
SMPVOL	VOLSER and unit type		SMP/E data set volume if installing into new SMP/E data sets. Also used for temporary libraries.
TARVOL	VOLSER and unit type		MQSeries for OS/390 target data set volume.
DISVOL	VOLSER and unit type		MQSeries for OS/390 distribution data set volume.
TAPEUNIT	Tape unit type		Unit type of the tape drive used to read the MQSeries for OS/390 tapes.
Notes:			
<ol style="list-style-type: none"> 1. You can use esoteric values such as SYSDA or SYSALLDA for the unit type of TARVOL and DISVOL by substituting a period (.) for the VOLSER in the customization step in section 6.3.3.2, “Customize the sample installation JCL” on page 28. 2. SMPVOL must have both the VOLSER and the unit type specified. 			

6.3.2.3 SMP/E environment: You must decide whether to install MQSeries for OS/390 into a new or an existing SMP/E environment. Remember that installing a new release of MQSeries for OS/390 into the same SMP/E zones as an existing release will cause the earlier level to be deleted from both the SMP/E zones and the existing release data sets.

If you are migrating from a previous version of MQSeries for OS/390, please read Appendix D, “Migration considerations” on page 45 before you start.

If you have decided to use the optional LINK job to enable automatic cross-zone link editing, you will need to read Appendix C, “Enabling automatic relinking after service is applied” on page 43 before you can proceed with this section.

If you are going to install into the same SMP/E zones, then to preserve your current release while you install and test the new release you should copy the existing release data sets into data sets with different names. Do not rename or delete the current data sets because they need to be available to SMP/E for delete processing during the installation of the new release. If they are not available, the APPLY and

Installation instructions

ACCEPT steps will fail with a return code of 12. After running a successful ACCEPT of the MQSeries for OS/390 products, the previous release data sets are no longer required and can be deleted when testing of the new release has been completed.

If you use existing SMP/E data sets, you need to know the names of your target zone and distribution zone, and the data set name of your global CSI.

Note: If you are installing into existing zones:

- The PEMAX options entry must be at least 4500 or left to default.
- The DSSPACE options entry must specify at least 500 directory blocks.

You must decide upon the names for the SMP/E zones.

<i>Figure 20. Target and distribution zone names</i>			
Parameter Name in the Sample Jobs	Default Value	Assigned Value	Description
DZNAME	DZONE		The name of your distribution zone
GZONECSI	NEW		The data set name of your global zone CSI
LETZN	LETZN		The name of the target zone in which Language Environment is installed (only required if you are going to use the optional LINK jobs, see Appendix C, "Enabling automatic relinking after service is applied" on page 43).
OS390TZN	OS390TZN		The name of the target zone in which OS/390 callable services are installed (only required if you are going to use the optional LINK jobs, see Appendix C, "Enabling automatic relinking after service is applied" on page 43).
TCPTZN	TCPTZN		The name of the target zone in which IBM TCP/IP is installed (only required if you are going to use the optional LINK jobs, see Appendix C, "Enabling automatic relinking after service is applied" on page 43).
TZNAME	TZONE		The name of your target zone
Note: If you are using the LINK command, and Language Environment, IBM TCP/IP, and OS/390 callable services are installed in the same SMP/E target zone, LETZN, TCPTZN, and OS390TZN must all be set to the same value.			

6.3.3 Create the installation JCL

This section takes you through loading the sample installation JCL from the tape and customizing it ready for your use.

6.3.3.1 Read in the sample installation JCL: Read the sample installation JCL from tape. (Alternatively, you can use SMP/E RECEIVE to load the jobs into temporary libraries, copy them into private data sets, and modify and run the jobs from these data sets.)

1. Type in the following JCL as DHQ.XCSQINST as a sequential data set, substituting the values you have chosen for **dhq** and **tapeunit** into the JCL, and adding job statement information if required:

```
//OFFTAPE JOB
//TALLOD EXEC PGM=IEBCOPY,REGION=1024K
//SYSPRINT DD SYSOUT=*
//IN DD DSN=IBM.HMQ2100.F2,
// LABEL=(3,SL),
// UNIT=tapeunit,
// VOL=SER=MQ2100,
// DISP=OLD
//OUT DD DSN=dhq.UCSQINST,
// DCB=(LRECL=80,RECFM=FB,BLKSIZE=8800),
// SPACE=(CYL,(1,1,20)),
// UNIT=SYSDA,
// DISP=(MOD,CATLG)
//SYSUT3 DD SPACE=(TRK,(5)),UNIT=SYSDA
//SYSUT4 DD SPACE=(TRK,(5)),UNIT=SYSDA
//SYSIN DD *
COPY INDD=IN,OUTDD=OUT
/*
//
```

2. Mount the tape.
3. Run the above job to load the samples. The job should finish with a return code of 0.

If the return code is not 0, check the job output carefully to ensure that the sample jobs have been copied correctly. If the sample jobs have not been copied correctly, correct any errors found, and re-submit the job.

You have now read all the sample jobs into the data set DHQ.UCSQINST. To confirm that you have the correct set of jobs, check the list of members in DHQ.UCSQINST against the list in Appendix B, “Customizing the sample installation manually” on page 41. Jobs CSQ8SYSC and CSQ8SYSJ should also be present. The next step is to customize the sample jobs for your system.

Installation instructions

6.3.3.2 Customize the sample installation JCL: To customize the sample installation JCL use the customization job (CSQ8SYSJ) provided with MQSeries for OS/390. If you don't want to use this job and would rather customize the sample installation jobs manually, see Appendix B, "Customizing the sample installation manually" on page 41.

If you use CSQ8SYSJ, you can customize the sample jobs by adding the names you chose in section 6.3.2, "Prepare to install MQSeries for OS/390" on page 23 to CSQ8SYSJ in DHQ.UCSQINST and running this job.

We recommend that you customize all the installation jobs together, although you might not need some of them until later.

CSQ8SYSJ calls a CLIST to copy and edit the sample jobs from DHQ.UCSQINST to THQ.TCSQINST. If THQ.TCSQINST does not exist, it is created by CSQ8SYSJ. Full instructions for modifying CSQ8SYSJ are included in its comments. Where selections are to be made, this is usually done by removing the leading asterisk.

The following rules apply when updating CSQ8SYSJ:

- The keywords in the JCL can appear in any order and starting in any column as long as they are the first nonblank characters on a line and are within columns 1 through 72.
- If you place a nonblank character before a keyword, the line is treated as a comment. Use an asterisk as the nonblank character to avoid accidentally forming a valid keyword.
- Do not delete lines in CSQ8SYSJ, because you might need them in the future. If they do not apply, comment them out by placing an asterisk at the beginning of the unwanted lines.

Use your usual editor to update CSQ8SYSJ in DHQ.UCSQINST as follows:

1. Change the job statement at the top of CSQ8SYSJ to match the requirements of your enterprise. If you need to code a 'TIME=' parameter on your JCL, a value of 10 minutes CPU time is enough to run CSQ8SYSJ.
2. Customize the JCL statements in Section 2 of CSQ8SYSJ with the names you have chosen for DHQ and THQ. Replace the variable DHQ for the SYSPROC and MINPUT lines, and the variable THQ for the MOUTPUT line.
3. Select the features you want (none of the features are mutually exclusive):
 - a. By default, both the base and U.S. English (mixed case) FMIDs are selected for installation; do **not** change this.
 - b. If you want to install any of the optional features, remove the leading asterisks

The following tokens are used in CSQ8SYSJ:

MQM

Base product

MQMNL US ENGLISH

U.S. English (mixed case) language feature.

MQMNL JAPANESE

Optional Japanese language feature.

MQMNL SIMPLIFIED CHINESE

Optional simplified Chinese language feature.

MQMNL UPPERCASE ENGLISH

Optional U.S. English (uppercase) language feature.

CICM

Optional CICS mover feature.

CQM is used as the token in CSQ8SYSJ for the optional client attachment feature. If you want to install this feature, customize the JCL now, but do not install it until you have accepted the other features.

4. Choose which sample jobs you want to customize. CSQ8SYSJ is supplied with no jobs selected; this will customize all jobs. This is correct for a new installation requiring all features to be installed. If, however, you do not require all options, you can select specific jobs by overtyping the asterisk at the beginning of the appropriate lines with a blank before running CSQ8SYSJ.
5. Type job statement information for the sample jobs. You must leave the characters

```
JOB //xxxxxxx JOB
```

intact and insert your parameters after the second 'JOB' on this line. If your enterprise does not require any additional information on the job statement you must still leave this line intact. You can also add lines such as /*ROUTE or /*JOBPARM by using the JOB keyword.

You can enter more than one line for your JOB statement. Begin each line with the keyword JOB followed by at least one blank, and type the text as you would expect to see it in the resulting JCL, including all punctuation such as start of line '/' and end of line commas.

If your enterprise needs a 'TIME=' parameter, you must specify a value large enough to run the SMP/E apply step. This can take up to 120 minutes for MQSeries for OS/390.

Below is an example of a JOB statement with some additional information:

```
JOB //xxxxxxx JOB (ACCOUNT),CLASS=A,MSGLEVEL=(1,1)
```

Whilst the following lines show a case where there is so much information added that a continuation statement has been created:

```
JOB //xxxxxxx JOB (ACCOUNT),CLASS=A,MSGLEVEL=(1,1),
JOB // USER=USERID,NOTIFY=USERID
```

Installation instructions

The first four characters of the job name can be changed from 'CSQ8' to a one to four character prefix which should be entered in place of 'CSQ8' next to the 'JCPREF' keyword. The last four characters of the jobname will match the last four characters of the JCL member name.

6. Type the values you have chosen for your high-level qualifiers, volume serial numbers, and unit types where they are different from the defaults.

The volumes for the target and distribution libraries (TARVOL and DISVOL) can have esoteric values specified. This can be done by changing 'VOLSER' to a '.' and changing 'UNITTYPE' to the esoteric value, for example 'SYSDA'. (Quotes should not be used in the JCL). The SMP/E volume and unit type must be changed to an existing volume name and its actual unit type.

7. Type the SMP/E zone names you have chosen if they are different from the defaults. If you use your existing SMP/E data sets, you must customize the names of your target zone, distribution zone, and global CSI data set.

If you intend to let MQSeries for OS/390 create a new SMP/E environment, leave the SMP/E information as it is. If you are going to use the optional LINK job (see Appendix C, "Enabling automatic relinking after service is applied" on page 43) you must customize the name of the target zones in which Language Environment, IBM TCP/IP, and OS/390 callable services are installed.

Specifying NEW for GZONECSI means that the customization step will add the name SHLQUAL.GLOBAL.CSI for the global zone CSI. If you wish to use a different global zone CSI you must specify the fully qualified name for GZONECSI.

8. Run CSQ8SYSJ. It should finish with a return code of 0.

If the return code is not 0, inspect the output to discover what caused the problem. CSQ8SYSJ can be run again when the error has been corrected, but running it many times might cause the output data set THQ.TCSQINST to need compressing.

Now carry out the installation steps in the following sections, using the customized versions of the sample jobs from the THQ.TCSQINST data set.

6.3.4 Prepare the installation environment

You must create the environment in which to run SMP/E to install MQSeries for OS/390.

Note: The job output listings produced by the following jobs might be split into a number of separate data sets.

6.3.4.1 SMP/E environment

6.3.4.1.1 High-level assembler consideration: If you create a new global zone, the default utility for ASM (assembler) will be used for the SMP/E environment.

If your site uses the high-level assembler, you might need to do the following:

1. Add an SMP/E UTILITY for this assembler to your global zone, by adding a UTILITY definition to CSQ8GZON, for example:

```
ADD UTILITY(ASMA90) NAME(ASMA90) PRINT(SYSPRINT) RC(4) .
```

2. Update the OPTIONS(DZNOPTN) defined in CSQ8GZON (global zone) to reference your utility, for example:

```
ADD OPTIONS(DZNOPTN) ASM(ASMA90) .
```

3. Change the ADD DLIBZONE statement in the CSQ8DZON (distribution zone) job so that it references an OPTIONS entry (via OPTIONS()) which in turn references this different assembler utility entry, for example:

```
ADD DLIBZONE(DZONE) OPTIONS(DZNOPTN) ...
```

6.3.4.1.2 Global zone

- If you are installing into an existing global zone, check that:
 - The PEMAX option entry is set to at least 4500, or left to default.
 - The DSSPACE options entry specifies at least 500 directory blocks.
- If you are installing into a new global zone, run CSQ8GZON from THQ.TCSQINST; this has a number of steps, all of which should complete with a return code of 0.

Note: If you are running under JES3, you must edit it to remove the comment asterisks for the whole of step DUMMYCSI. This is to avoid the problem of defining and using VSAM data sets in the same jobstream under JES3.

If any of the return codes is not 0, inspect the job output to determine what caused the problem and correct it, then rerun the job from the step that failed.

6.3.4.1.3 Target and distribution zones: If you are using the optional LINK job, see Appendix C, “Enabling automatic relinking after service is applied” on page 43.

If you need to create new target and distribution zones, run the following jobs:

- CSQ8TZON to create a target zone
- CSQ8DZON to create a distribution zone

Both jobs consist of a number of steps, all of which should complete with a return code of 0.

Installation instructions

Note: If you are running CSQ8TZON and CSQ8DZON under JES3, you must edit them to remove the comment asterisks for the whole of step DUMMYCSI. This is to avoid the problem of defining and using VSAM data sets in the same jobstream under JES3.

If any of the return codes is not 0, inspect the job output to determine what caused the problem, correct it, and then rerun the job from the step that failed.

6.3.4.2 Allocate distribution and target libraries for MQSeries for OS/390: Before using SMP/E to install MQSeries for OS/390, you must allocate two groups of data sets, the target and distribution libraries, for MQSeries for OS/390. Run the job **CSQ8ALOE** from THQ.TCSQINST to allocate the libraries. This job has two steps; each should complete with a return code of 0.

If the return code is not 0, check the job output carefully to ensure that the data sets have been allocated correctly. If you need to rerun the job, you must delete any data sets that were created by the unsuccessful attempt. These all begin with the THLQUAL or DHLQUAL high-level qualifiers. (Be careful not to delete any SMP/E data sets.)

If you have chosen to install an additional language feature, you must also run the appropriate job from the following list, in the same way that you ran CSQ8ALOE:

Language	Data set allocation job
Japanese	CSQ8ALOK
Simplified Chinese	CSQ8ALOC
U.S. English (uppercase)	CSQ8ALOU

These jobs have two steps; each should complete with a return code of 0.

6.3.4.3 Update SMP/E DDDEF information: SMP/E needs to know the name of the MQSeries for OS/390 data sets; **CSQ8DDDF** is provided to add the appropriate DDDEFs to your SMP/E environment. Run the job CSQ8DDDF from THQ.TCSQINST to build your SMP/E DDDEF statements. This job has 2 steps, and should complete with a return code of 0. If you are installing into existing zones, this job might give a return code of 8, because it attempts to add DDDEFs that might already exist.

If the return code is not 0, and you are not installing into existing data sets, check the job output carefully to ensure that the DDDEFs have been allocated correctly. CSQ8DDDF can be re-run if required, but you need to replace the ADD commands with REP.

6.3.5 Use SMP/E to install MQSeries for OS/390

SMP/E uses three steps to install each part of MQSeries for OS/390:

1. RECEIVE
2. APPLY
3. ACCEPT

It is recommended that you RECEIVE, APPLY, and ACCEPT all of the components apart from the client attachment feature at the same time.

If you are using the optional LINK job, see Appendix C, “Enabling automatic relinking after service is applied” on page 43.

6.3.5.1 SMP/E RECEIVE: Receive MQSeries for OS/390 using SMP/E by mounting the tape and running the sample job **CSQ8RECV** from THQ.TCSQINST.

The RECEIVE job should complete with a return code of 0, and the following messages should appear in the SMPLOG, depending on which features you have decided to install:

```
GIM22701I RECEIVE PROCESSING WAS SUCCESSFUL FOR SYSMOD HMQ2100
GIM22701I RECEIVE PROCESSING WAS SUCCESSFUL FOR SYSMOD JMQ2101
GIM22701I RECEIVE PROCESSING WAS SUCCESSFUL FOR SYSMOD JMQ2102
GIM22701I RECEIVE PROCESSING WAS SUCCESSFUL FOR SYSMOD JMQ2103
GIM22701I RECEIVE PROCESSING WAS SUCCESSFUL FOR SYSMOD JMQ2104
GIM22701I RECEIVE PROCESSING WAS SUCCESSFUL FOR SYSMOD JMQ2105
```

If the return code is not 0, check the job output listing to find out why the job failed, correct the error, and then rerun the job.

6.3.5.2 SMP/E APPLY: Run the sample job **CSQ8APLY** from data set THQ.TCSQINST to apply the FMIDs selected when you customized the JCL. This job can take a long time to run, depending on the capacity of your system, and on what other jobs are running.

The APPLY step should finish with a return code of 0.

The job can be rerun, but if one of the FMIDs was successfully applied, you must first delete the lines from CSQ8APLY that refer to this product FMID. Products successfully applied result in the following messages in the output listing of CSQ8APLY, depending which features you have decided to install:

```
GIM22701I APPLY PROCESSING WAS SUCCESSFUL FOR SYSMOD HMQ2100
GIM22701I APPLY PROCESSING WAS SUCCESSFUL FOR SYSMOD JMQ2101
GIM22701I APPLY PROCESSING WAS SUCCESSFUL FOR SYSMOD JMQ2102
GIM22701I APPLY PROCESSING WAS SUCCESSFUL FOR SYSMOD JMQ2103
GIM22701I APPLY PROCESSING WAS SUCCESSFUL FOR SYSMOD JMQ2104
GIM22701I APPLY PROCESSING WAS SUCCESSFUL FOR SYSMOD JMQ2105
```

If you want, the APPLY step can be run initially with the 'CHECK' operand added to the APPLY command in the CSQ8APLY job. If this is done the job will not update any libraries, instead it will test for any errors other than those that could occur when the libraries are updated. (For instance, the APPLY CHECK will not generate an error if there is insufficient disk space available).

The job must be rerun without the CHECK operand to update the libraries.

Installation instructions

6.3.5.3 SMP/E ACCEPT: Run the sample job **CSQ8ACPT** from data set THQ.TCSQINST to accept all the products selected when you customized the JCL. This job takes a few minutes to run, depending on the capacity of your system, and on what other jobs are running.

The ACCEPT step should complete with a return code of 0.

If the return code is not 0, check the job output listing to find out why the job failed and correct the error. The job can be rerun, but if one of the FMIDs was successfully accepted, you must first delete the line from CSQ8ACPT that refers to this FMID. Products successfully accepted result in the following messages in the output listing of CSQ8ACPT depending which features you have decided to install:

```
GIM22701I ACCEPT PROCESSING WAS SUCCESSFUL FOR SYSMOD HMQ2100
GIM22701I ACCEPT PROCESSING WAS SUCCESSFUL FOR SYSMOD JMQ2101
GIM22701I ACCEPT PROCESSING WAS SUCCESSFUL FOR SYSMOD JMQ2102
GIM22701I ACCEPT PROCESSING WAS SUCCESSFUL FOR SYSMOD JMQ2103
GIM22701I ACCEPT PROCESSING WAS SUCCESSFUL FOR SYSMOD JMQ2104
GIM22701I ACCEPT PROCESSING WAS SUCCESSFUL FOR SYSMOD JMQ2105
```

If you want, the ACCEPT step can be run initially with the 'CHECK' operand added to the ACCEPT command in the CSQ8ACPT job. If this is done the job will not update any libraries, instead it will test for any errors other than those that could occur when the libraries are updated. (For instance, the ACCEPT CHECK will not generate an error if there is insufficient disk space available.)

The job must be rerun without the CHECK operand to update the libraries.

6.3.5.4 Enabling automatic relinking after service is applied: SMP/E provides a facility to perform automatic cross zone link-editing when service has been applied to the following corequisite products:

- Language Environment
- TCP/IP (DSPREFIX)
- OS/390 callable services (which includes APPC and RRS)

If you do want to use this facility, see C.2, "SMP/E LINK" on page 44.

6.3.6 Installing the client attachment feature

Notes:

1. This is a separately orderable feature, and so comes on a different tape. The following steps only apply if you have a copy of the feature tape. See the *MQSeries Clients* manual for information about obtaining and installing the client code to work with this feature.
2. When you have completed the SMP/E APPLY step for this feature, you cannot use SMP/E to de-install it. This is because some of the base code is modified during the installation process. To remove the client attachment feature, you will have to reinstall the base product.

6.3.6.1 SMP/E RECEIVE for the client attachment feature: Receive the MQSeries for OS/390 client attachment feature by mounting the feature tape and running sample job **CSQ8RECL** from THQ.TCSQINST.

Note: If you are installing the client attachment feature as part of CBPDO, you do not need to run this step. Instead, follow the instructions supplied with the CBPDO package to receive this feature.

The RECEIVE job should complete with a return code of 0, and the following message should appear in the SMPLOG:

```
GIM22701I RECEIVE PROCESSING WAS SUCCESSFUL FOR SYSMOD JMQ2107
```

If the return code is not 0, check the job listing to find out why the job failed, correct the error, and then re-run the job.

When the RECEIVE step has been completed successfully, the tape is no longer required.

6.3.6.2 SMPE/APPLY for the client attachment feature: Run the sample job **CSQ8APLL** from data set THQ.TCSQINST to apply the client attachment feature.

This job should complete with a return code of 0, and the following message should appear in the SMPLOG:

```
GIM22701I APPLY PROCESSING WAS SUCCESSFUL FOR SYSMOD JMQ2107
```

If you want, the APPLY step can be run initially with the 'CHECK' operand added to the APPLY command in the CSQ8APLL job. If this is done the job will not update any libraries, instead it will test for any errors other than those that could occur when the libraries are updated. (For instance, the APPLY CHECK will not generate an error if there is insufficient disk space available.)

The job must be rerun without the CHECK operand to update the libraries.

6.3.6.3 SMP/E ACCEPT for the client attachment feature: Run the sample job **CSQ8ACPL** from data set THQ.TCSQINST to accept the client attachment feature.

This job should complete with a return code of 0 or 4, and the following message should appear in the SMPLOG:

```
GIM22701I ACCEPT PROCESSING WAS SUCCESSFUL FOR SYSMOD JMQ2107
```

Installation instructions

The return code of 4 should be accompanied by the following message:

```
GIM61903W LMOD CSQXJCL WAS NOT DELETED BY SYSMOD JML2107 BECAUSE  
CSQXJCL IS NOT IN THE dist ZONE
```

where `dist` is the name you allocated for the distribution zone.

If you want, the ACCEPT step can be run initially with the 'CHECK' operand added to the ACCEPT command in the CSQ8ACPL job. If this is done the job will not update any libraries, instead it will test for any errors other than those that could occur when the libraries are updated. (For instance, the ACCEPT CHECK will not generate an error if there is insufficient disk space available.)

The job must be rerun without the CHECK operand to update the libraries.

6.3.7 Installing the Candle AdminPac

The instructions for installing the Candle AdminPac can be found on the CD-ROM supplied with the tape. See the "Getting Started" sheet, supplied with the CD-ROM, for the name and location of the file.

6.3.8 Enabling measured usage license charges

If you want to enable measured usage license charges, run job CSQ8UBPX from data set THQ.TCSQINST. This job has two steps, the first step should complete with return code zero, and the second step should complete with return code 4. On successful completion, this job will have copied the measured usage license charge exit program into the SIFALIB data set.

The return code of 4 should be accompanied by the following message:

```
GIM61901W LMOD CSQ8UBEX WAS NOT MOVED BY SYSMOD CSQ8UBX BECAUSE  
CSQ8UBEX IS NOT IN THE dist ZONE
```

Where `dist` is the name you allocated for the distribution zone.

6.3.9 Preparing link list data sets

By default, two MQSeries for OS/390 data sets have to be added to the link list SCSQLINK, and one of the following:

- SCSQSNLE
- SCSQSNLC
- SCSQSNLK
- SCSQSNLU

A user modification is provided in CSQ8ERLY in data set THQ.TCSQINST that moves the contents of the SCSQSNLx data set into SCSQLINK so that only one data set needs to be added to the link list. Customize job CSQ8ERLY and run it; it should complete with return code 4.

The return code of 4 should be accompanied by the following message:

```
GIM61901W LMOD CSQNL28x WAS NOT MOVED BY SYSMOD CSQ8RLY BECAUSE
CSQNL28x IS NOT IN THE dist ZONE
```

Where *dist* is the name you allocated for the distribution zone and *x* is the language suffix used in customizing the job.

6.4 What SMP/E has done

You have now taken the information off the distribution tape that IBM supplied and installed it onto your system.

6.4.1 Library contents after installation

After the successful completion of SMP/E processing, your libraries have the names and contents shown in Figure 21.

Figure 21 (Page 1 of 3). Library contents after installation

Target library	Distribution library	Description
SCSQANLC		Load modules - MQSeries for OS/390 product code and utilities (Simplified Chinese)
SCSQANLE		Load modules - MQSeries for OS/390 product code and utilities (U.S. English mixed case)
SCSQANLK		Load modules - MQSeries for OS/390 product code and utilities (Japanese)
SCSQANLU		Load modules - MQSeries for OS/390 product code and utilities (U.S. English uppercase)
SCSQASMS	ACSQASMS	Assembler sample source
SCSQAUTH		Load modules - MQSeries for OS/390 product code and utilities
SCSQCICS		Load modules required by CICS DFHRPL
SCSQCLST	ACSQCLST	Sample CLISTS
SCSQCOBC	ACSQCOBC	COBOL Copybooks (sample and product copybooks)
SCSQCOBS	ACSQCOBS	COBOL Sample source

Installation instructions

Figure 21 (Page 2 of 3). Library contents after installation

Target library	Distribution library	Description
SCSQCPPS	ACSQCPPS	C source for C++
SCSQC37S	ACSQC37S	C/370 Sample source
SCSQC370	ACSQC370	C/370 Headers (sample and product headers)
SCSQDEFS	ACSQDEFS	Side definitions for C++
SCSQEXEC	ACSQEXEC	Exec files
SCSQHPPS	ACSQHPPS	Headers for C++
SCSQINST	ACSQINST	Install jobs JCL
SCSQLINK		Load modules - early code (must be in link list)
SCSQLOAD		Load modules - non APF authorized samples, user exits, IVPs, stubs, utilities
SCSQMACS	ACSQMACS	Sample, product, and ZPARM macros
SCSQMAPS	ACSQMAPS	Sample MAPS
	ACSQMOD	Object code library
SCSQMSGC	ACSQMSGC	Simplified Chinese messages to be included in ISPMLIB concatenation
SCSQMSGE	ACSQMSGE	U.S. English (mixed case) messages to be included in ISPMLIB concatenation
SCSQMSGK	ACSQMSGK	Japanese messages to be included in ISPMLIB concatenation
SCSQMSGU	ACSQMSGU	U.S. English (uppercase) messages to be included in ISPMLIB concatenation
SCSQMVR1		Load modules required for the non-CICS mover when using TCP/IP with the OpenEdition sockets or IUCV interface, or LU 6.2
SCSQMVR2		Load modules required for the non-CICS mover when using TCP/IP with the TCPaccess interface, or LU 6.2
SCSQPLIC	ACSQPLIC	PL/I Headers
SCSQPLIS	ACSQPLIS	PL/I Sample source
SCSQPNLA	ACSQPNLA	Sample panels
SCSQPNLC	ACSQPNLC	Simplified Chinese panels to be included in ISPPLIB concatenation
SCSQPNLE	ACSQPNLE	U.S. English (mixed case) panels to be included in ISPPLIB concatenation
SCSQPNLK	ACSQPNLK	Japanese panels to be included in ISPPLIB concatenation
SCSQPNLU	ACSQPNLU	U.S. English (uppercase) panels to be included in ISPPLIB concatenation
SCSQPROC	ACSQPROC	Sample JCL
SCSQSKL	ACSQSKL	Skeletons to be included in the ISPSLIB concatenation

Figure 21 (Page 3 of 3). Library contents after installation

Target library	Distribution library	Description
SCSQSNLC		Load modules required for specialized function (simplified Chinese)
SCSQSNLE		Load modules required for specialized function (U.S. English mixed case)
SCSQSNLK		Load modules required for specialized function (Japanese)
SCSQSNLU		Load modules required for specialized function (U.S. English uppercase)
SCSQTBLC	ACSQTBLC	Simplified Chinese tables to be included in ISPTLIB concatenation
SCSQTBLE	ACSQTBLE	U.S. English (mixed case) tables to be included in ISPTLIB concatenation
SCSQTBK	ACSQTBK	Japanese tables to be included in ISPTLIB concatenation
SCSQTBLU	ACSQTBLU	U.S. English (uppercase) tables to be included in ISPTLIB concatenation

6.5 What to do next

You have now installed MQSeries for OS/390. Before you can start to use MQSeries, it must be customized. This is described in the *MQSeries for OS/390 System Management Guide*.

The customization steps require changes to SYS1.PARMLIB and an IPL to activate the changes. We recommend that you check the preventative service planning information and apply any APAR fixes that also require an IPL before doing this.

If you are migrating from a previous version of MQSeries for OS/390, you do not need to perform all the customization tasks. To find out what you need to do, read the chapter in the *MQSeries for OS/390 System Management Guide* about migrating from previous versions.

Installation verification programs are provided with MQSeries for OS/390. These cannot be run until MQSeries for OS/390 has been customized and an MQSeries for OS/390 subsystem activated.

6.5.1 What to do if you apply service

If you apply service to APPC, TCP/IP, or Language Environment, see the *MQSeries for OS/390 System Management Guide* for information about what to do.

Appendix A. MQSeries for OS/390 install logic

A.1 SMP/E Modification control statements

The SMP/E Modification Control Statements (SMPMCS) for MQSeries for OS/390 are contained in the SMPMCS file on the installation tape. The SMPMCS for each FMID in the product will be loaded to the SMPPTS data set, with a member name matching the FMID, when the FMID is SMP/E RECEIVED. You can browse or print these members using TSO/E, ISPF, or IEBGENER (or IEBPTPCH).

A.2 SMP/E JCLIN

The JCLIN for MQSeries for OS/390 is contained in the RELFILES on the installation tape. These files will be loaded to disk by SMP/E when the product is SMP/E RECEIVED. You can browse or print these files using TSO/E, ISPF, or IEBGENER (or IEBPTPCH).

The files containing JCLIN are:

FMID HMQ2100 high-level-qualifier.HMQ2100.F1(HMQ2100)

FMID JMQ2101 high-level-qualifier.JMQ2101.F1(JMQ2101)

FMID JMQ2102 high-level-qualifier.JMQ2102.F1(JMQ2102)

FMID JMQ2103 high-level-qualifier.JMQ2103.F1(JMQ2103)

FMID JMQ2104 high-level-qualifier.JMQ2104.F1(JMQ2104)

FMID JMQ2105 high-level-qualifier.JMQ2105.F1(JMQ2105)

FMID JMQ2107 high-level-qualifier.JMQ2107.F1(JMQ2107)

Note: The high-level qualifier is the qualifier specified as the DSPREFIX in the SMP/E OPTIONS.

Appendix B. Customizing the sample installation manually

You can customize the sample jobs manually using your preferred editor. (Alternatively, you can use CSQ8SYSJ to customize the jobs.) If you choose to customize the sample jobs manually, you will find that comments are provided in the JCL to help you. However, you should read the rest of 6.0, "Installation instructions" on page 20 before you start.

If you want to customize the sample installation jobs manually, these are the jobs that you must customize:

- CSQ8GZON** Sets up an SMP/E global zone.
- CSQ8TZON** Sets up an SMP/E target zone.
- CSQ8DZON** Sets up an SMP/E distribution zone.
- CSQ8ALOE** Allocates the MQSeries for OS/390 base product and U.S. English (mixed case) language target and distribution libraries.
- CSQ8DDDF** Defines MQSeries for OS/390 target and distribution libraries to SMP/E.
- CSQ8RECV** Runs the SMP/E RECEIVE step for MQSeries for OS/390. When customizing this job you must add the list of FMIDs you want to install. Look at the comments in the job for details.
- CSQ8RECL** Runs the SMP/E RECEIVE step for the MQSeries for OS/390 client attachment feature.
- CSQ8APLY** Runs the SMP/E APPLY step for MQSeries for OS/390. When customizing this job you must add the list of FMIDs you want to install. Look at the comments in the job for details.
- CSQ8APLL** Runs the SMP/E APPLY step for the MQSeries for OS/390 client attachment feature.
- CSQ8ACPT** Runs the SMP/E ACCEPT step for MQSeries for OS/390. When customizing this job you must add the list of FMIDs you want to install. Look at the comments in the job for details.
- CSQ8ACPL** Runs the SMP/E ACCEPT step for the MQSeries for OS/390 client attachment feature.

If you are going to use the optional LINK job (described in Appendix C, "Enabling automatic relinking after service is applied" on page 43) you will also need to customize job **CSQ8LDQM**.

In addition, if you are intending to install support for one of the optional national languages, you must customize:

- CSQ8ALOK** Allocates the MQSeries for OS/390 Japanese language target and distribution libraries.
- CSQ8ALOC** Allocates the MQSeries for OS/390 simplified Chinese language target and distribution libraries.
- CSQ8ALOU** Allocates the MQSeries for OS/390 U.S. English (uppercase) language target and distribution libraries.

Customizing the sample installation manually

If you want to reduce the number of MQSeries for OS/390 target libraries that need to be added to the link list, you must customize the following job:

CSQ8ERLY A user modification that moves the CSQ3ECMX load module into the SCSQLINK data set, from the specified language data set.

Finally, if you want to enable the measured usage license charge (MULC) feature, you must customize the following job:

CSQ8UBPX A user modification that moves the MQSeries for OS/390 exit program into the SYS1.SIFALIB data set.

Note: The order in which these jobs should be run is described in the following sections:

- 6.3.4, “Prepare the installation environment” on page 30
- 6.3.5, “Use SMP/E to install MQSeries for OS/390” on page 32
- 6.3.8, “Enabling measured usage license charges” on page 36

You do not need to customize jobs CSQ8SYSC and CSQ8SYSJ if you are customizing the sample installation manually.

Appendix C. Enabling automatic relinking after service is applied

SMP/E provides a facility to perform automatic cross zone link-editing when service has been applied to the following corequisite products:

- Language Environment
- TCP/IP (DSPREFIX)
- OS/390 callable services (APPC and RRS)

If you choose to use this option, the following must apply:

- MQSeries for OS/390 must be installed in a separate target zone from these other products.
- You must set up ZONEINDEXs between MQSeries and the other zones.
- If you are using an existing target zone, you must make sure that the XZLINK subentry for your target zone is set to AUTOMATIC.

This is performed as part of the SMP/E APPLY step.

C.1 Cross zone preparation

1. Create a ZONEINDEX in the MQSeries for OS/390 global zone for the Language Environment target and distribution zones.
2. Create a ZONEINDEX in the Language Environment global zone for the MQSeries for OS/390 target and distribution zones.
3. Create a ZONEINDEX in the MQSeries for OS/390 global zone for the IBM TCP/IP target and distribution zones.
4. Create a ZONEINDEX in the IBM TCP/IP global zone for the MQSeries for OS/390 target and distribution zones.
5. Create a ZONEINDEX in the MQSeries for OS/390 global zone for the OS/390 callable services target and distribution zones.
6. Create a ZONEINDEX in the OS/390 callable services global zone for the MQSeries for OS/390 target and distribution zones.

Enabling automatic relinking after service is applied

An example of adding a ZONEINDEX entry using UCLIN:

```
SET BOUNDARY(GZNAME) .
UCLIN .
  ADD GLOBALZONE
    ZONEINDEX((TZNAME,HLQS.TZNAME.CSI,TARGET)
              (DZNAME,HLQS.DZNAME.CSI,DLIB)) .
ENDUCL .
```

Where:

GZNAME - The name of the global zone
TZNAME - The name of the target zone
DZNAME - The name of the distribution zone
HLQS - The high-level qualifiers for the target and
distribution zones

The names of the target and distribution zones must be the same in each of the global zones in which ZONEINDEXs are defined. For example if the MQSeries target zone name is MQTZON in the MQSeries global zone ZONEINDEX, then it must also be MQTZON in the Language Environment global zone ZONEINDEX, and the IBM TCP/IP global zone ZONEINDEX if IBM TCP/IP is being used.

C.2 SMP/E LINK

Run the CSQ8LDQM job. (If you are using OS/390 V2.5 or later, edit CSQ8LDQM before running it and change all occurrences of CMMVSYs to EZAAE03Q.)

The job should complete with a return code of 4. This is due to message GIM69053W (LINK PROCESSING WAS SUCCESSFUL FOR LMOD 11111111 IN SYSLIB sssssss) and associated IEW2454W messages.

DDDEFs for SCEESPC and SCEELKED are required in the Language Environment target zone. DDDEFs for SEZACMTX are required in the TCP/IP target zone DDDEF for CSSLIB in the OS/390 callable services zone. It is assumed these DDDEF entries were made during the installation of TCP/IP, Language Environment, and OS/390.

When you have completed this, go to 6.3.5.3, "SMP/E ACCEPT" on page 34 to continue your installation.

Appendix D. Migration considerations

This Appendix covers the following topics:

- D.1, “Migrating from MQSeries for MVS/ESA Version 1.2”
- D.2, “Migrating from MQSeries for MVS/ESA Version 1.1.4” on page 47
- D.3, “Migrating from MQSeries for MVS/ESA Version 1.1.3” on page 49

These notes apply only if you are installing over the top of a previous release of this product, that is, you are installing into the same SMP/E zone and target and distribution libraries as used by the previous release.

D.1 Migrating from MQSeries for MVS/ESA Version 1.2

If you are installing MQSeries for OS/390 Version 2.1 over MQSeries for MVS/ESA Version 1.2, you need to make changes described below, to cater for the differences between the two releases, particularly the increase in size of the product. If you do not make these changes, you will experience problems, particularly during the APPLY phase.

D.1.1 SMP/E environment preparation

You need to allocate and define to SMP/E an SMPLTS library, using the following as an example, first to create the library:

```
//SMPLTS DD DSN=PP.MQSERIES.SMPLTS,
// UNIT=SYSDA,DISP=(NEW,CATLG),
// DCB=(LRECL=0,BLKSIZE=32760,RECFM=U),
// SPACE=(TRK,(170,50,50))
```

and then to define it to SMP/E:

```
//SMPCNTL DD *
SET BOUNDARY(TZONE) .
UCLIN .
ADD DDDEF(SMPLTS)
DA(PP.MQSERIES.SMPLTS) SHR .
ENDUCL .
/*
```

Migration considerations

D.1.2 Target and distribution library preparation

You need to perform the tasks described in the following sections to prepare your target and distribution libraries.

D.1.2.1 Create new libraries and define them to SMP/E: If you are installing the US English (mixed case) feature, edit job CSQ8ALOE after you have tailored it, and globally change 'NEW,CATLG' to 'MOD,CATLG'. Run the job, and it will create libraries that are new for MQSeries for OS/390 Version 2.1 only.

If you are installing the Japanese language feature, edit job CSQ8ALOK after you have tailored it, and globally change 'NEW,CATLG' to 'MOD,CATLG'. Run the job, and it will create libraries that are new for MQSeries for OS/390 Version 2.1 only.

If you are installing the Simplified Chinese language feature, edit job CSQ8ALOC, after you have tailored it, and globally change 'NEW,CATLG' to 'MOD,CATLG'. Run the job, and it will create libraries that are new for MQSeries for OS/390 Version 2.1 only.

If you are installing the US English (uppercase) feature, edit job CSQ8ALOU after you have tailored it, and globally change 'NEW,CATLG' to 'MOD,CATLG'. Run the job, and it will create libraries that are new for MQSeries for OS/390 Version 2.1 only.

You need to run CSQ8DDDF to define the new libraries to SMP/E. The job might complete with a return code of 8 because some of the DDDEFs for other product libraries (SCEELKED for example) will already be defined to SMP/E, this is acceptable.

D.1.2.2 Increase the size of existing libraries: The following libraries need to be increased in size, in order to cater for the increase in size of the product:

Library	1.2 space allocation	2.1 space allocation
thlqual.SCSQMVR2	SPACE=(TRK,(45,7,3))	SPACE=(TRK,(54,9,4))
thlqual.SCSQLOAD	SPACE=(TRK,(9,1,10))	SPACE=(TRK,(37,6,15))

D.1.2.3 Alias problems: Over time, various module names and alias names have been changed and reused, these can occasionally cause problems when installing a new release over an older one. In order to avoid these problems, you need to delete the following members before running the APPLY step:

Library	Member(s)
thlqual.SCSQMVR2	CSQXDCST, CSQXRCTL, CSQXSUPR, CSQXTCP, CSQXTNSV, CSQX7CAN, CSQX7EXT, CSQX7SEV, CSQUCVX, CMQUCVX,

Migration considerations

Library	Member(s)
thlqual.SCSQLOAD	CSQBBACK, CSQBCLOS, CSQBCOMM, CSQBCONN, CSQBDISC, CSQBGET, CSQBINQ, CSQBOPEN, CSQBPUT, CSQBPUT1, CSQBSET, CSQCLOS, CSQCONN, CSQCDISC, CSQCGET, CSQCINQ, CSQCOPEN, CSQCPUT, CSQCPUT1, CSQCSET, CSQXBACK, CSQXCLOS, CSQXCOMM, CSQXCONN, CSQXDISC, CSQXGET, CSQXINQ, CSQXOPEN, CSQXPUT, CSQXPUT1, CSQXSET, CSQXWAIT,

D.1.2.4 Storage for the APPLY step: The APPLY job supplied with MQSeries (CSQ8APLY) specifies a region size of 4096K. This might not be large enough for SMP/E in this scenario. If you receive message GIM20201 SMP/E could not obtain enough storage for processing, change the region size to be as large as you are allowed.

D.2 Migrating from MQSeries for MVS/ESA Version 1.1.4

If you are installing MQSeries for OS/390 Version 2.1 over MQSeries for MVS/ESA Version 1.1.4, you will need to make changes described below to cater for the differences between the two releases, particularly the increase in size of the product. If you do not make these changes, you will experience problems, particularly during the APPLY phase.

D.2.1 SMP/E environment preparation

You will need to make the following change:

- Increase the settings for DSSPACE to (90,40,500).

For example, UCLIN to make the above changes:

```
SET BOUNDARY(GLOBAL) .
UCLIN .
  REP  OPTIONS(TZNOPTN) ASM(IEV90) AMS(IDCAMS)
      COMP(IEBCOPY) COPY(IEBCOPY) UPDATE(IEBUPDTE)
      ZAP(IMASPZAP) LKED(IEWL) DSPREFIX(PP.MQSERIES.V113)
      DSSPACE(90,40,500) NOPURGE NOREJECT
      NUCID(9) PAGELEN(60) PEMAX(4500) RETRYDDN(ALL) .
ENDUCL .
```

D.2.2 Target and distribution library preparation

You need to perform the tasks described in the following sections to prepare your target and distribution libraries.

Migration considerations

D.2.2.1 Create new libraries and define them to SMP/E: If you are installing US English (mixed case) feature, edit job CSQ8ALOE after you have tailored it, and globally change 'NEW,CATLG' to 'MOD,CATLG'. Run the job, and it will create libraries that are new for MQSeries for OS/390 Version 2.1 only.

If you are installing the Japanese language feature, edit job CSQ8ALOK after you have tailored it and globally change 'NEW,CATLG' to 'MOD,CATLG'. Run the job, and it will create libraries that are new for MQSeries for OS/390 Version 2.1 only.

If you are installing the Simplified Chinese language feature, edit job CSQ8ALOC after you have tailored it, and globally change 'NEW,CATLG' to 'MOD,CATLG'. Run the job, and it will create libraries that are new for MQSeries for OS/390 Version 2.1 only.

If you are installing the US English (uppercase) feature, edit job CSQ8ALOU after you have tailored it, and globally change 'NEW,CATLG' to 'MOD,CATLG'. Run the job, and it will create libraries that are new for MQSeries for OS/390 Version 2.1 only.

You will need to run job CSQ8DDDF to define the new libraries to SMP/E. The job might complete with a return code of 8 because some of the DDDEFs for other product libraries (CSSLIB and SEZACMTX for example) will already be defined to SMP/E, this is acceptable.

D.2.2.2 Increase the size of existing libraries: The following library needs to be increased in size, in order to cater for the increase in size of the product:

Library	1.1.4 space allocation	2.1 space allocation
thlqual.SCSQLOAD	SPACE=(TRK,(9,1,10))	SPACE=(TRK,(37,6,15))

D.2.2.3 Alias problems: Over time, various module names and alias names have been changed and reused, these can occasionally cause problems when installing a new release over an older one. In order to avoid these problems, you need to delete the following members before running the APPLY step:

Library	Member(s)
thlqual.SCSQLOAD	CSQBBACK, CSQBCLOS, CSQBCOMM, CSQBCONN, CSQBDISC, CSQBGET, CSQBINQ, CSQBOPEN, CSQBPUT, CSQBPUT1, CSQBSET, CSQCCLOS, CSQCCONN, CSQCDISC, CSQCGET, CSQCINQ, CSQCOPEN, CSQCPUT, CSQCPUT1, CSQCSET, CSQXBACK, CSQXCLOS, CSQXCOMM, CSQXCONN, CSQXDISC, CSQXGET, CSQXINQ, CSQXOPEN, CSQXPUT, CSQXPUT1, CSQXSET, CSQXWAIT

D.2.2.4 Storage for the APPLY step: The APPLY job supplied with MQSeries (CSQ8APLY) specifies a region size of 4096K. This might not be large enough for SMP/E in this scenario. If you receive message GIM20201 SMP/E could not obtain enough storage for processing change the region size to be as large as you are allowed.

D.3 Migrating from MQSeries for MVS/ESA Version 1.1.3

If you are installing MQSeries for OS/390 Version 2.1 over MQSeries for MVS/ESA Version 1.1.3, you need to make changes described below to cater for the differences between the two releases, particularly the increase in size of the product. If you do not make these changes, you will experience problems, particularly during the APPLY phase.

D.3.1 SMP/E environment preparation

You need to make the following changes:

- Increase the value of PEMAX to 9999, unless it is already left to the default value of 15000.
- Increase the settings for DSSPACE to (90,40,500).

For example, UCLIN to make the above changes:

```
SET BOUNDARY(GLOBAL) .
UCLIN .
  REP  OPTIONS(TZNOPTN) ASM(IEV90) AMS(IDCAMS)
      COMP(IEBCOPY) COPY(IEBCOPY) UPDATE(IEBUPDTE)
      ZAP(IMASPZAP) LKED(IEWL) DSPREFIX(PP.MQSERIES.V113)
      DSSPACE(90,40,500) NOPURGE NOREJECT
      NUCID(9) PAGELEN(60) PEMAX(9999) RETRYDDN(ALL) .
ENDUCL .
```

D.3.2 Target and distribution library preparation

You need to perform the tasks described in the following sections to prepare your target and distribution libraries.

D.3.2.1 Create new libraries and define them to SMP/E: If you are installing the US English (mixed case) feature, edit job CSQ8ALOE after you have tailored it and globally change 'NEW,CATLG' to 'MOD,CATLG'. Run the job, and it will create libraries that are new for MQSeries for OS/390 Version 2.1 only.

If you are installing the Japanese language feature, edit job CSQ8ALOK after you have tailored it and globally change 'NEW,CATLG' to 'MOD,CATLG'. Run the job, and it will create libraries that are new for MQSeries for OS/390 Version 2.1 only.

Migration considerations

You need to run job CSQ8DDDF to define the new libraries to SMP/E. The job might complete with a return code of 8, because some of the DDDEFs for other product libraries (CSSLIB for example) will already be defined to SMP/E; this is acceptable.

D.3.2.2 Increase the size of existing libraries: The following libraries need to be increased in size, in order to cater for the increase in size of the product:

Library	1.1.3 space allocation	2.1 space allocation
thlqual.SCSQAUTH	SPACE=(TRK,(199,33,38))	SPACE=(TRK,(435,72,302))
thlqual.SCSQLOAD	SPACE=(TRK,(9,1,10))	SPACE=(TRK,(37,6,15))
dhlqual.ACSQMOD	SPACE=(TRK,(318,53,181))	SPACE=(TRK,(853,142,586))

D.3.2.3 Alias problems: Over time, various module names and alias names have been changed and reused. These can occasionally cause problems when installing a new release over an older one. In order to avoid these problems, you need to delete the following members before running the APPLY step:

Library	Member(s)
thlqual.SCSQAUTH	AMQDUSR9, CSQJILMI, CSQWDPRD
thlqual.SCSQLOAD	CSQBBACK, CSQBCLOS, CSQBCOMM, CSQBCONN, CSQBDISC, CSQBGET, CSQBINQ, CSQBOPEN, CSQBPUT, CSQBPUT1, CSQBSET, CSQCCLOS, CSQCCONN, CSQCDISC, CSQCGET, CSQCINQ, CSQCOPEN, CSQCPUT, CSQCPUT1, CSQCSET, CSQXBACK, CSQXCLOS, CSQXCOMM, CSQXCONN, CSQXDISC, CSQXGET, CSQXINQ, CSQXOPEN, CSQXPUT, CSQXPUT1, CSQXSET, CSQXWAIT

D.3.3 Post installation tidy up

After installation, the following redundant libraries will be left; these data sets can be deleted:

- thlqual.SCSQAJPN
- thlqual.SCSQAJP2
- thlqual.SCSQPNLS
- dhlqual.ACSQDQM
- dhlqual.ACSQMJPJN

Reader's comments

Program Directory for IBM MQSeries for OS/390 Version 2 Release 1, Modification Level 0

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