

MAINVIEW[®] Batch Optimizer Installation Manual

Version 2.3

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- read overviews about support services and programs that BMC Software offers
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- search a database for problems similar to yours and possible solutions
- order or download product documentation
- report a problem or ask a question
- subscribe to receive e-mail notices when new product versions are released
- find worldwide BMC Software support center locations and contact information, including e-mail addresses, fax numbers, and telephone numbers

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Before Contacting BMC Software

Before you contact BMC Software, have the following information available so that Customer Support can begin working on your problem immediately:

- product information
 - product name
 - product version (release number)
 - license number and password (trial or permanent)
- operating system and environment information
 - machine type
 - operating system type, version, and service pack or other maintenance level such as PUT or PTF
 - system hardware configuration
 - serial numbers
 - related software (database, application, and communication) including type, version, and service pack or maintenance level
- sequence of events leading to the problem
- commands and options that you used
- messages received (and the time and date that you received them)
 - product error messages
 - messages from the operating system, such as `file system full`
 - messages from related software

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About This Book

This book contains detailed information about the installation of MAINVIEW® Batch Optimizer.

To use this book, you should be familiar with the following items:

- Multiple Virtual Storage (MVS) systems, job control language (JCL), and the Interactive System Productivity Facility (ISPF)
- your client and host operating systems

How This Book Is Organized

This book is organized as follows. In addition, an index appears at the end of the book.

Chapter/Appendix	Description
Chapter 1, "MAINVIEW Batch Optimizer Installation Considerations"	provides issues to consider prior to installing MAINVIEW Batch Optimizer
Chapter 2, "MAINVIEW Batch Optimizer Installation"	provides an overview of installation procedures
Chapter 3, "MAINVIEW Batch Optimizer Customization"	provides information on viewing and modifying BatchPlex definitions and includes information on BatchPlex options
Chapter 4, "BMC Software Product Authorization"	provides information on how to perform product authorization

Related Documentation

BMC Software products are supported by several types of documentation:

- online and printed books
- online Help
- release notes and other notices

In addition to this book and the online Help, you can find useful information in the publications listed in the following table. As “Online and Printed Books” explains, these publications are available on request from BMC Software.

Document	Description
<i>MAINVIEW Batch Optimizer Data Optimizer Reference Manual</i>	describes the Data Optimizer component of MAINVIEW Batch Optimizer
<i>MAINVIEW Batch Optimizer General Information</i>	describes MAINVIEW Batch Optimizer
<i>MAINVIEW Batch Optimizer Job Optimizer Reference Manual</i>	describes the Job Optimizer component of MAINVIEW Batch Optimizer
<i>MAINVIEW Batch Optimizer Messages Manual</i>	lists and describes the messages that are generated by MAINVIEW Batch Optimizer components
<i>BMC Software Subsystem Manual</i>	provides information and instructions for operating the BMC Software Subsystem

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Online Help

MAINVIEW Batch Optimizer includes online Help. In the MAINVIEW Batch Optimizer ISPF interface, access Help by pressing **F1** from any ISPF panel.

MAINVIEW Batch Optimizer includes online Help. In the MAINVIEW Batch Optimizer ISPF interface, you can access Help by pressing **F1** from any ISPF panel.

Release Notes and Other Notices

Printed release notes accompany each BMC Software product. Release notes provide current information such as

- updates to the installation instructions
- last-minute product information

In addition, BMC Software sometimes provides updated product information between releases (in the form of a flash or a technical bulletin, for example). The latest versions of the release notes and other notices are available on the Web at http://www.bmc.com/support_home.

Conventions

This section describes the conventions that are used in this book.

This section provides examples of the conventions that are used in this book and explains how to read ISPF syntax statements.

General Conventions

This book uses the following general conventions:

Item	Example
information that you are instructed to type	Type SEARCH DB in the designated field.
specific (standard) keyboard key names	Press Enter .
field names, text on a panel	Type the appropriate entry in the Command field.
directories, file names, Web addresses	The BMC Software home page is at www.bmc.com . The BMC Software home page is at www.bmc.com .
nonspecific key names, option names	Use the HELP function key. KEEPDICTIONARY option
MVS calls, commands, control statements, keywords, parameters, reserved words	Use the SEARCH command to find a particular object. The product generates the SQL TABLE statement next.

Item	Example
code examples, syntax statements, system messages, screen text	<pre>//STEPLIB DD</pre> <p>The table <i>tableName</i> is not available.</p>
emphasized words, new terms, variables	<p>The instructions that you give to the software are called <i>commands</i>.</p> <p>In this message, the variable <i>fileName</i> represents the file that caused the error. The instructions that you give to the software are called <i>commands</i>.</p> <p>In this message, the variable <i>file_name</i> represents the file that caused the error.</p>

This book uses the following types of special text:

Note: Notes contain important information that you should consider.

Warning! Warnings alert you to situations that could cause problems, such as loss of data, if you do not follow instructions carefully.

This book uses the following types of special text:

Note: Notes contain important information that you should consider.

Warning! Warnings alert you to situations that could cause problems, such as loss of data, if you do not follow instructions carefully.

Syntax Statements

Syntax statements appear in Courier. The following example shows a sample syntax statement:

```
COMMAND KEYWORD1 [KEYWORD2|KEYWORD3] KEYWORD4={YES|NO}
      fileName...
```

The following table explains conventions for syntax statements and provides examples:

Item	Example
<p>Items in italic type represent variables that you must replace with a name or value. If a variable is represented by two or more words, initial capitals distinguish the second and subsequent words.</p>	<p><i>alias</i> <i>databaseDirectory</i></p>
<p>Brackets indicate a group of options. You can choose at least one of the items in the group, but none of them is required. Do not type the brackets when you enter the option. A comma means that you can choose one or more of the listed options. You must use a comma to separate the options if you choose more than one option.</p> <p>Unix options are indicated with a hyphen.</p>	<p>[<i>tableName</i>, <i>columnName</i>, <i>field</i>] [-full, -incremental, -level] (Unix)</p>
<p>Braces enclose a list of required items. You must enter at least one of the items. Do not type the braces when you enter the item.</p>	<p>{<i>DBDName</i> <i>tableName</i>} {-a -c} (Unix)</p>
<p>A vertical bar means that you can choose only one of the listed items. In the example, you would choose either <i>commit</i> or <i>cancel</i>.</p>	<p>{commit cancel} {-commit -cancel} (Unix)</p>
<p>An ellipsis indicates that you can repeat the previous item or items as many times as necessary.</p>	<p><i>columnName</i> . . .</p>

Chapter 1 **MAINVIEW Batch Optimizer Installation Considerations**

This chapter provides an overview of the installation procedures. It contains the following sections:

Overview	1-2
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Overview

MAINVIEW® Batch Optimizer reduces the elapsed processing times for batch jobs. The following MAINVIEW Batch Optimizer components provide common core functionality and optimization for specific types of processing:

- Data Optimizer—provides I/O performance benefits for VSAM and non-VSAM data sets
- Job Optimizer—provides performance benefits to batch jobs by running job steps concurrently
- Job Optimizer Pipes—allows piping of data for concurrent execution of batch jobs and steps
- Job Optimizer for DB2—extends step splitting and parallel execution functionality to jobs that access a DB2 database
- Job Optimizer for IMS—extends step splitting and parallel execution functionality to jobs that access an IMS database

The MAINVIEW Batch Optimizer Installation System generates the JCL to perform the following procedures:

- unload the distribution tape
- define the history data set
- start the subsystems
- verify the installation

You can perform the installation procedures by using an online ISPF dialog or a batch process.

Note: A password should be applied before you start the subsystem. You should receive a password from BMC Software before you can access the subsystem. For more details about the required password, see “BMC Software Product Authorization” on page 4-1.

Distribution Tape Notices

A set of notices accompanies each distribution tape. These notices may contain flashes or technical bulletins, which provide important information about the product. If a zap is supplied on a flash or technical bulletin, you must apply the zap before starting the BMC Software subsystems and MAINVIEW Batch Optimizer.

Distribution Tape Contents

The MAINVIEW Batch Optimizer distribution tape contains the data sets that are listed in Table 1-1.

Table 1-1 Distribution Tape Data Set Contents (Part 1 of 2)

Data Set	Contents	Tape File
BMC.BSS.INSTALL	MAINVIEW Batch Optimizer Installation Material	001
SMPMCS	MAINVIEW Batch Optimizer SMP/E Modification Control Statements	002
BMCBPS1.F1	BMC Software Primary Subsystem Relfile 1	003
BMCBPS1.F2	BMC Software Primary Subsystem Relfile 2	004
BMCBCS1.F1	MAINVIEW Batch Optimizer Subsystem Relfile 1	005
BMCBCS1.F2	MAINVIEW Batch Optimizer Subsystem Relfile 2	006
BMCXIM1.F1	Extended Job Execution Subsystem Relfile 1	007
BMCXIM1.F2	Extended Job Execution Subsystem Relfile 2	008
BMCSEC3.F1	BMC Software Security Facility Relfile 1	009
BMCSEC3.F2	BMC Software Security Facility Relfile 2	010
BMCBSS2.F1	MAINVIEW Batch Optimizer User Interface Relfile 1	011
BMCBSS2.F2	MAINVIEW Batch Optimizer User Interface Relfile 2	012
BMCDAP2.F1	Data Optimizer Relfile 1	013
BMCDAP2.F2	Data Optimizer Relfile 2	014
BMCBSL4.F1	Job Optimizer Relfile 1	015
BMCBSL4.F2	Job Optimizer Relfile 2	016
BMCJOP1.F1	Job Optimizer Pipes Relfile 1	017
BMCJOP1.F2	Job Optimizer Pipes Relfile 2	018
BMCBSA4.F1	Job Optimizer for DB2 Relfile 1	019
BMCBSA4.F2	Job Optimizer for DB2 Relfile 2	020
BMCBSB2.F1	Job Optimizer for IMS Relfile 1	021
BMCBSB2.F2	Job Optimizer for IMS Relfile 2	022
PACKLIST	Tape contents	023
INSTRUCT	SMP/E program directory	024
HOLDDATA	Service HOLDDATA	025
SMPPTFIN	Cumulative PTF service	026

Table 1-1 Distribution Tape Data Set Contents (Part 2 of 2)

Data Set	Contents	Tape File
BMC.BSS.SAMPLIB	MAINVIEW Batch Optimizer sample JCL	030
BMC.BPS.LOAD	BMC Software Primary Subsystem load library	031
BMC.BCS.LOAD	MAINVIEW Batch Optimizer Subsystem load library	032
BMC.XIM.LOAD	Extended Job Execution Subsystem load library	033
BMC.SEC.LOAD	BMC Software Security Facility load library	034
BMC.SEC.ISPPLIB	BMC Software Security Facility ISPF panel library	035
BMC.SEC.ISPMLIB	BMC Software Security Facility ISPF message library	036
BMC.SEC.ISPTLIB	BMC Software Security Facility ISPF table library	037
BMC.DAP.MACLIB	Data Optimizer macro library	038
BMC.DAP.LOAD	Data Optimizer load library	039
BMC.BSL.LOAD	Job Optimizer load library	040
BMC.JOP.LOAD	Job Optimizer Pipes load library	041
BMC.BSS.ISPEXEC	MAINVIEW Batch Optimizer User Interface Rexx Exec library	042
BMC.BSS.ISPMLIB	MAINVIEW Batch Optimizer User Interface message library	043
BMC.BSS.ISPPLIB	MAINVIEW Batch Optimizer User Interface panel library	044
BMC.BSS.ISPTLIB	MAINVIEW Batch Optimizer User Interface table library	045

Installation Environment

This section presents the MAINVIEW Batch Optimizer operating environment and storage requirements.

Operating Environment

MAINVIEW Batch Optimizer requires the following environment:

- OS/390 2.6 or later (or z/OS version)
- ISPF version 4.1 or later
- TSO/E version 3 or later

MAINVIEW Batch Optimizer places work areas above the 16 MB line whenever possible. It is compatible with DFSMS and is not sensitive to DFP levels.

Storage Requirements

The following sections describe storage requirements for the BMC Software subsystems and each MAINVIEW Batch Optimizer component, including Data Optimizer, Job Optimizer, and Job Optimizer Pipes.

BMC Software Subsystems

Table 1-2 shows the storage requirements of the BMC Software Primary Subsystem (BMCP), the Job Optimizer Pipes Subsystem (MBOP), and the MAINVIEW Batch Optimizer Subsystem (MBOS). This storage is required for each MVS system on which the BMC Software subsystems run.

Table 1-2 CSA Storage for BMC Software Subsystems

CSA Storage for Modules (per MVS System)	Amount	Above 16 MB Line
BMCP	22 KB	all
MBOS	1771 KB	all

Data Optimizer

Data Optimizer uses less than 64 KB in non-extended common storage and uses 1.5 MB in extended common storage. Most Data Optimizer private storage requirements (non-CSA) are obtained from extended private storage. The actual amount of private storage varies and depends on the following items:

- number of concurrently open files in a job
- Optimization Mode value when you are using the Data Optimizer Performance component to obtain I/O performance improvements for the job
- memory usage on your system

Non-VSAM Performance Components

Table 1-3 and Table 1-4 show the storage requirements for the Data Optimizer Non-VSAM Performance components. Because Data Optimizer is dynamically tuned, the amounts of storage vary with the value that is selected for the optimization mode.

Table 1-3 shows non-CSA storage requirements.

Table 1-3 Non-CSA Storage for the Non-VSAM Performance Component

Non-CSA Storage in Application Address Spaces	Amount and Type	Above 16 MB Line
control blocks per address space	8 KB high-private	all
control blocks per OPEN DCB	591 KB high-private	all except 24 KB
data areas per OPEN DCB	varies with optimization mode and BLKSIZE	none

Table 1-4 shows CSA storage requirements.

Table 1-4 CSA Storage for the Non-VSAM Performance Component

CSA Storage in Application Address Spaces	Amount and Type	Above 16 MB Line
modules per MVS system	140 KB CSA/ECSA	all
control blocks per MVS address space	2 KB ECSA	all

VSAM Performance Components

Table 1-5 and Table 1-6 show the storage requirements for Data Optimizer VSAM Performance components. Because Data Optimizer is dynamically tuned, the amounts of storage vary with the value selected for the optimization mode.

Table 1-5 shows non-CSA storage requirements.

Table 1-5 Non-CSA Storage for the VSAM Performance Component

Non-CSA Storage in Application Address Spaces	Amount and Type	Above 16 MB Line
control blocks per address space	2 KB	all
control blocks per OPEN ACB	4 KB	depends on ACB residency
control blocks per ACB that MAINVIEW Batch Optimizer converts from NSR to LSR	1 KB	all
data areas per OPEN ACB	varies with optimization mode and data/index CI size	depends on ACB residency

Table 1-6 shows CSA storage requirements.

Table 1-6 CSA Storage for the VSAM Performance Component

CSA Storage in Application Address Spaces	Amount and Type	Above 16 MB Line
modules per MVS system	180 KB CSA/ECSA	all
control blocks per MVS address space	2 KB ECSA	all

Job Optimizer

Table 1-7 shows the storage requirements for Job Optimizer.

Table 1-7 CSA Storage for the Job Optimizer Component

ECSA Storage for modules (per MVS system)	Amount	Above 16 MB Line
Extended Job Execution Subsystem (MBOX)	5 KB	yes
Job Optimizer Modules per MVS System	25 KB	no
Job Optimizer Modules per MVS System	1031 KB	yes

Job Optimizer Pipes

Table 1-8 shows the storage requirements for Job Optimizer Pipes.

Table 1-8 CSA Storage for the Job Optimizer Pipes Component

CSA Storage (per MVS system)	Amount	Above 16 MB Line
modules	13 KB	no
modules	560 KB	yes
control blocks	2 KB	no
control blocks - local mode	190 KB	yes
control blocks - global mode	100 KB	yes
control blocks per pipe policy rule	500 bytes	yes

Pre-Installation Considerations

Before you begin the installation, review this section to ensure that MAINVIEW Batch Optimizer functions properly.

BMC Software Address Space Dispatching Priorities

When you are installing the JCL for the BMC Software subsystems—BMCP, MBOBCSS and MBOP—you must consider the dispatching priorities at your location. The BMCP, MBOBCSS, and MBOP address spaces should execute at a level that will allow timely initialization and operation. BMC Software recommends that these address spaces use the same dispatching priority as other system tasks, monitors, and subsystems. You should use a *fixed* dispatching priority.

Operator Console Commands

MAINVIEW Batch Optimizer operator console commands require RACF access authority. Figure 1-9 on page 9 lists the commands for MAINVIEW Batch Optimizer components and subsystems and lists the RACF operator command-level authority that is required for entering the commands.

Table 1-9 MAINVIEW Batch Optimizer Components and Subsystems Commands (Part 1 of 2)

Command	Function	Required RACF Access
BMC Software Primary Subsystem		
START bmcpproc	starts the BMC Software Primary Subsystem	CONTROL
bmcps STATUS	provides the subsystem address space ID and indicates whether DEBUG mode is active or inactive	READ
bmcps SHUTDOWN	offers a nondisruptive way of stopping a BMC Software Primary subsystem, allowing jobs to finish before ending the subsystem	CONTROL
CANCEL bmcpproc	stops the BMC Software Primary Subsystem immediately, regardless of whether work is in progress	CONTROL
MAINVIEW Batch Optimizer Subsystem		
START mbosproc	starts the MAINVIEW Batch Optimizer Subsystem	CONTROL
mbos STATUS	provides the subsystem address space ID and indicates whether DEBUG mode is active or inactive	READ
mbos SHUTDOWN	stops the MAINVIEW Batch Optimizer Subsystem and stops all processing for Job Optimizer and Data Optimizer	CONTROL
CANCEL mbosproc	stops the MAINVIEW Batch Optimizer Subsystem immediately, regardless of whether work is in progress	CONTROL
Extended Job Execution Subsystem		
mbos BSL XJS STARTUP	starts the extended job execution subsystem and the MBOX initiators	CONTROL
mbos BSL XJS STATUS	provides information about the extended job execution subsystem and indicates whether the MBOX initiators are active or inactive	CONTROL
mbos BSL XJS QUIESCE	stops the MBOX initiators on a particular MVS image	CONTROL
mbos BSL XJS ACTIVATE	starts the MBOX initiators on a particular MVS image	CONTROL
mbos BSL XJS SHUTDOWN	stops the extended job execution subsystem and the MBOX initiators	CONTROL
mbos BSL XJS TRACE	provides trace information that BMC Software can use to follow the processing of the extended job execution subsystem	CONTROL

Command	Function	Required RACF Access
Job Optimizer Component		
mbos REINIT BSL	reinitializes Job Optimizer after an IPL or abend	CONTROL
mbos BSL STATUS	provides general information about the status of Job Optimizer	CONTROL
mbos BSL DISABLE	stops the Job Optimizer component from intercepting jobs for performance processing	CONTROL
mbos BSL ENABLE	starts the Job Optimizer component, which can begin intercepting jobs for performance processing	CONTROL
mbos BSL QUIESCE	stops a BatchPlex image from accepting Job Optimizer work	CONTROL
mbos BSL WAITS	displays the waiting status of job steps that are running in an MBOX initiator	CONTROL
mbos BSL POLICY ACTIVATE	activates a new or changed job policy	CONTROL
mbos BSL POLICY STATUS	displays the active job policy definition	CONTROL
mbos POLICY DISPLAY	is where Job Optimizer is to write the job policy action definition that is associated with a job upon termination of the job	CONTROL
mbos BSL READJTL	sets or displays the default action for the READJTL job policy action definition	CONTROL
mbos BSL UCF STATUS	displays the active UCF definition	CONTROL
mbos BSL UCF Activate	activates a new or changed UCF definition	CONTROL
mbos BSL GROUP	specifies which JES3 initiator groups MAINVIEW Batch Optimizer is to intercept and lists the initiator groups that MAINVIEW Batch Optimizer is intercepting	CONTROL
mbos BSL DUMP	produces various dumps that pertain to the specified batch performance subsystem	CONTROL
mbos BSL DEBUG	controls the capturing of dumps for the specified batch performance subsystem	CONTROL
Job Optimizer Pipes Component		
START mbop	starts Job Optimizer Pipes	CONTROL
F mbop, SHUT TYPE=NORMAL	stops Job Optimizer Pipes	CONTROL
Data Optimizer Component		
mbos REINIT DAP	reinitializes Data Optimizer after an IPL or abend	CONTROL
mbos DAP STATUS	provides general information about the status of Data Optimizer	CONTROL
mbos DAP DISABLE	stops the Data Optimizer component from providing performance processing for data set I/O requests	CONTROL
mbos DAP ENABLE	starts the Data Optimizer component, which begins providing performance processing for data set I/O requests	CONTROL

Command	Function	Required RACF Access
mbos DAP HISTKEY DSNPGM	creates the history key, where the history key is DNS and program name	CONTROL
mbos DAP HISTKEY FULL	creates the history key, where the history key is job, step, procstep, program and DDNAME	CONTROL
mbos DAP POLICY STATUS	displays the active data policy definition	CONTROL
mbos DAP POLICY ACTIVATE	activates a new or changed data policy	CONTROL

Security Products

If you have ACF2, Top Secret, or RACF, or if you are using the RACF Program Access to Data Sets (PADS) facility, you must also perform the actions that are described in this section.

ACF2

Authorize BMCPPROC, MBOBCSS, and MBOP as started tasks under the started task control.

For more information, refer to a CA-ACF2 systems programmer guide.

ACFUMBOX And ACFUJES2

The ACFUJES2 Module locates the job in-core JCT address and updates the ASVJID field in the job's ACFASVT entry. A different version of this module is required for job steps that are executed in the XJS subsystem. To obtain a changed version of the module, complete the following steps:

- Step 1** Copy IEFBR14.
- Step 2** Rename the copied version ACFUxxxx (where xxxx is the name of the XJS subsystem).

The default XJS subsystem name is MBOX.

- Step 3** Place this module in one of your LNKLST data sets.
- Step 4** Perform an LLA refresh to make the module available.

For more information, see your CA-ACF2 system programmer.

RACF

Authorize BMCPPROC, MBOBCSS, and MBOP as started tasks in the started task names table.

For more information, refer to a RACF security administrator's guide.

Top Secret

Authorize BMCPPROC, MBOBCSS, and MBOP as started tasks in the started task names table. Make sure Top Secret is activated before starting these tasks.

For more information, refer to a CA-Top Secret user guide.

Program Access to Data Sets Facility

If you use the PADS facility, complete the following steps:

Step 1 Execute the following RACF commands:

```
RDEFINE PROGRAM (progname) UACC(READ)
ADDMEM(linklist.lib/volser/NOPADCHK)
```

In the preceding commands, *progname* is DAPPOSAM, DAPPOSOP, DAPVVSAM, DAPVVSAP, and BCSUVSCI.

Step 2 Modify and execute member BSSDRACF of data set BMC.BSS.INSTALL that you unload during the procedure "Load installation JCL to DASD."

Step 3 Execute the following command:

```
SETROPTS WHEN(PROGRAM) REFRESH
```

Sysplex Environment Requirements

Job Optimizer incorporates the BMC Software Cross-System Image Manager (XIM™) technology. XIM enables Job Optimizer to distribute and manage job steps across one or more MVS systems. XIM functions transparently within Job Optimizer. However, Job Optimizer requires the following items before it can distribute job steps across a sysplex environment:

- XCF services
- XES services
- sufficient system linkage indexes (LXs) for your MVS subsystems (you can increase the number of available system LXs by increasing the NSYSLX value in the IEASYSxx member of PARMLIB and reissuing the initial program load or IPL procedure for your site)

Note: For more information about system LXs, see the IBM *OS/390 MVS Extended Addressability Guide*.

- identical volume definitions (for DASD or tape units) across the sysplex (a unit that is defined on one MVS image must be defined on all MVS images to avoid unpredictable results)

XCF Groups for Sysplex Enablement

The XIM technology component of Job Optimizer uses cross-system coupling facility (XCF) services to locate and connect to other instances of itself within a sysplex. To permit the distribution of job steps across multiple operating system images, XCF must be executing in a multisystem environment. For more information, refer to the IBM SYSPLEX services guide and reference manuals for the target operating system.

Your site has a defined limit for the number of XCF groups that can be active on a system. You must ensure that using an additional XCF group for Job Optimizer does not exceed your defined limit.

To determine whether you can add another XCF group to a system, enter the following console command:

```
DISPLAY XCF,COUPLE
```

In the resulting display, review the MAXGROUP(PEAK) and the MAXMEMBER(PEAK) fields for the primary sysplex couple data set. Use the following rules to determine whether you need to increase the XCF group and member limits:

- If the value for PEAK in the MAXGROUP(PEAK) field is at least one number less than the value for MAXGROUP, such as 20(19), another XCF group can be added and you can start Job Optimizer. If the value for PEAK matches the value for MAXGROUP, you must increase the XCF group limit for the system.
- If the value for PEAK in the MAXMEMBER(PEAK) field is at least one number less than the value for MAXMEMBER, such as 20(19), another XCF member can be added and you can start Job Optimizer. If the value for PEAK matches the value for MAXMEMBER, you must increase the XCF member limit for the system.

Note: These values are displayed only when a sysplex couple data set has been defined. When a sysplex couple data set has not been defined, the default values for XCF are used. Refer to the DEFINEDS statement in the IBM publication *Setting Up a SYSPLEX*.

Performance of Job Optimizer can be adversely affected by limited buffer availability within the XCF. You must ensure that sufficient XCF buffer space is specified for proper Job Optimizer execution. Refer to the IBM publication *Setting Up a SYSPLEX*.

For information about how to specify the name of a group connection to the XCF, see “Information Options” on page 3-12.

Sysplex Considerations

To use Job Optimizer Pipes in Global mode (SYSPENV=YES specified in the Job Optimizer Pipes initialization parameters), you must define two Parallel Sysplex structures. This section provides instruction on how to determine the size of these structures. Use these sizes to define the Job Optimizer Pipes Parallel Sysplex structures. Table 1-10 describes the parameters in a structure definition.

Table 1-10 Structure Definition Parameters

Parameter	Description
SIZE	specifies the maximum amount of space to be allocated for the structure in the coupling facility The number is specified in units of 1 KB (1024 bytes).
INITSIZE	specifies the initial amount of space to be allocated for the structure in the coupling facility The number is specified in units of 1 KB (1024 bytes).
ALLOWAUTOALT	If you are running OS/390 R2.10 or later, Job Optimizer Pipes supports the XCF mechanism for automatic structure size alteration for better Coupling Facility structure size management. To use this facility, define the Coupling Facility structure with the ALLOWAUTOALT=YES parameter. For more information about this parameter see the IBM <i>MVS Setting Up a Sysplex</i> manual.

Note: The Parallel Sysplex structure cannot be shared between different releases of Job Optimizer Pipes.

Parallel Sysplex Lock Structure Size

The Parallel Sysplex Lock structure has a fixed size of 512 KB.

Parallel Sysplex List Structure Size

The Parallel Sysplex List structure size is calculated according to the estimated usage of Job Optimizer Pipes (number of systems, number of pipes and participants, and so on.) If the Parallel Sysplex List structure size is changed, the structure must be redefined.

Calculate Sysplex List Structure INITSIZE

Specify the values in Table 1-11 to calculate the size of the Job Optimizer Pipes Parallel Sysplex List structure. Use the result when defining the Parallel Sysplex structure.

Table 1-11 Calculating Job Optimizer Pipes Parallel Sysplex List Structure INITSIZE

Value	Description
sys#	maximum number of MVS images where Job Optimizer Pipes will be active
pipe#	estimated maximum number of pipes at a certain point in time
buff#	average number of buffers per pipe
user#	average number of participants per pipe

Calculate the size (in units of 1 K) using the following formula:

$$((\text{pipe\#} \times \text{buff\#} \times 32) + (\text{sys\#} \times \text{pipe\#} \times 1) + (\text{pipe\#} \times \text{user\#} \times 4)) \times 1.2$$

Where:

- $(\text{pipe\#} \times \text{buff\#} \times 32)$ is the maximum number of data blocks that are required at a certain time multiplied by the maximum block length.
- $(\text{sys\#} \times \text{pipe\#} \times 1)$ is the average number of requests that are required at a certain time multiplied by the request length.
- $(\text{pipe\#} \times \text{user\#} \times 4)$ is the number of pipe participant control blocks multiplied by the control block length.
- 1.2 is the “Spare” size for internal tables, system tables, and so on.

Calculate Sysplex List Structure SIZE

To get the value for the SIZE parameter, multiply the INITSIZE by four. Job Optimizer Pipes begins to work with the INITSIZE and will use additional space only if required.

Shared DASD Environment

For the placement of the history data set in a shared DASD environment, use the following guidelines:

- Do not place the history data set on the same volume as system data sets (such as catalogs, JES checkpoint, and page data sets).
- Do not place the history data set on a volume that has frequent or long-term ENQ/RESERVEs.
- Do not place the history data set on a high-activity volume.
- Do not place other history data sets on the same volume.

For more information, see “Define the History Data Set” on page 2-25.

Considerations for Job Optimizer Pipes in OS/390 JES3

Implementation of Job Optimizer Pipes in an OS/390 JES3 environment requires modification to the JES3 installation exit, IATUX04. BMC Software provides an SMP/E USERMOD, JOPJUX4, which can be installed by using the installation JCL in member JOPJUX4J of data set BMC.BSS.INSTALL. The USERMOD installs a front-end to the JES3 installation exit IATUX04

To properly build and install the USERMOD, you must obtain the following information:

- OS/390 JES3 CSI data set name—Name of the SMP/E CSI Data Set that contains your OS/390 JES3 installation environment.
- OS/390 JES3 Target zone name—Name of the target zone that contains the source, CSECT, and load module information for your OS/390 JES3 installation environment.
- OS/390 JES3 FMID
- OS/390 JES3 Target load library—Name of the library that contains the current executable copy of the IATUX04 load module.
- OS/390 JES3 Target load library volume—Volume serial location of the OS/390 JES3 target load library, if it is not cataloged.

If you are an existing MAINVIEW Batch Optimizer user, you should be aware that the OS/390 JES3 USERMOD implementing the IATUX04 user exit (required to support Job Optimizer Pipes) can only be applied to a single release of the product. The user exit adds support for dynamic pipe setting using Pipe Rules. Determine which Job Optimizer Pipes version should support dynamic pipe setting. If that support should continue to work by the newly installed version, you should upgrade the exit. Otherwise, skip this task. This task will have to be performed when migrating from the existing release to the new release. For more information, see “6B. Install Job Optimizer Pipes Support for JES3 Environment” on page 2-33.

Considerations for Job Optimizer for DB2

To use Job Optimizer for DB2, you must bind the MAINVIEW Batch Optimizer MBOPLAN and MBOPAK package to the DB2 systems that you intend to process. To execute the bind job, you must provide a DB2 subsystem name and the data set names of your DB2 load library and exit library.

To execute the operation verification job for Job Optimizer for DB2, you must also provide the version of your DB2 subsystem and the data set name of your DB2 run library.

You should obtain this information before proceeding with this installation process.

Considerations for Job Optimizer for IMS

To execute the operation verifications jobs for Job Optimizer for IMS, you must provide the data set names of your current IMS environment’s RESLIB, PGMLIB, PSBLIB, SBDLIB, ACBLIB, and PROCLIB libraries. You must also provide the names of the sample PARTS application data base for the DI21PART and DI21PARO DD statements.

If you did not install this sample application when you installed IMS, the operation verification jobs for Job Optimizer for IMS will not work.

You should obtain this information before proceeding with this installation process.

MAINVIEW for OS/390 Enablement

If you use MAINVIEW for OS/390 and you would like to display information about split steps, PTF BPY3941 is required for collector support.

Enabling MAINVIEW Batch Optimizer Collector in OS/390

Update the MAINVIEW OS/390 PARMLIB MEMBER BBDJST00 with the following:

```
<MBO>  
</MBO>
```

You can verify the collector is running by looking in the MAINVIEW OS390 Product Address Space (PAS) for the following message:

```
BBDDA020I MAINVIEW BATCH OPTIMIZER REPORTING ENABLED
```

Other BMC Product Considerations

For existing BMC Software Consolidated Subsystem (BCSS) customers, MAINVIEW Batch Optimizer uses a private copy of the BCSS. Do not change any of your existing products to use the MAINVIEW Batch Optimizer BCSS. Do not attempt to initialize the MAINVIEW Batch Optimizer under an existing copy of the BCSS. The MAINVIEW Batch Optimizer will coexist with other instances of the BCSS.

IBM BatchPipes Migration Considerations

Job Optimizer Pipes support the IBM BatchPipes subsystem parameters specified in JCL. There is no need to modify any production JCL. For more information, see the *MAINVIEW Batch Optimizer Job Optimizer Reference Manual*.

IBM SmartBatch Migration Considerations

BMC Software recommends that users of IBM SmartBatch for OS/390 do not share their history file or control data set with MAINVIEW Batch Optimizer. SmartBatch users may copy their existing data and job policies into the MAINVIEW Batch Optimizer control data set. These SmartBatch policies are compatible with the MAINVIEW Batch Optimizer.

If you choose to copy your policies, ensure that your batch plex member, BPLEX00, references the copied policies. Existing BATCH ACCELERATOR customers may export their history by using the SmartBatch for OS/390 extract utility.

An example of this utility may be found in the SASFPSAM library as member ASFBJEXT. The exported file may be used as input to the MAINVIEW Batch Optimizer load utility, BSLMRRUN. An example of this utility may be found in the BMC.BSS.SAMPLIB as member BSLBJRUN. For sample JCL, see Figure 1-1 and Figure 1-2 on page 1-23. Carefully review *all* JCL in Figure 1-1 and Figure 1-2. Text in bold represents JCL lines that you need to modify.

Figure 1-1 Sample JCL for ASFBJEXT (Part 1 of 2)

```

//ASFBJEXT JOB (ACCT),'NAME',
//          MSGCLASS=X,
//          REGION=4096K,
//          NOTIFY=?USERID?,
//          CLASS=A
//*
//* 1. IF YOU DID NOT INSTALL THE SMARTBATCH FOR OS/390 LOAD MODULES
//*    IN YOUR MVS LINKLIST YET, UNCOMMENT THE JOBLIB DD STATEMENT
//*    AND VERIFY THAT THE DATA SET NAME IS CORRECT.
//*    NOTE: THE JOBLIB DATA SET MUST BE APF AUTHORIZED.
//*
//* 2. VERIFY THAT THE DATA SET NAME PROVIDED ON THE SYSEXEC DD
//*    STATEMENT IS CORRECT.
//*
//* 3. REPLACE "?SHAREDQUAL?" WITH A VALID HIGH LEVEL QUALIFIER.
//*
//* 4. REPLACE "?DISKUNIT?" WITH A VALID UNIT NAME THAT
//*    IDENTIFIES DISK DEVICES USED FOR PERMANENT STORAGE.
//*
//* 5. REPLACE "?WORKUNIT?" WITH A VALID UNIT NAME THAT
//*    IDENTIFIES DISK DEVICES USED FOR TEMPORARY STORAGE.
//*
//* 6. REVIEW THE FOLLOWING PARAMETERS ON THE INVOCATION OF THE
//*    ASFBRHEX REXX EXEC.
//*
//* EXTRACT          THE "EXTRACT" FUNCTION CREATES AN EXTRACT
//*                  FILE THAT IS USED AS INPUT TO THE ASFBRPT1
//*                  REPORTING UTILITY.
//*
//* *                JOBNAME MASK.  "*" MEANS ALL JOBS.
//*
//* SUBSYSTEM ID    BATCH PERFORMANCE SUBSYSTEM ID.  "ASFC" IS
//*                  THE CUSTOMIZATION DEFAULT.
//*
//*JOBLIB DD DISP=SHR,DSN=SYS1.SASFPLIB
//DELETE EXEC PGM=IEFBR14
//DD1 DD DISP=(MOD,DELETE),SPACE=(TRK,0),
//          UNIT=(?WORKUNIT?, ,DEFER),
//          DSN=?SHAREDQUAL?.EXTRACT
//*

```

Figure 1-1 Sample JCL for ASFBJEXT (Part 2 of 2)

```
//EXTRACT EXEC PGM=IKJEFT01,DYNAMNBR=25
//SYSTSPRT DD SYSOUT=*
//SYSPRINT DD SYSOUT=*
//SYSEXEC DD DISP=SHR,DSN=SYS1.SASFPEXE
//OUTDD DD DISP=(,CATLG),
//          SPACE=(CYL,(5,5),RLSE),
//          RECFM=VB,LRECL=756,BLKSIZE=0,
//          UNIT=(?DISKUNIT?,DEFER),
//          DSN=?SHAREDQUAL?.EXTRACT
//SYSTSIN DD *
        PROFILE NOPREFIX
        ASFBRHEX EXTRACT * ASFC
/*
```

Figure 1-2 Sample JCL for BSLMRRUN (Part 1 of 2)

```

//BSLBJRUN JOB (ACCT),'NAME',
//          MSGCLASS=X,
//          REGION=4096K,
//          NOTIFY=?USERID?,
//          CLASS=A
//*
//* THIS JOB POPULATES THE HISTORY DATA SET USING SMF DATA.
//*
//* OPERATION:
//* ACTIONS:
//* 1. IF YOU DID NOT INSTALL THE BATCH OPTIMIZER LOAD MODULES
//*    IN YOUR MVS LINKLIST YET, UNCOMMENT THE STEPLIB DD STATEMENT
//*    AND VERIFY THAT THE DATA SET NAME IS CORRECT.
//*
//* 2. IF YOU DID NOT INSTALL THE BATCH OPTIMIZER LOAD MODULES
//*    IN YOUR MVS LINKLIST YET, UNCOMMENT THE EXITLIB DD STATEMENT
//*    AND VERIFY THAT THE DATA SET NAME IS CORRECT.
//*
//* 3. VERIFY THE DATA SET NAME CONTAINED ON THE SORTLIB DD STATEMENT.
//*
//* 4. INCLUDE THE NAME OF YOUR SMF DATA SET(S) ON THE SORTIN DD
//*    STATEMENT.  CONCATENATE AS MANY SMF DATA SETS AS YOU LIKE
//*    TO COLLECT THE AMOUNT OF DATA YOU WANT.
//*
//* 5. REVIEW THE FOLLOWING PARAMETERS FOLLOWING THE SMFCNTL DD
//*    STATEMENT.
//*
//* DATE(YYYYJJJ,YYYYJJJ) SELECT SMF RECORDS THAT HAVE DATES WITHIN
//*                          THE SPECIFIED RANGE OF DATES (WHERE "YYYY"
//*                          IS THE FOUR-DIGIT YEAR AND "JJJ" IS THE
//*                          JULIAN DAY).
//*
//* END(HHMM)                SELECT SMF RECORDS THAT ARE IDENTIFIED WITH
//*                          END TIMES LESS THAN OR EQUAL TO "HHMM"
//*                          (WHERE "HH" IS HOURS AND "MM" IS MINUTES).
//*
//* JOBNAME(NNNNNNN, ...)  SELECT RECORDS THAT PERTAIN TO JOBS WITH
//*
//* SUBSYSNAME(SSID)        MAINVIEW BATCH OPTIMIZER SUBSYSTEM THAT IS
//*                          ASSOCIATED WITH YOUR BATCHPLEX (WHERE SSID
//*                          IS A BMC CONSOLIDATED SUBSYSTEM ID).  THE
//*                          SUBSYSTEM PROCEDURE IDENTIFIES THE NAME OF
//*                          THE HISTORY DATA SET.  THE INSTALLATION
//*                          DEFAULT IS THE MBOP.
//*
//*

```

Figure 1-2 Sample JCL for BSLMRRUN (Part 2 of 2)

```
//*  
//POPULAT EXEC PGM=BSLMRRUN,REGION=4M,TIME=1439  
//*STEPLIB DD DISP=SHR,  
//* DSN=?SHAREDQUAL?.BMC.BSL.LOAD  
//*EXITLIB DD DISP=SHR,  
//* DSN=?SHAREDQUAL?.BMC.BSL.LOAD  
//SORTLIB DD DISP=SHR,DSN=SYS1.SORTLIB  
//SORTIN DD DISP=SHR,DSN=SMF.DATA.SET  
//SYSOUT DD SYSOUT=*  
//SUMMARY DD SYSOUT=*  
//SMFCNTL DD *  
DATE(2000001,2000365)  
END(2359)  
JOBNAME(*)  
MAXHISTPCT(50)  
MINEXEETIME(0100)  
SID(SMFNAME)  
START(0000)  
SUBSYSNAME(MBOS)  
/*
```

DATA ACCELERATOR Compression Considerations

If the pre-released version 1.5.00 of DATA ACCELERATOR Compression is installed and the modules reside in the MVS linklist concatenation, you must make modifications for the product to work with the Data Optimizer component. The Data Optimizer component will not initialize if version 1.5.00 of DATA ACCELERATOR Compression is installed in the MVS linklist concatenation.

Note: Users executing the DATA ACCELERATOR Compression product pre-release 3.0 should not execute this jobstream, as these aliases are not applicable.

To modify DATA ACCELERATOR Compression, follow these steps:

Step 1 Remove the aliases that are prefixed with the characters *DAP* from the DATA ACCELERATOR Compression load library by modifying and executing sample member DAPNODAC contained in data set BMC.BSS.SAMPLIB.

Note: When you remove the DAPMSSIO alias from the DATA ACCELERATOR Compression load library, the REINIT DAP command will no longer work for DATA ACCELERATOR Compression.

Step 2 In the command's data set for the BCSS, change REINIT DAP to **REINIT DAC**. (In cases where you issue the REINIT DAP command, use the REINIT DAC command instead.)

Step 3 To generate compression statistics, change the //DAPSTATS DD statement to //DACSTATS DD SYSOUT=* in the appropriate compression batch JCL.

HIPER-CACHE Migration Considerations

All MAINVIEW Batch Optimizer components provide performance benefits for batch processing. The Data Optimizer component provides I/O optimization. Data Optimizer is very similar in feature, function, behavior, and performance to HIPER-CACHE. If you are familiar with HIPER-CACHE, you should quickly and easily gain an understanding of how Data Optimizer works. By learning how Data Optimizer compares to HIPER-CACHE and by performing a careful preparation, you can simplify the conversion process from HIPER-CACHE to Data Optimizer and ensure a smooth transition.

Comparison of Components and Features

Table 1-12 highlights the components and features of HIPER-CACHE and Data Optimizer. For more details about specific features, see the *MAINVIEW Batch Optimizer Data Optimizer Reference Manual*.

Table 1-12 HIPER-CACHE to Data Optimizer Comparison

Component/Feature	HIPER-CACHE	Data Optimizer
control subsystem	ELD subsystem	BPS and MBOS subsystems
centralized repository	control tables	data policy
centralized repository data entry	SPF edit	Batch Optimizer User Interface
VSAM performance techniques	dynamic LSR usage, buffer optimization, miscellaneous settings	dynamic LSR usage, buffer optimization, miscellaneous settings
non-VSAM performance techniques	buffer optimization	channel program optimization, overlapping I/O, buffer optimization
DD override statements	provided; position sensitive	provided; position sensitive
user exit interface	provided	provided
dynamic region adjustment	provided	provided
statistics and informational reports	provided	provided
informational messages	provided	provided
SMF record generation	provided	provided
candidate utility	provided	provided

Converting HIPER-CACHE Global Default and Processing Control Tables

HIPER-CACHE maintains information in a partitioned data set about what to optimize and which options to use. The members of this data set are called Global Default and Processing control tables. Data Optimizer provides a utility that will convert these control tables to the Data Optimizer equivalent repository, which is called a data policy.

For most HIPER-CACHE options, Data Optimizer has an equivalent option which matches identically in function. For several HIPER-CACHE options, Data Optimizer has an equivalent option which does not match exactly but is similar in function. For a few HIPER-CACHE options, Data Optimizer does not have an equivalent option. For example, Data Optimizer does not have an option to move SAM buffers above the 16-MB line because it completely replaces the I/O process and all actual I/O is processed by using Data Optimizer buffers that are already above the 16-MB line.

A complete description of the Data Optimizer HIPER-CACHE conversion utility can be found in the *MAINVIEW Batch Optimizer Data Optimizer Reference Manual*. The appendix discusses how to set up and run the conversion utility and describes options that are completely converted, partially converted, or not converted.

Migrating Production Jobs from HIPER-CACHE to Data Optimizer

The most appropriate method for migrating production jobs from HIPER-CACHE to Data Optimizer can vary greatly from one data center to another. Some data centers have a few general-purpose HIPER-CACHE control table definitions which pertain to a large number of jobs or data sets. Other data centers have a large number of very specific control table definitions which pertain only to a single job or data set. Still other data centers use DD override statements instead of control table definitions. Although there is no way to provide a precise migration plan for every data center, some general guidelines can assist you in customizing your migration plan to your site.

When you are migrating from HIPER-CACHE to Data Optimizer in a production environment, both products can be installed and active on an MVS image at the same time.

Note: BMC recommends that you do not allow both products to optimize the same data sets concurrently. This restriction must be taken into consideration as the migration plan is developed.

For data centers that implement HIPER-CACHE by using DD override statements instead of control tables, Data Optimizer has been enhanced to recognize the HIPER-CACHE DD override statements at job run time and to convert them to the corresponding Data Optimizer DD override statements. Although BMC Software recommends that the DD override statements be changed eventually, this enhancement can expedite the transition for the immediate future.

Before developing the migration plan, you should thoroughly review your current HIPER-CACHE implementation.

All critical production jobs and data set must be identified and prioritized, and any redundant or out-of-date options or DD overrides should be removed.

Depending on how your data center uses HIPER-CACHE, choose the most appropriate migration plan:

- HIPER-CACHE is used for optimization but is not critical to production deadlines. HIPER-CACHE is activated by control table entries or DD override statements. Use “Migration Plan 1” on page 1-28.
- HIPER-CACHE is used for optimization and is critical to production deadlines. HIPER-CACHE is controlled by control table entries. Use “Migration Plan 2” on page 1-29.
- HIPER-CACHE is used for optimization and is critical to production deadlines. HIPER-CACHE is controlled by DD override statements. Use “Migration Plan 3” on page 1-29.

Note: Although Data Optimizer provides robust DD override support, BMC Software recommends that production jobs be controlled by using the data policy whenever possible.

Migration Plan 1

To migrate HIPER-CACHE to Data Optimizer, complete the following steps:

- Step 1** Run the conversion utility.
- Step 2** Reconcile any “not-converted” items.
- Step 3** Disable or shutdown HIPER-CACHE if it is active.
- Step 4** *(optional)* Update your production JCL to change any HIPER-CACHE DD override statements to corresponding Data Optimizer DD override statements.

Note: Because Data Optimizer will recognize HIPER-CACHE DD override statements, this step is optional.

- Step 5** Start Data Optimizer by using the data policy that was created in Step 1.

Migration Plan 2

Complete the following steps:

- Step 1** Run the conversion utility.
- Step 2** Reconcile any “not-converted” items.
- Step 3** Using SPF, edit the data policy that was created by the conversion utility to comment out the DEFINE statements by placing an asterisk in front of each one and saving the updated data policy (do not comment out the DEFAULTS statement).
- Step 4** Start Data Optimizer by using the new data policy (nothing should be intercepted).
- Step 5** Select one or more initial jobs or data sets, and comment out the entries that represent them in the HIPER-CACHE control table.
- Step 6** Save the updated table.
- Step 7** Refresh the HIPER-CACHE control tables.
- Step 8** On the corresponding Data Optimizer data policy DEFINE statement, uncomment it by removing the asterisk and saving the updated data policy.
- Step 9** Refresh the Data Optimizer data policy.
- Step 10** Over time, repeat Step 5 through Step 8, gradually migrating all entries from HIPER-CACHE's control to Data Optimizer.

Migration Plan 3

Complete the following steps:

- Step 1** Run the conversion utility.
 - Note:** Even though the HIPER-CACHE is implemented by using DD override statements, this step is still required to convert the GLOBAL control table to a corresponding data policy DEFAULTS statement.
- Step 2** Reconcile any “not-converted” items.

- Step 3** Based on your implementation, select one of the following actions:
- 3.A** If you will be implementing Data Optimizer by using DD override statements, select one or more initial job steps and change the HIPER-CACHE DD override statements to the corresponding Data Optimizer DD override statements.
 - 3.B** If you will be implementing Data Optimizer by using a data policy, select one or more initial job steps and comment or delete the HIPER-CACHE DD override statements. Next, create a DEFINE statement in the data policy created in Step 1 that corresponds to the commented or deleted HIPER-CACHE statement. Save the data policy, and refresh it.
- Note:** Because HIPER-CACHE is still active on the system, it is not sufficient to allow Data Optimizer to process the HIPER-CACHE DD override statements. This would allow both products to intercept the same open request, which is not recommended.
- Step 4** Over time, repeat Step 3 on page 1-30, gradually migrating all job steps from HIPER-CACHE control to Data Optimizer control.

CA-11 Considerations

The Job Optimizer component requires the CA-11 exit U11ACTEX. CA-11 tracks the shadow steps in the original job, not the steps that are executing in XJS initiators. The BMC Software-supplied U11ACTEX exit identifies the steps that are executing in XJS initiators and disables CA-11 tracking for those steps.

This exit will not impede the CA-11 ability to restart against a job under Job Optimizer control. The exit will not affect the tracking of jobs that are not under Job Optimizer control.

Installing CA-11 USERMOD U11ACTEX

Note: The following instructions are based on the CA-11 Version 2 Release 2. If this is not your release of CA-11, contact BMC Customer Support at 800 841 2031.

To install CA-11 USERMOD U11ACTEX, complete the following steps:

Step 1 Edit the sample JCL in the CA-11 SAMPJCL library member L722UXIT, making the following modifications:

- Change the JOBCARD according to your installation standards.
- Change the SMPPTFIN DD statement to the following statement:

```
//SMPE.SMPPTFIN DD DSN=BMC.BSS.SAMPLIB(U11ACT00), //
DISP=SHR,UNIT=,VOL=,LABEL=
```

- Change BSS.SAMPLIB to reflect the name of your MAINVIEW Batch Optimizer sample library.
- Change the SMPPTFIN DD statement to the following statement:

```
//SMPCNTL DD DSN=BMC.BSS.SAMPLIB(U11SMCTL),DISP=SHR
```

- Change BSS.SAMPLIB to reflect the name of your MAINVIEW Batch Optimizer sample library.

Step 2 Review BMC.BSS.SAMPLIB member U11SMCTL. Verify that the target zone, CA11TGT, matches the CA-11 target zone at your site. If not, change CA11TGT to the name of your CA-11 target zone.

Step 3 Submit the job that you edited in Step 1 on page 1-31. A return code less than or equal to 4 is acceptable. If you received a return code greater than 4, review the job output and correct errors. If no errors are apparent, contact BMC Software Customer Support.

Step 4 Change the CA-11 DBAS parameter deck to include the following statement:

```
RECOVCSA=NO
```

This changes CA-11 to reload the user exit when the DBAS is restarted.

Step 5 Restart the DBAS.

Installation of the U11ACTEX exit that is required by MAINVIEW Batch Optimizer is now complete.

Step 6 Verify that the exit is active by tracking a job with CA-11 while Job Optimizer is splitting steps.

For the steps that split, the following message is displayed:

```
U11-610 JOBNAME=xxxxxx,ACTION EXIT (U11ACTEX) DECIDED  
NOT TO TRACK
```

In the preceding message, *xxxxxx* is the job name that you want to run.

Chapter 2 **MAINVIEW Batch Optimizer Installation**

This chapter provides an overview of the installation procedures. It contains the following sections:

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4. Copy Load Libraries into an APF-Authorized Data Set	2-24
5. Define the History Data Set	2-25
6. Create the BatchPlex Data Set	2-27
6A. Perform DB2 Bind	2-32
6B. Install Job Optimizer Pipes Support for JES3 Environment	2-33
7. Install the JCL for the BMC Software Subsystems	2-36
8. Install the MAINVIEW Batch Optimizer ISPF User Interface	2-40
9. Refresh MVS Linklist Lookaside	2-45
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Where to Go from Here	2-55

Online Installation

The MAINVIEW® Batch Optimizer Installation System helps you generate JCL by defining job cards, data set names, and other information. When the installation process is complete, ISPF EDIT lists the generated members. You can edit each member before submitting a job. You must submit each member in the order of appearance and run the job to a successful completion before submitting the next member.

Unloading the Installation System

You must first unload the installation library, which is the first file on the distribution tape. The panels, CLIST, JCL skeletons, and messages are unloaded to a single data set.

To unload the installation library and copy the installation system to a user-defined data set, use the IEBCOPY JCL in Figure 2-1. Carefully review *all* JCL in Figure 2-1. Text in bold represents JCL lines that you need to modify.

Figure 2-1 Sample JCL for Installation

```

//Jobname JOB (acct), 'name',
//          MSGCLASS=X,
//          REGION=4096K,
//          NOTIFY=userid,
//          CLASS=A
//*
//IEBCOPY EXEC PGM=IEBCOPY
//SYSPRINT DD SYSOUT=*
//SYSUT3 DD UNIT=?DISKUNIT?,
//          SPACE=(TRK,(150,018),RLSE)
//SYSUT4 DD UNIT=?DISKUNIT?,
//          SPACE=(TRK,(150,018),RLSE)
//IINSTALL DD DSN=BMC.BSS.INSTALL,
//          DISP=SHR,
//          UNIT=?TAPEUNIT?,
//          VOL=SER=VOLSER,
//          LABEL=(001,SL)
//OINSTALL DD DSN=HLQ.INSTALL,
//          DISP=(NEW,CATLG,DELETE),
//          UNIT=?DISKUNIT?,
//          VOL=SER=?DASD?,
//          SPACE=(6160,(900,050,200))
//SYSIN DD *
COPY OUTDD=OINSTALL, INDD=IINSTALL
/*

```

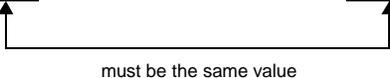
To unload the installation library, perform the following steps:

- Step 1** Modify the job card to conform to your site's standards.
- Step 2** Replace *HLQ* with a valid high-level qualifier.
- Step 3** Replace *VOLSER* with the volume serial number on the external label of the distribution tape.
- Step 4** Replace *?DASD?* with the target DASD volume serial.
- Step 5** Replace *?DISKUNIT?* with the name of the disk unit at your site.
- Step 6** Replace *?TAPEUNIT?* with the name of the tape unit used at your site.
- Step 7** Submit the job.

Running the MAINVIEW Batch Optimizer Installation System

After unloading the MAINVIEW Batch Optimizer Installation System, execute the following CLIST to display the MAINVIEW Batch Optimizer Installation System Welcome panel. You can execute the CLIST from the TSO Commands Utility menu. (*HLQ* is the same high-level qualifier that is specified in the IEBCOPY JCL.)

```
EX 'HLQ'.INSTALL(BSSINSTL)' 'HLQ'
```



must be the same value

Note: After the statement is executed, a profile member is created. Ensure that you have sufficient DASD and directory space in your ISPF profile data set to accommodate a new member.

The Welcome panel is displayed. This panel briefly explains the installation and provides the telephone number for BMC Software Customer Support.

You have now initiated the MAINVIEW Batch Optimizer Installation System. Read each panel carefully. To go to the next panel, press **Enter**. Make a note of any information that you are asked to obtain, as it may be used in subsequent installation steps.

The installation dialog functions as a JCL generation tool. You are prompted for the information that is required for creation of the installation JCL by a series of ISPF panels. JCL generation does not occur until you have supplied all required input.

When JCL generation is complete, the EDIT List is displayed. To install the product, submit the members in the proper order.

Installation Dialog Checklist

The basic installation steps that are performed by using the dialog are listed below. The dialog optionally creates a data set that contains the generated JCL. The default data set name is HLQ.INSTALL.JCL. You can change the data set name, or direct the generated JCL to the HLQ.INSTALL data set.

The functions that are processed for each step are identified as follows:

1. Identify product features that you intend to use.
2. Identify job card, device types, and data set names for installation.
3. Check the current installation environment.
4. Copy product load modules to an APF-authorized data set.
5. Define the history data set.
6. Create the control data set and the control data set members.
 - A. Perform DB2 bind
 - B. Install Job Optimizer Pipes Support for JES3 environment
7. Install MAINVIEW Batch Optimizer subsystem procedures.
8. Install the MAINVIEW Batch Optimizer ISPF dialog interface.
9. Ensure you run the authorization utility before starting the subsystem.
10. Refresh the MVS Linklist Lookaside.
11. Install IOA (Control-M) support for Job Optimizer Pipes integration.
12. Start the subsystems.
13. Perform installation verification.
14. Perform operation verification.
15. Copy modified installation JCL to a product sample library.
16. Display the Edit member list.

Using the Dialog Panels

The dialog panels provide self-explanatory directions for navigating the dialog.

ISPF conventions are used for data set names. Data set names that are not enclosed within apostrophes are prefixed with your TSO profile prefix unless your TSO profile is set to NOPREFIX.

Function Keys and Commands

The navigational and HELP function keys are displayed at the bottom of each panel. Table 2-1 describes the keys and commands that are used to navigate the panels.

Table 2-1 Function Keys and Commands

Key/Command	Function
Enter	verifies and updates the data on the panel If no errors are found, the next panel is displayed. If errors exist, an error message is displayed. The exceptions are table displays, edit lists, and selection menus.
F1/F13=HELP	displays the tutorial help panels If you press F1 from a MAINVIEW Batch Optimizer Installation System panel, help for this panel is displayed. If you press F1 from a help panel, then ISPF help is displayed. If an error message is displayed and you press F1 , help for the error message is displayed on the application panel below the command line. If you press F1 again, extended panel-level help is displayed. If you are in a help panel and press Enter , you can scroll through the help tutorial for a given option. When all Help panels for an option are displayed, pressing Enter returns you to the primary menu for the help tutorial. If you are in any help panel and press F7 (UP), the help primary menu is displayed. To end help, press F3 to return to the application panel; if you are in ISPF help, the help panel is displayed.
F3/F15=END	terminates the process you are performing and does not validate or update the information on the panel If you are in an application panel, the primary menu is displayed. If you are in a help panel, the application panel is displayed. When the END command is entered, a checkpoint is taken.
F12/F24=CANCEL	displays the previous panel It can be used to scroll back through the installation dialog. F12 does not validate the data, but it saves the data on the current panel before displaying the previous panel. F12 is displayed only on panels where the command is active.

Installation Checkpoints

The MAINVIEW Batch Optimizer Installation System uses checkpoint logic. You can interrupt the installation at any point with **F3/F15 (END)**, then resume the installation at the last checkpoint. When you reenter an option, the MAINVIEW Batch Optimizer Installation System Checkpoint panel is displayed so that you can indicate whether you want to resume the installation process where you last exited or you want to begin the process again. Figure 2-2 shows the checkpoint panel.

Figure 2-2 Installation System Checkpoint

```
----MAINVIEW Batch Optimizer Installation System Checkpoint----  
Command ===>_____
```

You have already executed a portion of the installation dialog. You were executing the following function when the dialog was terminated:

You were executing the following function when the dialog was terminated:

STEP0003 - Installation Check Program

Select one. Then press ENTER.

1. Resume Full customization where you were.
2. Start over.

Note: Starting over deletes any jobs previously generated but preserves all variables already established.

Figure 2-2 displays the step number and name of the last function that you performed. You can resume the function where you ended by typing **1**, or you can start the process again by typing **2**. If you start over, any jobs previously generated for this function are deleted but the other installation variables that you specified, such as the job statement information or data set names, are saved.

Batch Installation

This procedure lets you manually change each member in data set BMC.BSS.INSTALL, which is downloaded from file 1 of the distribution tape. This section details the tasks for unloading the distribution tape, installing the history data set and subsystems, and verifying the installation.

The tasks that are described in this section include the following:

- load the installation JCL to DASD
- load the remaining tape files from the product distribution tape
- check the current environment for subsystem load modules
- copy load libraries to one APF-authorized data set
- define history data set
- create the BatchPlex data set
- perform DB2 Bind
- install Job Optimizer Pipes support for JES3 environment
- copy subsystem procedures to PROCLIB
- install the ISPF dialog interface
- refresh MVS Linklist Lookaside
- install IOA (Control-M) support for Job Optimizer Pipes integration
- start the Subsystems
- verify the installation
- perform the operation verification
- shutdown the subsystems
- set automatic start of subsystems for IPL

Checklist

Use the checklist in Table 2-2 to complete the batch installation procedures.

Table 2-2 Checklist for Batch Installation

X	Task	Description	Page
	1	Load the installation JCL to DASD	2-11
	2A	Load the remaining tape files to DASD by using IEBCOPY OR go to 2B	2-14
	2B	Load the remaining tape files to DASD by using SMP/E	2-15
	3	Execute the Installation Check Job	2-21
	4	Copy load libraries into an APF-authorized data set	2-24
	5	Define the History Data Set	2-25
	6	Create the BatchPlex Data Set	2-27
	6A	Perform DB2 Bind (Optional)	2-32

Table 2-2 Checklist for Batch Installation

X	Task	Description	Page
	6B	Install Job Optimizer Pipes Support for JES3 Environment (Optional)	2-33
	7	Install the JCL for the BMC Software Subsystems	2-36
	8	Install the MAINVIEW Batch Optimizer ISPF User Interface	2-40
	9	Refresh MVS Linklist Lookaside	2-45
	10	Install IOA (CONTROL-M) support for Job Optimizer Pipes integration	2-46
	11	Start the Subsystems	2-48
	12	Verify the Installation	2-50
	13	Perform the Operation Verification	2-52
	14	Orderly Shutdown of Subsystems	2-54
	15	Set Automatic Start of Subsystems for IPL	2-55

Before You Begin

Before you begin installation, obtain the following information:

- data set name for an APF-authorized library that you can update

Although BMC Software recommends installation in your MVS linklist, it is not required. You can use STEPLIBs as opposed to placing the execution load modules in your linklist. If you use STEPLIBs, ensure that the STEPLIB is included in all BMC Software procedures (BMCPPROC, MBOBCSS, and MBOP).

- data set name of a procedure library that you can update

Use the following guidelines for the placement of the history data set in a shared DASD environment:

- Do not place the history data set on the same volume as system data sets (such as catalogs, JES checkpoint, and page data sets).
- Do not place the history data set on a volume that has frequent or long-term ENQ/RESERVEs.
- Do not place the history data set on a high-activity volume.
- Do not place other history data sets on the same volume.

For more information, see “Define the History Data Set” on page 2-25.

1. Load the Installation JCL to DASD

Summary: The installation JCL is the first file on the distribution tape. Use IEBCOPY to load the installation JCL to DASD.

To load the installation JCL to DASD, complete the following steps:

- Step 1** Type the IEBCOPY JCL shown in Figure 2-3 on page 12. Modify the JOB statement as necessary:
- Replace *HLQ* (the high-level qualifier) to reflect your site's standards. In a shared DASD environment, the shared high-level qualifier should be an alias to a shared MVS catalog. BMC Software recommends that you do not change the block size of the BMC.BSS.INSTALL data set; if you change it, the block size must be 3200 or larger.
 - Replace *VOLSER* with the volume serial number on the external label of the distribution tape.
 - Replace *?DASD?* with the target DASD volume serial.
 - Replace *?DISKUNIT?* with the name of the disk unit at your site.
 - Replace *?TAPEUNIT?* with the name of the tape unit at your site.

Figure 2-3 Sample JCL to Load the Installation JCL to DASD

```

//Jobname JOB (acct), 'name',
//          MSGCLASS=X,
//          REGION=4096K,
//          NOTIFY=userid,
//          CLASS=A
//*
//IEBCOPY EXEC PGM=IEBCOPY
//SYSPRINT DD SYSOUT=*
//SYSUT3 DD UNIT=?DISKUNIT?,
//          SPACE=(TRK,(150,018),RLSE)
//SYSUT4 DD UNIT=?DISKUNIT?,
//          SPACE=(TRK,(150,018),RLSE)
//IINSTALL DD DSN=BMC.BSS.INSTALL,
//           DISP=SHR,
//           UNIT=?TAPEUNIT?, <== MODIFY
//           VOL=SER=VOLSER, <== MODIFY
//           LABEL=(001,SL)
//OINSTALL DD DSN=HLQ.INSTALL, <== MODIFY
//           DISP=(NEW,CATLG,DELETE),
//           UNIT=?DISKUNIT?, <== MODIFY
//           VOL=SER=?DASD?, <== MODIFY
//           SPACE=(6160,(900,050,200))
//SYSIN DD *
COPY OUTDD=OINSTALL, INDD=IINSTALL
/*

```

Step 2 Submit the job.

2. Load the Remaining Tape Files to DASD

Summary: You must load the remaining tape files to DASD.

To load the remaining files to DASD, choose one of the following methods:

- IEBCOPY method to perform IEBCOPY load processing
- SMP/E method to perform RECEIVE/APPLY/ACCEPT processing

You can use either method to install MAINVIEW Batch Optimizer for the first time, or to replace your existing MAINVIEW Batch Optimizer product.

If you previously installed the product using the SMP/E method, refer to the SMP/E program directory in the INSTRUCT data set. The INSTRUCT data set has instructions on how to install the cumulative PTF service.

Table 2-3 lists the major advantages and disadvantages of each method.

Table 2-3 Method Advantages and Disadvantages

Method	Advantage	Disadvantage
IEBCOPY	Process is shorter and less complex than SMP/E method.	Greater impact on change control because all product components are replaced.
SMP/E ¹	PTF service maintenance involves shorter maintenance install process. Lower impact on change control because only designated product components are replaced.	Initial set-up process is longer and more complex than IEBCOPY method.
<p>¹If you used the SMP/E method during a previous install, you may not be able to use the cumulative service. The tape maintenance applies to a particular product version and release (for example 1.1.00).</p> <p>Cumulative Service Use</p> <ul style="list-style-type: none"> • You can use the cumulative service to upgrade the product maintenance level (for example, 1.1.00 to 1.1.02). • You cannot use the cumulative service to upgrade the product version or release level (for example, 1.1.00 to 1.2.00). 		

Note: To upgrade MAINVIEW Batch Optimizer to a new version or release, you must perform a product replacement.

2A. Load the Remaining Tape Files to DASD by Using IEBCOPY

Summary: You must load the remaining tape files to DASD.

To load the remaining files to DASD by using the IEBCOPY method, complete the following steps:

- Step 1** Modify member BSSUNLDJ in data set BMC.BSS.INSTALL. Check for accuracy, the volume serial number of the distribution tape and the site-dependent information (target DASD volume serial number, tape unit name, and the high-level qualifier used for MAINVIEW Batch Optimizer in the IEBCOPY JCL).
- Step 2** Modify the data set names and any allocation information pertaining to the data sets. The data set names and allocation parameters are created from the files on the distribution tape. If you change the names, the only requirement is that the data set name must have a valid high-level qualifier. Table 1-1 on page 1-4 lists the distribution tape data sets and their contents.
- Modify the job card to conform to your site's standards.
 - Check distribution tape volume serial for accuracy.
 - Replace *?SHAREDQUAL?* with a valid high-level qualifier.
 - Replace *?DISKUNIT?* with a valid esoteric unit name for permanent DASD storage volumes.
 - Replace *?TAPEUNIT?* with a valid tape unit.
 - Replace *?WORKUNIT?* with a valid esoteric unit name for temporary DASD storage volumes.
 - Replace *?DASD?* with the target DASD volume serial.
- Step 3** Submit the job.

2B. Load the Remaining Tape Files to DASD by Using SMP/E

Summary: You must load the remaining tape files to DASD.

To load the remaining files to DASD by using the SMP/E method, you must perform the following functions:

- create a new or modify an existing SMP/E environment to be used in the installation of the MAINVIEW Batch Optimizer components
- install the function and service sysmods for the MAINVIEW Batch Optimizer components

To set up the installation environment and install sysmods, complete the following steps:

Step 1 Define the VSAM data set for use as a Global zone. You may use the JCL contained in member BSS#01DV in data set BMC.BSS.INSTALL contained on file 1 of the distribution tape. For more information, see Table 2-4 on page 2-18.

Note: If you choose to install MAINVIEW Batch Optimizer in an existing Global zone, execute Step 1 to create a separate CSI. This CSI will contain the target and distribution zones for MAINVIEW Batch Optimizer.

Step 2 Allocate the non-VSAM data sets that are used during SMP/E processing. You may use member BSS#02DZ in data set BMC.BSS.INSTALL. This member is a two step job that first allocates the non-VSAM data sets, and invokes SMP/E to complete the Global zone definition. For more information, see Table 2-4 on page 2-18.

Note: If you choose to install MAINVIEW Batch Optimizer in an existing Global zone, you do not need to allocate new data sets (SMPPTS, SMPSTS, SMPLOG, SMPSCDS, and SMPMTS). You must provide the data set names that are associated with these files to the MAINVIEW Batch Optimizer target and distribution zone DDDEF statements.

Step 3 Allocate the Target and Distribution libraries. You may allocate these data sets by using the sample JCL member BSS#03AD, contained in data set BMC.BSS.INSTALL. For more information, see Table 2-4 on page 2-18.

Step 4 Define various SMP/E product-specific information in the Global, Target, and Dlib zones that have been chosen to contain MAINVIEW Batch Optimizer. This information includes defining options member BMCOPT and adding it to your Global zone, defining FMIDSET BMCSET, adding the FMIDs which define MAINVIEW Batch Optimizer, and adding DDDEFs to your SMP/E Target and Dlib zones to perform dynamic allocation of these data sets during Apply and Accept processing. You may use the sample JCL member BSS#04DD contained in BMC.BSS.INSTALL of the distribution tape. For more information, see Table 2-4 on page 2-18.

Step 5 Receive the Function sysmods, cumulative service, and HOLDDATA contained on the distribution tape. The first step in retrieving the product data sets from the distribution tape is the SMP/E Receive process. Receiving the function sysmods that are contained on the distribution tape will build SMP/E “relfiles” which contain all the information necessary to complete the Apply and Accept processing. The product FMIDs are as follows:

- BMCBPS1 BMC Software Primary Subsystem
- BMCBCS1 MAINVIEW Batch Optimizer Subsystem
- BMCXIM1 Extended Job Execution Subsystem
- BMCSEC3 BMC Software Security Facility
- BMCBSS2 MAINVIEW Batch Optimizer User Interface
- BMCDAP2 Data Optimizer
- BMCBSL4 Job Optimizer
- BMCBSA4 Job Optimizer for DB2
- BMCBSB2 Job Optimizer for IMS
- BMCJOP1 Job Optimizer Pipes

You may build Receive JCL by using the SMP/E dialog, or you may use the JCL that is provided in member BSS#05RC, contained in data set BMC.BSS.INSTALL. For more information, see Table 2-4 on page 2-18.

Step 6 Apply the Function sysmods contained on the distribution tape. Perform the SMP/E Apply service to populate the previously defined target libraries. All function sysmods must be installed within the same jobstep. You may use the SMP/E dialog to create JCL to apply the function sysmods, or you may use the JCL provided in member BSS#06AP contained in data set BMC.BSS.INSTALL. For more information, see Table 2-4 on page 2-18.

Note: First execute the Apply with the CHECK option. If the Apply/Check is successful, re-submit the job after removing the CHECK keyword. When the Apply process has completed successfully and the target data sets have been loaded, continue with the SMP/E Accept process.

Step 7 Accept the Function sysmods contained on the distribution tape. You may use the SMP/E dialog to create JCL to Apply the function sysmods or you may use the JCL provided in member BSS#07AC contained in data set BMC.BSS.INSTALL. For more information, see Table 2-4 on page 2-18.

Note: First execute the Accept with the CHECK option. If the Accept/Check is successful, re-submit the job after removing the CHECK keyword. When the Accept process has successfully completed, distribution data sets have been loaded, and the relfile data sets have been deleted, continue with product installation.

Step 8 Apply the cumulative PTF service contained on the distribution tape. You may use the SMP/E dialog to create JCL to Apply this service or you may use the JCL provided in member BSS#08PR in data set BMC.BSS.INSTALL. For more information, see Table 2-4 on page 2-18.

Note: First execute the Apply with the CHECK option. If the Apply/Check is successful, re-submit the job after removing the CHECK keyword. Review any HOLDDATA preventing the installation of a PTF. If appropriate, include HOLD BYPASS control statements. When the APPLY process has successfully completed, the target data sets contain the current maintenance level of MAINVIEW Batch Optimizer.

Step 9 Accept the cumulative PTF service contained on the distribution tape. You may use the SMP/E dialog to create JCL to Apply this service or you may use the JCL provided in member BSS#09CR in data set BMC.BSS.INSTALL. For more information, see Table 2-4 on page 2-18.

Note: First execute the Accept with the CHECK option. If the Accept/Check is successful, re-submit the job after removing the CHECK keyword. Review any HOLDDATA preventing the installation of a PTF. If appropriate, include HOLD BYPASS control statements. You can use the same HOLD BYPASS specifications you provided for the PTF cumulative service Apply process. When the ACCEPT process has successfully completed, the distribution data sets contain the current maintenance level of MAINVIEW Batch Optimizer.

Continue with product installation as described on page 2-21.

Table 2-4 describes the SMP/E sample jobs.

Table 2-4 SMP/E Sample Job Descriptions (Part 1 of 3)

Job	Description	Usage
BSS#00DL	This job may be used to delete the prior SMP/E environment if you are installing MAINVIEW Batch Optimizer in its own SMP/E zones. If you need to restart the SMP/E installation, start with this job to “clean up.”	<ul style="list-style-type: none"> • Modify the job card to conform to your site's standards. • Change the <i>?SHAREDQUAL?</i> qualifier on all the DD statements and on the IDCAMS delete statement below to the names given to the indicated data sets. • Replace <i>?DISKUNIT?</i> with the target DASD device type.
BSS#01DV	This job defines the SMP/E CSI to be used as the global zone for MAINVIEW Batch Optimizer. Note: You should allocate a new CSI to contain the MAINVIEW Batch Optimizer target and distribution zones.	<ul style="list-style-type: none"> • Modify the job card to conform to your site's standards. • Replace <i>?SHAREDQUAL?</i> with a valid high-level qualifier. • Replace <i>?DASD?</i> with a valid target disk volume.
BSS#02DZ	This job has two steps. Step 1 allocates the SMP/E data sets. Step 2 executes SMP/E and provides UCLIN statements to complete the global zone definition. Note: If you are using an existing global zone, you do not need to allocate SMP/E data sets.	<ul style="list-style-type: none"> • Modify the job card to conform to your site's standards. • Replace <i>?SHAREDQUAL?</i> with a valid high-level qualifier. The SMPCSI DD statement should allocate the data set defined by sample installation member BSS#01DV. • Replace <i>?DISKUNIT?</i> with the target DASD device type. • Replace <i>?WORKUNIT?</i> with a work DASD device type. • Replace <i>?DASD?</i> with a valid target disk volume. • Replace <i>?TZONE?</i> with the target zone name you want to use. • Replace <i>?DZONE?</i> with the distribution zone name you want to use.
BSS#03AD	This job allocates the SMP/E target and distribution data sets for MAINVIEW Batch Optimizer.	<ul style="list-style-type: none"> • Modify the job card to conform to your site's standards. • Replace <i>?SHAREDQUAL?</i> with a valid high-level qualifier. • Replace <i>?DISKUNIT?</i> with the target DASD device type. • Replace <i>?DASD?</i> with a valid target disk volume.

Table 2-4 SMP/E Sample Job Descriptions (Part 2 of 3)

Job	Description	Usage
BSS#04DD	<p>This job provides UCLIN to the global zone to define and add options member "BMCOPT" and FMIDSET "BMCSET" which includes the FMIDs contained on this distribution tape. UCLIN is also provided for the target and DLIB zones to describe the target and DLIB data sets for MAINVIEW Batch Optimizer.</p>	<ul style="list-style-type: none"> • Modify the job card to conform to your site's standards. • Replace <i>?SHAREDQUAL?</i> with a valid high-level qualifier. The SMPCSI DD statement should allocate the data set associated with the global zone. The data set names specified in the DDDEF statements must be the same those specified in sample installation member BSS#03AD. <i>?SHAREDQUAL?</i> is also used to provide a high-level prefix for the TLIB data sets created during receive processing. • Replace <i>?WORKUNIT?</i> with a work DASD device type. • Replace <i>?TZONE?</i> with the target zone name specified in sample installation member BSS#02DZ. • Replace <i>?DZONE?</i> with the distribution zone name specified in sample installation member BSS#02DZ.
BSS#05RC	<p>This job performs two steps. The first step receives the function SYSMODs contained on the MAINVIEW Batch Optimizer distribution tape. The second step receives any cumulative PTF service and HOLDDATA contained on the tape. TLIBs will be created using the TLIB prefix provided in sample installation member BSS#04DD.</p> <p>Note: All cumulative service received from the distribution tape should be Applied and Accepted to ensure that the target and distribution libraries are at the proper maintenance level.</p>	<ul style="list-style-type: none"> • Modify the job card to conform to your site's standards. • Replace <i>?SHAREDQUAL?</i> with a valid high-level qualifier. The SMPCSI DD statement should allocate the data set associated with the global zone. • Replace <i>?WORKUNIT?</i> with a work unit DASD device type. • Replace <i>?TAPEUNIT?</i> with an appropriate tape device type. • Replace <i>?VOLSER?</i> with the MAINVIEW Batch Optimizer distribution tape volume serial.
BSS#06AP	<p>This job performs the APPLY of the function SYSMODs and PTF service. An APPLY/check is done first. All functions must be applied to complete installation of MAINVIEW Batch Optimizer.</p> <p>Note: Submit the APPLY CHECK run first. if the return code is zero(0), remove the "CHECK" control card and re-submit this member. The expected return code is zero(0).</p>	<ul style="list-style-type: none"> • Modify the job card to conform to your site's standards. • Replace <i>?SHAREDQUAL?</i> with a valid high-level qualifier. The SMPCSI DD statement should allocate the data set associated with the global zone. • Replace <i>?WORKUNIT?</i> with a work DASD device type. • Replace <i>?TZONE?</i> with the target zone name specified in sample installation member BSS#02DZ.

Table 2-4 SMP/E Sample Job Descriptions (Part 3 of 3)

Job	Description	Usage
BSS#07AC	<p>This job performs the ACCEPT of the function SYSMODs and PTF service. An ACCEPT/check is done first. All functions must be accepted to complete the installation of MAINVIEW Batch Optimizer.</p> <p>Note: Submit the ACCEPT CHECK run first. If the return code is zero(0), remove the 'CHECK' control card and re-submit this member. The expected return code is zero (0).</p>	<ul style="list-style-type: none"> • Modify the job card to conform to your site's standards. • Replace <i>?SHAREDQUAL?</i> with a valid high-level qualifier. The SMPCSI DD statement should allocate the data set associated with the global zone. • Replace <i>?WORKUNIT?</i> with a work DASD device type. • Replace <i>?DZONE?</i> with the distribution zone name specified in sample installation member BSS#02DZ.
BSS#08PR	<p>This job performs the APPLY of the PTF cumulative service. An APPLY/CHECK is done first. All PTF service must be applied to complete the installation of MAINVIEW Batch Optimizer.</p> <p>Note: Submit the APPLY CHECK run first. If the return code is zero (0), remove the 'CHECK' control card and re-submit the member. The expected return code is zero (0).</p>	<ul style="list-style-type: none"> • Modify the job card to conform to your site's standards. • Replace <i>?SHAREDQUAL?</i> with a valid high-level qualifier. The SMPCSI DD statement should allocate the data set defined by sample installation member BSS#01DV. • Replace <i>?WORKUNIT?</i> with a work DASD device type. • Replace <i>?TZONE?</i> with the target zone name specified in sample installation member BSS#02DZ.
BSS#09CR	<p>This job performs the ACCEPT of the PTF cumulative service. An APPLY/CHECK is done first. All PTF service must be applied to complete the installation of MAINVIEW Batch Optimizer.</p> <p>Note: Submit the ACCEPT CHECK run first. If the return code is zero (0), remove the 'CHECK' control card and re-submit the member. The expected return code is zero (0).</p>	<ul style="list-style-type: none"> • Modify the job card to conform to your site's standards. • Replace <i>?SHAREDQUAL?</i> with a valid high-level qualifier. The SMPCSI DD statement should allocate the data set defined by sample installation member BSS#01DV. • Replace <i>?WORKUNIT?</i> with a work DASD device type. • Replace <i>?DZONE?</i> with the distribution zone name specified in sample installation member BSS#02DZ.

3. Execute the Installation Check Job

Summary: The Installation Check Job executes two steps that invoke the BPSCHECK and BCSCHECK programs respectively. Both programs look for other BMC Software products in your environment that share common subsystems with MAINVIEW Batch Optimizer. If found, these programs determine whether the subsystems are compatible. You must run the Installation Check Job on each CPU operating in a shared DASD environment.

To execute the Installation Check Job, complete the following steps:

Step 1 Customize and submit the JCL in member BSSCHECK of data set BMC.BSS.INSTALL. Modify job card information to conform to your site's standards:

- Replace *?SHAREDQUAL?* with a valid high-level qualifier, and check the resulting data set names to ensure that they match the names used when unloading the distribution tape.
- Change APF.AUTHORIZED.LIBRARY to the name of an APF-authorized data set that currently contains the load modules used by the MAINVIEW Batch Optimizer subsystems.

Note: If you do not know whether such a library exists, change all occurrences of the characters NOLINK to LINK. This will cause the CHECK programs to scan your MVS Linklist for occurrences of these modules.

- Change MBOS to the subsystem ID of your current MAINVIEW Batch Optimizer subsystem. Leave this parameter as it is, if you do not know this information.

Step 2 Identify source of the compare operations. Supply appropriate names for the distribution libraries unloaded from the tape as follows:

- For the BPSCHK step, replace the data set name on the SYSLIB DD statement with the data set name used when unloading the BMC.BPS.LOAD data set (file 31 of the product distribution tape), or referenced by the BPSLOAD SMP/E DDDEF.
- For the BCSCHK step, replace the data set name on the SYSLIB DD statement with the data set name used when unloading the BMC.BCS.LOAD data set (file 32 of the product distribution tape), or referenced by the BCSLOAD SMP/E DDDEF.

Step 3 Identify the target of the compare operations. Indicate whether the BPS and BCS modules are in a LNKLIST, or identify the data set name where they are located as follows:

- If the product load modules are not installed in the MVS Linklist, you must replace the data set name specified on the two MLPA01 DD statements. Use the data set name of the library that currently contains the product subsystem load modules.
- If the product load modules are installed in the MVS Linklist, you can comment the two MLPA01 DD statements and change the two instances of the NOLINK parameter to LINK.
- If you do not know whether other BMC Software products have previously installed the BPS and BCS load modules, run the BSSCHECK job, using the LINK parameter and commenting the MLPA01 DD statements in both steps.

Note: If you specify the LINK option, both programs will require READ access to all MVS linklist libraries.

Step 4 If you use MAINVIEW Batch Optimizer, supply the MAINVIEW Batch Optimizer subsystem ID in the SSID parameter of the BCSCCHK step.

When the job terminates, it produces a report containing the following outputs:

- installed BMC Software subsystems
- MAINVIEW Batch Optimizer load modules on your system
- SYSLIB to a linklist cross-reference

Note: If you are performing a maintenance installation, the report describes the returned condition code.

Table 2-5 Return Codes Issued by the BPSCHECK and BCSCHECK Installation Check Programs (Part 1 of 2)

Return Code	Description
0000	No action is necessary because modules found in existing data sets can be used with the product.
0008	Some modules in the specified SYSLIB should be installed in your designated APF-authorized data set or a LINKLIST data set; the names of modules to be included or excluded are printed on the process log. The check programs also issue return code 8 if you specify PDS and ALLPDSUPGRADE and modules have to be copied into at least one product level data set.
0012	All modules in the specified SYSLIB should be installed in your designated APF-authorized data set or a LINKLIST data set.

Table 2-5 Return Codes Issued by the BPSCHECK and BCSCHECK Installation Check Programs (Part 2 of 2)

Return Code	Description
0016	At least one invalid parameter option was specified. Processing continues, and the invalid option is ignored.
0128	The specified SYSLIB DDNAME was not found.
0132	No modules were located in the specified SYSLIB data set; the data set is empty, or no module names begin with the specified prefix values.

4. Copy Load Libraries into an APF-Authorized Data Set

Summary: MAINVIEW Batch Optimizer requires an APF-authorized load library for installation. This library can be part of your MVS linklist. If this library is not part of your MVS linklist, you must include this library as a STEPLIB in the JCL procedures.

To copy the libraries into an APF-authorized data set, complete the following steps:

Step 1 Table 2-6 contains the data set name, description, and location of all load libraries provided with MAINVIEW Batch Optimizer. These load modules require APF authorization.

Table 2-6 MAINVIEW Batch Optimizer Load Libraries

Data Set	Contents	Tape File	DDDEF
BMC.BPS.LOAD	BMC Software Primary Subsystem load library	031	BPSLOAD
BMC.BCS.LOAD	MAINVIEW Batch Optimizer Subsystem load library	032	BCSLOAD
BMC.XIM.LOAD	Extended Job Execution Subsystem load library	033	XIMLOAD
BMC.SEC.LOAD	BMC Software Security Facility load library	034	SECLOAD
BMC.DAP.LOAD	Data Optimizer load library	039	DAPLOAD
BMC.BSL.LOAD	Job Optimizer load library	040	BSLLOAD
BMC.JOP.LOAD	Job Optimizer Pipes load library	041	JOPLOAD

Step 2 To copy the product load modules into an APF-authorized library, modify the following member:

BSSACOPY

Use this member to copy load modules that require APF authorization to an APF-authorized load library.

- 2.A** Replace *?SHAREDQUAL?* with the high-level qualifier used throughout the installation.
- 2.B** Replace *APF.AUTHORIZED.LIBRARY* with the name of your APF-authorized library. Submit the job, and verify that it completes with a condition code of zero (0).
- 2.C** Replace *?WORKUNIT?* with a work DASD device type.

Step 3 If you are installing the MAINVIEW Batch Optimizer product load modules in your MVS linklist, confirm that the target linklist library is APF-authorized.

5. Define the History Data Set

Summary: To define the History data set, you must customize the JCL in member BSSCREG. Modify the data set name to be allocated and change the volume parameter and size of each data set.

To define the History data set, customize the JCL in member BSSCREG of data set BMC.BSS.INSTALL by completing the following steps:

- Step 1** Modify the job card to conform to your site's standards.
- Step 2** Replace *?SHAREDQUAL?* with the shared high-level qualifier that you chose in "1. Load the Installation JCL to DASD" on page 2-11.
- Step 3** Modify the History data set name to meet your site's standards.

BMC Software recommends that you use *REGISET* as the last qualifier in the data set name of the cluster. This qualifier will serve as a visual cue and indicate how the data set is used.

- Step 4** Change *?VOLSER?* to a valid DASD volume serial.

Note: Do not define the History data set as a multivolume data set.

- Step 5** Replace *?SPACE?* with a space allocation value for the history data set.

To determine how large the history data set must be for your site, you can use one of two formulas.

The following formula is based on the number of jobs and job steps in your Job Optimizer batch cycle:

$$\text{SPACE} = \text{jobs} * (264 + ((\text{steps} * 208) + (\text{steps} * \text{dd} * 160))) / 1024$$

- jobs = number of jobs in your batch cycle
- steps = average number of job steps in a job
- dd = average number of DD statements in a job step

Example

Your batch job cycle contains 20 jobs, with an average of 10 job steps per job, and an average of 15 DD statements per job step. You would allocate 514 kilobytes for the history data set. To determine the number of history records, divide the value by 4087.

The following formula is based on the approximate number of VSAM data sets that Data Optimizer will process:

$$\text{SPACE} = \text{clusters} * 484 / 1024$$

Clusters equals the number of eligible VSAM clusters that are selected for Data Optimizer processing. The VSAM clusters are opened for sequential and direct access.

Example

You expect to process 100 eligible VSAM clusters. You would allocate 48 kilobytes for the history data set. To determine the number of history records, divide the value by 4087.

Note: If you are using Job Optimizer and Data Optimizer, combine the values from both formulas to get the value. If you use the values from the previous examples, you would allocate 562 kilobytes for the history data set.

- Step 6** In shared DASD environments, you must define the History data set as nonreusable. Also, all MBOBCSS address spaces must reference the same History data set so consistent historical information is reported to all MVS images.
- Note:** The History data set must be cataloged in the MVS Master Catalog if the MBOBCSS is to be started before JES.
- Step 7** Submit the BSSCREG job.
- Step 8** Verify that the job completes successfully with condition code 0.

6. Create the BatchPlex Data Set

Summary: This step creates the BatchPlex control data set and populates it with sample BatchPlex definition members. The data set that is specified must be a partitioned data set (PDS).

Note: When you have completed installation, you can use the MAINVIEW Batch Optimizer ISPF User Interface to further modify components.

Modify member BSSXCOPY in data set BMC.BSS.INSTALL. This member copies members into the BatchPlex control data set. Before submitting this job, review the members of BMC.BSS.INSTALL that are listed in Table 2-7.

To create the BatchPlex data set, complete the following steps:

- Step 1** Modify the job card to conform to your site's standards.
- Step 2** Replace *?SHAREDQUAL?* with a valid high-level qualifier.
- Step 3** Replace *?DISKUNIT?* with a valid esoteric unit name for permanent DASD storage volumes.
- Step 4** Replace *?WORKUNIT?* with a valid esoteric unit name for temporary DASD storage volumes.

Table 2-7 lists the members of BMC.BSS.INSTALL that require changes.

Table 2-7 Members of BMC.BSS.INSTALL (Part 1 of 3)

Member	Usage	Procedures
BCSCMD00	defines the start-up commands for the MBOS subsystem	<p><i>Required.</i> Step 1. Standard Tier customers who intend to use Data Optimizer should remove the comment characters (*) from the first column of the following statements: REINIT DAP DAP ENABLE PERFORMANCE DAP STATUS ALL</p> <p><i>Required.</i> Step 2. Advanced Tier customers who intend to use Job Optimizer should remove the comment characters (*) from the first column of the following statements: REINIT BSL BSL ENABLE BSL XJS STATUS BSL POLICY STATUS BSL POLICY DISPLAY SYSMMSG BSL STATUS ALL BSL TRTABLE MODIFY 65000 BSL DEBUG CAPTURE ON</p> <p><i>Required.</i> Step 3. Enterprise Tier customers who intend to use Job Optimizer for DB2 services should remove the comment characters (*) from the first column of the following statements: REINIT DB2 DB2 POLICY ACTIVATE DB2POL00</p> <p><i>Required.</i> Step 4. Enterprise Tier customers who intend to use Job Optimizer for IMS services should remove the comment characters (*) from the first column of the following statements: REINIT IMS IMS POLICY ACTIVATE IMSPOL00</p> <p><i>Required.</i> Step 5. Replace ?USERID? with your TSO user ID.</p>
BPLEX00	defines the BatchPlex environment	<p>Step 1. If you renamed the Job Optimizer job policy member JOBPOL00, specify the new name on the JOBPOLICY statement.</p> <p>Step 2. If you renamed the Data Optimizer data policy member DATPOL00, specify the new name on the DATAPOLICY statement.</p> <p>Step 3. If you renamed the Job Optimizer UCF policy member UCFPOL00, specify the new name on the UCFPOLICY statement.</p> <p>Step 4. If you renamed the Job Optimizer Pipes parameter member PIPPRM00, specify the new name on the PIPEPARMS statement. .</p>

Table 2-7 Members of BMC.BSS.INSTALL (Part 2 of 3)

Member	Usage	Procedures
		<p>Step 5. Specify a valid subsystem ID for Job Optimizer Pipes and address space on the BPSDDIR statement. The default name is MBOP.</p> <p>Step 6. If you renamed the Job Optimizer Pipes Policy list member PIPLST00, specify the new name on the PIPELIST statement.</p> <p>Step 7. Specify a name for the BMC Software Primary Subsystem address space on the CTLPROC statement. The default name is BMCPPROC.</p> <p>Step 8. Specify a valid subsystem ID for the BMC Software Primary Subsystem on the CTLSSID statement. The default ID is BMCP.</p> <p>Step 9. Specify a name for the MAINVIEW Batch Optimizer Subsystem address space on the PRFPROC statement. The default name is MBOBCSS.</p> <p>Step 10. Specify a valid subsystem ID for the MAINVIEW Batch Optimizer Subsystem on the PRFSSID statement. The default ID is MBOS.</p> <p>Step 11. Specify a name for the MAINVIEW Batch Optimizer Subsystem COMMANDS data set on the COMMANDS statement. The default name is BCSCMD00.</p> <p>Step 12. Specify a name for the Extended Job Execution Subsystem address space on the INITPROC statement. The default name is MBOXJS.</p> <p>Step 13. Specify a valid subsystem ID for the Extended Job Execution Subsystem on the INITSSID statement. The default ID is MBOX.</p> <p>Step 14. Specify a valid subsystem ID for the Job Optimizer Pipes Subsystem</p>
DATPOL00	defines what Data Optimizer should process	<i>Required.</i> Change <i>?TESTQUAL?</i> to a valid high-level qualifier. You will use this high-level qualifier to allocate the data sets used by the installation verification job BSSDPERF, which is contained in BMC.BSS.INSTALL.
DB2POL00	defines parameters for Job Optimizer DB2	<p><i>Required.</i> Step 1. Specify an DB2 authorization (or owner) ID on the GROUP_AUTHID statement.</p> <p><i>Required.</i> Step 2. Specify a Job Optimizer for DB2 plan name on the GROUP_PLAN statement, or use the default of MBOPLAN.</p>

Table 2-7 Members of BMC.BSS.INSTALL (Part 3 of 3)

Member	Usage	Procedures
JOBPOL00	defines what Job Optimizer should process	<p><i>Required.</i> Step 1. Change <i>?USERID?</i> to the TSO user ID you intend to use when you submit the installation verification jobs.</p> <p><i>Required.</i> Step 2. Change <i>?DISKUNIT?</i> to the name of a valid esoteric name for permanent disk storage devices.</p> <p><i>Required.</i> Step 3. Change <i>?WORKUNIT?</i> to the name of a valid esoteric name for temporary disk storage devices.</p>
PIPLST00	defines the Pipe Policy tables that Job Optimizer Pipes loads during initialization	<p><i>Required.</i> Change <i>?SHAREDQUAL?</i> to a valid high-level qualifier so that the data set name referenced by the RULELIB parameter resolves to the same data set name referenced by the //OUT DD statement in the IEBCOPY JCL.</p>
PIPPOL00	defines an initial Pipe Policy table that contains a single rule for use during installation verification process	<p><i>Required.</i> Change <i>?TESTQUAL?</i> to a valid high-level qualifier. You will use this high-level qualifier to allocate the data sets used by the installation verification jobs contained in member JOIIVP02, which is contained in BMC.BSS.INSTALL.</p>
PIPPRM00	defines Job Optimizer Pipes initialization parameters	<p>If you want to pipe data across a Parallel Sysplex environment, perform the following steps:</p> <p><i>Optional.</i> Step 1. Change the value for the SYSPENV parameter YES.</p> <p><i>Optional.</i> Step 2. Specify an acceptable SYSPLEX list structure name for the SYSPLST parameter. The name should not be the same name that you used for other Job Optimizer Pipes environments. The default is BMC_JOP_SYSPLIST.</p> <p><i>Optional.</i> Step 3. Specify an acceptable SYSPLEX lock structure name for the SYSPLCK parameter. The name should not be the same name that you used for other Job Optimizer Pipes environments. The default is BMC_JOP_SYSPLOCK.</p> <p><i>Optional.</i> Step 4. Specify a value for the number of eligible MVS images in the SYSPLEX for the MAXSYS# parameter. The default is 2.</p> <p>For detailed information on how to define new Parallel Sysplex structures, see IBM's <i>Setting Up a Sysplex</i> manual.</p>

Step 5 If you do not want to use the default name, modify the data set name on the output DD statement. The control data set must be a partitioned data set (PDS). The name of the data set must appear on the BSLPLEX DD statement of the MBOS start-up procedure, MBOBCSS.

Note: Do not migrate the control data set because migration will delay the MBOS subsystem startup.

If the data set does not exist, specify the volume serial that will be used to allocate the new data set. If the data set exists, it must reside on the volume serial that is specified.

Step 6 Submit the job.

This job initially places sample versions of the members (listed in Table 2-7 on page 2-28) in the data set. These members can be edited by using the MAINVIEW Batch Optimizer user interface.

6A. Perform DB2 Bind

Summary: To use Job Optimizer for DB2, you must perform a DB2 bind for the MAINVIEW Batch Optimizer DB2 plan. The DB2 policy specifies this plan. You must provide required information to successfully execute the bind job. Member BSADB2BN in data set BMC.BSS.INSTALL contains the bind job. The bind job uses member BSA2SQL in BMC.BSS.SAMPLIB as input.

Note: Consult with your DB2 systems administrator or DBA before performing the DB2 bind.

To execute the bind job, complete the following steps:

- Step 1** Modify the JOB CARD to conform to your site's standards.
- Step 2** Replace *?DSNEXIT?* with the name of your DB2 DSNEXIT library.
- Step 3** Replace *?DSNLOAD?* with the name of your DB2 DSNLOAD library.
- Step 4** Replace *?SHAREDQUAL?* with a valid high-level qualifier.
- Step 5** Ensure that the data set name on the DBRMLIB DD statement matches the name that is given to the indicated data set at installation time.
- Step 6** Replace the plan name that is specified in the PLAN parameter with the Job Optimizer for DB2 plan name that you specified in the DB2 policy.
- Step 7** Replace the DB2 package name that is specified in the PACKAGE parameter with your package name, or use the default *MBOPAK*.
- Step 8** Replace the value that is specified for the PKLIST parameter with a value that is consistent with the value that you specified on the BIND PACKAGE statement.
- Step 9** Replace the value that is specified for the OWNER parameter on BIND PLAN and BIND PACKAGE statements with the DB2 owner ID that is specified in the DB2 policy.
- Step 10** Replace *?DB2SSID?* with a DB2 subsystem ID or GATT name.

Note: You may continue with the installation without completing this step. However, you will be unable to use Job Optimizer for DB2.
- Step 11** Submit the JCL.

6B. Install Job Optimizer Pipes Support for JES3 Environment

Summary: This task installs Job Optimizer Pipes Support for JES3 Environment. Implementation of Job Optimizer Pipes in an OS/390 JES3 environment requires a modification to the JES3 installation exit, IATUX04. BMC Software provides an SMP/E USERMOD, JOPJUX4, that can be installed using the installation JCL in member JOPJUX4J of data set BMC.BSS.INSTALL.

Before You Begin

To properly build and install the USERMOD, you must obtain the following information:

- OS/390 JES2 CSI data set name—Name of the SMP/E CSI Data Set that contains your OS/390 JES3 installation environment.
- OS/390 Target zone name—Name of the target zone that contains the source, CSECT, and load module information for your OS/390 JES3 installation environment.
- OS/390 JES3 FMID
- OS/390 JES3 Target load library—Name of the library that contains the current executable copy of the IATUX04 load module.
- OS/390 JES3 Target load library volume—Volume serial number of the volume where OS/390 JES3 target load library is located, if it is not cataloged.

JES3 Support Consideration

If you are a current MAINVIEW Batch Optimizer user, you should be aware that the OS/390 JES3 USERMOD implementing the IATUX04 user exit (required to support Job Optimizer Pipes) can only be applied to a single release of the product. The user exit adds support for dynamic pipe setting using Pipe Rules. Determine which Job Optimizer Pipes version should support dynamic pipe setting. If that support should continue to work by the newly installed version, you should upgrade the exit. Otherwise, skip this task. This task will have to be performed when migrating from the existing release to the new release.

Before upgrading this exit to use with the new installed version of MAINVIEW Batch Optimizer, complete the following steps:

1. Restore the exiting MAINVIEW Batch Optimizer SMP/E usermod, JOPJUX4 JES3 exit. To perform this step, edit the MMAINVIEW Batch Optimizer **.INSTALL** suffixed data set of the existing version and select member JOPJUX4R. Modify as needed to adhere to specific site requirements, then submit.
2. Continue with the following steps to install the new exit. To perform this step, edit the MAINVIEW Batch Optimizer **.INSTALL** suffixed data set and select member (JOPJUX4J). Modify as needed to adhere to specific site requirements. Ensure when updating this member, to include the new upgrade installed MAINVIEW Batch Optimizer Job Optimizer Pipes load library where applicable, then submit. For additional information, see the notes below.

Note: If this task is performed, dynamic pipe setting will be performed by the newly installed version only.

Note: If this task is not performed, IVP jobs JOPIVP02 and JOPIVP03 will not function until the migration.

JES3 User Exit Description

Job Optimizer Pipes provides a front end for your JES3 installation exit IATUX04, which is called by the JES3 PRESCAN process. Through this exit, Job Optimizer Pipes analyzes the job structure and performs dynamic pipe setting according to pipe policy rules, then branches to your original IATUX04 exit. For an explanation on how to install a JES3 installation exit and a description of the IATUX04 installation exit, see the IBM *OS/390 JES3 Customization* manual.

JES3 User Exit Processing

The SMP/E USERMOD, JOPJUX4, replaces the current IATUX04 load module with a module that supports Job Optimizer Pipes processing. The exit load module will include module JOPUX04 (a version of IATUX04 designed for Job Optimizer Pipes processing), the current IATUX04 module, and a Job Optimizer Pipes service module. The new IATUX04 exit will have an entry point of JOPUX04 but will branch to the old IATUX04 exit when it completes processing.

JES3 User Exit Implementation

BMC Software installs the exit front end as an SMP/E USERMOD named JOPJUX4, which is installed through installation JCL member JOPJUX4J in data set BMC.BSS.INSTALL. The installation job creates a backup copy of your IATUX04 exit in BMC.JOP.LOAD. Modify the installation job according to the following instructions.

Warning! Do not renumber JCL member JOPJUX4J, or it will corrupt the contents of the JOPJUX4 USERMOD.

Install the JES3 USERMOD

- Step 1** Modify the JOB CARD to conform to your site's standards.
- Step 2** Update the JES3 MAIN card with correct job class information.
- Step 3** Replace SYS1.SIATLIB with the name of your OS/390 JES3 SMP/E target load library. You may also have to provide the volume serial location for the correct data set.
- Step 4** Replace *?OS390.JES3.CSI?* with the name of the CSI that contains your OS/390 JES3 SMP/E target zone data.
- Step 5** Replace *?TZONE?* with the name of your OS/390 JES3 SMP/E target zone.
- Step 6** Replace *?JES3FMID?* with the OS/390 JES3 FMID for your system.
- Step 7** Replace *?SHAREDQUAL?* with a valid high-level qualifier. Ensure that the data set names in the DDDEF statement and the JOPLOAD DD statement match that of the Job Optimizer Pipes load library that is allocated during installation.
- Step 8** Replace *?WORKUNIT?* with a valid unit name that identifies disk devices that are used for temporary storage.
- Step 9** Submit the JCL.

Install the exit on all systems where JES3 Converter/Interpreter (C/I) services are active. If a separate SMP environment exists for each system in the JES complex, modify the job that is used to install the exit to reflect the separate environments and rerun it for each environment.

Note: To activate IATUX04 after modification, you must "Hot Start" JES3.

7. Install the JCL for the BMC Software Subsystems

Summary: This task modifies the JCL to install the following procedures in your MVS PROCLIB. Table 2-8 describes the procedure name, subsystem identifier, and description of the subsystems.

Table 2-8 MVS PROCLIB Procedures, Subsystem IDs, and Descriptions

Procedure Name	Subsystem D	Description
BMCPPROC	BMCP	BMC Primary Subsystem
MBOBCSS	MBOS	MAINVIEW Batch Optimizer Subsystem
MBOXJS	MBOX	Extended Job Execution Subsystem
MBOP	MBOP	Job Optimizer Pipes Subsystem

Before You Begin

When you are installing the JCL for the BMC Software subsystems, you must consider the dispatching priorities at your location. The address spaces which are used for the BMCP and MBOS subsystems should execute at a level that will allow timely initialization and operation. BMC Software recommends that these address spaces use the same dispatching priority as other system tasks, monitors, and subsystems. Preferably, you should use a fixed dispatching priority.

Install the JCL for the BMC Software Subsystems

Step 1 Examine member BMCPPROC of data set BMC.BSS.INSTALL.

- 1.A** If your site requires different naming conventions, alter the SUBSYSID:
- The SUBSYSID must be a four-character ID that uniquely identifies the subsystem to MVS.
 - The first character must be alphabetic or national (#,\$,@). The remaining characters can be alphanumeric or national.

The default is BMCP.

— The SUBSYSID establishes an MVS subsystem identifier.

- 1.B** Use the subsystem ID to issue commands to the subsystem from the MVS console. All messages that are issued by the subsystem have the subsystem ID appended. When BMCP has started, the SUBSYSID cannot be changed without an IPL.
- 1.C** If you are an existing BMC Primary Subsystem users, you should look at the program name of your current BMCP procedure to determine which storage protect key you are using. Then, use that key in your new BMCP procedure. For example, PGM=BPSMDSP4 indicates key 4. If you are a new BMC Primary Subsystem user you can change the storage protect key where the BMCP executes. Change the PGM=BPSMDSPn parameter where *n* is a value from 0 to 7. If you select 0, the BMCP executes in key 8. If you select 1 through 7, the BMCP uses the selected number as the storage protect key.

Note: Verify that the BMCP procedure name and subsystem ID match those provided in the BatchPlex member's (BPLEX00) CTLPROC and CTLSSID control statements.

If required, include an account number through the ACCT parameter on the EXEC statement.

Step 2 Examine member MBOBCSS of data set BMC.BSS.INSTALL.

- 2.A** On the REGISSET DD statement, enter the History data set that is created on page 2-25.
- 2.B** On the BSLPLEX DD statement, add the BatchPlex data set that is created on page 2-27.

Note: Verify that the MAINVIEW Batch Optimizer Subsystem procedure name and subsystem ID match those provided in the BatchPlex member's (BPLEX00) PRFPROC and PRFSSID control statements.

Step 3 Examine member MBOXJS of data set BMC.BSS.INSTALL. Modify the value specified on the SSID parameter, or use the MBOX default value.

Note: Verify that the Extend Job Execution Subsystem procedure name and subsystem ID match those provided in the BatchPlex member's (BPLEX00) INITPROC and INITSSID control statements.

Step 4 Examine member MBOP of data set BMC.BSS.INSTALL.

- On the PROC statement, ensure that the member name that is specified on the PLEX parameter matches the BatchPlex member that is copied to the control data set.
- On the BSLPLEX DD statement, add the BatchPlex data set that is created on page 2-27.

Note: Verify that the MAINVIEW Job Optimizer Pipes subsystem procedure name matches that provided in the BatchPlex member's (BPLEX00) BPSSIDR control statement.

Step 5 Copy the procedures to a PROCLIB.

- Customize the job statement, and execute the JCL.

Note: The JCL to copy these procedures is in member BSSPCOPY of data set BMC.BSS.INSTALL.

- Modify the job card to conform to your site's standards.
- Replace *?SHAREDQUAL?* with a valid high-level qualifier.
- Replace *?WORKUNIT?* with a valid esoteric unit name for temporary DASD storage volumes.
- Change SYS1.PROCLIB to a shared JES procedure library data set. If you select Job Optimizer Pipes with SUB=MSTR, you should place the Job Optimizer Pipes JCL procedure in SYS1.PROCLIB. The other JCL procedures can be copied to any shared JES procedure library.
- Check procedure member names and modify them if necessary.
- If your PROCLIB data set is not shared, repeat step 6 for the PROCLIB of each CPU.

8. Install the MAINVIEW Batch Optimizer ISPF User Interface

Summary: You must select one of the methods described for installing the MAINVIEW Batch Optimizer ISPF user interface. MAINVIEW Batch Optimizer ISPF data sets consist of load modules, panels, messages, tables, and Rexx Execs. The panel, message, table, and Rexx Exec resources are contained in the data sets that are unloaded from the distribution tape. Table 2-9 lists the file type and tape position.

To install the MAINVIEW Batch Optimizer ISPF user interface, complete the following steps:

- Step 1** Table 2-9 contains the data set name, description, and location of all the libraries that contain components of the MAINVIEW Batch Optimizer User Interface. The load modules that are used by the user interface require APF-authorization.

Table 2-9 User Interface Data Sets

Data Set	Contents	Tape File	DDDEF
BMC.SEC.LOAD	BMC Software Security Facility load library	034	SECLOAD
BMC.SEC.ISPPLIB	BMC Software Security Facility ISPF panel library	035	SECPLIB
BMC.SEC.ISPMLIB	BMC Software Security Facility ISPF message library	036	SECMLIB
BMC.SEC.ISPTLIB	BMC Software Security Facility ISPF table library	037	SECTLIB
BMC.BSL.LOAD	Job Optimizer load library	040	BSLLOAD
BMC.JOP.LOAD	Job Optimizer Pipes load library	041	JOPLOAD
BMC.BSS.ISPEXEC	MAINVIEW Batch Optimizer User Interface Rexx Exec library	042	BSSEXEC
BMC.BSS.ISPMLIB	MAINVIEW Batch Optimizer User Interface message library	043	BSSMLIB
BMC.BSS.ISPPLIB	MAINVIEW Batch Optimizer User Interface panel library	044	BSSPLIB
BMC.BSS.ISPTLIB	MAINVIEW Batch Optimizer User Interface table library	045	BSSTLIB

The load modules must be accessible to all individuals who need to access the MAINVIEW Batch Optimizer ISPF user interface. Installing MAINVIEW Batch Optimizer in an APF-authorized MVS linklist data set meets this requirement.

If you did not install the products in an MVS linklist data set, you must make the load module components of the Data Optimizer ISPF dialog available to individuals who require access to the user interface. To do this, you must perform one of the following actions:

- copy the load modules that are listed in Table 2-9 on page 2-40 to a data set that is allocated to a STEPLIB or ISPLLIB DD statement in your TSO logon procedures
- add the BMC.SEC.LOAD, BMC.BSL.LOAD, and BMC.JOP.LOAD data sets to a STEPLIB or ISPLLIB DD statement in your TSO logon procedures

Step 2 Select one of the following three methods for installing the MAINVIEW Batch Optimizer user interface:

Method 1

Copy the MAINVIEW Batch Optimizer ISPF libraries into your site's libraries:

- To copy the MAINVIEW Batch Optimizer ISPF libraries into your existing libraries, edit member BSSICOPY of data set BMC.BSS.INSTALL and customize the job statement.
- Modify the job card to conform to your site's standards.
- Replace *?SHAREDQUAL?* with a valid high-level qualifier.
- Replace *?WORKUNIT?* with a valid esoteric unit name for temporary DASD storage volumes.
- Change YOUR.COMMON.EXEC.LIB to a valid, shared Rexx Exec (SYSEXEC) data set.
- Change YOUR.COMMON.PANEL.LIB to a valid, shared ISPF panel (ISPLLIB) data set.
- Change YOUR.COMMON.MESSAGE.LIB to a valid, shared ISPF message (ISPMLIB) data set.
- Change YOUR.COMMON.TABLE.LIB to a valid, shared ISPF table (ISPTLIB) data set. Supply the appropriate target data set names for the output DD statements.
- Execute BSSICOPY, and verify that the job completes with condition code 0.

Method 2

Use the LIBDEF TSO CLIST:

- The LIBDEF TSO CLIST uses the ISPF LIBDEF service to dynamically allocate the ISPF resource required by the MAINVIEW Batch Optimizer ISPF dialog.
- (optional) To add MAINVIEW Batch Optimizer to the MAINVIEW common menu, ensure that the following PTFs are applied:
 - MAINVIEW PTFs BPA0766 and BPA0767
 - MAINVIEW Batch Optimizer PTF BQ29994
- Customize the sample CLIST in either or both of the follows ways:
 - To add MAINVIEW Batch Optimizer to your site's Primary Option Menu, in member BSSBISPF of data set BMC.BSS.INSTALL, change the data set names to the appropriate MAINVIEW Batch Optimizer ISPF resource data sets. Replace *?SHAREDQUAL?* with a valid high-level qualifier.
 - To add MAINVIEW Batch Optimizer to the MAINVIEW common menu, in member BSSBISP1 of data set BMC.BSS.INSTALL, change 'YOUR.COMMON.EXEC.LIB(BSSBISPF)' to the appropriate library name where you placed BSSBISPF. Then copy BSSBISP1 to the MAINVIEW clist library, BBCLIB.

Method 3

Concatenate ISPF libraries in a CLIST or logon procedure:

- To concatenate the MAINVIEW Batch Optimizer ISPF libraries, modify your CLIST or logon procedure by adding the data sets that are listed in Table 2-9 on page 2-40 to the appropriate ISPF DD statements.
- Depending on your DF/SMS version, allocate the data set with the largest block size first.

Step 3 Add MAINVIEW Batch Optimizer to your site's Primary Option Menu:

- If you chose installation methods 1 or 3, alter your menu as shown in Figure 2-4.
- If you chose installation method 2, alter your menu as shown in Figure 2-5 on page 2-44.

Note: The NEWAPPL(BSSB) parameter is used in the CLIST *and* panel invocation of the MAINVIEW Batch Optimizer ISPF dialog. This parameter lets you customize function keys within the dialog without affecting your regular ISPF function key definitions.

If you did not install the MAINVIEW Batch Optimizer load modules in your MVS linklist, you must ensure that the user interface users have access to data sets BMC.BSL.LOAD, BMC.SEC.LOAD, and BMC.JOP.LOAD through a STEPLIB or ISPLLIB DD statement in your common TSO logon procedures.

Figure 2-4 ISPF/PDF Primary Option Menu (Using Methods 1 and 3)

```

%----- ISPF/PDF PRIMARY OPTION MENU -----
%OPTION ==>_ZCMD                                     +
%
%   M +MBO          - MAINVIEW(r) Batch Optimizer
%   X +EXIT         - Terminate ISPF using log and list defaults
%
+Enter%END+command to terminate ISPF.
)INIT
  /* Normal Initialization processing statements */
)PROC
&ZCMDCHK = TRUNC(&ZCMD, '.')
&PARM = .TRAIL
&ZSEL = TRANS(&ZCMDCHK
              M, 'CMD(%BSSRMN00 &PARM) NOCHECK NEWAPPL(BSSB) '

```

Figure 2-5 ISPF/PDF Primary Option Menu (Using Method 2)

```

%----- ISPF/PDF PRIMARY OPTION MENU -----
%OPTION ==>_ZCMD                                     +
%
%   M +MBO          - MAINVIEW(r) Batch Optimizer
%   X +EXIT         - Terminate ISPF using log and list defaults
%
+Enter%END+command to terminate ISPF.
)INIT
  /* Normal Initialization processing statements */
)PROC
&ZCMDCHK = TRUNC(&ZCMD, '.')
&PARM = .TRAIL
&ZSEL = TRANS(&ZCMDCHK
              M, 'CMD(%BSSBISPF &PARM) '

```

9. Refresh MVS Linklist Lookaside

Summary: Execute this step if you are using the MVS Linklist Lookaside feature.

Step 1 If you are using the MVS Linklist Lookaside (LLA) feature to refresh the MVS linklist lookaside, issue the following command from an MVS console:

```
F LLA,REFRESH
```

This command builds a new copy of the Linklist Lookaside directory in virtual storage. The refresh may take a few minutes to complete.

Note: In a shared DASD environment, issue this command on each CPU that is using the subsystem.

Step 2 Before continuing with the installation process, check the system log for the following message to verify that the command completed successfully:

```
CSV210I LIBRARY LOOKASIDE REFRESHED
```

10. Install IOA (CONTROL-M) Support for Job Optimizer Pipes Integration

Summary: To use the integration between CONTROL-M and MAINVIEW Batch Optimizer, you may be required to apply several PTFs. A complete list of the required PTFs, according to the IOA release, is available on the Web for MAINVIEW Batch Optimizer–Advanced.

Before you Begin

You can download these PTFs from the BMC Software Support page at http://www.bmc.com/support_home. See the information regarding CONTROL-M for OS/390 and z/OS. The PTFs currently available are listed below.

Table 2-10 IOA PTFs for Job Optimizer Pipes Integration

PTF	Version	PTF Included in Maintenance Level
FI06624	5.1.4	0101
FI06636	5.1.4	0102
FL00079	5.1.4	0102
FM01426	5.1.4	0102
FL00080	5.1.4	0102
FL00083	5.1.4	0102
FI06789	5.1.4	0102
PA01696	6.0.00	6.0.03
PA01694	6.0.00	6.0.03
PA01695	6.0.00	6.0.03
PA01727	6.0.00	6.0.03
PA01728	6.0.00	6.0.03
PA01729	6.0.00	6.0.03
PA01726	6.0.00	6.0.03
PA02399	6.0.00	6.0.04
PA02400	6.0.00	6.0.04

Install the IOA Support

To install the support, complete the following steps:

- Step 1** Apply the missing PTFs.
- Step 2** Ensure that the GRPNAME parameter in PIPPRM00 matches the IOA QNAME.
- Step 3** Shut down CONTROL-M and Job Optimizer Pipes, and bring them up again.

11. Start the Subsystems

Summary: Use the commands that you specified to start the BMCP and MBOS. Ensure you run the authorization utility before you start the product.

Note: A password should be applied before you start the subsystem. You should receive a password from BMC Software before you can access the subsystem. For more details about the required password, see “BMC Software Product Authorization” on page 4-1.

Warning! Do not start the subsystem until all zaps are applied. If you have not reviewed the distribution tape notices to check for zaps that may need to be applied, you must do so now.

Start the BMCP, MBOP, MBOS, and MBOX subsystems by entering the following command from an MVS console:

```
S MBOBCSS
```

Note: Issue this command on each CPU that uses the subsystems.

Messages in the BMC10xxx, BMC11xxx, BMC100xxx, BMC101xxx, BMC102xxx, and BMC282xxx series are displayed, concerning the status of the subsystems and MAINVIEW Batch Optimizer.

Table 2-11 lists the subsystem commands that you can use to start, stop, and display the status of the subsystems for MAINVIEW Batch Optimizer. For a complete description of these commands, see the MAINVIEW Batch Optimizer reference manuals.

Note: If you are not using the default values of BMCP, MBOX, MBOS, and MBOP for the subsystems, replace the *bmcp*, *mbos*, or *mbop* in each command with the identifier that is used at your site.

Table 2-11 BMCP, MBOX, MBOS, and MBOP Operator Commands

Subsystem	Command
BMC Software Primary Subsystem (BMCP) Operator Commands	
start the BMCP	START bmcpproc
stop the BMCP	bmcp SHUTDOWN
display BMCP status	bmcp STATUS
cancel the BMCP	CANCEL BMCPPROC
Extended Job Execution Subsystem (MBOX) General Operator Commands	
start the MBOX and the MBOX initiators	mbos BSL XJS STARTUP
provide information about the MBOX and indicates whether the MBOX initiators are active or inactive	mbos BSL XJS STATUS
stop the MBOX initiators on a particular MVS image	mbos BSL XJS QUIESCE
start the MBOX initiators on a particular MVS image	mbos BSL XJS ACTIVATE
stop the MBOX and the MBOX initiators	mbos BSL XJS SHUTDOWN
provide trace information that BMC Software can use to follow the processing of the MBOX	mbos BSL XJS TRACE
MAINVIEW Batch Optimizer Consolidated Subsystem (MBOS) General Operator Commands	
start the MBOS	START MBOBCSS
stop the MBOS	mbos SHUTDOWN
stop the MBOS immediately	mbos SHUTDOWN FORCE
display MBOS status	mbos STATUS
cancel the MBOS	CANCEL mbobcss
Job Optimizer Pipes Subsystem (MBOP) General Operator Commands	
start the MBOP	START mbop,SUB=[JES2, JES3, MSTR]
end the MBOP	F mbop, SHUT TYPE=NORMAL

12. Verify the Installation

Summary: Use this task to verify proper installation of the subsystem components.

If you did not install the load libraries in an MVS Linklist library, perform this verification against the APF-authorized library that you specified in “4. Copy Load Libraries into an APF-Authorized Data Set” on page 2-24.

If you installed the load libraries in an MVS Linklist library, perform this verification against the MVS Linklist library.

Note: You do not need to execute this job if you did not copy the distributed load modules to an APF library in Step 4, and you are using the distribution libraries as STEPLIBS.

To execute this installation check job and modify member BCSCHECK in BMC.BSS.INSTALL, complete the following steps:

Step 1 To run the Installation Check Job, customize and execute the JCL in member BSSCHECK of data set BMC.BSS.INSTALL (modify job card information using your site standards):

- Check the resulting data set names to ensure that they match the names that are used when unloading the distribution tape.
- Change APF.AUTHORIZED.LIBRARY to the name of an APF-authorized data set that contains the load modules that are used by the MAINVIEW Batch Optimizer subsystems.

Note: If you do not know whether such a library exists, change all occurrences of the characters *NOLINK* to **LINK**. This change will cause the CHECK programs to scan your MVS Linklist for occurrences of these modules.

- Change MBOS to the subsystem ID of your current MAINVIEW Batch Optimizer subsystem. If you do not know this information, leave the parameter as it is.

-
- Step 2** Identify source of the compare operations. Supply appropriate names for the distribution libraries unloaded from the tape as follows:
- For the BPSCHK step, replace the data set name on the SYSLIB DD statement with the data set name that is used when unloading the BMC.BPS.LOAD data set (file 31 of the product distribution tape) or that is referenced by the BPSLOAD SMP/E DDDEF.
 - For the BCSCHK step, replace the data set name on the SYSLIB DD statement with the data set name that is used when unloading the BMC.BCS.LOAD data set (file 32 of the product distribution tape) or that is referenced by the BCSLOAD SMP/E DDDEF.
- Step 3** Identify the target of the compare operations.
- Step 4** To enable the program to search for the subsystem load modules, indicate whether the BPS and BCS modules are in a linklist, or identify the data set name where they are located as follows:
- If you did not install the product load modules into a linklist library, you must replace the data set name that is specified on the two MLPA01 DD statements. Use the data set name of the library that contains the product subsystem load modules.
 - If you installed the product load modules into a linklist library, you can comment the two MLPA01 DD statements and change the two instances of the NOLINK parameter to LINK.
- Note:** If you specify the LINK option, both programs will require READ access to all MVS linklist libraries.
- Step 5** Supply the MAINVIEW Batch Optimizer Subsystem ID that you used for this installation. |
- Step 6** Review the return codes and load module cross-reference. See Table 2-5 on page 2-22.

13. Perform Installation Verification

Summary: Run the installation verification procedure (IVP) jobs to determine successful customization of MAINVIEW Batch Optimizer. All IVP jobs should end with condition code 0.

Note: BMC Software recommends that you run these jobs before using MAINVIEW Batch Optimizer in a production environment.

Each IVP tests a particular function in MAINVIEW Batch Optimizer. An IVP writes statistics to its joblog as it runs.

The IVP programs do not test command processing or SMF record creation.

BMC Software provides the IVP jobs on the product distribution tape as members of BMC.BSS.INSTALL.

Before you run the IVP jobs, modify the parameters in the IVP members. Members contain modification instructions in commented prologs.

Modify only those parameters that are identified in the prologs.

Warning! Modifying other parameters may cause a member job to fail.

If you change the job name parameter, be sure the name matches the name specified in the corresponding job or data policy. For more information, refer to “Create the BatchPlex Data Set” on page 2-27.

Table 2-12 lists IVP members and their verification functions.

Table 2-12 MAINVIEW Batch Optimizer IVP Members and Verification Functions (Part 1 of 2)

Member	Member Verification Function
BSSBSPLT	Job Optimizer use of SPLIT action
BSSBREAD	Job Optimizer use of READJTL action
BSSBBYPS	Job Optimizer use of BYPASS action to create comparison groups
BSSBANLZ	Job Optimizer use of ANALYZE action
BSSDPERF	Data Optimizer I/O performance processing
BSADB2VP	Job Optimizer for DB2 verification
BSBIVP01	Job Optimizer for IMS verification
BSBIVP02	Job Optimizer for IMS verification
BSBIVP03	Job Optimizer for IMS verification

Table 2-12 MAINVIEW Batch Optimizer IVP Members and Verification Functions (Part 2 of 2)

Member	Member Verification Function
JOPIVP01	Job Optimizer Pipes uses the SUBSYS JCL parameter to establish a BatchPipes compatible pipe between two jobs
JOPIVP02	Job Optimizer Pipes uses a Pipe policy rule to establish a job-to-job pipe between two jobs

14. Perform Orderly Shutdown of Subsystems

Summary: Perform an orderly shutdown of MAINVIEW Batch Optimizer subsystems.

To perform an orderly shutdown of subsystems, complete the following steps:

Step 1 Enter the command to stop the MAINVIEW Batch Optimizer Consolidated Subsystem:

```
mbos SHUTDOWN
```

This command ends processing of the following items:

- Extended Job Subsystem address space
- Job Optimizer
- Job Optimizer for DB2
- Job Optimizer for IMS
- MAINVIEW Batch Optimizer Subsystem address space

Step 2 Enter the command to stop the Job Optimizer Pipes Subsystem:

```
F mbop,SHUT TYPE=NORMAL
```

This command ends processing of the Job Optimizer Pipes address space.

Step 3 Enter the command to stop the BMC Software Primary Subsystem:

```
bmcp SHUTDOWN
```

The command ends processing of the BMC Software Primary Subsystem address space.

Note: End this subsystem if you previously started it as only part of MAINVIEW Batch Optimizer test.

15. Set Automatic Start of Components for IPL

Summary: Perform this step to start product components after each IPL.

Note: If you are not using the default value MBOBCSS as the procedure name, replace MBOBCSS in the following command with the procedure name used at your site.

To ensure the proper start of product components, include the following command in the COMMND $_{xx}$ member of the SYS1.PARMLIB:

```
S mbobcss
```

For more information about using the COMMND $_{xx}$ member to issue MVS commands, see the *IBM OS/390 MVS Initialization and Tuning Reference*.

Where to Go from Here

To complete the installation process, you can perform the following activities:

Activity	Reference
completed the steps for unloading and installing MAINVIEW Batch Optimizer	Chapter 2, "MAINVIEW Batch Optimizer Installation."
authorizing the CPU ID and need additional information	Chapter 4, "BMC Software Product Authorization."

Chapter 3 **MAINVIEW Batch Optimizer Customization**

This chapter provides information about viewing and modifying BatchPlex definitions and includes information about BatchPlex options. It contains the following sections:

Managing the BatchPlex.....	3-2
BatchPlex Definitions.....	3-2
Editing or Viewing a BatchPlex Definition	3-4
Editing or Viewing BatchPlex Global Options	3-8
Editing or Viewing an MVS Image	3-10
BatchPlex Options	3-12
Information Options.....	3-12
MVS Image Definition Options.....	3-16
BMC Software Primary Subsystem Options	3-17
MAINVIEW Batch Optimizer Subsystem Options.....	3-18
Extended Job Execution Subsystem Options.....	3-20

Managing the BatchPlex

This chapter describes how to view or modify BatchPlex definitions online, including information about the panels and dialog actions that you use to accomplish these tasks.

BatchPlex Definitions

BatchPlex definitions identify the MVS images to which MAINVIEW® Batch Optimizer can direct job steps for processing and on which MAINVIEW Batch Optimizer can provide I/O performance processing. This section describes dialog panels and how you can use them to perform BatchPlex registration tasks.

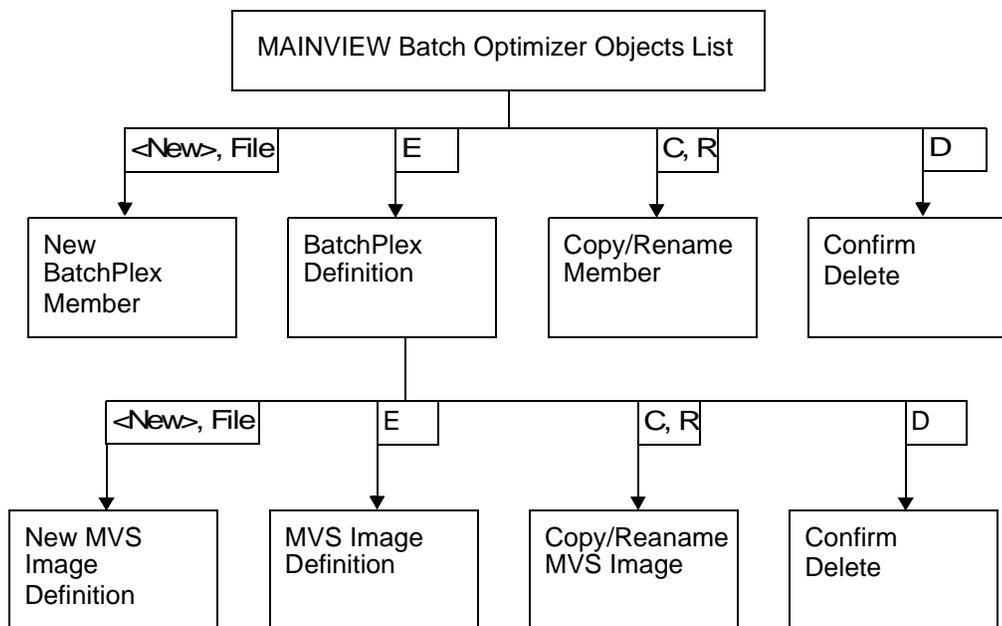
Help is available online for all panels, pop-ups, and fields while registering BatchPlex and policy definitions. For details about obtaining help online, see “About This Book” on page -xv

During MAINVIEW Batch Optimizer customization, your site created a sample BatchPlex definition in the control data set. The panels and pop-ups in this section are based on the sample BatchPlex definition.

The BatchPlex registration task descriptions in this chapter assume that you are familiar with the MAINVIEW Batch Optimizer dialog’s initial panel sequence and basic navigation techniques.

Figure 3-1 shows the basic panel flow for the BatchPlex registration area of the MAINVIEW Batch Optimizer dialog. The panel flow indicates the action code that you type (*E*, *C*, *R*, *D*) or the pull-down option that you select (File, Options) to move from one panel or pop-up to another.

Figure 3-1 BatchPlex Registration—Dialog Panel Flow



For information about BatchPlex and Global Options, see “Editing or Viewing BatchPlex Global Options” on page 3-8.

Editing or Viewing a BatchPlex Definition

You can review or modify the information that is saved for a BatchPlex, including the policy definition pointers, global options, and MVS images that are associated with the BatchPlex.

To edit or view information for a BatchPlex in the control data set, complete the following steps:

Step 1 Access the MAINVIEW Batch Optimizer Objects List panel. |

Step 2 Position the cursor in the action entry field to the left of your choice of BatchPlex. Type **E** (Edit), and press **Enter**.

The BatchPlex Registration dialog displays the BatchPlex Definition panel (see Figure 3-2 on page 3-5), which lists the MVS image definitions in a BatchPlex. The list order is alphabetical by definition name. For each image, the list indicates the associated subsystem IDs and the number of extended job execution subsystem (MBOX) initiators.

The BatchPlex Definition panel also lets you specify or change BatchPlex information, including the names of policies to be activated at BatchPlex initialization for the listed MVS images.

Figure 3-2 is an example of the BatchPlex Definition panel in which several MVS images are listed. |

Figure 3-2 BatchPlex Definition Panel

```

File  View  Applications  Options  Help
-----
                                BatchPlex Definition                Row 1 to 4 of 4
Command ===> _____ SCROLL ===> CSR_

BatchPlex Information
Name . . . . . : BPLEX00                                System: SYSM
Comment . . . . . Mainview BatchPlex_____ Date : 2002/02/11
XCF group name . . . . . BMCXCF_                        Time : 18:36:05
Data policy name . . . . . DATPOL00 +
Job policy name . . . . . JOBPOL00 + UCF member name . UCFPOL00 +
Pipes initialization parms. PIPPRM00 + Pipes subsystem ID . MBOP
Pipes policy list name . . PIPLST00 +

Line commands:
E=Edit C=Copy D=Delete R=Rename

---Subsystems--- Number of
MVS Image BMCP MBOS XJS Initiators Definition Comment Response
.. <New>
.. SYSA BMCP MBOS MBOX 40 Production batch
.. SYSD BMCP MBOS MBOX 40 Production DB2 Image
.. SYSI BMCP MBOS MBOX 40 Production IMS image
.. SYSP BMCP MEMD MBOX 40 Test image
F1=Help F3=Exit F4=Prompt F7=Bkwd F8=Fwd F10=Actions
F12=Cancel

```

To show how MVS image definitions are listed for a BatchPlex, Figure 3-2 includes a table entry for a sample image definition named SYSA. At your site, SYSA would be replaced with the name of an MVS image definition that your system programmer added to the BatchPlex definition.

Step 3 (optional) Position the cursor in an entry field, and type a new value. Blank out any characters that remain from the previously displayed value. Repeat this step for each field that you want to edit.

Step 4 (optional) View a selection list for the policy definition pointers. Position the cursor in the **Job policy**, **Data policy**, or **Pipe policy list name** field and press **F4** (Prompt).

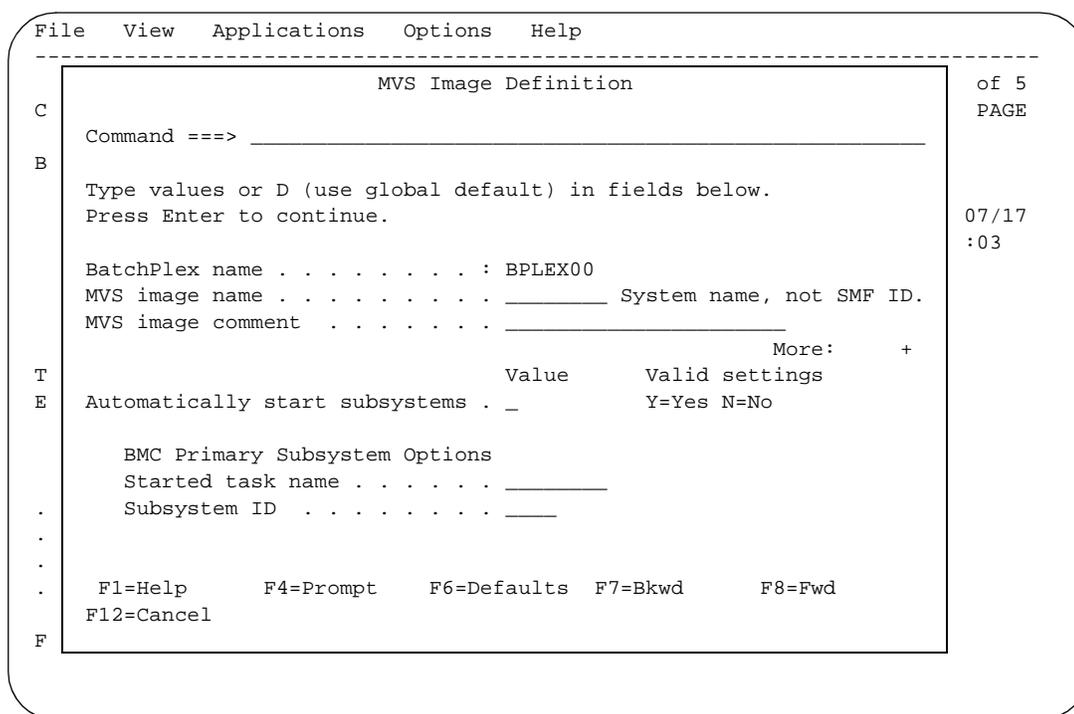
The Policy Members pop-up is displayed, which lists names of policies of the appropriate type (job, data, or pipe policy list) that are saved in the control data set. To select a name from the list, position the cursor to the left of your choice of policy name and press **Enter**. The BatchPlex Definition panel is displayed with your choice of name in the policy definition pointer field.

If you do not want to select a name from the list, press **F12** (Cancel). The BatchPlex Definition panel is displayed.

If you type the name of a policy that is not defined, a Policy Warning pop-up is displayed. Before starting the BatchPlex, you must define a policy with that name.

- Step 5** (optional) Make changes to the global options for the BatchPlex. For details, see “Editing or Viewing BatchPlex Global Options” on page 3-8.
- Step 6** (optional) Make changes to the MVS image definitions in the BatchPlex. For details, see “Editing or Viewing an MVS Image” on page 3-10.
- Step 7** (optional) Make changes to the list of MVS image definitions by performing the following administrative tasks:
 - To add a new MVS image definition, select **1** (New MVS image) from the File pull-down and press **Enter**. The MVS Image Definition pop-up (Figure 3-3) is displayed. Edit the new definition.

Figure 3-3 MVS Image Definition Panel



- To copy an MVS image definition, position the cursor in the action entry field to the left of your choice of MVS image. Type **C** (Copy), and press **Enter**. The Copy MVS Image pop-up is displayed, which lets you specify a name for the new image definition. When you press **Enter** again, the BatchPlex Definition panel is displayed with the message Definition copied. Edit the new definition.
- To rename an MVS image definition, position the cursor in the action entry field to the left of your choice of MVS image. Type **R** (Rename), and press **Enter**. The Rename MVS Image pop-up is displayed, which lets you specify the new image name.

- To delete an MVS image definition, position the cursor in the action entry field to the left of your choice of MVS image. Type **D** (Delete), and press **Enter**. The Confirm Delete pop-up is displayed, which lets you confirm the delete request before the image definition is removed from the BatchPlex.

Step 8 (*optional*) Save your changes by using one of the following methods:

- Select the File pull-down choice **2** (Save BatchPlex). The changed BatchPlex is saved, and the BatchPlex Definition panel is displayed.
- Press **F3** (Exit). The Confirm Exit pop-up is displayed. Type **1** (Save BatchPlex changes to disk and exit), and press **Enter**. The changed BatchPlex is saved, and the MAINVIEW Batch Optimizer Objects List panel is displayed with the changed BatchPlex at the top of the scrollable area. |

Editing or Viewing BatchPlex Global Options

You can review or modify the global option values that are saved for a BatchPlex, including subsystem IDs and the option to start subsystems automatically during BatchPlex initialization.

To edit or view global options for a BatchPlex in the control data set, complete the following steps:

- Step 1** Access the BatchPlex Definition panel (Figure 3-2 on page 3-5). For information about accessing this panel, see “Editing or Viewing a BatchPlex Definition” on page 3-4.
- Step 2** Position the cursor on the action bar Options option, and press **Enter**. The Options pull-down is displayed.
- Step 3** Type **6** (BatchPlex global options), and press **Enter**.

The BatchPlex Global Options pop-up is displayed, which lets you specify or change values that serve as defaults for the MVS image definition fields for each image in the BatchPlex. These values include the started task names and subsystem IDs for the following subsystems:

- MAINVIEW Batch Optimizer subsystem (MBOS)
- BMC Software Primary subsystem (BMCP)
- extended job execution subsystem (MBOX)

The BatchPlex Global Options pop-up also includes an option to start subsystems automatically during BatchPlex initialization, a startup commands member name, and the number of initiators to be used on an image to split batch job steps.

Figure 3-4 is an example of the BatchPlex Global Options pop-up, where the BatchPlex global options are defined. These sample global options were defined during the customization process. If you do not define any MVS images for a BatchPlex or if you leave the field blank on an MVS Image Definition panel, MAINVIEW Batch Optimizer uses the values that you specified on the BatchPlex Global Options pop-up.

Figure 3-4 Batchplex Global Options Pop-Up Panel

```

File  View  Applications  Options  Help
-----
C      BatchPlex Global Options
B      Command ==> _____
      Type values in fields below. Press Enter to continue.
      BatchPlex name . . . . . : BPLEX00
      BatchPlex comment . . . . . : Batch Mgmt System Bple
      More: +
      Automatically start subsystems . Y      Y=Yes, N=No
      BMC Primary Subsystem Options
      Started task name . . . . . BMCPPROC_
      Subsystem ID . . . . . BMCP
      MAINVIEW Batch Optimizer Subsystem Options
      Started task name . . . . . MBOBCSS
      Subsystem ID . . . . . MBOS
      F1=Help  F4=Prompt  F7=Bkwd  F8=Fwd  F12=Cancel
      F1=Help  F3=Exit  F4=Prompt  F7=Bkwd  F8=Fwd  F10=Actions
      F12=Cancel
      Row 1 to 3 of 5
      CROLL ==> PAGE
      tem: SYSP
      ID: SYSP
      e : 2000/07/17
      e : 16:45:38
      m . BP01
      Response
  
```

The BatchPlex Global Options pop-up is scrollable and may include a **More:** field.

- Step 4** (optional) Make changes to an entry field. Position the cursor in the field, and type a new value. Blank out any characters that remain from the previously displayed value. Repeat this step for each field that you want to edit.
- Step 5** (optional) Press **Enter** to retain your changes within the dialog, or press **F12** (Cancel) to discard your changes. The BatchPlex Definition panel is displayed, where you can commit changes to the control data set.
- Step 6** (optional) Commit the changes to the control data set by selecting File pull-down choice 2 (Save BatchPlex). The changed BatchPlex is saved, and the BatchPlex Definition panel is displayed.

Editing or Viewing an MVS Image

You can review or modify the information that is saved for an MVS image, including subsystem IDs and the option to start subsystems automatically during BatchPlex initialization.

To edit or view an MVS image definition in a BatchPlex, complete the following steps:

- Step 1** Access the BatchPlex Definition panel (Figure 3-2 on page 3-5). For information about accessing this panel, see “Editing or Viewing a BatchPlex Definition” on page 3-4.
- Step 2** Position the cursor in the action entry field to the left of your choice of image. Type **E** (Edit), and press **Enter**.

The MVS Image Definition pop-up is displayed, which lets you specify or change values that override the BatchPlex global options for an MVS image. These values include the started task names and subsystem IDs for the following subsystems:

- BMCP
- MBOS
- MBOX

The MVS Image Definition pop-up also includes an option to start subsystems automatically during BatchPlex initialization, a startup commands member name, and the number of initiators to be used on this image to split batch job steps.

Figure 3-5 is an example of the MVS Image Definition pop-up, where the definition indicates that the values of the BatchPlex global options should be used for this MVS image.

Figure 3-5 MVS Image Definition Pop-Up Panel

```

File  View  Applications  Options  Help
-----
                                MVS Image Definition                                of 5
C                                                                                   PAGE
Command ==> _____
B
Type values or D (use global default) in fields below.
Press Enter to continue.                                                                 07/17
                                                                                   :51

BatchPlex name . . . . . : BPLEX00
MVS image name . . . . . : SYSI      System name, not SMF ID.
MVS image comment . . . . . _____

T
E
Value      Valid settings
Automatically start subsystems . _      Y=Yes N=No

BMC Primary Subsystem Options
  Started task name . . . . . _____
  Subsystem ID . . . . . _____

MAINVIEW Batch Optimizer Subsystem Options
  F1=Help      F4=Prompt      F6=Defaults      F7=Bkwd      F8=Fwd
  F12=Cancel
ons
F

```

The MVS Image Definition pop-up is scrollable and may include a **More:** field.

- Step 1** (optional) Make changes to an entry field. Position the cursor in the field, and type a new value. Blank out any characters that remain from the previously displayed value. Repeat this step for each field that you want to edit.
- Step 2** (optional) Press **Enter** to retain your changes within the dialog, or press **F12** (Cancel) to discard your changes. The BatchPlex Definition panel is displayed, where you can commit changes to the control data set.
- Step 3** (optional) Commit the changes to the control data set by selecting File pull-down choice 2 (Save BatchPlex). The changed BatchPlex is changed, and the BatchPlex Definition panel is displayed.

BatchPlex Options

BatchPlex options include Information options, MVS Image Definition options, BMCP options, MBOS options, and MBOX options.

Information Options

BatchPlex Information options include the following definitions, activations, and uses for the BatchPlex:

- XCF group name to define for the BatchPlex
- policy members to activate for the BatchPlex
- Job Optimizer Pipes parameters

XCF group name Option

This option identifies the name of a group connection to the cross-system coupling facility (XCF). Job Optimizer uses XCF features to locate and connect to other instances of itself within a BatchPlex. Job Optimizer requires an XCF group name to split job steps.

Values: This option has values that

- are one to seven characters
- consist of numbers or letters in the alphabet or the national characters

Default: BSSXGRP

Policy Keyword: XCFGROUP={seven character name}

Job policy name Option

With this option, you can specify the default Job policy for this BatchPlex definition. The Job policy definition that is specified here is activated when the MBOS is started.

Values: This option has values that are one to eight characters.

The MAINVIEW Batch Optimizer dialog applies member naming conventions when creating control data set members. For the BatchPlex member, the dialog uses BPLEX as a prefix and lets you specify only a two-character suffix for the member name. The same rule applies to Job policies (prefix JOBPOL).

Default: JOBPOL00

Policy Keyword: JOBPOLICY=

Data policy name Option

With this option, you can specify the default Data policy for this BatchPlex definition. The Data policy definition that is specified here is activated when the MBOS is started.

Values: This option has values that are one to eight characters.

The MAINVIEW Batch Optimizer dialog applies member naming conventions when creating control data set members. For the BatchPlex member, the dialog uses BPLEX as a prefix and lets you specify only a two-character suffix for the member name. The same rule applies to Data policies (prefix DATPOL).

Default: DATPOL00

Policy Keyword: DATAPOLICY=

Pipe initialization parms Option

With this option, you can specify the Job Optimizer Pipes initialization parameters for this BatchPlex definition. The parameter member that is specified is used when the Job Optimizer Pipes address space is started.

Values: This option has values that are one to eight characters.

The MAINVIEW Batch Optimizer dialog applies member naming conventions when creating control data set members. For the Pipes parameter member, the dialog uses PIPPRM as a prefix and lets you specify only a two-character suffix for the member name.

Default: PIPPRM00

Policy Keyword: PIPEPARMS=

Pipes policy list name Option

With this option, you can specify the Job Optimizer Pipes Policy List member for this BatchPlex definition. The Pipe Policy List member that is specified is used when the Job Optimizer Pipes address space is started.

Values: This option has values that are one to eight characters.

The MAINVIEW Batch Optimizer dialog applies member naming conventions when creating control data set members. For the Pipes policy list member, the dialog uses PIPLST as a prefix and lets you specify only a two-character suffix for the member name.

Default: PIPLST00

Policy Keyword: PIPEPLIST=

UCF member name Option

With this option, you can specify the default UCF policy for this BatchPlex definition. The UCF policy definition that is specified here is activated when the MBOS is started.

Values: This option has values that are one to eight characters.

The MAINVIEW Batch Optimizer dialog applies member naming conventions when creating control data set members. For the BatchPlex member, the dialog uses BPLEX as a prefix and lets you specify only a two-character suffix for the member name. The same rule applies to UCF policies (prefix UCFPOL).

Default: UCFPOL00

Policy Keyword: UCFPOLICY=

Pipe subsystem ID Option

This option contains the subsystem ID of the Job Optimizer Pipes component of MAINVIEW Batch Optimizer.

Job Optimizer Pipes provides data piping functionality, for concurrent execution of batch jobs and steps.

Values: This option has values that

- are one to four characters
- consist of numbers or letters in the alphabet
- begin with a letter
- do not conflict with any other subsystem names that are used in the same system

Default: none

Policy Keyword: BPSSIDR={any valid MVS subsystem name}

MVS Image Definition Options

MVS image definition options identify image-specific overrides to the BatchPlex global options. You can specify or change values that override the BatchPlex global options for an MVS image. These values include the started task names and subsystem IDs for the following subsystems:

- BMCP
- MBOS
- MBOX

The MVS Image Definition includes an option to start subsystems automatically during BatchPlex initialization, a startup commands member name, and the number of initiators to be used on this image to split batch job steps.

MVS image name Option

The MVS image name is that of the image you want to define to the BatchPlex. For the **Name** field, use the value specified in the `SYSNAME` parameter of your `IEASYSnn SYS1.PARMLIB` member (not the SMF ID name).

Default: none

Policy Keyword: `MVSIMAGE={any valid MVS system name}`

Automatically start subsystems Option

With this option, you can specify whether the MAINVIEW Batch Optimizer subsystems should be started automatically on the MVS images that are registered for a BatchPlex. The following values for the option are valid:

- **Y** – During initialization of a BatchPlex on an MVS image, ensure that the MAINVIEW Batch Optimizer subsystems are also started on other MVS images that are associated with the BatchPlex.
- **N** – Do not automatically start the MAINVIEW Batch Optimizer subsystems on the indicated MVS image (or on any image, if this is the global option value). BatchPlex initialization on the image requires that you issue the MVS START command manually for the MAINVIEW Batch Optimizer subsystem.

Default: N

Policy Keyword: AUTOSTART={Y|N}

BMC Software Primary Subsystem Options

The BMC Software Primary Subsystem options define the started task procedure name and the subsystem ID for this subsystem. When MAINVIEW Batch Optimizer is defined at the global level, it uses these values for each MVS image that initiates by using this BatchPlex definition. When MAINVIEW Batch Optimizer is defined at the MVS image level, it uses these values only when the name of the system initiating the subsystem matches the MVS image name.

Started task name Option

With this option, specify the JCL procedure (PROC) name of the BMCP. MAINVIEW Batch Optimizer uses this name to start the BMCP address space.

Default: BMCPPROC

Policy Keyword: CTLPROC={any valid member name}

Subsystem ID Option

With this option, specify the BMC Software Primary Subsystem ID. The BMC Software Primary Subsystem provides the SVC intercept services necessary for MAINVIEW Batch Optimizer to perform Job and Data optimization processing.

Values: This option has values that follow these conventions:

- are one to four characters
- consist of numbers or letters in the alphabet
- begin with a letter
- do not conflict with any other subsystem names used in the same system

Default: BMCP

Policy Keyword: CTLSSID={any valid MVS subsystem ID name}

MAINVIEW Batch Optimizer Subsystem Options

The MAINVIEW Batch Optimizer Subsystem options define the started task procedure name, the subsystem ID, the Commands member name, and the maximum data space size for this subsystem. When MAINVIEW Batch Optimizer is defined at the global level, it uses these values for each MVS image that initiates by using this BatchPlex definition. When MAINVIEW Batch Optimizer is defined at the MVS image level, it uses these values only when the name of the system initiating the subsystem matches the MVS image name.

Started task name Option

With this option, specify the JCL PROC name of the MAINVIEW Batch Optimizer subsystem. MAINVIEW Batch Optimizer uses this name to start the MAINVIEW Batch Optimizer subsystem address space.

Default: MBOBCSS

Policy Keyword: PRFPROC={any valid member name}

Subsystem ID Option

With this option, specify the MAINVIEW Batch Optimizer subsystem ID. The MAINVIEW Batch Optimizer subsystem provides the MAINVIEW Batch Optimizer command processing environment, history data set management, and various other services required by Job and Data optimization processing.

Values: This option has values that

- are one to four characters
- consist of numbers or letters in the alphabet
- begin with a letter
- do not conflict with any other subsystem names used in the same system

Default: MBOS

Policy Keyword: PRFSSID={any valid MVS subsystem ID name}

Commands member name Option

With this option, specify the name of a control data set member that contains initialization commands for the MAINVIEW Batch Optimizer subsystem. Valid names follow the naming conventions for partitioned data set (PDS) members.

The MAINVIEW Batch Optimizer subsystem issues the commands contained in the indicated commands member after subsystem initialization is complete.

Default: BCSCMD00

Policy Keyword: COMMANDS=

Maximum data space size Option

This option lets you control the size of the data space created by MAINVIEW Batch Optimizer. Valid numeric values are in the range 64 to 2000. The value that you provide determines the maximum size of the data space in megabytes.

Default: 128

Policy Keyword: MAXDSPACE={64-2000}

Extended Job Execution Subsystem Options

Extended Job Execution options define the started task procedure name, the subsystem ID, and the maximum number of extended job execution subsystem initiators. When MAINVIEW Batch Optimizer is defined at the global level, it uses these values for each MVS image that initiates using this BatchPlex definition. When MAINVIEW Batch Optimizer is defined at the MVS image level, it uses these values only when the name of the system initiating the subsystem matches the MVS image name.

Started task name Option

With this option, specify the JCL PROC name of the MAINVIEW Batch Optimizer Extended Job Execution subsystem. This name is used to start the extended job execution address space and the job step initiators.

Default: MBOXJS

Policy Keyword: INITPROC={any valid member name}

Subsystem ID Option

With this option, specify the subsystem ID of the Extended Job Execution subsystem. The specified value should

- be one to four characters
- consist of numbers or letters in the alphabet
- begins with a letter
- not conflict with any other subsystem names used in the same system

Default: MBOX

Policy Keyword: INITSSID={any valid MVS subsystem ID name}

Number of Initiators Option

With this option, specify the number of job step initiators that Job Optimizer starts on an MVS image in an active BatchPlex.

For this option, specify a value greater than or equal to zero (0) and less than or equal to 40.

Default: 20

Policy Keyword: MAXINIT = {0-40}

Values, Defaults, and Keywords

Table 3-1 lists values, defaults, and keywords for each BatchPlex option.

Table 3-1 Option Values, Defaults, and Keywords (Part 1 of 2)

ISPF Dialog Field Name	Values	Default	Policy Keyword
BatchPlex Information Options			
XCF group name	1- to-7 character name	BSSXGRP	XCFGROUP=
Job policy name	1- to-8 character name ¹	JOBPOL00	JOBPOLICY=
Data policy name	1- to-8 character name ¹	DATPOL00	DATAPOLICY=
Pipe initialization parms option	1- to 8-character name ¹	PIPPRM00	PIPEPARMS=
Pipe policy list name	1- to 8-character name ¹	PIPLST00	PELIST=
UCF member name	1- to 8-character name ¹	UCFPOL00	UCFPOLICY=
Pipe subsystem ID	1- to 4-character MVS subsystem ID	none	BPSSIDR=
MVS Image Definition Options			
MVS image name	1- to 8-character MVS system name	none	MVSIMAGE=
Automatically start subsystems	Y	N	AUTOSTART=Y
	N		AUTOSTART=N
BMC Software Primary Subsystem Options			
Started task name	1- to 8-character member name	MBOBCSS	CTLPROC=
Subsystem ID	1- to 4-character MVS subsystem ID	BMCP	CTLSSID=
MAINVIEW Batch Optimizer Subsystem Options			
Started task name	1- to 8-character member name	MBOBCSS	PRFPROC=
Subsystem ID	1- to 4-character MVS subsystem ID	MBOS	PRFSSID=
Commands member name	1- to 8-character member name ¹	BCSCMD00	COMMANDS=
Maximum data space size	numeric value between 64 and 2000	128	MAXDSPACE=

Table 3-1 Option Values, Defaults, and Keywords (Part 2 of 2)

ISPF Dialog Field Name	Values	Default	Policy Keyword
Extended Job Execution Subsystem Options			
Started task name	1- to 8-character member name	MBOXJS	INITPROC=
Subsystem ID	1- to 4-character MVS subsystem ID	MBOX	INITSSID=
Number of initiators	numeric value between 0 and 40	40	MAXINIT=

¹ The MAINVIEW Batch Optimizer dialog applies member naming conventions when creating control data set members. For the BatchPlex member, the dialog uses BPLEX as a prefix and specifies only a two-character suffix for the member name. The same rule applies to UCF policies (prefix UCFPOL), Job policies (prefix JOBPOL), Data policies (prefix DATPOL), Pipe initialization parameters (prefix PIPPRM), Pipe policy list (prefix PIPLST), and Pipe policy table (PIPPOL).

Chapter 4 BMC Software Product Authorization

This chapter explains how to perform product authorization. It contains the following sections:

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Overview

When the Contracts Administration department of BMC Software processes a license agreement for a product, it issues *CPU authorization passwords*. These passwords authorize specific CPUs (also referred to as processors) to run the licensed product. Because BMC Software licenses its products for use on individual CPUs, the passwords are product-specific and CPU-specific (one license per product per CPU). To delete or replace an authorized CPU, you must also have a password.

The types of passwords are as follows:

- Temporary passwords are issued for product trials or in other special circumstances (for example, when a hardware failure prevents you from using the authorized CPU).
- Permanent passwords are issued when you convert to a permanent license, delete or replace a CPU, or modify the properties of a CPU or the product-authorization tables.

You use the BMC Software Product Authorization utility to apply passwords and to change your CPU configuration. |

Note: You do not need to apply passwords or update CPU authorization when you install product maintenance or version upgrades. |

Passwords are processed in a batch interface that uses a job supplied on the product distribution tape.

This chapter describes the process that you use to apply passwords and to reconfigure your CPU, permanently or temporarily. If you have additional authorization questions or concerns about the Product Authorization utility, contact your BMC Software sales representative. |

Product-Authorization Tables

When you apply passwords, the BMC Software Product Authorization utility builds or updates the following kinds of product-authorization tables. The utility uses passwords to create entries in the tables that define the authorization for the product and to validate software licenses.

- The Product Authorization utility builds or updates a permanent product-authorization table when you install or apply a permanent password. The permanent table controls which CPUs are licensed to run the product, based on the serial number, the model number, and the submodel number of the unit.
- The Product Authorization utility builds or updates a temporary product-authorization table when you apply a temporary password.

For more information about permanent and temporary password, see “Product Authorization Passwords” on page 4-4.

Product-authorization tables are product-specific and are identified by the three-character product code, as in the following examples (where the variable *prd* is the three-character product code):

*prd*TBL3P (permanent)

*prd*TBL3T (temporary)

Product-Authorization Table Installation

Do not install the Product Authorization tables into load modules that are Partition Dataset - Extended (PDS/E). PDS/E files cannot contain load modules and data type objects together in the same file. The Product Authorization table is a data file, normally stored in the product loadlib.

Installing Product Authorization tables into load module PDS/Es will cause a failure when attempting to apply the password to the product library.

The error message is as follows:

```
13.10.20 JOB05439 IEC036I
002-CC, IGC0005E, RDACAL2S, SECSEC3B, SYSLIB, 582B, DEVS97,
13.10.21 JOB05439 IEA995I SYMPTOM DUMP OUTPUT
SYSTEM COMPLETION CODE=002 REASON CODE=000000CC
```

This problem will be corrected in a future version of the Product Authorization utility; however, the problem can be circumvented by specifying a different library to contain the product authorization tables. You should allocate a separate PDS or PDS/E for the authorization table and specify this PDS or PDS/E when installing the password.

If you have questions about the problem or the work-around, contact your BMC Software Product Authorization technical support analyst at 800 537 1813 (USA or Canada) or call your local support center.

Product Authorization Passwords

Valid passwords can include the following characters:

- alphanumeric character set, excluding the letters *I* and *O*—to avoid confusion with the numbers one (1) and zero (0)
- equal sign (=), “at” sign (@), and plus sign (+)

Note: If your keyboard does not have the “at” sign (@), you can use the asterisk (*) in place of @. You can use these two characters (@ and *) interchangeably when typing passwords.

Permanent Passwords

Permanent passwords update a product’s permanent authorization table. Each permanent password has one of the functions described in Table 4-1. When you apply a permanent password, the Product Authorization utility automatically recognizes that password’s function and prompts you accordingly.

Table 4-1 Permanent Password Functions

Function	Description
Add	authorizes one new CPU to run the product
Delete	removes one CPU from the table, preventing that CPU from running the product
Replace	replaces one CPU in the table with another CPU, allowing the new CPU to run the product in place of the old CPU
Modify	modifies one or more properties of one CPU that currently exists in the product-authorization table
Reset	modifies the global properties of the product-authorization tables

Temporary Passwords

BMC Software issues temporary passwords to customers who are evaluating products on a trial basis or to customers who need to bypass product authorization to run a product temporarily on an unlicensed CPU. Temporary passwords have a specific expiration date, which is part of the password.

How to Apply Passwords

A password is an activation key for the software license; the password is not the software license. Apply your new passwords as soon as possible after you receive them because permanent passwords have a limited lifespan—typically 30 days.

You can apply the new passwords before you completely install the product, if you have installed the Product Authorization utility and have downloaded the product load library. Also, you can apply the passwords even if the product is not yet running on a specific CPU. For example, if your installation process requires that you install and run the product on a test system before migrating it to the production system, you can apply the password for the production system's CPU, even though the product is not yet running there.

How Products Are Licensed

You must use the Product Authorization utility in the following situations:

- for product trials and permanent licensing
- when upgrading to a new CPU
- when an authorized CPU fails

Note: Although you do not need the Product Authorization utility for product maintenance and version upgrades, you must consider certain issues. See “Product Maintenance or Version Upgrades” on page 4-8.

Product Trials and Permanent Licensing

During a trial period for a BMC Software product, you can install and use the product on any CPU by using a temporary password obtained from your BMC Software sales representative. When you finish the trial and you want to obtain a product license, the following rules apply:

- You must purchase a product license for each CPU on which you will run the product.
- BMC Software Contracts Administration issues a permanent password for each combination of CPU and licensed product.
- To enable a product on a CPU, you must add the permanent password issued for that CPU. You do *not* need to reinstall and retest the product.
- You can install multiple passwords in the same product library. This capability lets you use the same load library to run a product on multiple CPUs or to install a product at a central site and run it at remote sites.

CPU Upgrades

When you upgrade to a new CPU, *you must obtain a new permanent password for each product you want to use on that CPU*. When you install the new password, the old entry in the authorization table for the product is replaced. The new table entry defines the authorization for the product.

CPU Failures

If a hardware failure or a disaster-recovery situation prevents use of a licensed CPU, BMC Software can provide a temporary license that lets the product run on a backup CPU for a limited time. Before the temporary license expires, you must acquire a permanent license for the new CPU or you must resume using the original CPU. At the end of the grace period, you will no longer be able to run the affected product on the temporary CPU. If this situation occurs, you must obtain a new password to reset the grace period.

Updating Product-Authorization Tables

To trigger the grace period, the license validation process must update the authorization tables. If the product load library must be WRITE-protected, problems could occur with updates. To avoid problems, you can place the authorization tables in another data set and concatenate that data set to the product load library.

The concatenated authorization-table library should have the same DCB attributes as the product's load library. (The RECFM for the table library must be *U*.) If you have several BMC Software products, you might want to dedicate one library that includes all authorization tables for all products.

Before updating the library that contains the authorization tables, the license validation process determines whether the data set is in LNKLST. If in LNKLST, the license validation process will not attempt an update.

Running a Product on an Unlicensed Processor

When you run a product on an unlicensed processor, a 15-calendar-day grace period can be triggered. When this grace period expires, the product will not run or will run with diminished functionality.

Note: The product will continue to function normally when run on a licensed CPU, even if the grace period has been triggered or has expired.

To prevent this situation, you should obtain a RESET password from BMC Software Contracts Administration. To avoid problems, apply the RESET password before the grace period ends. The RESET password updates the product-authorization table and makes another 15-calendar-day grace period available.

When the grace period is triggered, the Product Authorization utility and the affected product issue a message advising you of the expiration date. |

Product Maintenance or Version Upgrades

Installing a new maintenance level or upgrading the version or release level of a product has no effect on product authorization. No new passwords are required; however, you must ensure that your authorization tables reside in the new production libraries. If you install products in a test environment before moving them to production, the product-authorization tables must also reside in the test libraries. If you try to run the product on a different CPU, that CPU must also be licensed. Copy the product-authorization tables from the “old” library to the “new” library that contains the product’s new maintenance or upgrade.

Although the product-authorization tables typically reside in the product's load library, these tables are not load modules. If you are running ISPF 4.2 or later, you might not be able to copy these tables by using the ISPF Move/Copy utility (option 3.3). You could receive a STOW error, or one or more of the following error messages:

```
IEW2515W 4731 DIRECTORY ENTRY FOR prdTBL3n IDENTIFIED BY
DDNAME ISPddname IS NOT MARKED AS LOAD MODULE.
```

```
IEW2522E 470E MEMBER prdTBL3n IDENTIFIED BY DDNAME
ISPddname... IS NOT A LOAD MODULE- (INVALID RECORD TYPE).
```

```
IEW2307S 1032 CURRENT INPUT MODULE NOT INCLUDED BECAUSE
OF INVALID DATA.
```

```
COPY FAILED FOR MEMBER prdTBL3n. FAILURE IN IEWBIND
INCLUDE, RETURN CODE 8 REASON CODE 83000507
```

In these messages, the variable *prd* is the three-character product code and *n* is either P (permanent) or T (temporary). See “Product-Authorization Tables” on page 4-3 for more information.

If you receive any of these messages, use the IEBCOPY utility to copy the tables. Do not use the IEBCOPY COPYMOD parameter when copying the product-authorization tables.

How to Obtain Passwords

Table 4-2 describes the situations in which you need to obtain passwords. For each scenario, the table indicates the type of password that you need (temporary or permanent), what the password does, and how to obtain it.

Table 4-2 Password Scenarios

Scenario	Password Type	Password Function	How to Obtain
You want to begin a free trial period.	temporary	temporarily bypasses authorization checking and lets you run the product on any CPU for a limited time	BMC Software sales representative
You purchase a license for a new product.	permanent	adds a designated CPU to the list of CPUs authorized to run a licensed product	BMC Software Contracts Administration (which issues a password after processing the license agreement)
You stop using an authorized CPU.	permanent	removes a designated CPU from the list of CPUs authorized to run a licensed product	BMC Software sales representative or Contracts Administration
You upgrade to a new CPU.	permanent	authorizes the transfer of a license from one CPU to another	BMC Software sales representative or Contracts Administration
You want to run the product on an additional CPU.	permanent	adds a designated CPU to the list of CPUs authorized to run a licensed product	BMC Software Contracts Administration (which issues a password after processing the license agreement)
The authorized CPU is not available because of an emergency (such as hardware failure).	temporary	temporarily bypasses authorization checking and lets you run the product on any CPU for a limited time	BMC Software sales representative, Contracts Administration, or Product Support
The grace period has been triggered and needs to be reset.	permanent	resets the grace period	BMC Software sales representative or Contracts Administration

CPU Information

When you request a permanent product license from BMC Software, you must furnish information about the affected CPUs. For each product that you want to license, use the work sheet in Table 4-3 to record the CPU information and the passwords that you receive from BMC Software. CPU information is not needed for temporary passwords.

Table 4-3 Product Authorization Work Sheet

CPU Serial	CPU Type	Version Code	CPU Model	No. of CPUs	Permanent Password
_____	_____	____	_____	____	_____ , _____ , _____ , _____
_____	_____	____	_____	____	_____ , _____ , _____ , _____
_____	_____	____	_____	____	_____ , _____ , _____ , _____
_____	_____	____	_____	____	_____ , _____ , _____ , _____
_____	_____	____	_____	____	_____ , _____ , _____ , _____
_____	_____	____	_____	____	_____ , _____ , _____ , _____

For example, you would list a 9X2 with three processors and a CPU ID of 10309-9021-DA as follows:

CPU Serial	CPU Type	Version Code	CPU Model	No. of CPUs	Permanent Password
10309	9021	DA	9X2	3	123,456,789,ABC

For information about determining your CPU ID, use the LIST option of “Batch Product Authorization” on page 4-11.

Batch Product Authorization

This section describes the batch interface used for product authorization.

Using the batch interface, you can perform the following tasks:

- process a password
- obtain current product authorization and processor information

Running Batch Product Authorization

Figure 4-1 is a sample JCL script for running batch product authorization. See the section, “Control Statements and Keywords” on page 4-12 for descriptions of the information in the JCL script. The BSSSECUP member in data set BMC.BSS.INSTALL contains a sample of this job.

Figure 4-1 Sample JCL for Running Batch Product Authorization

```
//JJJJJJJJ JOB .....
//*
//SECSEC3B EXEC PGM=SECSEC3B,PARM='ppp' <<<==== PRODUCT CODE
//STEPLIB DD DSN=BMC.PRODUCT.LOAD,DISP=SHR
//*
//SYSLIB DD DSN=BMC.PRODUCT.LOAD,DISP=SHR <<==== REQUIRED
//SYSPRINT DD SYSOUT=* <<<==== REQUIRED
//*
//SYSIN DD *
**** PROCESS AN ADD PASSWORD AND LIST RESULTS ****
PSWD=AE@,82G,91#,C7$ NEWCPUID=11111-9021
**** PROCESS A DELETE PASSWORD AND LIST RESULTS ****
PSWD=BE@,AD0,32$,7C# OLDCPUID=31091-9121
**** PROCESS A REPLACE PASSWORD AND LIST RESULTS ****
PSWD=ARF,56C,##1,C7$ OLDCPUID=31001-3390 NEWCPUID=31091-3381
**** PROCESS A RESET PASSWORD
PSWD=123,456,789,ABC
**** PROCESS A TEMPORARY PASSWORD AND LIST RESULTS ****
PSWD=AE@,B32,#1C,D7#
**** REPORT THE PROCESSOR INFORMATION AND AUTHORIZATION ****
LIST
```

Additional Information

Information required for the JCL script are as follows:

JOB Varies, depending on your system.

EXEC Identifies the program (SECSEC3B) and passes the product code in the PARM field. Replace *ppp* with the three-character product code.

STEPLIB DD
Identifies the load library in which SECSEC3B resides. (This is optional if SECSEC3B resides in LINKLIST or is specified in JOBLIB.)

SYSLIB DD
Identifies the product load library. Product-authorization tables are stored and updated in this data set.

SYSPRINT DD
Enables the product to issue messages and output from the LIST control statement.

SYSIN DD
Identifies the location of the control statements that define the actions the program is to take. For a description of these control statements, see “Control Statements and Keywords.”

Control Statements and Keywords

Some tasks require different input parameters depending on the type of password you are installing. The sample JCL shown in Figure 4-1 on page 4-11 shows various tasks that you can perform by using the batch version of product authorization. You need to modify the JCL to include only the tasks that you want to perform.

The following syntax rules apply to the control statements:

- Control statements can begin in any column.
- Uppercase letters are required.
- You must insert at least one blank space between individual keywords and data fields. Multiple blanks are acceptable.
- To insert comments, type an asterisk (*) in column 1 of each line that contains the comment. Comments following keywords are not allowed.

- You cannot specify the LIST keyword on the same line as PSWD, NEWCPUID, and OLDCPUID.

Table 4-4 describes the control statement keywords.

Table 4-4 Control Statement Keywords

Keyword	Data	Explanation
PSWD	12-character password formatted as four fields of three characters each, separated by either a comma or a blank (see sample JCL) Twelve continuous characters are also acceptable.	Valid characters are alphanumeric (excluding letters I and O. Valid special characters are =, +, and @. You can substitute the asterisk (*) for the "at" sign (@) when @ is not available on the keyboard.
NEWCPUID	five-digit serial number, followed by a hyphen and a four-digit model number	The serial number and model number must be hexadecimal characters separated by a single hyphen.
OLDCPUID	five-digit serial number, followed by a hyphen and a four-digit model number	The serial number and model number must be hexadecimal characters separated by a single hyphen.
LIST	not applicable	A report prints showing the contents of the product-authorization tables and information about the processor on which the job ran.

Return Codes

You can receive any of the following return codes:

- 0 All requests completed successfully. See the SYSPRINT output for messages about each operation.
- 4 A LIST was requested, but there were no tables in the load library.
- 8 An error prevented completion of all of your requests. See the SYSPRINT output for messages about the error and any completed operations.

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ARBITRATION. ANY DISPUTE BETWEEN YOU AND BMC ARISING OUT OF THIS AGREEMENT OR THE BREACH OR ALLEGED BREACH, SHALL BE DETERMINED BY BINDING ARBITRATION CONDUCTED IN ENGLISH. IF THE DISPUTE IS INITIATED IN THE AMERICAS REGION, THE ARBITRATION SHALL BE HELD IN NEW YORK, U.S.A., UNDER THE CURRENT COMMERCIAL OR INTERNATIONAL, AS APPLICABLE, RULES OF THE AMERICAN ARBITRATION ASSOCIATION. IF THE DISPUTE IS INITIATED IN A COUNTRY IN THE ASIA PACIFIC REGION, THE ARBITRATION SHALL BE HELD IN SINGAPORE, SINGAPORE UNDER THE CURRENT UNCITRAL ARBITRATION RULES. IF THE DISPUTE IS INITIATED IN A COUNTRY OUTSIDE OF THE AMERICAS REGION OR ASIA PACIFIC REGION, THE ARBITRATION SHALL BE HELD IN AMSTERDAM, NETHERLANDS UNDER THE CURRENT UNCITRAL ARBITRATION RULES. THE COSTS OF THE ARBITRATION SHALL BE BORNE EQUALLY PENDING THE ARBITRATOR’S AWARD. THE AWARD RENDERED SHALL BE FINAL AND BINDING UPON THE PARTIES AND SHALL NOT BE SUBJECT TO APPEAL TO ANY COURT, AND MAY BE ENFORCED IN ANY COURT OF COMPETENT JURISDICTION. NOTHING IN THIS AGREEMENT SHALL BE DEEMED AS PREVENTING EITHER PARTY FROM SEEKING INJUNCTIVE RELIEF FROM ANY COURT HAVING JURISDICTION OVER THE PARTIES AND THE SUBJECT MATTER OF

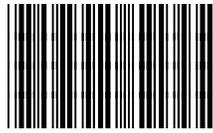
THE DISPUTE AS NECESSARY TO PROTECT EITHER PARTY'S CONFIDENTIAL INFORMATION, OWNERSHIP, OR ANY OTHER PROPRIETARY RIGHTS. ALL ARBITRATION PROCEEDINGS SHALL BE CONDUCTED IN CONFIDENCE, AND THE PARTY PREVAILING IN ARBITRATION SHALL BE ENTITLED TO RECOVER ITS REASONABLE ATTORNEYS' FEES AND NECESSARY COSTS INCURRED RELATED THERETO FROM THE OTHER PARTY.

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MISCELLANEOUS TERMS. You agree to pay BMC all amounts owed no later than 30 days from the date of the applicable invoice, unless otherwise provided on the order for the License to the Products. You will pay, or reimburse BMC, for taxes of any kind, including sales, use, duty, tariffs, customs, withholding, property, value-added (VAT), and other similar federal, state or local taxes (other than taxes based on BMC's net income) imposed in connection with the Product and/or the Support. This Agreement constitutes the entire agreement between You and BMC and supersedes any prior or contemporaneous negotiations or agreements, whether oral, written or displayed electronically, concerning the Product and related subject matter. No modification or waiver of any provision hereof will be effective unless made in a writing signed by both BMC and You. You may not assign or transfer this Agreement or a License to a third party without BMC's prior written consent. Should any provision of this Agreement be invalid or unenforceable, the remainder of the provisions will remain in effect. The parties have agreed that this Agreement and the documents related thereto be drawn up in the English language. Les parties exigent que la présente convention ainsi que les documents qui s'y rattachent soient rédigés en anglais.

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Notes



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