BMC Products for IMS™
Installation Guide

Supporting
Version 4.5 of Backup and Recovery Solution for IMS
Version 1.3 of BMC Log Analyzer for IMS
Version 2.5 of BMC System Administration for IMS
Version 1.2 of BMC System Communication for IMS
Version 4.5 of CHANGE ACCUMULATION PLUS
Version 2.10 of DATA PACKER/IMS
Version 4.8 of DATABASE INTEGRITY PLUS
Version 6.6 of DELTA IMS products
Version 2.4 of DELTA PLUS products
Version 1.5 of Energizer for IMS Connect
Version 5.6 of EXTENDED BUFFER MANAGER for IMS
Version 3.4 of EXTENDED TERMINAL ASSIST PLUS
Version 6.8 of Fast Path Recovery Utility and Fast Path Restart Control Facility
Version 3.10 of Fast Path/EP products
Version 4.5 of IMAGE COPY PLUS
Version 3.7 of LOCAL COPY PLUS
Version 2.4 of MAXM Database Advisor for IMS
Version 4.8 of MAXM Reorg Solutions for IMS
Version 4.8 of MAXM Reorg/EP Solutions for IMS
Version 1.5 of Message Advisor for IMS
Version 4.8 of POINTER CHECKER PLUS
Version 5.6 of SNAPSHOT UPGRADE FEATURE for IMS
Version 4.5 of RECOVERY MANAGER for IMS
Version 4.5 of RECOVERY PLUS for IMS
December 2011

www.bmc.com
Contacting BMC Software

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- read overviews about support services and programs that BMC offers
- find the most current information about BMC products
- search a database for issues similar to yours and possible solutions
- order or download product documentation
- download products and maintenance
- report an issue or ask a question
- subscribe to receive proactive e-mail alerts when new product notices are released
- find worldwide BMC support center locations and contact information, including e-mail addresses, fax numbers, and telephone numbers

Support by telephone or e-mail

In the United States and Canada, if you need technical support and do not have access to the web, call 1 800 537 1813 or send an e-mail message to customer_support@bmc.com. (In the subject line, enter SupID:<yourSupportContractID>, such as SupID:12345). Outside the United States and Canada, contact your local support center for assistance.

Before contacting BMC

Have the following information available so that Customer Support can begin working on your issue 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 issue

- 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
License key and password information

If you have questions about your license key or password, use one of the following methods to get assistance:

- Send an e-mail message to customer_support@bmc.com.
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<td>Jobs for a tape distribution–Express installation on JES3</td>
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About this book

This book contains detailed information about implementing BMC database products for the IBM® IMS™ environment. It is intended for users who are responsible for installing, testing, and maintaining the products. This edition applies to the products and solutions listed in Table 1 on page 20.

Like most BMC documentation, this book is available in printed and online formats. To request printed books or to view online books and notices (such as release notes and technical bulletins), see the support website at http://www.bmc.com/support.

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- download a zipped set of documentation PDFs from each product’s EPD page
- link to the BMC Documentation Center (https://webapps.bmc.com/infocenter/index.jsp) to browse documentation sets, or to view video demos (short overviews of selected product concepts, tasks, or features)
- view individual product documents (books and notices) within the “A – Z Supported Product List”

You can order hardcopy documentation from your BMC sales representative or from the support site. You can also subscribe to proactive alerts to receive e-mail messages when notices are issued.
Conventions

This book uses the following special conventions:

- **All syntax, operating system terms, and literal examples are presented in this** typeface.

- **Variable text in path names, system messages, or syntax is displayed in italic text:**

  testsys/instance/fileName

- **The symbol => connects items in a menu sequence. For example, Actions => Create Test** instructs you to choose the Create Test command from the Actions menu.

- **Revision bars in the document mark changes that clarify or correct existing information or that provide new information. Revision bars do not mark editorial changes, formatting changes, or corrections of typographical errors unless these updates significantly affect your use of the information.**

Syntax statements

The following example shows a sample syntax statement:

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

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

<table>
<thead>
<tr>
<th>Item</th>
<th>Example</th>
</tr>
</thead>
<tbody>
<tr>
<td>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.</td>
<td>alias</td>
</tr>
<tr>
<td></td>
<td>databaseDirectory</td>
</tr>
<tr>
<td></td>
<td>serverHostName</td>
</tr>
<tr>
<td>Brackets indicate a group of optional items. 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.</td>
<td>[tableName, columnName, field]</td>
</tr>
<tr>
<td></td>
<td>[-full, -incremental, -level]</td>
</tr>
<tr>
<td></td>
<td>(UNIX)</td>
</tr>
<tr>
<td>Item</td>
<td>Example</td>
</tr>
<tr>
<td>----------------------------------------------------------------------</td>
<td>-------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Braces indicate that at least one of the enclosed items is required. Do not type the braces when you enter the item.</td>
<td>`{DBDName</td>
</tr>
<tr>
<td>A vertical bar means that you can choose only one of the listed items. In the example, you would choose either commit or cancel.</td>
<td>`{commit</td>
</tr>
<tr>
<td>An ellipsis indicates that you can repeat the previous item or items as many times as necessary.</td>
<td><code>columnName . . .</code></td>
</tr>
</tbody>
</table>
Preparing for installation

This part introduces BMC Software products for the IMS™ environment, the Installation System, and the prerequisites that you must meet before starting the installation process. This part also contains an installation worksheet that you can use while planning and performing your installation.

This part presents the following topics:

Chapter 1
Installation overview ................................................................. 19

Chapter 2
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Installation overview

This chapter provides an overview of BMC Software products for the IMS™ environment and the Installation System.

This chapter presents the following topics:

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BMC products for IMS overview

The following sections provide product code and version information for BMC products for IMS.

**NOTE**

For information about the function IDs (FMIDs) that are used with BMC Software products for IMS and for product descriptions, see the appropriate product release notes.
Table 1 lists BMC products for IMS and their associated product groups, product codes, and versions.

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<th>Product code</th>
<th>Version</th>
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<td>Backup and Recovery</td>
<td>BRI</td>
<td>4.5</td>
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<td>CHANGE ACCUMULATION PLUS</td>
<td>Backup and Recovery</td>
<td>CAP</td>
<td>4.5</td>
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<tr>
<td>CHANGE RECORDING FACILITY for IMS</td>
<td>MAXM</td>
<td>CRF</td>
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<td>DDC</td>
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</tr>
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<td>DELTA PLUS</td>
<td>System Administration</td>
<td>DLP</td>
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<td>DELTA PLUS for DBCTL</td>
<td>System Administration</td>
<td>DLV</td>
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</tr>
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<td>Energizer for IMS Connect</td>
<td>System Administration</td>
<td>IPR</td>
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</tr>
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<td>EXTENDED TERMINAL ASSIST PLUS</td>
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<td>ETA</td>
<td>3.4</td>
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<tr>
<td>Fast Path Analyzer/EP</td>
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<td>PFA</td>
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<tr>
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<td>Fast Path</td>
<td>N/A</td>
<td>3.10</td>
</tr>
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<td>Fast Path</td>
<td>PFX</td>
<td>3.10</td>
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<td>Fast Path Offline Suite</td>
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<td>N/A</td>
<td>3.10</td>
</tr>
<tr>
<td>Fast Path Online Analyzer/EP</td>
<td>Fast Path</td>
<td>PFO</td>
<td>3.10</td>
</tr>
<tr>
<td>Fast Path Online Image Copy/EP</td>
<td>Fast Path</td>
<td>PFI</td>
<td>3.10</td>
</tr>
<tr>
<td>Fast Path Online Reorg/EP</td>
<td>Fast Path</td>
<td>PFL</td>
<td>3.10</td>
</tr>
<tr>
<td>Fast Path Online Restructure/EP</td>
<td>Fast Path</td>
<td>PFC</td>
<td>3.10</td>
</tr>
<tr>
<td>Fast Path Online Suite</td>
<td>Fast Path</td>
<td>N/A</td>
<td>3.10</td>
</tr>
<tr>
<td>Fast Path Recovery Utility</td>
<td>Fast Path</td>
<td>FRU</td>
<td>6.8</td>
</tr>
<tr>
<td>Fast Path Reorg/EP</td>
<td>Fast Path</td>
<td>PFR</td>
<td>3.10</td>
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<tr>
<td>Fast Path Restart Control Facility</td>
<td>Fast Path</td>
<td>RCF</td>
<td>6.8</td>
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<tr>
<td>FAST REORG FACILITY</td>
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<td>FRF</td>
<td>3.1</td>
</tr>
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<td>MAXM</td>
<td>HFR</td>
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</tr>
<tr>
<td>IMAGE COPY PLUS</td>
<td>Backup and Recovery</td>
<td>ICP</td>
<td>4.5</td>
</tr>
<tr>
<td>LOADPLUS for IMS</td>
<td>MAXM</td>
<td>LDP</td>
<td>3.1</td>
</tr>
<tr>
<td>LOADPLUS/EP for IMS</td>
<td>MAXM</td>
<td>HLD</td>
<td>4.8</td>
</tr>
<tr>
<td>LOCAL COPY PLUS</td>
<td>System Administration</td>
<td>LCP</td>
<td>3.7</td>
</tr>
<tr>
<td>BMC Log Analyzer for IMS</td>
<td>System Administration</td>
<td>LUI</td>
<td>1.3</td>
</tr>
<tr>
<td>MAXM Database Advisor for IMS</td>
<td>MAXM</td>
<td>MXA</td>
<td>2.4</td>
</tr>
<tr>
<td>MAXM Reorg for IMS</td>
<td>MAXM</td>
<td>MXC</td>
<td>4.8</td>
</tr>
<tr>
<td>MAXM Reorg for IMS with Online/Defrag Feature</td>
<td>MAXM</td>
<td>MXB</td>
<td>4.8</td>
</tr>
<tr>
<td>MAXM Reorg/EP Express for IMS</td>
<td>MAXM</td>
<td>MXP</td>
<td>4.8</td>
</tr>
</tbody>
</table>
Table 1  BMC products for IMS (part 2 of 2)

<table>
<thead>
<tr>
<th>Product</th>
<th>Database product group</th>
<th>Product code</th>
<th>Version</th>
</tr>
</thead>
<tbody>
<tr>
<td>MAXM Reorg/EP for IMS</td>
<td>MAXM</td>
<td>MXE</td>
<td>4.8</td>
</tr>
<tr>
<td>MAXM Reorg/EP for IMS with Online/Defrag Feature</td>
<td>MAXM</td>
<td>MXH</td>
<td>4.8</td>
</tr>
<tr>
<td>MAXM Reorg/Online for IMS</td>
<td>MAXM</td>
<td>MXO</td>
<td>4.8</td>
</tr>
<tr>
<td>Message Advisor for IMS</td>
<td>System Administration</td>
<td>MAQ</td>
<td>1.5</td>
</tr>
<tr>
<td>POINTER CHECKER PLUS</td>
<td>Integrity</td>
<td>PCP</td>
<td>4.8</td>
</tr>
<tr>
<td>PREFIX RESOLUTION PLUS</td>
<td>MAXM</td>
<td>PRP</td>
<td>3.1</td>
</tr>
<tr>
<td>RECOVERY MANAGER for IMS</td>
<td>Backup and Recovery</td>
<td>IRM</td>
<td>4.5</td>
</tr>
<tr>
<td>RECOVERY PLUS for IMS</td>
<td>Backup and Recovery</td>
<td>RVP</td>
<td>4.5</td>
</tr>
<tr>
<td>SECONDARY INDEX UTILITY</td>
<td>MAXM</td>
<td>SIU</td>
<td>3.1</td>
</tr>
<tr>
<td>SECONDARY INDEX UTILITY/EP</td>
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<td>HIU</td>
<td>4.8</td>
</tr>
<tr>
<td>BMC System Administration for IMS</td>
<td>System Administration</td>
<td>IPT</td>
<td>2.5</td>
</tr>
<tr>
<td>BMC System Communication for IMS</td>
<td>System Administration</td>
<td>CSU</td>
<td>1.2</td>
</tr>
<tr>
<td>UNLOAD PLUS for IMS</td>
<td>MAXM</td>
<td>ULP</td>
<td>3.1</td>
</tr>
<tr>
<td>UNLOAD PLUS/EP for IMS</td>
<td>MAXM</td>
<td>HUL</td>
<td>4.8</td>
</tr>
</tbody>
</table>

**Installation and customization process**

Table 2 is a worksheet that you can refer to as you plan your installation and install and customize BMC software products for IMS.

**NOTE**

In addition to installing and customizing the products, you must configure the products for use in your environment. When you reach the end of the installation and customization process, the worksheet directs you to the appropriate configuration guide for information about the configuration tasks that you must complete.

Table 2  Installing and customizing BMC Software products for IMS worksheet (part 1 of 3)

<table>
<thead>
<tr>
<th>Done</th>
<th>Step</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1. Read the following sections to prepare for your installation.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Installation System overview</td>
<td>23</td>
</tr>
<tr>
<td></td>
<td>Conventions for using the Installation System</td>
<td>38</td>
</tr>
<tr>
<td></td>
<td>2. Determine whether you want to perform a Custom installation or an Express installation.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Installation methods</td>
<td>24</td>
</tr>
<tr>
<td></td>
<td>Installation strategies</td>
<td>29</td>
</tr>
<tr>
<td></td>
<td>3. Verify system requirements.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Installation System requirements</td>
<td>46</td>
</tr>
<tr>
<td></td>
<td>Hardware and software requirements</td>
<td>46</td>
</tr>
</tbody>
</table>
### Table 2 Installing and customizing BMC Software products for IMS worksheet (part 2 of 3)

<table>
<thead>
<tr>
<th>Done</th>
<th>Step</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Password requirements</td>
<td>57</td>
</tr>
<tr>
<td></td>
<td>Estimated space requirements</td>
<td>58</td>
</tr>
<tr>
<td></td>
<td>UIM and console requirements</td>
<td>58</td>
</tr>
<tr>
<td>4.</td>
<td>Review general installation considerations.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Library name changes</td>
<td>60</td>
</tr>
<tr>
<td></td>
<td>Common modules and BMC Software products for IMS</td>
<td>67</td>
</tr>
<tr>
<td></td>
<td>Product configuration methods</td>
<td>68</td>
</tr>
<tr>
<td>5.</td>
<td>Review installation considerations that are specific to products,</td>
<td></td>
</tr>
<tr>
<td></td>
<td>functions, features, and utilities.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>If you are installing database products for IMS, use Table 12 on</td>
<td>69</td>
</tr>
<tr>
<td></td>
<td>page 69 to determine which of the installation considerations are</td>
<td></td>
</tr>
<tr>
<td></td>
<td>applicable and review them.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>If you are installing system administration products for IMS, use</td>
<td>82</td>
</tr>
<tr>
<td></td>
<td>Table 14 on page 82 to determine which of the installation</td>
<td></td>
</tr>
<tr>
<td></td>
<td>considerations are applicable and review them.</td>
<td></td>
</tr>
<tr>
<td>6.</td>
<td>Set up the installation libraries.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Obtaining the base installation libraries</td>
<td>96</td>
</tr>
<tr>
<td></td>
<td>Creating a customized installation library</td>
<td>102</td>
</tr>
<tr>
<td>7.</td>
<td>Start and prepare the Installation System.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Starting the Installation System</td>
<td>106</td>
</tr>
<tr>
<td></td>
<td>Creating an installation profile repository and installation profiles</td>
<td>107</td>
</tr>
<tr>
<td></td>
<td>Specifying user options</td>
<td>112</td>
</tr>
<tr>
<td>8.</td>
<td>Generate installation JCL.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Generating installation JCL</td>
<td>118</td>
</tr>
<tr>
<td></td>
<td>If you are performing an Express installation, see the following</td>
<td></td>
</tr>
<tr>
<td></td>
<td>section:</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Running JCL for an Express installation</td>
<td>121</td>
</tr>
<tr>
<td></td>
<td>If you are performing a Custom installation, see the following</td>
<td></td>
</tr>
<tr>
<td></td>
<td>sections:</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Running JCL for a Custom installation</td>
<td>123</td>
</tr>
<tr>
<td></td>
<td>Checking for PTFs in error and HIPER conditions</td>
<td>124</td>
</tr>
<tr>
<td></td>
<td>Processing enhanced HOLDDATA</td>
<td>124</td>
</tr>
<tr>
<td></td>
<td>Creating a new SMP/E environment</td>
<td>124</td>
</tr>
<tr>
<td></td>
<td>Installing the product libraries with SMP/E</td>
<td>126</td>
</tr>
<tr>
<td></td>
<td>Allocating and constructing product data sets with SMP/E</td>
<td>128</td>
</tr>
<tr>
<td>9.</td>
<td>Generate customization JCL.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Customizing products to execute from runtime data sets</td>
<td>143</td>
</tr>
<tr>
<td></td>
<td>Customizing products to execute from SMP/E target-zone data sets</td>
<td>156</td>
</tr>
<tr>
<td></td>
<td>Using the Configuration Parameters customization panels</td>
<td>163</td>
</tr>
<tr>
<td></td>
<td>Use Table 22 on page 164 to determine which of the customization</td>
<td>164</td>
</tr>
<tr>
<td></td>
<td>tasks are applicable and complete those tasks.</td>
<td></td>
</tr>
</tbody>
</table>
The Installation System from BMC Software is an ISPF application that generates a set of installation batch jobs in job control language (JCL). You can use these batch jobs to unload and customize BMC Software products from distribution media. You can also use the batch jobs to apply maintenance to installed products.
As shown in the following table, the Installation System accommodates different installation and maintenance media, and different installation strategies:

<table>
<thead>
<tr>
<th>Category</th>
<th>Supported choices</th>
<th>More information</th>
</tr>
</thead>
<tbody>
<tr>
<td>installation methods</td>
<td>▪ Custom installation</td>
<td>“Installation methods” on page 24</td>
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<tr>
<td></td>
<td>▪ Express installation</td>
<td></td>
</tr>
<tr>
<td>product distribution methods</td>
<td>▪ electronic software distribution (ESD)</td>
<td>“Distribution methods” on page 25</td>
</tr>
<tr>
<td></td>
<td>▪ tape distribution</td>
<td></td>
</tr>
<tr>
<td></td>
<td>▪ maintenance files</td>
<td></td>
</tr>
<tr>
<td>installation strategies</td>
<td>▪ full installation</td>
<td>“Installation strategies” on page 29</td>
</tr>
<tr>
<td></td>
<td>▪ maintenance installation</td>
<td></td>
</tr>
<tr>
<td></td>
<td>▪ installation on a single DB2® subsystem</td>
<td></td>
</tr>
<tr>
<td></td>
<td>▪ installation on multiple DB2 subsystems</td>
<td></td>
</tr>
<tr>
<td></td>
<td>▪ deploying products to other systems</td>
<td></td>
</tr>
<tr>
<td>installation settings</td>
<td>▪ use of default values from the system</td>
<td>“Installation profile repository and installation profiles” on page 34</td>
</tr>
<tr>
<td></td>
<td>▪ use of specified new values</td>
<td></td>
</tr>
<tr>
<td></td>
<td>▪ use of an installation profile (values that are preserved from an earlier installation)</td>
<td></td>
</tr>
</tbody>
</table>

### Installation methods

The Installation System supports a **Custom** installation and an **Express** installation. Both installation methods create an environment that is maintained using the IBM System Modification Program Extended (SMP/E) maintenance.

Regardless of which method you choose, the Installation System guides you through the installation process, allowing you to accept or change defaults along the way. You can readily access Help from each panel by pressing **F1**.

### Custom installation

The Custom installation uses the full SMP/E product installation and maintenance program. SMP/E product distribution files contain modification control statements (MCSs) and relative files (RELFILEs) for SMP/E product installation and maintenance.

The Custom installation method is required if you are adding a product to an existing SMP/E installation.
Express installation

The Express installation provides an SMP/E installation that uses IEBCOPY to copy the product data sets, and sets up an SMP/E environment by using predefined SMP/E zones and libraries. The Express installation method includes steps for unloading, customizing, and executing BMC products. You may want to use the Express installation method under the following circumstances:

- to install all products into a new SMP/E environment
- to install products for a trial or demonstration system

Distribution methods

BMC offers the following methods of software distribution:

- electronic software distribution (ESD)
- distribution tapes
- maintenance files

ESD

With electronic product shipment, use FTP to download product files from a server at BMC for subsequent installation at your site. After specifying the products and solutions that you want to download, you receive the following items:

- base installation libraries

  The base installation libraries are required to initiate the Installation System CLIST. These libraries include an installation library (HLQ.BMC.INSTALL, where HLQ is a high-level qualifier) and a load library (HLQ.BMC.INSTALL.LOAD). These libraries also include ISPF panels and programs that are necessary to customize the installation of the products, and infrastructure components that multiple BMC products use.

- product and solution files

The following considerations apply to using the ESD site:

- To download from the ESD site, you must have an ESD user ID and password. To view the current password, go to [http://www.bmc.com/support/downloads-patches/ptf-ftp-installation.html](http://www.bmc.com/support/downloads-patches/ptf-ftp-installation.html) and select Electronic software distribution (ESD) FTP site user ID and password. When prompted, you will need to provide a valid support user ID and password. To register for a support user ID and password, go to [http://www.bmc.com/support](http://www.bmc.com/support).
If you have restrictions that apply to transferring files through FTP (such as byte limits, or network or server timeout limits), use tapes instead of the ESD site.

**Distribution tapes**

For a physical product shipment, you receive the following 3490 tapes:

- **B-series tape set**

  The B-series tape set (formerly the BMI tape) contains the base installation libraries that the Installation System requires. This tape set also includes:
  - ISPF panels and programs that are necessary to customize the installation process
  - the infrastructure components that multiple BMC products use
  - SMP/E service files (packaged with the corresponding products on the media tapes)

- **one or more product tape sets**

  These tape sets contain the panels and programs to unload and customize most BMC products and the service maintenance files for those products. Examples are the C-series (BMC products for DB2), I-series (BMC products for IMS™), and M-series (MainView products) tape sets.

**Maintenance files**

Maintenance files update the BMC products that you installed through the Installation System. Maintenance files repair product defects or add product enhancements. BMC delivers SMP/E maintenance, which is required for all products that the Installation System installs.

BMC provides the following types of maintenance files:

- program update tape (PUT)
- SMP/E service files (packaged with the corresponding products on the media tapes)
PUT maintenance

PUT files contain verified program temporary fixes (PTFs) and HOLDDATA. You can obtain PUT maintenance at any time by using BMC Internet Service Retrieval (ISR) or the BMC electronic software distribution (ESD) site, or by requesting a distribution tape. Typically, the files are delivered the second month of each quarter and are cumulative for up to six months. For more information about the PUT maintenance schedule, naming conventions, and which PTFs are included in the latest PUT, see http://www.bmc.com/support/put-availability-schedule.html.

- To download PUT files from the ESD site, select Electronic Maintenance from the Additional Options menu. For more information, see “Generating jobs to perform SMP/E maintenance” on page 234.

- To order PUT maintenance on tape, contact your local Customer Support representative or send an e-mail message to Product_Distribution@bmc.com.

- To use BMC ISR to provide PUT maintenance for the products that you installed through the Installation System, see “Obtaining additional maintenance (BMC ISR method)” on page 241.

SMP/E service files

SMP/E service files contain additional maintenance to be applied during installation to bring the product to the GA level or to a specific PUT level. All PTFs and APARs that are required for creating the GA level of the product are added to the service files. However, if BMC incorporates an APAR into a maintenance update concurrently with the release of a new product, that APAR is not added to the service files. The service files are packaged with the product tape sets (B-series, C-series, I-series, and M-series).

NOTE

Use the SMP/E service files only when performing a new Custom installation of a product. The service files should not be used in place of the PUT media.

Figure 1 illustrates how the different media and Base Installation System fit together.
The following topics describe the installation process, including the available installation and distribution methods.
Installation strategies

In addition to supporting Custom installation and Express installation, the Installation System allows you to

- perform full or maintenance installations
- install products on a single DB2 subsystem or on multiple subsystems
- deploy products to other systems

Your installation strategy should suit your product configuration needs, while requiring the least amount of time and effort.

Considerations for determining an installation strategy

To choose the best installation strategy, consider the following questions:

- Which BMC products are installed at your site, and what are their maintenance levels?
- Which BMC products do you plan to trial or add to your installation?
- How much time and effort are required for customizing your products?
- Do you plan to deploy products to other systems?

Your answers will help you determine the scope of your installation.

Full or maintenance installation

Depending on your responses to the preceding questions, you can choose to perform a full or maintenance installation:

- Use a full installation to install products for the first time, to install new releases of products that are already installed, or to deploy products.
- Use a maintenance installation to upgrade products to current maintenance-level (.mm) release.

Runtime enablement

The Installation System supports runtime enablement (RTE). RTE lets you create runtime libraries by combining your BMC product SMP/E target libraries and user data sets into a single set of runtime libraries that are not SMP/E managed. RTE is intended to be used for product deployment, and the products are not executed from the SMP/E target data sets.
During customization, you can select to run the products by using the runtime data sets. In response, the Installation System configures data set members to execute products from the RTE set of libraries (not the target data sets). After customization, the RTE job ($R05RTEC) creates the RTE data sets.

Low-level qualifiers (LLQs) for the RTE data sets have a BMC prefix followed by up to five characters. This syntax makes the LLQ unique while identifying the contents of the data sets. For example, the LLQ of the messages data set is BMCMLIB.

**WARNING**

To change the LLQs of the RTE data sets, use the Installation System. Do not change the LLQs of the RTE data sets manually.

The RTE process combines like data sets into one data set. For example, the contents of BBSAMP, DBSAMP, IMSAMP, XXSAMP, and any similar user data sets that are created (such as UBBSAMP) are merged into BMCSAMP. Merging the data sets reduces the number of data sets to manage in the production environment.

The $R05RTEC job copies content from the SMP/E target libraries to the runtime libraries. You can use one of the following options to control the order of the copy steps:

- **Sort/Break = N**

  In a merged installation (discussed on page 31), this option orders the copy steps as follows. (The copy steps are sorted in alphabetic order within each step.)

  - BB libraries
  - DB libraries
  - IM libraries
  - XX libraries
  - password
  - user libraries
  - OZI members (the $R05RTEC job and the OZI**nnnn** member, where **nnnn** is the date and time)

  In a non-merged installation, the product libraries are placed in product-specific data sets that are prefixed by the product code (for example, ACPLINK).

- **Sort/Break = Y**

  This option creates a copy step for each type of content such as CLIB, DBRM, LINK, and other content. (The copy steps are sorted in alphabetic order within each step.)
RTE affects the installation process in several areas:

- **product installation and deployment**

  Before installing products, consider which ones you want to deploy together. For example, assume that you want to deploy products A, B, and C to System 1, and products A and B to System 2. You should install products A and B together and deploy them to both systems. Then, install product C and deploy it to System 1.

- **product customization**

  During product customization, you are prompted to customize your products to execute from runtime data sets or from your SMP/E target libraries. Choosing to use runtime data sets tells the Installation System to combine your BMC product SMP/E target libraries and user data sets into a single set of runtime libraries.

  During customization of runtime data sets, you can also perform the following tasks:

  1. Provide information about your target destination systems (TDSs), which are the systems where you will deploy the products.
  2. Create the runtime data sets.
  3. Enable the generated customization job to use only the runtime data sets.
  4. Transport the RTE data sets and other libraries to the TDSs.
  5. Customize the products on the TDSs, if needed.

- **product maintenance**

  During product maintenance, you apply SMP/E maintenance to your SMP/E target libraries and copy the updated members into your RTE data sets.

### Merged and non-merged installations

During the installation process, you can select a merged or non-merged installation. For BMC Data Management products for DB2 and for IMS, the Installation System supports individual function modification ID (FMID) data definitions (DDDEFS) instead of sharing the BB, DB, and XX DDDEFS. The DDDEF name is prefixed by the product code. The additional DDDEFS enable you to manage the code for them individually, if needed. Because the MainView products (with the exception of MainView for DB2) do not support granular FMID DDDEFS, the target library structure looks the same whether you select merged or non-merged.
Installation strategies

NOTE
Most shared components, such as EXTENDED BUFFER MANAGER (XBM), SNAPSHOT UPGRADE FEATURE (SUF), and the BMC Password Security System, remain in their current shared DDDEFs.

- Merged installation (available in earlier versions) places product libraries in several collections of data sets. The data set names are typically prefixed with BB, DB, IM, or XX (such as BBLINK, DBLINK, IMLINK, or XWLFAILK).

When you select a merged installation, you can use runtime enablement or you can customize the products to execute from the SMP/E target library structure:

- If you are installing only MainView products (except for MainView for DB2), you can perform the following actions:
  - Customize and deploy runtime copies of the SMP/E target libraries to remote systems.
  - Configure multiple sysplexes with or without shared DASD or a shared catalog.
  - Customize the products to execute directly from target libraries on the system of origin (the local system containing the SMP/E libraries) and any other systems that share DASD or share the catalog with the system of origin.

- If you are installing MainView products (which includes MainView for DB2) with Data Management products for DB2 or IMS, you can customize the products only to execute from the SMP/E target libraries on the original installation sysplex. If you share the SMP/E environment across several LPARs within that sysplex, you can customize the products for all of those systems to execute from the SMP/E target libraries. You cannot customize or deploy runtime copies in this scenario.

- The non-merged installation places the product libraries in product-specific data sets that are prefixed by the product code (for example, ACPLINK). For BMC products for DB2 and MainView for DB2, a non-merged installation requires the use of runtime enablement (RTE).

Carefully consider whether to use merged or non-merged libraries. This decision determines how the target and distribution libraries will be structured and impacts product customization. Switching from merged or non-merged libraries later would require uninstalling and reinstalling the products.
Sample strategies

Table 3 summarizes common installation strategies.

Table 3 Sample installation strategies (part 1 of 2)

<table>
<thead>
<tr>
<th>Situation</th>
<th>Installation strategy</th>
</tr>
</thead>
</table>
| You are installing new BMC products, and you have no other BMC products installed. | You need to perform a full installation. You can choose one of the following installation methods:  
  ■ Custom installation of any combination of BMC products  
  ■ Express installation of any combination of BMC products |
| You are upgrading previously installed BMC products to new releases. | You need to perform a maintenance installation if you are upgrading to a maintenance-level (.mm) release.  
  You need to perform a full installation if you are upgrading to a full-level (v.r) release. |
| You are installing new products for trial.    | You can choose one of the following installation methods, keeping in mind that you should use an Express installation only if you are installing all the products at the same time (you cannot add products incrementally at a later time):  
  ■ Express installation of the new products for trial  
    You can run the trial products on the same CPU with existing products.  
  ■ Express installation of your existing products and trial products  
    If you install trial products with your existing products, you might have difficulty removing the trial products at a later date without removing the other products.  
  Note: The difference between trial products and licensed products is the type of password that you use and the password’s expiration date. You should notice no other differences when you install trial and licensed products. |
Installation profile repository and installation profiles

Table 3  Sample installation strategies (part 2 of 2)

<table>
<thead>
<tr>
<th>Situation</th>
<th>Installation strategy</th>
</tr>
</thead>
<tbody>
<tr>
<td>You are installing new products or trials and upgrading previously</td>
<td>You can choose one of the following installation methods:</td>
</tr>
<tr>
<td>installed products to new releases.</td>
<td>■ Custom installation of the new products in separate SMP/E data sets</td>
</tr>
<tr>
<td></td>
<td>You can run new and existing products concurrently on the same CPU. If you decide to license the new products after the trial, you can use the same</td>
</tr>
<tr>
<td></td>
<td>SMP/E distribution files to install the products in the same SMP/E data sets as the existing products.</td>
</tr>
<tr>
<td></td>
<td>■ Express installation of the new products for trial</td>
</tr>
<tr>
<td></td>
<td>You can run the trial products on the same CPU with existing products.</td>
</tr>
<tr>
<td></td>
<td>■ Express installation of your existing products and trial products</td>
</tr>
<tr>
<td></td>
<td>If you install trial products with your existing products, you might have difficulty removing the trial products at a later date without removing the</td>
</tr>
<tr>
<td></td>
<td>other products.</td>
</tr>
<tr>
<td>You are installing maintenance only.</td>
<td>If BMC products are installed at your site and you want to update the products to current maintenance levels, apply maintenance by using program update tape (PUT) media.</td>
</tr>
<tr>
<td>You are installing new products and deploying them.</td>
<td>Install products together that you want to deploy together. For example, assume that you want to deploy products A, B, and C to System 1, and products A and B to System 2. You should install products A and B together and deploy them to both systems. Then, install product C and deploy it to System 1.</td>
</tr>
</tbody>
</table>

Installation profile repository and installation profiles

The installation profile repository and installation profiles provide a means of storing and managing installation variables for many products, across many installation sessions. You can use preserved values from any previous installation, or you can selectively use the default values that the Installation System provides.

Profile repository

The profile repository is an index of installation profiles that you use to install BMC products. The repository is a sequential data set that stores each profile name, the date when the profile was created, and other information. Having this data is helpful especially if you want to share the same repository data set with a different version of the Installation System.
When you first run the Installation System, you are required to create a profile repository. BMC recommends the following convention for your repository name:

\[ HLQ.BMCREPO \]

The variable \( HLQ \) is a high-level qualifier that should be easily identified and used by all installation users in your facility. All users are encouraged to use the same repository because only one repository is necessary for any installation environment. However, because the repository can store many hundreds of profiles, you can choose to create additional repositories, as necessary, for organizational purposes.

**TIP**

If many profiles are created in your environment, consider creating a separate repository for each calendar or fiscal year in which profiles are created.

The following profile management features are available within the profile repository:

- View or browse a profile to verify the contents before beginning an installation session.
- Print a profile to review the contents. This feature generates print JCL for a profile report.
- Use an existing profile when you want to replicate a previous installation (using the same variables, values, and defaults as in the original installation session), or when you want several installers to share the task of installing the products.
- Copy a profile to create a new profile that is modeled after another. This feature is useful when you want to use many but not all of the variables from an earlier session.
- Delete a profile that is no longer required.
- Create a new installation profile data set.

If an installation profile data set does not exist, specify the \( HLQ \) and \( ID \). If a profile repository data set does not exist, specify \( HLQ.BMCREPO \). The Installation System creates the installation profile and profile repository data sets.

Profiles are listed in the repository alphabetically within chronological order of use; the most recently used is listed first. By using the profile repository, you can ensure a consistent and specific installation environment for a group of products or for a business unit within your enterprise.
Installation profile

The installation profile is a sequential data set that contains the variables and values that the Installation System uses to install BMC mainframe products. Examples include the variables and values for user options and for the product installation, customization, and additional options processes. The installation profile can provide subsequent installers with the data entered during previous installations.

NOTE

The installation profile is not the same as the $BMCPROF ISPF profile. The $BMCPROF ISPF profile contains variables and values that you provide before product installation.

When you first run the Installation System, you are prompted to create a new profile. Table 4 explains the different formats for profile names.

Table 4   Profile naming conventions

<table>
<thead>
<tr>
<th>Profile type</th>
<th>Naming convention</th>
<th>Example</th>
</tr>
</thead>
<tbody>
<tr>
<td>initial installation instance</td>
<td><em>HLQ.IDPROF</em> (created during installation)*</td>
<td>BMIBMC.V1234.SYSA PROF</td>
</tr>
<tr>
<td>(product deployment) target destination system (TDS) instance</td>
<td><em>HLQ.IDTnnn</em> (created during customization) on the system of origin</td>
<td>TDS profile name on the system of origin:BMIBMC.V1234.SYSA T001</td>
</tr>
</tbody>
</table>

a  The variable *HLQ* is a high-level qualifier that you provide and that other installers might use. *ID* is a four-character name that you choose. PROF is an appended string that identifies the data set as an installation profile. T is an appended string that identifies the data set as a TDS profile. *nnn* is the instance number of the TDS.

b  The repository manages only the profiles listed in *HLQ.IDPROF*.

c  For more information about the system of origin and TDS, see “Customizing products to execute from runtime data sets” on page 143.

In subsequent installation sessions, the most recently used profile is the default. You can choose to create a new profile, or you can select a profile from the profile repository.

In most cases, the best practice is to create a new profile for each distinctly different installation. If installation variables are few, you can simply copy a similar profile, advance to the variables that require change (by using the checkpoint feature), and proceed with the installation. You can stop your installation at any checkpoint. You can then start over, or you can resume the installation from one of the listed checkpoints.
How to display profile repository information

You can display profile repository information from within the Installation System or outside of it.

To display installation profile repository information outside the Installation System

1. Copy READREPO from your custom installation library to a CLIST library from which you can run it.
2. Enter EX READREPO.
3. When the CLIST prompts you for the control or repository data set name (DSN), enter the location of your previous repository.

   For example, enter yourProductHLQ.CNTL or yourHLQ.BMC Repo.

If you have an older version of the installation in place but you have a newer tape or ESD installation library available, you can use the READREPO CLIST from the newer library to read the older repository. If you have another library, such as a JCL library that contains a member named OZInnnnn (where nnnnn is the date and time), you can use the OZInnnnn member to locate the READREPO CLIST. The OZInnnnn member contains the customized installation library name and the repository name.

To display installation profile repository information from within the Installation System

1. From the Main Menu, select Manage Repository/Profile.
2. From the BMC Software Install Repository/Profile Options panel, type Y in the Manage Profiles field.
3. From the Repository Listing, locate the profile that you want to review.

Installation profile sharing

In some environments, multiple individuals install and customize BMC products. For example, one person might install BMC products for DB2 or IMS, while another installs MainView products. To accommodate multiple installers, you can create one installation profile that other installers can reuse. For more information about using an existing installation profile, see “Creating an installation profile repository and installation profiles” on page 107.
Messages

The Installation System issues messages concerning the installation process, product authorization, and BMC Internet Service Retrieval (ISR).

Messages are documented in the BMC Documentation Center, which is available on the BMC Support Central site (http://www.bmc.com/support).

Conventions for using the Installation System

This section explains conventions that apply during the installation process.

For other terms that appear in this guide or other BMC documentation, see the “Glossary” on page 309.

Panel selections

Throughout the Installation System, you are requested to make selections on panels. Unless otherwise stated, you select an item by typing a slash (/) or the letter s next to the item and pressing Enter.

Function keys and commands

The Installation System panels provide messages at the bottom to indicate which function keys are available. By default, the active function keys are not displayed. To display the active keys, type the ISPF command PFSHOW on the Command line and press Enter.

NOTE

Some Installation System panels use every available line to display input variables. To display all variables, type PFSHOW OFF on the Command line and press Enter.
You can use the following commands and function keys to move through the Installation System panels:

- **HELP** or **F1** displays the Help panel for the current panel.
- **END** or **F3** saves your changes and returns to the Installation System Main Menu.
- **CANCEL** or **F12** saves any changes and returns to the previous panel.
- **Enter** accepts the defaults or changes and continues to the next panel.

In the Installation System Help panels, use the following keys or commands to navigate:

- **F3** exits the Help panel and returns to the current installation panel.
- **F10** or **F12** returns to the previous page of a multiple-page Help panel.
- **Enter** or **F11** continues to the next page of a multiple-page Help panel.

### Data set names

The Installation System uses ISPF conventions when processing data set names. If the TSO/E PROFILE NOPREFIX option is in use, the Installation System does not append a prefix to the data set name that you specify. The maximum length for a data set name is 44 characters, including the prefix, if used.

**NOTE**
If the TSO/E PROFILE is set to NOPREFIX, you must use the setup parameter as described in “Creating a customized installation library” on page 102 and specify a fully-qualified data set.

### Symbolic variables

The Installation System frequently uses symbolic variables in data set names, data set prefixes, and job-statement information. In the Installation System, most symbolic variables are related to keyword values that you specify in the product options. Symbolic variable names begin with an ampersand (&).

While the Installation System assembles product options, macro processing tries to resolve all symbolic variables in the listing. Most symbolic variables are resolved when a BMC product generates JCL. When necessary, the Installation System doubles the ampersand for all symbolic variables to prevent errors.
The double-character rule also applies to the following characters:

- single quotation marks within literal values if the literal is enclosed with delimiting single quotation marks
- a period if the literal immediately follows a variable name

The following table illustrates the use of double characters:

<table>
<thead>
<tr>
<th>Variable</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>&amp;&amp;</td>
<td>&amp;</td>
</tr>
<tr>
<td>&quot;</td>
<td>.</td>
</tr>
<tr>
<td>..</td>
<td>.</td>
</tr>
</tbody>
</table>

**Volume serial number ID**

Every tape is identified by a unique volume serial (VOLSER) number. The VOLSER is printed on the tape label and is encoded electronically on the tape. The VOLSER number, or VOLSER ID, is a six-character string that is based on the following syntax:

`targetMediaOrderYmd`

- The variable `target` represents the single-character tape set identifier. BMC products are organized into the following types:
  - `B-series` identifies the base installation tape.
  - `C-series` identifies tapes for BMC products for DB2.
  - `I-series` identifies tapes for BMC products for IMS.
  - `M-series` identifies tapes for MainView products.
  - `P-series` identifies the PUT maintenance tapes.

A series can contain one or more tapes.

- The variable `Media` represents the single-character media identifier where 9 identifies 3490 tapes.

- The variable `Order` represents the single character tape usage order. Tape A is first, B is second, and so on.
The variable Ymd represents the tape’s date in the format year, month, day:

— The year is the last digit of the four-digit year (9=2009).
— The month can be from 1 through C (1-9, A=10, B=11, and C=12).
— The day can be from 1 through V (1-9, and A=10 through V=31).

For example, 97H means the date of the tape is July 17, 2009.

Examples of VOLSERs are M9A9CV and C9B981:

- M9A9CV=M-series products; 3490 tape; first tape in tape set; December 31, 2009
- C9B981=C-series products; 3490 tape; second tape in tape set; August 1, 2009

Naming conventions for product packaging

BMC naming conventions classify product components while allowing for future expansion. The conventions reflect product-line organization. They also classify machine-readable data that is used during installation as SMP/E setup, product installation, or product-specific information.

BMC classifies system modifications (SYSMODs) by product line and type. Each seven-digit SYSMOD name uses the format BTPFV or BTPN:

- The initial B represents BMC Software.
- The variable T represents the SYSMOD type:

<table>
<thead>
<tr>
<th>Value for T</th>
<th>SYSMOD type</th>
<th>Example</th>
</tr>
</thead>
<tbody>
<tr>
<td>B</td>
<td>function</td>
<td>BBBBX16</td>
</tr>
<tr>
<td>A</td>
<td>APAR</td>
<td>BAB0001</td>
</tr>
<tr>
<td>P</td>
<td>PTF</td>
<td>BPB0123</td>
</tr>
</tbody>
</table>

- The variable P represents the product line.
- The variable F represents a two-character identifier that is used only for a function SYSMOD.
- The variable V represents a two-digit version number that is used only for a function SYSMOD.
- The variable N represents an APAR or PTF number within the product line.
BMC uses naming conventions for product distribution files to prevent conflicts between system and product data sets. The following naming conventions apply to Custom and Express data sets:

### Naming conventions for Custom and Express data sets

<table>
<thead>
<tr>
<th>Name variable for product data set</th>
<th>Description</th>
<th>Example</th>
</tr>
</thead>
<tbody>
<tr>
<td>targetLibraryName</td>
<td>target library ddname or DDDEF name</td>
<td>HLQ.V2300.ESD6.DBLINK</td>
</tr>
<tr>
<td>distributionLibraryName</td>
<td>distribution or maintenance library ddname or DDDEF name</td>
<td>HLQ.V2300.ESD6.ADBLINK</td>
</tr>
<tr>
<td>runtimeLibraryName</td>
<td>runtime library ddname or DDDEF name</td>
<td>HLQ.V2300.ESD6.BMCLINK</td>
</tr>
<tr>
<td>function</td>
<td>function name</td>
<td>ZAUP221</td>
</tr>
<tr>
<td>prdRelease</td>
<td>three-letter product code and release number</td>
<td>SPD2200</td>
</tr>
</tbody>
</table>

**Note:** Release numbers can include a combination of one-digit or two-digit version, release, and modification levels. For example, 2200 means version 2.2.00 (version 2, release 2, no maintenance).

### Custom installation data sets

BMC identifies product data sets for a Custom installation as shown in the following examples:

- SMPMCS
- BMC.function.Fnn
Express installation data sets

BMC identifies product data sets for a Express installation as shown in the following examples:

- BMC.prdRelease.targetLibraryName
- BMC.prdRelease.distributionLibraryName
- BMC.prdRelease.UCLIN.DLIB.CSI
- BMC.prdRelease.UCLIN.TARGET.CSI

To use the high-level qualifier BMC, the RFDSNPFX parameter is required in the header for the SMPMCS of all product function IDs (FMIDs).

---

**NOTE**

If multiple users are installing products, all users of the Installation System must have access to the data sets defined by the high-level qualifier.
This chapter describes the requirements and considerations that you should review before you install BMC Software products for the IMS™ environment.

This chapter presents the following topics:

Overview .................................................. 45
Installation requirements .................................. 46
  Installation System requirements .......................... 46
  Hardware and software requirements ...................... 46
  Password requirements .................................. 57
  Estimated space requirements ............................. 58
  UIM and console requirements ............................ 58
Installation considerations ............................... 60
  Multiple-product considerations ......................... 60
  Database products for IMS considerations ............... 69
  System administration products for IMS considerations .. 81

Overview

Before you install BMC products for IMS, you should be familiar with the installation requirements and considerations. Some requirements and considerations apply to multiple BMC products for IMS, while others are unique to a specific product, feature, function, or utility.
**Installation requirements**

BMC products for IMS have system software, password, space, and Interactive System Productivity Facility (ISPF) requirements for their installation, customization, and use.

The Installation System also has requirements that must be met before you can use it to install products.

**Installation System requirements**

The Installation System has the following ISPF requirements:

- ISPF version 4.0 or later

- You must have the DD ISPTABL library in your ISPF logon PROC.
  
  This library is needed for the ISPF table processing that the Installation System requires.

- Set the disposition of your ISPPROF or ISRPROF data set to shared (DISP=SHR) in your logon procedure.
  
  Setting the disposition to shared allows batch TSO to update the data set. Specifically, this setting allows you to merge product tapes and run BMCINSTL REXX EXEC. If you do not set the disposition to shared, you will receive an ISPS105 error (invalid keyword) when you submit the installation JCL to merge product tapes, and when you run BMCINSTL REXX EXEC.

**Hardware and software requirements**

This section describes hardware and software requirements for BMC products for IMS.

*Table 5 lists general hardware and software requirements for BMC products for IMS.*
### Table 5  BMC products for IMS general hardware and software requirements (part 1 of 3)

<table>
<thead>
<tr>
<th>Product or product group</th>
<th>ISPF</th>
<th>IMS</th>
<th>Operating system</th>
<th>Other</th>
</tr>
</thead>
</table>
| all database products for IMS except DATA PACKER/IMS, the Fast Path/EP products, Fast Path Recovery Utility, and Fast Path Restart Control Facility | 2.3 or later (if an interface is available) | any version that IBM supports | any version of IBM OS/390®, IBM z/OS®, or IBM MVS™ that IBM supports | - TSO session  
- license for IBM IMS/ESA® Database Manager product  
- see “Database products for IMS hardware and software requirements” on page 49 |
| DATA PACKER/IMS                                                                         | 2.3 or later (if you plan to use the interface) | any version that IBM supports | any version of OS/390, z/OS, or MVS that IBM supports | - license for the IMS DB Feature  
- any processor that supports the MVS/ESA operating system; hardware requirements are the same as those required by the IBM IMS/VS DB Feature (5740-XX2) Program Product  
- authority to perform APF authorization tasks  
- see “Database products for IMS hardware and software requirements” on page 49 |
| Fast Path/EP database products                                                           | 3.3 or later (if you plan to use the interface) | any version that IBM supports | any version of OS/390, z/OS, or MVS that IBM supports | - license for IMS/ESA  
- any processor that supports MVS  
- all programs must reside in an APF-authorized load library  
- see “Database products for IMS hardware and software requirements” on page 49 |
### Table 5  BMC products for IMS general hardware and software requirements (part 2 of 3)

<table>
<thead>
<tr>
<th>Product or product group</th>
<th>ISPF</th>
<th>IMS</th>
<th>Operating system</th>
<th>Other</th>
</tr>
</thead>
<tbody>
<tr>
<td>(database products for IMS continued)</td>
<td>N/A</td>
<td>any version that IBM supports</td>
<td>any version of OS/390, z/OS, or MVS that IBM supports</td>
<td>any processor that is compatible with the IBM System/370 Principles of Operation; hardware requirements are the same as those required by the IBM IMS/ESA Database Manager product</td>
</tr>
<tr>
<td>Fast Path Recovery Utility</td>
<td>N/A</td>
<td>any version that IBM supports</td>
<td>any version of OS/390, z/OS, or MVS that IBM supports</td>
<td>license for IMS/ESA Database Manager</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>any version of DBRC</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>all programs must reside in an APF-authorized load library</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>see “Database products for IMS hardware and software requirements” on page 49</td>
</tr>
</tbody>
</table>

| (database products for IMS continued) | N/A | any version that IBM supports | any version of OS/390, z/OS, or MVS that IBM supports | any processor that is compatible with the IBM System/370 Principles of Operation; hardware requirements are the same as those required by the IBM IMS/ESA Database Manager product |
| Fast Path Restart Control Facility | N/A | any version that IBM supports | any version of OS/390, z/OS, or MVS that IBM supports | license for IMS/ESA Database Manager |
| | | | | any version of DBRC |
| | | | | all programs must reside in an APF-authorized load library |
| | | | | see “Database products for IMS hardware and software requirements” on page 49 |
Database products for IMS hardware and software requirements

Table 6 lists additional hardware and software requirements for the individual database products for IMS.

Table 6  Database products for IMS hardware and software requirements (part 1 of 4)

<table>
<thead>
<tr>
<th>Product or product group</th>
<th>ISPF</th>
<th>IMS</th>
<th>Operating system</th>
<th>Other</th>
</tr>
</thead>
<tbody>
<tr>
<td>system administration</td>
<td>3.5 or</td>
<td>any version</td>
<td>any version of OS/390, z/OS, or MVS</td>
<td>• IBM VTAM®</td>
</tr>
<tr>
<td>administration</td>
<td>later</td>
<td>that IBM</td>
<td>that IBM supports</td>
<td>• DASD storage</td>
</tr>
<tr>
<td>products for IMS</td>
<td></td>
<td>supports</td>
<td></td>
<td>• APF-authorized library</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>concatenated before IMS RESLIB</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>• see “System administration products for IMS hardware and software</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>requirements” on page 52</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>• see “System administration</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>products for IMS required data</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>sets” on page 55</td>
</tr>
</tbody>
</table>

Backup and Recovery Solution for IMS

- authority to perform APF authorization tasks
- for the Recovery Advisor, minimum workstation hardware and operating system requirements (for more information, see “UIM and console requirements” on page 58)

CHANGE ACCUMULATION PLUS

- authority to perform APF authorization tasks

CHANGE RECORDING FACILITY for IMS

- DBRC feature of IMS
- DB/CTL feature of IMS if you use IBM CICS®
- authority to perform APF authorization tasks
- authority to include the operating system SYS1.CSSLIB library in the STEPLIB or LNKLST
## Table 6  Database products for IMS hardware and software requirements (part 2 of 4)

<table>
<thead>
<tr>
<th>Product</th>
<th>Additional requirements</th>
</tr>
</thead>
</table>
| Cross-System Image Manager | - JES2  
- MVS/ESA version 4.3 or later  
- a user ID associated with the authority to access necessary resources  
- sufficient system linkage indexes (LXs) for your MVS subsystems  
- Cross-System Coupling Facility services executing in a multi-system environment |
| DATA PACKER/IMS | no additional requirements apply |
| DATABASE INTEGRITY PLUS | no additional requirements apply |
| DBA Toolkit | - a user ID with the authority that is associated with the BCSS/CPC server started task  
- Microsoft Internet Explorer 5.0, 5.5, or 6.0 (must be Oracle® Java enabled) or Netscape 6.2 or 7.0  
- minimum workstation hardware and operating system requirements (for more information, see “UIM and console requirements” on page 58) |
| EXTENDED BUFFER MANAGER and SNAPSHOT UPGRADE FEATURE | TSO region size set to TSO REGION=4M (or higher) for all XBM users |
| Fast Path Analyzer/EP | - DBRC feature of IMS  
- authority to perform APF authorization tasks |
| Fast Path Indexer/EP | - authority to perform APF authorization tasks  
- PFXLIBA and PFXLIBB data sets to hold DBD and PSB control blocks |
| Fast Path Online Analyzer/EP | - DBRC feature of IMS  
- authority to perform APF authorization tasks |
| Fast Path Online Image Copy/EP | - DBRC feature of IMS  
- authority to perform APF authorization tasks |
| Fast Path Online Reorg/EP | - DBRC feature of IMS  
- authority to perform APF authorization tasks |
| Fast Path Recovery Utility | - DBRC feature of IMS  
- authority to perform APF authorization tasks (only for block-level sharing systems) |
| Fast Path Reorg/EP | - DBRC feature of IMS  
- authority to perform APF authorization tasks |
| Fast Path Restart Control Facility | - authority to perform APF authorization tasks  
- MVS Message Processing Facility and MGCR SVC |
Table 6  Database products for IMS hardware and software requirements (part 3 of 4)

<table>
<thead>
<tr>
<th>Product</th>
<th>Additional requirements</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fast Path Online Restructure/EP</td>
<td>■ DBRC feature of IMS&lt;br&gt;■ DB/CTL feature of IMS if you use CICS&lt;br&gt;■ authority to perform APF authorization tasks&lt;br&gt;■ authority to include the operating system SYS1.CSSLIB library in the STEPLIB or LNKLST</td>
</tr>
<tr>
<td>FAST REORG FACILITY</td>
<td>no additional requirements apply</td>
</tr>
<tr>
<td>FAST REORG FACILITY/EP</td>
<td>■ authority to perform APF authorization tasks&lt;br&gt;■ authority to include the operating system SYS1.CSSLIB library in the STEPLIB or LNKLST</td>
</tr>
<tr>
<td>IMAGE COPY PLUS</td>
<td>authority to perform APF authorization tasks</td>
</tr>
<tr>
<td>LOADPLUS for IMS</td>
<td>no additional requirements apply</td>
</tr>
<tr>
<td>LOADPLUS/EP for IMS</td>
<td>authority to perform APF authorization tasks</td>
</tr>
<tr>
<td>MAXM Database Advisor for IMS</td>
<td>■ authority to perform APF authorization tasks&lt;br&gt;■ a user ID with the authority that is associated with the BCSS/CPC server started task&lt;br&gt;■ Fast Path/EP load library&lt;br&gt;■ Microsoft Internet Explorer 5.0, 5.5, or 6.0 (must be Java enabled) or Netscape 6.2 or 7.0&lt;br&gt;■ minimum workstation hardware and operating system requirements (for more information, see “UIM and console requirements” on page 58)</td>
</tr>
<tr>
<td>MAXM Reorg for IMS</td>
<td>authority to perform APF authorization tasks</td>
</tr>
<tr>
<td>MAXM Reorg for IMS with Online/Defrag Feature</td>
<td>■ DBRC feature of IMS&lt;br&gt;■ authority to perform APF authorization tasks</td>
</tr>
<tr>
<td>MAXM Reorg/EP for IMS</td>
<td>■ authority to perform APF authorization tasks&lt;br&gt;■ authority to include the operating system SYS1.CSSLIB library in the STEPLIB or LNKLST</td>
</tr>
<tr>
<td>MAXM Reorg/EP for IMS with Online/Defrag Feature</td>
<td>■ DBRC feature of IMS&lt;br&gt;■ authority to perform APF authorization tasks&lt;br&gt;■ authority to include the operating system SYS1.CSSLIB library in the STEPLIB or LNKLST</td>
</tr>
<tr>
<td>MAXM Reorg/EP Express for IMS</td>
<td>■ authority to perform APF authorization tasks&lt;br&gt;■ authority to include the operating system SYS1.CSSLIB library in the STEPLIB or LNKLST</td>
</tr>
</tbody>
</table>
System administration products for IMS hardware and software requirements

Table 7 lists additional hardware and software requirements for the individual system administration products for IMS.

Table 7  System administration products for IMS hardware and software requirements (part 1 of 4)

<table>
<thead>
<tr>
<th>Product</th>
<th>Additional requirements</th>
</tr>
</thead>
<tbody>
<tr>
<td>BMC Log Analyzer for IMS</td>
<td>no additional requirements apply</td>
</tr>
<tr>
<td>BMC System Administration for IMS</td>
<td>minimum workstation hardware and operating system requirements (for more information, see “UIM and console requirements” on page 58)</td>
</tr>
<tr>
<td>BMC System Communication for IMS</td>
<td>minimum workstation hardware and operating system requirements (for more information, see “UIM and console requirements” on page 58)</td>
</tr>
</tbody>
</table>
DELTA IMS DB/DC

- MLPA DFSBC000 must reside in a library in the control region that is running DELTA IMS if the following conditions exist:
  - multiple IMS systems share a common DFSBC000
  - one or more of the systems do not use DELTA IMS

  **Note:** Change search parameters as necessary to ensure that the STEPLIB for that control region is searched first.

- Since modifications to LPA LIB modules apply to all IMS control regions on the CPU, all IMS control regions must use DELTA IMS if the IMS modules are in LPA LIB; otherwise, unpredictable results can occur.

- To add resources, at least one of each element type must be SYSGENed to the IMS system; otherwise, a user 168 abend will occur when you restart IMS.

- To use version 5.3 and later, IBM module ICQASLI0 must be in the SYS1.PARMLIB(IKJTSO00) data set member in the AUTHTSF name list, and IBM module DFSTPPE0 (the APPC/IMS TP_PROFILE scheduler exit) must be in a LINKLIST data set.

  **Note:** Consult your MVS systems programmer to determine the appropriate LINKLIST data set.

DELTA IMS for DBCTL

- If multiple IMS systems share a common DFSBC000 and one or more of the systems do not use DELTA IMS, MLPA DFSBC000 must reside in a library in the control region that is running DELTA IMS.

  **Note:** Change search parameters as necessary to ensure that the STEPLIB for that control region is searched first.

- Since modifications to LPA LIB modules apply to all IMS control regions on the CPU, all IMS control regions must use DELTA IMS if the IMS modules are in LPA LIB; otherwise, unpredictable results can occur.

- To add resources, at least one of each element type must be SYSGENed to the IMS system; otherwise, a user 168 abend will occur when you restart IMS.
### Table 7  System administration products for IMS hardware and software requirements (part 3 of 4)

<table>
<thead>
<tr>
<th>Product</th>
<th>Additional requirements</th>
</tr>
</thead>
</table>
| **DELTA IMS VIRTUAL TERMINAL** | - If multiple IMS systems share a common DFSBC000 and one or more of the systems do not use DELTA IMS, MLPA DFSBC000 must reside in a library in the control region that is running DELTA IMS.  
  
  **Note:** Change search parameters as necessary to ensure that the STEPLIB for that control region is searched first.  
  
  - Since modifications to LPA LIB modules apply to all IMS control regions on the CPU, all IMS control regions must use DELTA IMS if the IMS modules are in LPA LIB; otherwise, unpredictable results can occur.  
  
  - To add resources, at least one of each element type must be SYSGENed to the IMS system; otherwise, a user 168 abend will occur when you restart IMS.  
  
  - For security maintenance utility (SMU) security to function, the control region RCF parameter value must not contain or imply C or S.  
  
  - IMS module DFSBC000 cannot reside in any LPA library.  
  
  - ETO must be disabled. Ensure that ETO is not included in the IMSGEN or disable ETO by specifying ETO=N in PROCLIB member DFSPBxxx.  
  
  - To allow multiple signons for a single userID, the IMS control region SGN parameter value must be G, M, or Z. |
| **DELTA PLUS**               | no additional requirements apply                                                                                                                                 |
| **DELTA PLUS for DBCTL**     |                                                                                                                                                               |
| **DELTA PLUS VIRTUAL TERMINAL** | - For security maintenance utility (SMU) security to function, the control region RCF parameter value must not contain or imply C or S.  
  
  - IMS module DFSBC000 cannot reside in any LPA library.  
  
  - ETO must be disabled. Ensure that ETO is not included in the IMSGEN or disable ETO by specifying ETO=N in PROCLIB member DFSPBxxx.  
  
  - To allow multiple signons for a single userID, the IMS control region SGN parameter value must be G, M, or Z. |
| **Energizer for IMS Connect** | - IMS Connect version 2.1 or later  
  
  - minimum workstation hardware and operating system requirements (for more information, see “UIM and console requirements” on page 58) |
Table 7  System administration products for IMS hardware and software requirements (part 4 of 4)

<table>
<thead>
<tr>
<th>Product</th>
<th>Additional requirements</th>
</tr>
</thead>
<tbody>
<tr>
<td>EXTENDED TERMINAL ASSIST PLUS</td>
<td>IMS module DFSBC000 cannot reside in any LPA library</td>
</tr>
<tr>
<td>LOCAL COPY PLUS</td>
<td>no additional requirements apply</td>
</tr>
<tr>
<td>Message Advisor for IMS</td>
<td></td>
</tr>
</tbody>
</table>

**System administration products for IMS required data sets**

Table 8 lists the data sets that are required for the individual system administration products for IMS.

**NOTE**

No special data set requirements exist for the EXTENDED TERMINAL ASSIST PLUS or LOCAL COPY PLUS products.

Table 8  System administration products for IMS required data sets (part 1 of 3)

<table>
<thead>
<tr>
<th>Product</th>
<th>Data set</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>BMC Log Analyzer for IMS</td>
<td>installation</td>
<td>holds the product installation libraries</td>
</tr>
<tr>
<td>BMC System Administration for IMS</td>
<td>installation</td>
<td>holds the product installation libraries</td>
</tr>
<tr>
<td>BMC System Communication for IMS</td>
<td>installation</td>
<td>holds the product installation libraries</td>
</tr>
<tr>
<td>DELTA IMS (all tiers)</td>
<td>installation</td>
<td>holds the product installation libraries</td>
</tr>
</tbody>
</table>

- You should not compress the DELTA IMS PDS data set and online installation data sets. If you compress these data sets, an error will occur during the JCL creation and submission process.
- You can use member DLA#ALOC of the DLACNTL library to allocate the DELTAPDS and DELTAUPF data sets.

<table>
<thead>
<tr>
<th>Product</th>
<th>Data set</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>DELTA IMS (all tiers)</td>
<td>DELTAPDS</td>
<td>holds the DELTA Lists that are used to modify your IMS system</td>
</tr>
<tr>
<td></td>
<td>DELTAUPF</td>
<td>holds the user access profiles that control user activities</td>
</tr>
<tr>
<td></td>
<td>DELTA Log</td>
<td>records changes that DELTA IMS makes to your IMS system</td>
</tr>
<tr>
<td></td>
<td></td>
<td>DELTA IMS requires two DELTA Logs for each IMSID that it accesses.</td>
</tr>
</tbody>
</table>
Hardware and software requirements

Table 8 System administration products for IMS required data sets (part 2 of 3)

<table>
<thead>
<tr>
<th>Product</th>
<th>Data set</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>DELTA PLUS and DELTA PLUS VIRTUAL TERMINAL</td>
<td>installation</td>
<td>holds the product installation libraries</td>
</tr>
<tr>
<td></td>
<td>DLPPDS</td>
<td>holds the DELTA Lists that are used to modify your IMS system</td>
</tr>
<tr>
<td></td>
<td>DLPUPF</td>
<td>holds the user access profiles that control user activities</td>
</tr>
<tr>
<td></td>
<td>DELTA PLUS Log</td>
<td>records changes that DELTA PLUS makes to your IMS system</td>
</tr>
<tr>
<td></td>
<td></td>
<td>DELTA PLUS requires two DELTA PLUS Log data sets.</td>
</tr>
<tr>
<td></td>
<td>DELTA PLUS History File</td>
<td>records changes that DELTA PLUS makes to your IMS system</td>
</tr>
<tr>
<td></td>
<td></td>
<td>DELTA PLUS requires two DELTA PLUS History File data sets.</td>
</tr>
<tr>
<td></td>
<td>View Profile</td>
<td>holds the View Profiles that allow user customization of element fields in the ISPF interface</td>
</tr>
<tr>
<td>Energizer for IMS Connect</td>
<td>installation</td>
<td>holds the product installation libraries</td>
</tr>
<tr>
<td></td>
<td>IPROPTS</td>
<td>the Energizer options library</td>
</tr>
<tr>
<td></td>
<td></td>
<td>For more information, see member IPR#OPTS of the IPRCNTL library.</td>
</tr>
<tr>
<td></td>
<td>JOURNALn</td>
<td>the Energizer journal data sets</td>
</tr>
<tr>
<td></td>
<td></td>
<td>For more information, see member IPR#JRNA of the IPRCNTL library.</td>
</tr>
</tbody>
</table>
Password requirements

To activate a BMC product or solution, you must have a password.

The Installation System accommodates any of the following methods for establishing license authority to access and use BMC products:

- Use the Product Authorization option from the Installation System Additional Options Menu. This option starts the BMC Software Product Authorization utility, which is documented in Chapter 6, “Applying passwords.”

- Review and edit the Product Authorization JCL that is unloaded with the products, and submit the JCL outside the Installation System’s operation.

- Use the Installation System’s product customization process to establish access authority.

---

Table 8  System administration products for IMS required data sets (part 3 of 3)

<table>
<thead>
<tr>
<th>Product</th>
<th>Data set</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Message Advisor for IMS</td>
<td>CHECKPOINT</td>
<td>maintains a record of checkpoints for use during requeue processing; required for each IMSID that Message Advisor services</td>
</tr>
<tr>
<td>You can use member QMR#ALLO of the MAQCNTL library to allocate the Message Advisor data sets.</td>
<td>UNLOAD</td>
<td>holds messages that are unloaded through the UNLOAD command</td>
</tr>
<tr>
<td></td>
<td>SPILL1</td>
<td>during a REQUEUE TYPE=COLD/EREFAIL/REPROCESS, holds overflow from main storage for checkpoint records; required for each IMSID that Message Advisor services</td>
</tr>
<tr>
<td></td>
<td>SPILL2</td>
<td>during a REQUEUE TYPE=EREFAIL/REPROCESS, holds log data that will be sorted; required for each IMSID that Message Advisor services</td>
</tr>
<tr>
<td></td>
<td>SPILL3</td>
<td>during a REQUEUE TYPE=EREFAIL/REPROCESS that begins from a SNAPQ, holds overflow from main storage; required for each IMSID that Message Advisor services</td>
</tr>
<tr>
<td></td>
<td>SPILL4</td>
<td>during a REQUEUE TYPE=EREFAIL/REPROCESS, holds overflow from main storage; required for each IMSID that Message Advisor services</td>
</tr>
</tbody>
</table>
Estimated space requirements

During the unload process, the Installation System determines space requirements and automatically allocates various data sets according to the products that you selected for installation. The Installation System displays the total space requirements for all of your selections.

You can increase the allocation for any or all data set types. You can increase the allocation for a specific data set type, or you can apply a percentage increase to all data set allocations. You cannot decrease space allocations.

NOTE
Some BMC products can be authorized only during the product customization process.

UIM and console requirements

The following sections describe the requirements for installing and using the UIM server and the console.

The UIM server resides on the mainframe and handles communication between the console and BMC Software console-enabled mainframe products and features.

The console is the graphical user interface (GUI). The console runs on a client workstation under the Microsoft Windows operating system and communicates with the UIM server through TCP/IP technology.

The following BMC Software products for IMS offer functions that are console-enabled:

- BMC System Administration for IMS
- BMC System Communication for IMS
- Backup and Recovery Solution for IMS
- Energizer for IMS Connect
- MAXM Database Advisor for IMS

NOTE
The Installation System does not display space estimates for user data sets that it allocates in the $C05ALOC job. However, these data sets require approximately 40 cylinders of space.
UIM requirements

Table 9 lists prerequisites for the UIM server.

Table 9  UIM server requirements

<table>
<thead>
<tr>
<th>Check</th>
<th>Task</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>free TCP/IP port number</td>
<td>Ensure that your TCP/IP administrator has assigned a free TCP/IP port for the UIM server.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>A port number is the address of a TCP/IP application on a z/OS image. The UIM server has one port number that clients use to contact the UIM server. The port number is typically between 1 and 65535. Ports 1 through 1024 are normally reserved as well-known ports.</td>
<td></td>
</tr>
<tr>
<td>TCP/IP port 3683 is available</td>
<td>Ensure that TCP/IP port 3683 is available for UIM and console communications.</td>
<td></td>
</tr>
<tr>
<td>CA TCPaccess</td>
<td>If you use the CA TCPaccess TCP/IP stack, ensure that the TCPaccess LOAD library is listed first in the UIM server STEPLIB concatenation.</td>
<td></td>
</tr>
<tr>
<td>OMVS segment for the UIM server</td>
<td>Ensure that the UIM server address space started task procedure name is assigned a user ID with an OMVS segment that is defined by your security administrator. An OMVS segment is required for the UIM server started task so the BMC Software product can access The Open Group UNIX® System Services.</td>
<td></td>
</tr>
<tr>
<td>APF libraries</td>
<td>Ensure that the libraries that are specified in the UIM server procedure STEPLIB are APF authorized.</td>
<td></td>
</tr>
</tbody>
</table>

Console requirements

Table 10 lists your personal computer’s minimum requirements to run the console.

Table 10  Console requirements for your computer (part 1 of 2)

<table>
<thead>
<tr>
<th>Resource</th>
<th>Minimum requirements</th>
</tr>
</thead>
<tbody>
<tr>
<td>operating system</td>
<td>You will need one of the following operating systems:</td>
</tr>
<tr>
<td></td>
<td>■ Microsoft Windows 2000 Server with Service Pack 3</td>
</tr>
<tr>
<td></td>
<td>■ Microsoft Windows 2000 Professional with Service Pack 3</td>
</tr>
<tr>
<td></td>
<td>■ Microsoft Windows 2000 Advanced Server with Service Pack 3</td>
</tr>
<tr>
<td></td>
<td>■ Microsoft Windows XP Professional Edition with Service Pack 1</td>
</tr>
<tr>
<td></td>
<td>■ Microsoft Windows Server 2003</td>
</tr>
<tr>
<td>TCP/IP port 3683 is available</td>
<td>Ensure that TCP/IP port 3683 is available for console and UIM communications.</td>
</tr>
<tr>
<td>disk space</td>
<td>21 MB</td>
</tr>
<tr>
<td>memory</td>
<td>128 MB RAM (256 MB recommended)</td>
</tr>
</tbody>
</table>
Installation considerations

Before you install BMC Software products for IMS, you should familiarize yourself with the information in this section.

Multiple-product considerations

This section describes general installation considerations for BMC Software products for IMS.

NOTE

For information about installation considerations that apply to specific products, features, functions, or utilities, see the following sections:

- “Database products for IMS considerations” on page 69
- “System administration products for IMS considerations” on page 81

Library name changes

The information in this section applies if you have previously installed BMC Software products for IMS through the Data Communication Enhancement (DCE) Install System or the Quick Install System (QIS).

NOTE

- Database products for IMS were previously installed through the QIS.
- System administration products for IMS were previously installed through the DCE Install System.
Table 11 lists the libraries that were created when you installed products by using the DCE Install System or QIS. The table also lists the corresponding libraries that are created when you use the Installation System to install the products into non-merged or merged libraries.

### Table 11  Old and new library names (part 1 of 6)

<table>
<thead>
<tr>
<th>Product or product group</th>
<th>Previous libraries</th>
<th>New libraries (non-merged)</th>
<th>New libraries (merged)</th>
</tr>
</thead>
<tbody>
<tr>
<td>BMC Log Analyzer for IMS</td>
<td>Not applicable</td>
<td>hlq.JCL</td>
<td>hlq.JCL</td>
</tr>
<tr>
<td></td>
<td></td>
<td>hlq.LUICNTL</td>
<td>hlq.1MCNTL</td>
</tr>
<tr>
<td></td>
<td></td>
<td>hlq.LUILIB</td>
<td>hlq.1MLIB</td>
</tr>
<tr>
<td></td>
<td></td>
<td>hlq.LUIMLIB</td>
<td>hlq.1MMILIB</td>
</tr>
<tr>
<td></td>
<td></td>
<td>hlq.LUIPLIB</td>
<td>hlq.1MPLIB</td>
</tr>
<tr>
<td></td>
<td></td>
<td>hlq.LUISAMP</td>
<td>hlq.1MSAMP</td>
</tr>
<tr>
<td></td>
<td></td>
<td>hlq.LUISLIB</td>
<td>hlq.1MSLIB</td>
</tr>
<tr>
<td></td>
<td></td>
<td>hlq.LUITLIB</td>
<td>hlq.1MTLIB</td>
</tr>
<tr>
<td>Note:</td>
<td>No previous libraries are listed for BMC Log Analyzer for IMS because it did not exist prior to conversion to the Installation System.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>BMC System Administration for IMS</td>
<td>hlq.BPS.LOADa</td>
<td>hlq.BBLINK</td>
<td>hlq.BBLINK</td>
</tr>
<tr>
<td></td>
<td>hlq.BPS.LOADb</td>
<td>hlq.XXLINK</td>
<td>hlq.XXLINK</td>
</tr>
<tr>
<td></td>
<td>hlq.BPS.BLIB</td>
<td>hlq.BBMLIB</td>
<td>hlq.BBMLIB</td>
</tr>
<tr>
<td></td>
<td>hlq.BPS.PLIB</td>
<td>hlq.BBPLIB</td>
<td>hlq.BBPLIB</td>
</tr>
<tr>
<td></td>
<td>hlq.BPS.SAMP</td>
<td>hlq.BBSAMP</td>
<td>hlq.BBSAMP</td>
</tr>
<tr>
<td></td>
<td>hlq.BPS.SLIB</td>
<td>hlq.BBTLIB</td>
<td>hlq.BBTLIB</td>
</tr>
<tr>
<td></td>
<td>hlq.BMCP5WD</td>
<td>hlq.BMCP5WD</td>
<td>hlq.BMCP5WD</td>
</tr>
<tr>
<td></td>
<td>hlq.INSTALL</td>
<td>hlq.SASCARES</td>
<td>hlq.SASCARES</td>
</tr>
<tr>
<td></td>
<td>hlq.SASCBASE</td>
<td>hlq.SASCBASE</td>
<td>hlq.SASCBASE</td>
</tr>
<tr>
<td></td>
<td>hlq.SASCXXX</td>
<td>hlq.SASCXXX</td>
<td>hlq.SASCXXX</td>
</tr>
<tr>
<td></td>
<td>hlq.SASCSPRE</td>
<td>hlq.SASCSPRE</td>
<td>hlq.SASCSPRE</td>
</tr>
<tr>
<td></td>
<td>hlq.SASCSTD</td>
<td>hlq.SASCSTD</td>
<td>hlq.SASCSTD</td>
</tr>
<tr>
<td></td>
<td>hlq.JCL</td>
<td>hlq.JCL</td>
<td>hlq.JCL</td>
</tr>
<tr>
<td></td>
<td>hlq.IPT.CNTL</td>
<td>hlq.IPTCNTL</td>
<td>hlq.1MCNTL</td>
</tr>
<tr>
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<td>hlq.IPT.LOAD</td>
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Table 11  Old and new library names (part 2 of 6)

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### Multiple-product considerations

#### Table 11  Old and new library names (part 4 of 6)

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### Table 11  Old and new library names (part 5 of 6)

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### Table 11  Old and new library names (part 6 of 6)

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<tr>
<th>Product or product group</th>
<th>Previous libraries</th>
<th>New libraries (non-merged)</th>
<th>New libraries (merged)</th>
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<td>hlq.IMTLIB</td>
</tr>
</tbody>
</table>

*a BPS modules  

b BCS modules
Common modules and BMC Software products for IMS

BMC Software distributes common (shared) modules with some of its products for IMS. If two or more of these products are installed in your environment, you may need to perform additional steps to handle these common modules.

A separate SMP/E function (ZICO100) is provided to install common modules BMCXMRC0 (with alias DFSMVRC0) and BMCXRRA0. The function is included with many BMC Software products for IMS, including the following products:

- Recovery Manager functions and utilities
- DELTA IMS
- DELTA PLUS
- EXTENDED TERMINAL ASSIST PLUS
- Fast Path Indexer/EP
- Fast Path Online Reorg/EP
- LOCAL COPY PLUS
- Message Advisor for IMS

During the installation, you are given the choice of installing IMS products in a common library (IMLIB) or in product-specific libraries. If you choose the common library, the common modules will be installed in IMLIB with the IMS products. If you choose product-specific libraries, the common modules will be installed in a separate library (ICOLIB). In either case, this library (IMLIB or ICOLIB) should be concatenated first in the IMS control region STEPLIB (ahead of any other product libraries and the IMS RESLIB). All libraries that you add to the IMS control region STEPLIB must be APF-authorized.

If two or more products that use the common modules are installed in your environment in different SMP/E target zones, your environment might contain different versions of the common modules (depending on when the products were released). During product execution, the operating system loads the first module that it finds in an APF-authorized library in the STEPLIB concatenation of the IMS control region JCL. You must ensure that the most recent version of the common modules is loaded; otherwise, products that you install through an initial installation may not function. If you install all IMS products into one SMP/E target zone and apply all maintenance to that zone, you will always have the latest version of the common modules and no further action will be required.
If you are installing a product that uses the common modules into different SMP/E target zones, you must use the version with the latest SMP/E maintenance. If you do not know which version to use, perform the following steps:

1. Browse each version of ICOLIB and IMLIB in the different target zones.

2. Check the assembly date in the comments at the beginning of the BMCXMRc0 and BMCXRRA0 common modules, and determine which library contains the most recent versions of the common modules.

3. If the most recent versions of the modules are not in the first APF-authorized library that contains the common modules in the STEPLIB concatenation in the IMS control region JCL, move or copy the modules to that library.

**Product configuration methods**

The configuration process for some products requires you to link-edit certain modules. In many cases, you can choose between the usermod and manual methods of link-editing the modules.

---

**NOTE**

The link-edit procedures for Database Integrity functions differ from the link-edit procedures for the other functions. For specific instructions on link-editing modules for Database Integrity functions, see the chapter about configuring database integrity products in the *Database Products for IMS Configuration Guide*.

---

**Usermod product configuration method**

BMC Software recommends the usermod method because it ensures that SMP/E links the appropriate modules when you apply future IMS maintenance to the affected module.

To use the usermod method, customize the appropriate JCL member in your sample library for an SMPE-type usermod to IMS/ESA. The JCL member contains specific instructions for the job.

**Manual product configuration method**

To use the manual method, customize the appropriate member in the sample library to manually link-edit the required modules. The sample library member contains specific instructions for the job.
Database products for IMS considerations

This section describes considerations that apply to specific database products, functions, features, and utilities.

**NOTE**

For information about general installation considerations for BMC Software products for IMS, see “Multiple-product considerations” on page 60.

Table 12 lists the database products for IMS and the considerations that you should review for each product.

<table>
<thead>
<tr>
<th>If you are installing...</th>
<th>See...</th>
</tr>
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<tr>
<td>Backup and Recovery Solution for IMS</td>
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</tr>
<tr>
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<td>“EXTENDED BUFFER MANAGER and SNAPSHOT UPGRADE FEATURE” on page 73</td>
</tr>
<tr>
<td></td>
<td>“Image Copy utility” on page 77</td>
</tr>
<tr>
<td></td>
<td>“Recovery Advisor” on page 79</td>
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<tr>
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<td>“Recovery Manager functions and utilities” on page 79</td>
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<tr>
<td>CHANGE RECORDING FACILITY for IMS</td>
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<td>“DATA PACKER/IMS supported database types and organizations” on page 71</td>
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<td>“Database Integrity functions” on page 73</td>
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</tr>
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<td>“Password considerations” on page 77</td>
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<td>“Password considerations” on page 77</td>
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Table 12  Database products for IMS installation considerations (part 2 of 3)

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<td>MAXM Database Advisor for IMS</td>
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</tr>
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<td>• “Database Advisor” on page 72</td>
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<tr>
<td>MAXM Reorg for IMS</td>
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</tr>
<tr>
<td>MAXM Reorg for IMS with Online/Defrag Feature</td>
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<td>• “EXTENDED BUFFER MANAGER and SNAPSHOT UPGRADE FEATURE” on page 73</td>
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<td>• “Unload extended performance function” on page 81</td>
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<tr>
<td>MAXM Reorg/EP for IMS with Online/Defrag Feature</td>
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<td>• “Unload extended performance function” on page 81</td>
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Table 12  Database products for IMS installation considerations (part 3 of 3)

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<td>UNLOAD PLUS/EP for IMS</td>
<td>“Unload extended performance function” on page 81</td>
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</table>

**CPC initialization failure**

The Installation System creates the CPC started task procedure and the CPC initialization file with the default value PUBLIC for the communication mode. In most cases, this default value is the correct value to use. However, if an existing BMC Consolidated Subsystem (BCSS) or CPC address space is already executing in PUBLIC mode, the following error message is issued and the newly installed CPC address space fails to initialize:

**BMC251928E Comm Server Failure - duplicate PUBLIC server**

If you receive this message, contact BMC Software Customer Support for assistance.

**DATA PACKER/IMS supported database types and organizations**

DATA PACKER/IMS supports several types of databases and database organizations. Table 13 summarizes the database organizations and access methods that DATA PACKER/IMS supports.
Consider the following points regarding database compression:

- Typically, HISAM database segments are not good candidates for compression. When compression is applied to a HISAM database record that completely fits in the same logical record, actual DASD savings are minimal because the compression percentage achieved does not reduce the number of logical records that are stored on DASD. The only effect of compressing these records is that each logical record on DASD contains additional wasted free space.

- If HISAM database records tend to span more than one logical record and use overflow, compression can reduce the amount of DASD that is required by reducing the amount of overflow space being used. Compression should never be applied to a HISAM root-only database because no DASD savings can be achieved.

- Because IMS does not allow you to code a compression exit in a simple hierarchic indexed sequential access method (SHISAM) or hierarchic sequential access method (HSAM) DBD, DATA PACKER/IMS cannot compress SHISAM or HSAM databases.

**Database Advisor**

This section describes installation considerations that apply to the Database Advisor.

**Fast Path DEDB support**

If you choose separate libraries for your installation, support for Fast Path data entry databases (DEDBs) in Database Advisor requires the Fast Path/EP load library.

**Single z/OS environment**

You can implement Database Advisor in a single z/OS environment so that all IMS databases on a single z/OS can be managed from one workstation. Implementing Database Advisor in a single z/OS environment requires one Advisor server address space and one UIM server.
Enterprise environment

You can implement Database Advisor in an enterprise environment so that all IMS databases across the enterprise can be managed from one workstation. Implementing Database Advisor in an enterprise environment requires one Advisor server address space for each z/OS instance, yet only one UIM server for each sysplex.

Database Integrity functions

This section describes installation considerations that apply to Database Integrity functions.

Suspension of database label verification

If you want to use the library utilities of Database Integrity functions but you do not want the function to verify database labels, you must set the DBIPARMS module with the label data set name BYPASS.DBI.LABEL.PROCESS. This setting suspends database label verification.

Label data set requirements

A key-sequenced data set (KSDS) label is required for IMS version 6.1 or later. Labels cannot be stored in the RECON data sets starting with IMS version 6.1. Earlier versions support labels being stored in the RECON data sets. BMC Software recommends that you do not store labels in the RECON data sets.

EXTENDED BUFFER MANAGER and SNAPSHOT UPGRADE FEATURE

The SNAPSHOT UPGRADE FEATURE (SUF), a feature of the BMC Software EXTENDED BUFFER MANAGER (XBM) product, is included as a component in multiple BMC Software products. This feature allows the supported BMC Software utilities to use XBM snapshot technology when processing snapshots.

Default options

The XBM product uses an assembled options module (XBM$OPTS). The options are kept in text format and apply only to the ISPF user interface.

If you are using XBM in a data sharing environment, see the chapter about configuring XBM in the *Database Products for IMS Configuration Guide*. 
**CLIST requirements**

One CLIST is required for each MVS image, with separate options for each unique XBM subsystem.

---

**NOTE**

If you are using XBM in a sysplex environment, you can set up XBM$OPTS so that you can use a single CLIST by using pattern-matching characters. For more information, see the chapter about configuring XBM in the *Database Products for IMS Configuration Guide*.

---

**Dispatching priority**

BMC recommends setting the dispatching priority of XBM to just below that of VTAM. The dispatching priority of XBM should be at least equal to the priority for the Internal Resource Lock Manager (IRLM) or the DBMS (whichever one has the higher priority).

---

**WARNING**

Not setting XBM to high enough dispatching priority can have a negative impact on overall system performance.

---

**Automatic initialization of the XBM subsystem**

XBM runs as a formal MVS subsystem and automatically handles its subsystem initialization. You do not need to add XBM to the SYS1.PARMLIB subsystem name table.

---

**WARNING**

If you add XBM to your Program Properties Table (PPT), do not define XBM as nonswappable. Defining XBM as nonswappable results in incomplete XBM initialization.

---

**Repository data sets**

When you install XBM, you must allocate a minimum of one data set for each repository. However, for backup purposes, BMC recommends that you allocate at least two data sets for each repository, with each data set located on a different device.

XBM keeps each copy of a repository data set current. If one repository data set become unavailable, XBM can access the other.
Migrating repositories when upgrading

You will likely reuse the information stored in your repository when you upgrade to a new version of XBM. This repository information includes configurations, management sets, groups, and option settings. The Installation System generates the $C10VSAM job that allows you to migrate your old repository information to your new XBM repository.

- Migrating repositories for a regular installation

  The $C10VSAM job that is generated during a regular installation creates JCL that defines a new VSAM repository data set. To migrate your old repository information, use a copy utility (such as IDCAMS REPRO) to copy the old repository information from your old repository data set into the newly created repository data set.

  **NOTE**

  If you uninstall XBM, the VSAM data set that holds the XBM repository is not removed. This restriction ensures that you do not lose the configurations, management sets, groups, and options settings that are defined in the XBM repository. If you run the $C10VSAM job and this VSAM data set already exists, the job will fail. If this happens, do one of the following things:

  - Edit the JCL to refer to another data set (and later transfer the contents of the old repository to that data set).
  - Delete the old repository data set (and permanently lose the configurations, management sets, groups, and options that are defined within it).

- Migrating repositories for a maintenance installation

  The $C10VSAM job that is generated during a maintenance installation creates JCL that alters your existing VSAM repository data set. Before submitting this job, make a backup copy of your repository data set in case you need to fall back to an earlier version.

  If you maintained more than one repository data set (as BMC recommends), you need not make a backup copy. Modify the XBM PROC to point to only one of your existing VSAM repository data sets. When you initialize the new version of XBM for the first time, XBM updates the repository information for only the repository data set specified in the PROC. The other repository data set remains unaltered in case you must revert to the earlier version of XBM.

  When you are satisfied that you no longer need the remaining old repository, add that repository data set name to the PROC and restart XBM.

  For more information about the PROC format, see the chapter about configuring XBM in the *Database Products for IMS Configuration Guide*. 
Reverting to a previously installed version of XBM

Back up your repository before you upgrade to a new version or release of XBM. Repository formats are not backward-compatible among XBM versions. If you do not back up your repository before you upgrade, you can revert to an earlier version of XBM but you must re-create your repository (including management sets, groups, configurations, and any options that you specified). This compatibility issue is not applicable to maintenance upgrades. For example, if you upgrade from 5.1.00 to 5.1.01, the repository formats do not change.

SYSTEMS-wide XBM ENQ demotion (PSS component only)

For the PSS component, XBM uses SYSTEMS-wide ENQs to control shared repository access. Though it is sometimes common practice to demote SYSTEMS-wide ENQs to SYSTEM-wide ENQs to enhance system performance, BMC recommends that you refrain from demoting XBM ENQs (major name BMCXBM).

PROC for started task

Each XBM subsystem requires a PROC for the started task. For more information, see the chapter about configuring XBM in the Database Products for IMS Configuration Guide.

XBM user ID

The XBM user ID requires update authority to the XBM load library. This allows XBM to enable a grace period if a problem occurs with your product authorization (for example, if you need to temporarily run XBM on a backup processor).

XBM for IMS and link pack area storage

If you are installing XBM for IMS, ensure that the following modules are not in the Link Pack Area (LPA) of main storage: DFSPLDR0, DFSXDL10, DFSAOS60, DFSAOS80, DFSOLOC0, and DFSODR00. If the modules are in LPA storage, move the modules before installing XBM for IMS. Otherwise, XBM may fail with a SOC4 abend.

Fast Path products

This section describes installation considerations that apply to the Fast Path database products for IMS.

DEDB support in the MAXM Database Advisor for IMS

Installing any of the Fast Path/EP products activates support for DEDB databases in MAXM Database Advisor.
For the DEDB support in MAXM Database Advisor only installation process, a software license and password is required for MAXM Database Advisor. No licensed passwords are required for the Fast Path/EP products.

**Password considerations**

You do not need a password for both Fast Path Online Analyzer/EP and Fast Path Analyzer/EP. A license for Fast Path Online Analyzer/EP includes a license for Fast Path Analyzer/EP. Likewise, you do not need a password for both Fast Path Online Reorg/EP and Fast Path Reorg/EP. A license for Fast Path Online Reorg/EP includes a license for Fast Path Reorg/EP.

The Installation System treats the products as mutually exclusive so that you only have to provide one password during customization processing. You can select to install either Fast Path Online Analyzer/EP or Fast Path Analyzer/EP, but not both. The same rule applies to Fast Path Online Reorg/EP and Fast Path Reorg/EP. When selecting products to install, you should only select the products for which you have a password. When you install Fast Path Online Analyzer/EP, Fast Path Analyzer/EP is activated, and when you install Fast Path Online Reorg/EP, Fast Path Reorg/EP is activated.

**Image Copy utility**

This section describes installation considerations that apply to the Image Copy utility.

**SNAPSHOT UPGRADE FEATURE**

The Image Copy utility works with the SUF for IMS component to produce Snapshot Copies and Instant Snapshot copies. For installation considerations that apply to SUF, see “EXTENDED BUFFER MANAGER and SNAPSHOT UPGRADE FEATURE” on page 73.

**Suspend-and-resume interface**

If you want to use the optional suspend-and-resume interface of APPLICATION RESTART CONTROL (AR/CTL) for automatic handling of batch message processing (BMP) programs during snapshot copy processing, you must install AR/CTL for IMS. For more information about installing AR/CTL, see the APPLICATION RESTART CONTROL Installation Guide.
Online Reorg function

This section describes installation considerations that apply to the Online Reorg function.

SNAPSHOT UPGRADE FEATURE

The Online Reorg function in MAXM Reorg/Online for IMS includes the snapshot technology of the SUF for IMS component. For installation considerations that apply to SUF, see “EXTENDED BUFFER MANAGER and SNAPSHOT UPGRADE FEATURE” on page 73.

IMS modules and LPALIB

IMS modules DFSDDLE0 and DFSDLD00 must not be loaded from LPALIB. If these modules are loaded from LPALIB, online initialization will fail.

IMS Workload Router and IMS versions earlier than 7.1

For IMS releases earlier than 7.1, the IMS Workload Router (WLR) uses a module named DFSPPUE0. The Online Reorg function in MAXM Reorg/Online for IMS also uses a module named DFSPPUE0. WLR supports a subsequent copy as LCLPPUE0.

The BMC load library has an LCLPPUE0 alias that points to the MAXM Reorg/Online for IMS version of DFSPPUE0. The IMS WLR library must be ahead of the BMC Software library and RESLIB in the STEPLIB concatenation for the IMS control region.

If any other vendor products use a DFSPPUE0 module, the BMC Software load library must occur before the vendor product in the STEPLIB concatenation. If you want WLR to reside in the same load library as BMC Software, you can delete the BMC alias LCPPPUE0, rename the BMC DFSPPUE0 to LCLPPUE0, then copy in the WLR DFSPPUE0.

Starting with IMS version 7.1, WLR no longer uses the DFSPPUE0 name. The consideration for having other vendor products after the BMC DFSPPUE0 still applies.

Pointer Checker function

If you install BMC Software database products for IMS in a common library that includes third-party products, Pointer Checker functions in POINTER CHECKER PLUS has a potential conflict with FABRREL and FABRUNLD. If you use FABRREL or FABRUNLD, contact BMC Software before installing the database products for IMS.
Recovery Advisor

This section describes installation considerations that apply to the Recovery Advisor.

Single z/OS environment

You can implement Recovery Advisor in a single z/OS environment so that all IMS databases on a single z/OS can be managed from one workstation. Implementing Recovery Advisor in a single z/OS environment requires one Advisor server address space and one UIM server.

Enterprise environment

You can implement Recovery Advisor in an enterprise environment so that all IMS databases across the enterprise can be managed from one workstation. Implementing Recovery Advisor in an enterprise environment requires one Advisor server address space for each z/OS instance, yet only one UIM server for each sysplex.

Recovery Manager functions and utilities

This section describes installation considerations that apply to the Recovery Manager functions and utilities.

Suspend-and-resume interface

If you want BMP programs to be handled automatically during processing of the Hold Point of Consistency (HPC) function, install the suspend-and-resume interface of APPLICATION RESTART CONTROL (AR/CTL) for IMS. For more information about installing AR/CTL, see the APPLICATION RESTART CONTROL Installation Guide.

Cross-System Coupling Facility limit

The Recovery Manager functions and utilities use the Cross-System Coupling Facility (XCF) feature of the operating system.

Beginning with the Backup and Recovery product releases of August 29, 2003, if the Recovery Manager functions and utilities are active in the operating system, all Backup and Recovery utilities for IMS will attempt to join an XCF group that is established at startup of the Recovery Manager functions and utilities.
To ensure that the XCFMEMBER limit will not be exceeded when multiple utility jobs are initializing simultaneously, the operating system definitions for XCF should be reviewed and adjusted, if necessary. You can enter the following command from the system console:

```
/D XCF,Couple
```

The command response indicates the maximum number of members that are defined and the maximum number of members that have been used, as shown in the following example:

```
SYSPLEX COUPLE DATA SETS
PRIMARY DSN: SYS1.XCF.CDSP1
  VOLSER: XCFP01    DEVN: A94C
  FORMAT TOD         MAXSYSTEM MAXGROUP(PEAK) MAXMEMBER(PEAK)
  04/09/2001 14:52:53  12  300   (91)  103  (35)
ALTERNATE DSN: SYS1.XCF.CDSP2
  VOLSER: XCFP04    DEVN: A94F
  FORMAT TOD         MAXSYSTEM MAXGROUP MAXMEMBER
  04/09/2001 14:53:01  12  300             103
...```

**IMS modules and the link pack area**

Do not load the following IMS modules in the LPA or the modifiable LPA (MLPA):

- DBFDedb0
- DBFEMH00
- DFSDBDR0
- DFSFLLG0
- DFSRRA00
- DFSVNUC

**Databases**

RMGR supports all full-function DL/I database organizations and Fast Path data entry databases (DEDBs), with the exception of generalized sequential access method (GSAM) databases and main storage databases (MSDBs).
System administration products for IMS considerations

DBRC

All databases to be manipulated by RMGR must be registered to DBRC. DEDBs that are designated as USERRECV in the RECON data sets are not supported by RMGR, and those areas should not be included in elemental groups. All image copies, logs, and change accumulations must also be included in the MVS ICF catalog. RMGR does not support the use of DEFLTJCL.

Abbreviated dumps

Abbreviated dumps do not provide the type of information needed for problem resolution. To ensure that any dump produced is complete, RMGR dynamically allocates the ABNLIGNR DD statement for the following types of jobs:

- Batch Interface utility (IRMBATCH)
- IMS Command utility
- RMGR started task or job
- Disaster Recovery RECON Cleanup (DRRCN) utility
- Automatic Delete/Define (DRAMS) utility

The ABNLIGNR DD statement turns off the Abend-AID product.

Unload extended performance function

The Unload extended performance function in MAXM Reorg/EP for IMS, MAXM Reorg/EP for IMS with Online/Defrag Feature, and MAXM Reorg/Online for IMS includes the snapshot technology of the SUF for IMS component. For installation considerations that apply to SUF, see “EXTENDED BUFFER MANAGER and SNAPSHOT UPGRADE FEATURE” on page 73.

System administration products for IMS considerations

This section describes considerations that apply to specific system administration products for IMS.

NOTE

For information about general installation considerations for BMC Software products for IMS, see “Multiple-product considerations” on page 60.

Table 14 lists the system administration products for IMS and the considerations that you should review for each product.
System administration products for IMS considerations

<table>
<thead>
<tr>
<th>If you are installing...</th>
<th>See...</th>
</tr>
</thead>
<tbody>
<tr>
<td>BMC Log Analyzer for IMS</td>
<td>no additional considerations apply</td>
</tr>
<tr>
<td>BMC System Administration for IMS</td>
<td>“CPC initialization failure” on page 82</td>
</tr>
<tr>
<td>BMC System Communication for IMS</td>
<td>“CPC initialization failure” on page 82</td>
</tr>
<tr>
<td>DELTA IMS DB/DC</td>
<td></td>
</tr>
<tr>
<td>DELTA IMS for DBCTL</td>
<td></td>
</tr>
<tr>
<td>DELTA IMS VIRTUAL TERMINAL</td>
<td></td>
</tr>
<tr>
<td>DELTA PLUS</td>
<td></td>
</tr>
<tr>
<td>DELTA PLUS for DBCTL</td>
<td></td>
</tr>
<tr>
<td>DELTA PLUS VIRTUAL TERMINAL</td>
<td></td>
</tr>
<tr>
<td>Energizer for IMS Connect</td>
<td>no additional considerations apply</td>
</tr>
<tr>
<td>EXTENDED TERMINAL ASSIST PLUS</td>
<td></td>
</tr>
<tr>
<td>LOCAL COPY PLUS</td>
<td></td>
</tr>
<tr>
<td>Message Advisor for IMS</td>
<td></td>
</tr>
</tbody>
</table>

**CPC initialization failure**

The Installation System creates the CPC started task procedure and the CPC initialization file with the default value PUBLIC for the communication mode. In most cases, this default value is the correct value to use. However, if an existing BMC Consolidated Subsystem (BCSS) or CPC address space is already executing in PUBLIC mode, the following error message is issued and the newly installed CPC address space fails to initialize:

**BMC251928E Comm Server Failure - duplicate PUBLIC server**

If you receive this message, contact BMC Customer Support for assistance.
Sample usermods

When you customize system administration products for IMS, you may choose to install and customize sample user exits that BMC Software provides. Table 15 lists the sample usermods that allow you to install the sample user exits into your SMP/E environment.

**NOTE**

The prefixes in the usermod names are defined as follows:

— DLA for DELTA IMS (all tiers except VIRTUAL TERMINAL)
— DLP for DELTA PLUS
— ETA for EXTENDED TERMINAL ASSIST PLUS
— LCP for LOCAL COPY PLUS
— MAQ for Message Advisor for IMS
— VTF for DELTA IMS VIRTUAL TERMINAL and DELTA PLUS VIRTUAL TERMINAL

<table>
<thead>
<tr>
<th>Member</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>DLAU001</td>
<td>sample DELTA IMS input Log exit—DLAXALI0</td>
</tr>
<tr>
<td>DLAU002</td>
<td>sample DELTA IMS input Log exit—DLAXALU0</td>
</tr>
<tr>
<td>DLAU003</td>
<td>sample userid security list—DLAXUID0</td>
</tr>
<tr>
<td>DLAU004</td>
<td>sample DELTA IMS input Log exit—DLAXGIN0</td>
</tr>
<tr>
<td>DLPU001</td>
<td>sample DELTA PLUS list build—DLPYLIST</td>
</tr>
<tr>
<td>DLPU002</td>
<td>sample user History File input—DLPYRPI0</td>
</tr>
<tr>
<td>DLPU003</td>
<td>sample user History File report—DLPYRPO0</td>
</tr>
<tr>
<td>DLPU004</td>
<td>activate IBM RACF® authorization—DLPYRCN0</td>
</tr>
<tr>
<td>DLPU005</td>
<td>change the default SAF class—DLPYSAF</td>
</tr>
<tr>
<td>DLPU006</td>
<td>sample userid security list—DLPYUID0</td>
</tr>
<tr>
<td>ETAU001</td>
<td>sample ETA autosignon exit—ETAESAS1@</td>
</tr>
<tr>
<td>ETAU002</td>
<td>sample ETA greeting message exit—ETAEGM1@</td>
</tr>
<tr>
<td>ETAU003</td>
<td>sample unsolicited output exit—ETAEGIN1@</td>
</tr>
<tr>
<td>ETAU004</td>
<td>sample ETA logoff exit—ETAELF1@</td>
</tr>
<tr>
<td>ETAU005</td>
<td>sample ETA logon exit—ETAELN1@</td>
</tr>
<tr>
<td>ETAU006</td>
<td>sample ETA non-discardable exit—ETAEND1@</td>
</tr>
<tr>
<td>ETAU008</td>
<td>sample ETA signoff exit—ETAESF1@</td>
</tr>
<tr>
<td>ETAU009</td>
<td>sample ETA signon exit—ETAESN1@</td>
</tr>
<tr>
<td>ETAU010</td>
<td>activate RACF authorization—ETAXRCN0</td>
</tr>
<tr>
<td>ETAU011</td>
<td>change the default SAF class—ETAYSAF</td>
</tr>
<tr>
<td>ETAU012</td>
<td>sample TSS exit 1—ETMTSAMP</td>
</tr>
<tr>
<td>ETAU013</td>
<td>sample userid security list—ETMXUID0</td>
</tr>
<tr>
<td>ETAU014</td>
<td>sample TSS exit 2—ETMTSAM2</td>
</tr>
</tbody>
</table>
The SAMP members in Table 15 are all related to the following CNTL members that contain the sample JCL to complete SMP/E RECEIVE and APPLY commands:

<table>
<thead>
<tr>
<th>Member</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>LCPU001</td>
<td>sample user exit LCPUEXT1</td>
</tr>
<tr>
<td>LCPU002</td>
<td>sample user exit LCPUEXT2</td>
</tr>
<tr>
<td>LCPU003</td>
<td>sample user exit LCPUEXT3</td>
</tr>
<tr>
<td>LCPU004</td>
<td>sample user exit LCPUEXT4</td>
</tr>
<tr>
<td>LCPU005</td>
<td>sample user exit LCPUEXT5</td>
</tr>
<tr>
<td>LCPU006</td>
<td>sample user exit LCPUEXT6</td>
</tr>
<tr>
<td>LCPU007</td>
<td>sample user authorization exit 1</td>
</tr>
<tr>
<td>LCPU008</td>
<td>sample user authorization exit 2—ACF2</td>
</tr>
<tr>
<td>LCPU009</td>
<td>sample user authorization exit 3—RACF</td>
</tr>
<tr>
<td>MAQU003</td>
<td>sample user exit 0—QMREXIT0</td>
</tr>
<tr>
<td>MAQU004</td>
<td>sample user exit 1—QMREXIT1</td>
</tr>
<tr>
<td>MAQU005</td>
<td>sample user exit 3—QMREXIT3</td>
</tr>
<tr>
<td>MAQU006</td>
<td>sample user exit 9—QMREXIT9</td>
</tr>
<tr>
<td>VTFU001</td>
<td>sample logon exit 1</td>
</tr>
<tr>
<td>VTFU002</td>
<td>sample logon exit 2</td>
</tr>
<tr>
<td>VTFU003</td>
<td>sample signon exit 1</td>
</tr>
<tr>
<td>VTFU004</td>
<td>sample signon exit 3</td>
</tr>
<tr>
<td>VTFU005</td>
<td>sample signon exit 5</td>
</tr>
<tr>
<td>VTFU006</td>
<td>sample signon exit 7</td>
</tr>
<tr>
<td>VTFU007</td>
<td>sample signon exit 9</td>
</tr>
<tr>
<td>VTFU008</td>
<td>sample signon bypass exit 1</td>
</tr>
<tr>
<td>VTFU009</td>
<td>VIRTUAL TERMINAL extended options</td>
</tr>
<tr>
<td>VTFU010</td>
<td>VIRTUAL TERMINAL message replacement</td>
</tr>
<tr>
<td>VTFU011</td>
<td>sample logon exit 3</td>
</tr>
</tbody>
</table>

Table 15  System administration products for IMS sample usermods (part 2 of 2)

<table>
<thead>
<tr>
<th>Product or component</th>
<th>CNTL member</th>
</tr>
</thead>
<tbody>
<tr>
<td>DELTA IMS</td>
<td>DLA#SMPE</td>
</tr>
<tr>
<td>DELTA PLUS</td>
<td>DLP#SMPE</td>
</tr>
<tr>
<td>ETA</td>
<td>ETA#SMPE</td>
</tr>
<tr>
<td>LOCAL COPY PLUS</td>
<td>LCP#SMPE</td>
</tr>
<tr>
<td>Message Advisor for IMS</td>
<td>MAQ#SMPE</td>
</tr>
<tr>
<td>VIRTUAL TERMINAL</td>
<td>VTF#SMPE</td>
</tr>
</tbody>
</table>
BMCLINK

BMCLINK is an inter-region control facility that is provided with DELTA IMS to allow DELTA IMS users to communicate with IMS systems.

The BMCLINK task must run on each CPU that has an IMS system that DELTA IMS will access. You can start and stop BMCLINK asynchronously with IMS. A BMCLINK BMP is associated with each IMS system that DELTA IMS services. SMU security must authorize these BMPs, at least, to issue the IMS /CHANGE command. For DBCTL regions, the DELTA IMS LOADLIB that is specified in the BMCLINK JCL STEPLIB must be APF-authorized.

BMCLINK maintains an internal trace of all important activities. The trace is always active and you can print it on demand. The trace also appears in the SYSUDUMP. The trace table minimum size is 16K. The trace table can be expanded if necessary.

After the main BMCLINK task starts, a BMCLINK primary logical unit (PLU) task is attached. A VTAM ACB is required for the DELTA IMS TSO session to communicate with BMCLINK. Parameter data specifies the ACBNAME that is used. BMCLINK opens the VTAM ACB and permits logons, then waits for input from a DELTA IMS TSO user. When BMCLINK receives input, the PLU notifies the main BMCLINK task of the input and waits for a response to be queued.

BMCXLINK

BMCXLINK provides communication from ISPF and batch to the IMS control region(s). Communications between ISPF, batch, and BMCXLINK use VTAM communications. Communications between BMCXLINK and the IMS control region(s) use the cross-system coupling facility (XCF). Therefore, ISPF and BMCXLINK do not have to reside on the same MVS image. This allows a single point of control for systems in an IMSPLEX, which allows coordination of changes across the IMSPLEX. BMCXLINK can be started and stopped asynchronously with IMS.

BMCXLINK maintains an internal trace of all important activities. The trace is always active and can be printed on demand. It also appears in SVC dumps. The minimum size of the trace table is 16K, but you can expand the trace table if necessary.

As previously stated, communications between ISPF, batch, and BMCXLINK use VTAM. The BMCXLINK started task specifies a VTAM ACBNAME as parameter data in the JCL. When started, BMCXLINK opens the VTAM ACB and permits logons. BMCXLINK then waits for input from an ISPF or batch user. When input is received, the PLU notifies BMCXLINK and BMCXLINK retrieves the data. BMCXLINK sends the request to the appropriate IMS control region(s) using XCF. When the IMS control region(s) has processed the request, the output is sent back to BMCXLINK using XCF. BMCXLINK processes the information and sends it back to the ISPF or batch user through VTAM communications.
DELTA PLUS VIRTUAL TERMINAL and DELTA IMS

This section describes compatibility issues that you should consider when installing both DELTA PLUS VIRTUAL TERMINAL and DELTA IMS.

DELTA PLUS VIRTUAL TERMINAL and DELTA IMS PDS data sets

You cannot use an existing DELTA IMS PDS data set with DELTA PLUS VIRTUAL TERMINAL. You can use DLPCNTL member DLP#ALOC to allocate additional DELTA PLUS VIRTUAL TERMINAL PDS data sets.

You can also use DLPCNTL member DLP#UTL2 to convert your existing DELTA IMS PDS members to DELTA PLUS VIRTUAL TERMINAL PDS members.

DELTA PLUS VIRTUAL TERMINAL and DELTA IMS BMCLINK VTAM definitions

For DELTA PLUS VIRTUAL TERMINAL and DELTA IMS to co-exist, you should not use the existing BMCLINK VTAM definitions for BMCXLINK.

Conversion information

To ensure smooth conversion from DELTA PLEX or DELTA IMS to DELTA PLUS, the DELTA PLUS User Guide provides detailed conversion information. The following table describes conversion scenarios and provides the location of the applicable conversion information.

<table>
<thead>
<tr>
<th>Customer situation</th>
<th>Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>converting from DELTA IMS to DELTA PLUS</td>
<td>review Appendix C of the DELTA PLUS User Guide</td>
</tr>
<tr>
<td>converting from DELTA PLEX VIRTUAL TERMINAL to DELTA PLUS VIRTUAL TERMINAL</td>
<td>review Appendix D of the DELTA PLUS User Guide</td>
</tr>
<tr>
<td>converting from DELTA IMS VIRTUAL TERMINAL to DELTA PLUS VIRTUAL TERMINAL</td>
<td>review Appendix E of the DELTA PLUS User Guide</td>
</tr>
</tbody>
</table>

DELTA PLUS and DELTA PLUS VIRTUAL TERMINAL internal security

The products allow you to secure product features through a System Authorization Facility (SAF) interface to RACF or an equivalent product, or through user access profiles. Unless you use one of these methods to control use of product features, access to the products and use of their features is effectively unlimited. The two approaches to internal security are mutually exclusive.
For more information about internal security for the products, see the chapter about configuring DELTA PLUS and DELTA PLUS VIRTUAL TERMINAL in the System Administration Products for IMS Configuration Guide.

**ETA**

This section describes installation considerations that apply to the EXTENDED TERMINAL ASSIST PLUS product.

**Internal security**

ETA allows you to secure ETA features through a System Authorization Facility (SAF) interface to RACF or an equivalent product, or through ETA user access profiles. Unless you use one of these methods to control use of ETA features, access to ETA and use of its features is effectively unlimited. The two approaches to internal ETA security are mutually exclusive.

For more information about ETA internal security, see the chapter about configuring ETA in the System Administration Products for IMS Configuration Guide.

**Variable resource name qualifiers**

The following variables are used in ETA SAF resource names:

- *iii* for an IMSID
- *gggg* for an ETA Group name
- *cmd* for a standard three-character IMS command abbreviation
- *tablename* for a TSS table
- *desclistname* for a descriptor list

You can specify standard generic parameters in these qualifiers. With these qualifiers, you can substitute certain characters (* and %) for one or more characters in a qualifier. For information about using generic parameters, see the IBM publication RACF Command Language Reference.

**TSS unload and load functions**

Consider the following points before creating SAF resource statements for the TSS unload and load functions:

- To grant authority for a user to load and simultaneously rename a TSS table, you must create two SAF resource statements: a TSS.LOAD.*tablename* statement and a TSS.DEFINE.*tablename* statement.
Because users can specify generic parameters to unload and load multiple TSS tables through a single request, several SAF resource statements may be required to secure these functions.

If you want to secure the TSS unload and load functions, BMC Software recommends that you deny all users authority to perform unload and load functions, and then provide specific authority for the users who need to perform the unload and load functions.

The following example illustrates how to restrict the use of the unload function. The same concepts apply to the load function.

To provide only specific users with authority to unload TSS tables, perform the following steps:

1. Create the resource statement TSS.UNLOAD.* and specify the universal access value NONE.

2. Modify the TSS.UNLOAD.* statement to specify READ access for the specific users who need authority to unload all TSS tables.

3. Create TSS.UNLOAD.tablename resource statements that allow other users to unload specific TSS tables.

In this case, a user who is authorized to unload only specific TSS tables cannot execute an unload request with * as the table name; however, if the user specifies a table name for which specific authorization has been granted, the request will be executed.

If you specify the universal access value READ for a TSS.UNLOAD.* or TSS.LOAD.* statement, this is the **only** statement that SAF will recognize if a user issues an unload or a load request with * as the table name.

**LOCAL COPY PLUS**

Consider the following information before you install LOCAL COPY PLUS:

- If the IMS/VS resident library is not in the LINKLIST or in the message region STEPLIB, copy LCPTRAN1 and LCPPDX to the message region STEPLIB data set.

- Ensure that you execute the IMS/VS control region from a STEPLIB or JOBLIB. If this is unacceptable at your site, you must use ddname **BMCRESLB** to allocate the IMS/VS RESLIB that is referenced via the LINKLIST to the IMS/VS control region.
**Message Advisor**

This section describes product features that can affect how you install Message Advisor and considerations and restrictions that you should take into account when you install and use Message Advisor.

---

**NOTE**

To serialize access to the RECON, Message Advisor has been changed to issue the MVS RESERVE macro regardless of the value specified with the RESERVE RECONS keyword.

---

**Sort**

Message Advisor does not override any parameters that are set up by your sort utility. You must specify the SORT load library in the Message Advisor Server STEPLIB, or the SORT load modules must reside in LINKLIST.

The Message Advisor SORTCORE keyword on the CUSTOMIZE command set lets you reserve memory for your sort utility in the extended private area (EPVT) because Message Advisor will attempt to use all available EPVT memory.

If the SyncSort OS product’s CORE parameter is set to MAX, set the Message Advisor SORTCORE keyword to 4096K. BMC Software recommends the value 4096K as the optimum size. A larger value reduces the EPVT storage that is available for Message Advisor, which may affect performance. The default value of 4096K for SORTCORE is sufficient to process approximately 100,000 records in core.

**IMS**

Although Message Advisor does not specifically prohibit requeueing messages from one IMS system to another or from one IMS version to another, be aware of the following constraints:

- If you requeue from one IMS system to another, the systems must be identical; otherwise, unpredictable and possibly undesirable results may occur. For example, if one IMS system has a transaction defined that does not exist on the other IMS system, Message Advisor may, depending on command options, create a dynamic logical terminal (LTERM) of the same name and requeue the messages there or discard the messages.

- IMS prefixes usually vary from one level of IMS to another. Sometimes fields are in different locations, and new functions usually require the addition of new fields.
Message Advisor uses the IMS counter to tally the messages that are dequeued from a destination. Since the IMS counter “wraps” at 64K, message number 65,536 becomes zero again. Even if more than 65,535 messages are queued to a destination, they will be dequeued; however, DEQUEUE will never report the deletion of more than 65,535. Because Message Advisor uses this same counter to calculate the totals on the DISPLAY Statistics Information panel, the total count will be inaccurate if a destination has more than 64K messages.

Some situations may require that Message Advisor should not be initialized in the IMS control region even if the product is licensed, installed, and customized. In these instances, add the JCL statement /MAQIGN DD DUMMY to the IMS control region that will not use Message Advisor. The presence of this DD statement will cause Message Advisor to skip all initialization and execution tasks for the duration of the control region and issue informational message BMC43373. To reactivate Message Advisor in the control region, remove the /MAQIGN DD statement and restart the control region.

**Performance**

By design, Message Advisor uses significant amounts of memory. If Message Advisor is restricted from using extensive EPVT, it is forced to use time-consuming I/O processing (paging). To avoid paging, run Message Advisor in a multiple virtual storage (MVS) performance group with an unlimited working set size or specify the INCORE=FIXED keyword. Otherwise, Message Advisor operation may be significantly slower.

When running head-to-head benchmarks with other message requeuer products, consider the effects of requeuing intersystem communication (ISC), multiple systems coupling (MSC), and conversational messages. Preliminary internal benchmark tests at BMC Software revealed that Message Advisor appeared to run slower. Slow-down occurs because Message Advisor requeues a significant number of ISC, MSC, and conversational messages that other products do not requeue. To avoid slow-down, increase the number of IMS message queue buffers to safely accommodate the larger number of messages to be requeued and the increased rate at which Message Advisor accesses the IMS message queues.

The following additional factors can affect Message Advisor performance:

- **DELTA IMS VIRTUAL TERMINAL TSS buffers**

  If you use DELTA IMS VIRTUAL TERMINAL and have Translate Subsystem Services (TSS) tables in your IMS system but do not use the Message Advisor Virtual LTERM Creation feature, you must specify an adequate number of TSS cache buffers. If you do not, DELTA IMS VIRTUAL TERMINAL spends more time reading the TSS tables during the requeue process. BMC Software recommends the
following formula, where \( I \) is the number of DELTA IMS index blocks, \( T \) is the
number of TSS table blocks, and \( B \) is the number of required TSS buffers:

\[
I + T = B
\]

See the Table Select panel in the *DELTA IMS VIRTUAL TERMINAL User Guide* for
more information about displaying the number of index and table blocks.

- **IMS Message queue buffers**

  If the IMS message queue buffers are set too low, IMS must perform more I/O to
the queue data sets and performance is degraded. The larger the queue buffers on
the target IMS system, the faster Message Advisor processes.

**Support for active XRF complexes**

Message Advisor supports active Extended Recovery Facility (XRF) complexes. You
can install and operate Message Advisor with IMS in an XRF complex. The following
considerations apply to running Message Advisor in an XRF environment:

- **All XRF primary and alternate IMS systems must share a common checkpoint
tracking data set.**

  You must allocate the Message Advisor checkpoint tracking data set with
SHAREOPTIONS (4,3).

  For more information about allocating Message Advisor data sets, see the chapter
about configuring Message Advisor in the *System Administration Products for IMS
Configuration Guide*.

- **IMS XRF systems that are running in the same LPAR and that have different
IMSIDs must have separate Message Advisor IMSID options.**

IMS XRF systems may have shared SPILL, EXTRACT, and UNLOAD data sets;
however, this is not a requirement. For more information about the data sets, see the
chapter about configuring Message Advisor in the *System Administration Products for
IMS Configuration Guide.*
Part 2 Installing BMC products for IMS

This part describes how to set up and run the Installation System, generate and run the JCL to create the product libraries for BMC Software products for the IMS™ environment, generate the jobs necessary to install the products, apply passwords to license the products, and apply maintenance to the products.

This part presents the following topics:

Chapter 3
   Setting up the Installation System ...................................................... 95

Chapter 4
   Installing product libraries ............................................................... 115

Chapter 5
   Customizing BMC products for IMS .................................................. 133

Chapter 6
   Applying passwords ........................................................................... 191

Chapter 7
   Applying maintenance ...................................................................... 227
Setting up the Installation System

This chapter describes how to set up and run the Installation System.

This chapter presents the following topics:

Overview ................................................................................................................................. 95
Setting up the installation libraries ...................................................................................... 96
   Obtaining the base installation libraries ............................................................................ 96
   Creating a customized installation library .......................................................................... 102
Starting and preparing the Installation System ................................................................. 106
   Starting the Installation System ....................................................................................... 106
Creating an installation profile repository and installation profiles ............................... 107
Specifying user options ....................................................................................................... 112

Overview

The installation process includes unloading products from the distribution tape or downloading products from the BMC Software Electronic Software Distribution (ESD) File Transfer Protocol (FTP) site. Products are customized for use on your system. You can also use the Installation System to perform other tasks, such as applying maintenance and managing licensing authority.
Setting up the installation libraries

You use the base installation libraries when installing products or applying product maintenance. The base installation libraries consist of an installation library and a load library. Before installing products, you must set up the base installation libraries as follows:

1. Obtain the base installation libraries (“Obtaining the base installation libraries” on page 96).
2. Set up a customized installation library (“Creating a customized installation library” on page 102).

Obtaining the base installation libraries

You can obtain the base installation libraries from either of the following sources:

- Download the libraries from the ESD File Transfer Protocol (FTP) site.

  You can download directly to the mainframe (if your site allows direct downloads through FTP), or you can use a web browser to download to a personal computer (PC) and then transfer the files to the mainframe.

- Unload the libraries from a distribution tape.

  You create and submit JCL to unload libraries from the tape. You can model your initial unload JCL after the example in Figure 3.

Complete the procedure that best suits your needs:

- download base libraries from the ESD site by using FTP on page 97
- download base libraries from the ESD site by using the web browser on page 99
- unload base libraries from a tape on page 101

**NOTE**

Instructions for downloading from the ESD site are also available on the ESD site at the following URL:

ftp://userID:password@epddownload.bmc.com/bmc/esd/ozi/ozi_readme.htm
Before you begin

Ensure that you have completed the following prerequisites before proceeding:

- Review the release notes, technical bulletins, and flashes that are associated with your products. These notices contain additional information that might have been added after this book was published.

- Back up your current product versions. Copy and save your current installation and product libraries.

- To download from the ESD site, you must have an ESD user ID and password. To view the current password, go to http://www.bmc.com/support/downloads-patches/ptf-ftp-installation.html and select Electronic software distribution (ESD) FTP site user ID and password. When prompted, you will need to provide a valid support user ID and password. To register for a support user ID and password, go to http://www.bmc.com/support.

---

**NOTE**

BMC recommends that you use unique plan names, table names, repository names, and qualifier names.

---

To download base libraries from the ESD site by using FTP

1. Create a batch job that is similar to the sample in Figure 2 on page 99.

   A. Ensure that the JCL is unnumbered; FTP reads all 80 characters.

   B. Set **CAPS OFF** and **NUM OFF**.

   C. Customize the JOBCARD job to comply with your site’s requirements.

---

**NOTE**

This job requires a REGION parameter value of 0M.
D Change variable text in the INPUT DD section (highlighted in bold in Figure 2 on page 99) as follows:

---

**WARNING**
The FTP server is case sensitive. You must use lowercase letters for all data in the INPUT DD section.

---

- Change `userID` and `password` to the user ID and password that you obtained from BMC.
- Change `unit` to the unit parameter.
- *(optional)* Change `volume` and the SMS variables to the correct values for your site.

---

**NOTE**
If you do not use these parameters, delete these lines. Do not leave blank lines in the JCL.

---

- Change `versionNumber` to the version number that is listed on the ESD site for the Installation System binary image file at the following location:

  `ftp://userID:password@epddownload.bmc.com/bmc/esd/ozii/

- Change `newDataSetName` to a valid data set name for your site.

  This data set should not already exist. The data set is created when the binary image file is downloaded.

- Make any additional changes your site requires, such as providing proxy information to get outside your firewall.

2 Submit the JCL to download the compressed libraries.

3 After the job completes successfully, edit the downloaded data set according to the instructions in the file.

4 Submit the edited JCL to decompress the base installation libraries.

When the job decompresses the base installation libraries, it creates the `HLQ.BMC.INSTALL` and `HLQ.BMC.INSTALL.LOAD` data sets at the same location as the decompressed libraries.
Obtaining the base installation libraries

**NOTE**
BMC recommends that you submit the data set (JCL) externally. Alternatively, if you have adequate space allocated for your TSO session, you can submit the JCL from within the member.

5 To create a customized installation library, proceed to “Creating a customized installation library” on page 102.

Figure 2 Sample FTP download job for the base installation libraries

```plaintext
//JOB_NAME JOB (ACCOUNT),'USER COMMENT',
//             CLASS=JOB_CLASS,MSGCLASS=MSG_CLASS,
//             REGION=OM,NOTIFY=&SYSUID
//FTPGET EXEC PGM=FTP,REGION=5120K,
//            PARM='epddownload.bmc.com (timeout 720 exit=8'
//SYSMDUMP DD SYSOUT=*
//SYSPRINT DD SYSOUT=*
//SYSPUT DD SYSOUT=*
//OUTPUT DD SYSOUT=*
//INPUT DD *

userID password
cd /bmc/esd/ozi
binary
locsite rec=fb lr=80 blk=6160
locsite cy pri=20 sec=2
locsite u=unit
locsite vol=volume
locsite stor=smsStorageClass
locsite mg=smsManagementClass
locsite datac=smsDataClass
get bmcozi-v<versionNumber>-image.bin + 'newDataSetName'
quit
/*
```

To download base libraries from the ESD site by using a web browser

1 Using a web browser, determine the latest version number of the Installation System image as follows:

```plaintext
ftp://epddownload.bmc.com/bmc/esd/ozi/
```

**NOTE**
When prompted for a user ID and password, provide the user ID and password that you obtained for the ESD FTP site (not your support user ID and password).
2 Download the following file to your personal computer’s desktop:

ftp://epddownload.bmc.com/bmc/esd/ozi/bmcozi-versionNumber-image.bin

**NOTE**
The variable `versionNumber` represents the current base installation version number (for example, 2310).

3 Copy the downloaded file to your mainframe by using the transfer program of your choice.

**NOTE**
The file transfer must meet the following requirements:

- The transfer must be binary.
- The data set on the mainframe must be a fixed block 80 sequential file.
- The block size must be 6160.
- The primary allocation must be set to 30 cylinders, and the secondary allocation must be set to 2 cylinders.

4 After the transfer completes successfully, edit the downloaded data set according to the instructions in the file.

5 Submit the edited JCL to decompress the base installation libraries.

When the job decompresses the base installation libraries, it creates the `HLQ.BMC.INSTALL` and `HLQ.BMC.INSTALL.LOAD` data sets at the same location as the decompressed libraries.

**NOTE**
You can submit the data set (JCL) externally. Alternatively, if you have adequate space allocated for your TSO session, you can submit the JCL from within the member.

6 To create a customized installation library, proceed to “Creating a customized installation library” on page 102.
To unload base libraries from a tape

1. Create a batch job that is similar to the example shown in Figure 3:

   **TIP**

   If you have a CD drive available, you can copy Figure 3 from the copy of this installation guide that is on your documentation CD, and use the copy as a base for creating the batch job. Be sure to check for and correct any spacing problems or other transferred errors.

A. Edit the job to unload File 1 into the load library that the Installation System will use (for example, BMC.INSTALL_LOAD).

B. Edit the job to unload File 2 into a partitioned data set (PDS, not PDSE) with the low-level qualifier INSTALL (for example, BMC.INSTALL).

   In Figure 3, B9Aymd represents the base installation tape’s VOLSER. The variable HLQ is the high-level qualifier that you assigned to the INSTALL data set when you unloaded the base installation libraries.

   Modify the job card information according to your site’s requirements.

**Figure 3   Batch job for unloading the base installation libraries from the distribution tape**

```
//JOB_NAME JOB (account),'USER COMMENT',
//              CLASS=JOB_CLASS,MSGCLASS=MSG_CLASS,
//              REGION=0M,NOTIFY=&SYSUID
//UNLOAD    EXEC PGM=IEBCOPY
//SYSPRINT  DD SYSOUT=*   
//SYSUT3    DD UNIT=SYSDA,SPACE=(TRK,(1,1))
//SYSUT4    DD UNIT=SYSDA,SPACE=(TRK,(1,1))
//BMCTLOAD  DD DSN=BMC.INSTALL_LOAD,DISP=OLD,VOL=SER=B9Aymd,
           //   UNIT=TAPE,LABEL=(1,SL,EXPDT=98000)
//*          
//BMCTINST  DD DSN=BMC.INSTALL,DISP=OLD,VOL=SER=B9Aymd,
           //   UNIT=AFF=BMCTLOAD,LABEL=(2,SL,EXPDT=98000)
//*          
//BMCLOAD   DD DISP=(,CATLG,DELETE),DSN=HLQ.INSTALL_LOAD,
           //   UNIT=SYSDA,SPACE=(CYL,(50,5,500)),
           //   DCB=(RECFM=U,BLKSIZE=23476)
//*          
//BMCIINST  DD DISP=(,CATLG,DELETE),DSN=HLQ.INSTALL,
           //   UNIT=SYSDA,SPACE=(CYL,(60,5,900)),
           //   DCB=(RECFM=FB,LRECL=80,BLKSIZE=6160)
//*          
//SYSIN     DD *
COPY     I=BMCTLOAD,O=BMCILOAD
COPY     I=BMCTINST,O=BMCIINST
```
Creating a customized installation library

After downloading or unloading the base installation libraries, you can use the procedure in this section to start the Installation System and create your site-specific installation environment. The Installation System supports the use of more than one customized installation library.

NOTE
In this procedure, the variable HLQ is the high-level qualifier that you assigned to the INSTALL data set when you unloaded the base installation libraries.

Before you begin

Unload the base installation libraries as explained in “Obtaining the base installation libraries” on page 96.

To avoid merge error ISPS105 (invalid keyword), set the disposition of your ISPPROF or ISRPROF data set to shared (DISP=SHR) in your logon procedure. This setting allows batch TSO to update the data set.

To create a customized installation library

1 From the TSO Commands panel, start the Installation System with or without the setup option:

   ■ If you want to run the Installation System with the setup option (which allows you to specify the names and locations of temporary data sets for use during the installation), enter the following command:

   EX 'HLQ.BMC.INSTALL(BMCINSTL)' 'SETUP'

   For example, if your high-level qualifier is BMC.BMCI, enter the following command:

   EX 'BMC.BMCI.BMC.INSTALL(BMCINSTL)' 'SETUP'
If you want to run the Installation System without the setup option, enter the following command:

```
EX 'HLQ.BMC.INSTALL(BMCINSTL)'
```

---

**WARNING**

If you are using SMS-managed data sets or JES3, you must use the setup option.

---

**NOTE**

BMC recommends that you use the setup option for subsequent installations because the option allows control of temporary data sets, SMS capabilities, JES options, and previously used installation profiles.

BMC recommends that you omit the setup option only if you are a first-time user of the Installation System, or if you want to reenter the provided defaults for items such as job card information.

2. When the Setup Options panel (Figure 4) is displayed, provide the necessary information and press Enter.

---

**Figure 4  Setup Options panel**

BMC Software Install System Setup Options

During the installation process, the install system will allocate some temporary data sets to complete the install process. The install system will default the high level qualifier (HLQ) of those data sets to your TSO userid. If another HLQ is desired, then it should be entered below with any other relevant data set requirements.

Temporary Data Set HLQ . . . . ________ (24 char. max)
Temporary Storage Class . . . . ________ (Specify Value if Required for SMS)
Temporary Management Class . ________ (Specify Value if Required for SMS)
Temporary Data Class . . . . . ________ (Specify Value if Required for SMS)
Temporary Unit . . . . . . . . SYSALLDA
Temporary VOLSER . . . . . . . ______
Type of JES used . . . . . . . JES2   (Specify JES2 or JES3)

Reuse Previously Used Application-ID ($BMC) from the Install Library Y (Y/N)

Press Enter to continue.
When you finish, the BMC Software Installation Configuration panel is displayed.

3 To continue, press Enter.

The system displays the Select Distribution and Installation Methods panel (Figure 5).

Figure 5  Distribution and Installation Methods panel

Select Distribution and Installation Methods

The BMC Software installation process installs products and solutions using multiple distribution and installation methods.

Select the Distribution Method:

- Electronic - Electronic Software Distribution
- Tape       - Cartridge Distribution
  S 3490

Select the Installation Method:

- Custom     - Install using the classic SMP/E installation process
- Express    - Install using a predefined SMP/E installation process

Press Enter to continue.
4 Select the distribution method that you prefer:

- **Electronic** generates JCL that will download products from the BMC ESD site.

  **NOTE**
  To download from the ESD site, you must have an ESD user ID and password. To view the current password, go to [http://www.bmc.com/support/downloads-patches/ptf-ftp-installation.html](http://www.bmc.com/support/downloads-patches/ptf-ftp-installation.html) and select **Electronic software distribution (ESD) FTP site user ID and password**. When prompted, you will need to provide a valid support user ID and password. To register for a support user ID and password, go to [http://www.bmc.com/support](http://www.bmc.com/support).

- **Tape** generates JCL that will unload products from one or more distribution tapes. If you select **Tape**, also select 3490.

  **NOTE**
  If you later decide to change the distribution method for products or maintenance, you must create a new customized installation library and indicate the appropriate distribution method. In that case, when the checkpoint panel is displayed, choose to start over.

5 Select the installation method that you want to use:

- **Custom** generates JCL to perform a full SMP/E installation.
- **Express** generates JCL to perform an SMP/E installation that uses IEBCOPY.

6 Press **Enter** to continue.

7 Specify a name for your customized installation library, provide job card information as requested, and press **Enter**.

8 Provide product distribution information:

- If you selected the electronic distribution method, specify information that establishes a connection to the ESD site.

  **NOTE**
  Be prepared to provide the proxy information that your site requires and the user ID and password that you received from your BMC Customer Support representative.

  If the Installation System cannot get past your firewall, the system displays a prompt and assists you in obtaining the product files manually from the ESD site.

- If you selected the tape distribution method, specify the first VOLSER in the product distribution tape series.

  See “Volume serial number ID” on page 40 for VOLSER naming information.
9 When the system displays the JCL that creates your customized installation library, review the comments at the beginning of the job.

10 Submit the JCL to create the customized installation library.

---

NOTE

If you need to end this procedure and return to the initial panel, press **F3**.

---

Proceed to “Starting and preparing the Installation System” on page 106.

**Starting and preparing the Installation System**

After creating your customized installation library, you are now ready to complete the following installation tasks:

1. Start the Installation System (“Starting the Installation System” on page 106).

2. Set up installation profiles (“Creating an installation profile repository and installation profiles” on page 107).

   You can create a new installation profile repository and installation profile to save your installation variables, or you can use an existing repository and existing profiles.

3. Specify user options (“Specifying user options” on page 112).

**Starting the Installation System**

Use the following procedure to access the Installation System’s Main Menu.

**Before you begin**

Ensure that you have obtained the base installation libraries and created your customized installation library as instructed in “Setting up the installation libraries” on page 96.
Creating an installation profile repository and installation profiles

To start the Installation System

1 From the TSO Commands panel, enter the following command:

   EX 'HLQ.BMC.INSTALL(BMCINSTL)'

   The Installation Configuration Initial Menu is displayed.

2 Select Install and Customize Products and Solutions and press Enter.

   The Main Menu is displayed (Figure 6).

3 To create an installation profile repository, proceed to “Creating an installation profile repository and installation profiles.”

Creating an installation profile repository and installation profiles

An installation profile is a data set that contains installation variables and customization options. The installation profile repository is a sequential file that acts as an index to the profile data sets. The Installation System stores the profile repository data set name in the ISPF profile data set that is associated with your user ID.
Creating an installation profile repository and installation profiles

Use the instructions in this section to complete one of the following tasks:

- Create a new installation profile repository (if the repository does not yet exist) and a new installation profile.

- Copy or select an existing installation profile to replicate an earlier installation or to share the profile with several installers (“To use an existing profile” on page 110).

**NOTE**

In some environments, multiple installers might be responsible for installing and customizing the products. To accommodate multiple installers, you can create one installation profile that other installers can reuse.

Different versions of the Installation System can share the same repository data set.

To create a new installation profile

1. Start the Installation System as described in “Starting the Installation System” on page 106.

2. From the Main Menu, select Manage Repository/Profile and press Enter.

   The system displays the Repository/Profile Options panel (Figure 7).

Figure 7   Repository/Profile Options panel

<table>
<thead>
<tr>
<th>BMC Software Install Repository/Profile Options</th>
</tr>
</thead>
<tbody>
<tr>
<td>Command ===&gt; _________________________________________________________________</td>
</tr>
<tr>
<td>Change options as necessary. Press Enter to continue.</td>
</tr>
<tr>
<td>Repository Data Set . . . . . . HLQ.CUSTOMER.DEFINED.BMCREPO</td>
</tr>
<tr>
<td>Repository Storage Class . . . . (Specify Value if Required for SMS)</td>
</tr>
<tr>
<td>Repository Management Class . . . (Specify Value if Required for SMS)</td>
</tr>
<tr>
<td>Repository Data Class . . . . . . (Specify Value if Required for SMS)</td>
</tr>
<tr>
<td>Repository Unit . . . . . . . . . (Blank to use Installation Unit)</td>
</tr>
<tr>
<td>Repository VOLSER . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .</td>
</tr>
<tr>
<td>Repository Profile ID . . . . . . BMCI  ID containing Installation Parameters</td>
</tr>
<tr>
<td>** To create a new Profile, type over the Profile ID shown above. **</td>
</tr>
<tr>
<td>Profile System Name . . . . . . &lt;systemID&gt;</td>
</tr>
<tr>
<td>Profile Data Set HLQ . . . . . . _____________________                   (30 char. max)</td>
</tr>
<tr>
<td>Profile Data Set Description . . . . ________________________________</td>
</tr>
<tr>
<td>Manage Profiles . . . . . . . Y (Y/N)</td>
</tr>
<tr>
<td>Entry Field Delimiter . . . . . 3 (1.Underscore 2.Reverse Video 3.None)</td>
</tr>
</tbody>
</table>
3 If the **Repository Data Set** field is blank, type a repository data set name:

- If your profile repository data set already exists, type that name.
- If the data set does not exist, type `HLQ.BMCREPO` to create the data set (replacing `HLQ` with your high-level identifier).

---

**NOTE**

You can use the repository data set with multiple versions of the Installation System. The shared profile allows you to access installation information from earlier installation profiles.

---

4 *(optional)* If required for the Storage Management System (SMS), type values for the following fields:

- **Repository Storage Class**
- **Repository Management Class**
- **Repository Data Class**

5 *(optional)* In the **Repository Unit** field, type the repository unit.

6 *(optional)* In the **Repository VOLSER** field, type the ID of the VOLSER that corresponds to the VOLSER of the repository.

7 In the **Repository Profile ID** field, type a four-character ID for the installation profile.

   The Installation System uses this ID and the HLQ that you choose in **step 9** to create the name for the installation profile data set.

8 In the **Profile System Name** field, type your system ID.

9 In the **Profile Data Set HLQ** field, type a high-level qualifier for the profile data set.

   The Installation System uses this HLQ and the profile ID that you chose in **step 7** to name the installation profile data set, as follows:

   `HLQ.IDPROF`

   For example, if you type `MY.PDY` in this step and `MYNA` in **step 7**, the Installation System creates a profile data set with the following name:

   `MY.PDY.MYNAPROF`
Creating an installation profile repository and installation profiles

The Installation System stores the profile ID in the following locations:

- output JCL data set that you name when you specify user options
- ISPF profile data set (ISPPROF) that is associated with your user ID
- customized installation library that you created

10 In the **Profile Data Set Description** field, type a description of your profile data set.

11 In the **Manage Profiles** field, type **N** to create a new installation profile data set.

12 After verifying that the values on the Repository/Profile Options menu are correct, press **Enter** to return to the Main Menu.

13 To specify user options, proceed to “Specifying user options” on page 112.

**To use an existing profile**

If you are using an existing profile so that you can share installation tasks, the initial installer should create an installation profile and note the name of the repository data set and the repository profile ID, as listed on the Repository Listing panel. This information should be passed to subsequent installers.

---

**WARNING**

If you reuse a profile that previously contained MainView-only products, and add MainView for DB2 or any Data Management products for DB2 or IMS using that profile, the Installation System will purge your configuration data set of all configurations except the most current. The Installation System will modify the profile to use the actual SMP/E target libraries which will conform to the deployment restrictions listed above. To avoid this scenario, use a separate profile when adding Data Management products for DB2 or IMS.

---

1 Start the Installation System as described in “Starting the Installation System” on page 106.

2 From the Main Menu, select **Manage Repository/Profile** and press **Enter**.

   The Repository/Profile Options panel (Figure 7) is displayed.

3 In the **Manage Profiles** field, type **Y** and press **Enter**.

   The Repository Listing panel is displayed (Figure 8). The profiles are listed chronologically, beginning with the most recently used profile. You can view, copy, delete, or reuse any of the listed profiles.
Creating an installation profile repository and installation profiles

Figure 8  Repository Listing panel

<table>
<thead>
<tr>
<th>COMMAND ==</th>
<th>Repository Listing --</th>
<th>Row 1 to 12 of 35</th>
</tr>
</thead>
<tbody>
<tr>
<td>Profile Libraries found in TIS.IVPB20.0Z12040.BMCREPO</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Enter S or / to view Profile Information</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Enter P to Create Print JCL for the Profile Report</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Enter C to Create a copy of requested Profile</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Enter D to Delete a Profile from the Repository</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Enter U to Use a specific profile</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Press F12 to return to the Install</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sel Created Prof Description System</td>
<td></td>
<td></td>
</tr>
<tr>
<td>-----------------------------</td>
<td>------------------</td>
<td>------------</td>
</tr>
<tr>
<td>_</td>
<td>02/26/2008 XXXX</td>
<td>DEBH TAPE FULL DIRECT COPY PROFILE TEST</td>
</tr>
<tr>
<td>_</td>
<td>02/21/2008 REOR</td>
<td>REORG INSTALL</td>
</tr>
<tr>
<td>_</td>
<td>02/22/2008 MHA3</td>
<td>SDFD ACT INSTALL</td>
</tr>
<tr>
<td>_</td>
<td>02/24/2008 MHA1</td>
<td>DHA 1 COPY OF RDALWO.IVP7401.0Z12012.UHA</td>
</tr>
<tr>
<td>_</td>
<td>02/23/2008 MGA2</td>
<td>INDIRECT COPY ACT ACM</td>
</tr>
<tr>
<td>_</td>
<td>02/23/2008 MGA1</td>
<td>THIS PROFILE IS A COPY OF MBA1</td>
</tr>
<tr>
<td>_</td>
<td>02/17/2008 MDC3</td>
<td>DBDC - 3 ALU FULL DIRECT VB</td>
</tr>
<tr>
<td>_</td>
<td>02/17/2008 MDC2</td>
<td>DBDC - 2 AAD FULL DIRECT VB</td>
</tr>
<tr>
<td>_</td>
<td>02/14/2008 MDC1</td>
<td>DBDC - 1 DAD FULL DIRECT VB</td>
</tr>
<tr>
<td>_</td>
<td>02/27/2008 MCS2</td>
<td>DECS - 2 SSID USING COPY OF MDC2</td>
</tr>
<tr>
<td>_</td>
<td>02/27/2008 MCS1</td>
<td>DECS - 1 MSSID USING COPY OF MDC1</td>
</tr>
<tr>
<td>_</td>
<td>02/23/2008 MCR2</td>
<td>FULL DIRECT ACT ACP AMU AFR ADU</td>
</tr>
</tbody>
</table>

4 In the selection field for the profile that you want to use, enter U.

**WARNING**

When using an existing profile, review the installation parameters carefully. If someone else installed the product previously and changed a BMC default value, do not use that user-specified value when you reuse the profile. Either use the BMC default value or enter a different user-specified value. If you do not change the required unique parameters during the new installation procedure, severe errors result when you submit the installation JCL.

For example, if you do not change the user-specified value for a DB2 plan name from the value that was specified during a previous installation, you can overwrite the plan that your current installation uses.

5 To return to the Repository/Profile Options menu, press Enter.

6 After verifying that the values on the Repository/Profile Options menu are correct, press Enter to return to the Main Menu.

7 To specify user options, proceed to “Specifying user options” on page 112.
Specifying user options

You need to specify user options that determine how the Installation System runs and where it stores the installation JCL. If you are running the Installation System for the first time, you must specify options before continuing with any task. User options that you specify remain in effect for all subsequent installation tasks until you or someone else changes them.

Before you begin

Ensure that you have completed the following tasks:

- Obtained the base installation libraries and created your customized installation library as instructed in “Setting up the installation libraries” on page 96.
- Started the Installation System, as instructed in “Starting the Installation System” on page 106.
- Created a profile and profile repository, as instructed in “Creating an installation profile repository and installation profiles” on page 107.

To specify user options

1. From the Main Menu, select User Options and press Enter.
2. Specify an installation JCL data set to contain the JCL that the Installation System generates.

   **NOTE**
   Use a data set name of your choice. The output JCL data set contains the following items:
   - all jobs that are used to install the selected products
   - most CLISTs that are used to run the selected products
   Some products do not require CLISTs in the installation JCL.

   The repository data set keeps track of the profile ID, the profile data set name, the profile descriptions, and the associated JCL library. You can change the JCL library that is associated to a profile by using user options to assign a new profile.

   **WARNING**
   If installation JCL already exists in the specified data set, that JCL is overwritten.

3. *(optional)* Specify the storage class, management class, and data class for the installation JCL if required for SMS.
4 *(optional)* Specify the unit for the installation JCL if required for SMS.

5 *(optional)* Specify the installation JCL VOLSER.

6 *(optional)* Specify data set options for unloading the compressed product files to DASD and decompressing them.

- Specify ✗ if you want to define the options, and provide values for the following fields:
  - High Level Qualifier
  - Unit Name
  - Volume Serial Number
  - Storage Class
  - Management Class
  - Data Class

- Specify ✓ to accept the default data set options.

7 To save your changes and return to the Installation System Main Menu, press **Enter**.

8 Specify the high-level qualifier (HLQ) that you used for creating temporary data sets in the unloading process.

   The default value is your user ID. See “Obtaining the base installation libraries” on page 96.

9 *(optional)* Specify the unit name.

   The default value is SYSALLDA.

10 *(optional)* Specify a volume for the temporary data sets.

11 *(optional)* Specify the storage class, management class, and data class for the temporary files that you used to decompress the product data sets if required for SMS.

   **NOTE**

   To avoid potential space allocation issues, BMC recommends that you use SMS allocation if possible when performing multiple product or solution installations.

12 *(optional)* Specify the output class for automatic purging of the noncritical output from the decompression process.

You are now ready to unload products from the distribution media, as instructed in Chapter 4, “Installing product libraries.”
Installing product libraries

This chapter describes how to create and run the JCL that is required to create the product libraries for BMC Software products for the IMS™ environment, and guides you through the tasks associated with installing the product libraries for the products that you selected.

This chapter presents the following topics:

Overview .......................................................... 115
Preparing an existing SMP/E environment ......................... 116
  Considerations for all SMP/E environments with existing zones 116
  Considerations for existing global, target, and distribution zones 117
  Considerations for global zones with new target and distribution zones 117
Generating installation JCL ....................................... 118
Running JCL for an Express installation ............................ 121
Running JCL for a Custom installation ............................... 123
  Checking for PTFs in error and HIPER conditions ................. 124
  Processing enhanced HOLDDATA .............................. 124
  Creating a new SMP/E environment ............................. 124
  Installing the product libraries with SMP/E .................... 126
  Allocating and constructing product data sets with SMP/E .... 128
Canceling the installation ......................................... 131

Overview

After setting up your installation libraries, profiles, and user options (Chapter 3, “Setting up the Installation System”), you can generate installation jobs in your HLQ.JCL library. This chapter guides you through generating, reviewing, and running the JCL to unload and install products.
To use SMP/E, you must first set up your SMP/E environment to prepare for installing the product libraries (see “Preparing an existing SMP/E environment” on page 116). The jobs that are in the HLQ.JCL data set install BMC products into an existing environment or a new environment, depending on your responses on the installation panels.

**NOTE**

You can use Custom or Express installation to create an environment that supports SMP/E maintenance as follows:

- Custom installation is required if you are adding a product to an existing SMP/E installation.
- Express installation is allowed if you are installing all products into a new SMP/E environment, or installing products for a trial or demo system.

After installing the products, BMC strongly recommends that you apply maintenance to ensure that your products are running at the current level. For more information, see Chapter 7, “Applying maintenance.”

---

**Preparing an existing SMP/E environment**

During the installation process, if you chose to install your BMC products into an existing SMP/E environment, the Installation System generated JCL in HLQ.JCL to create new target and distribution zones as necessary, and to relate them to an existing global zone.

The SMP/E environment can have several installation configurations that use

- existing global, target, and distribution zones
- existing global zones with new target and distribution zones

Review the following considerations for SMP/E zones.

---

**Considerations for all SMP/E environments with existing zones**

For all SMP/E environments with existing zones, you must consider the number of directory blocks to allocate. Provide 400 directory blocks for the SMPTLIB. Failure to allocate these directory blocks can result in SMP/E errors. Verify that your DSSPACE parameters are as follows, where your site determines the $xxx$ values: DSSPACE ($xxx,xxx,400$). The last parameter must be 400.
You can use the following sample UCLIN to make the correct allocation:

```
SET BDY(GLOBAL)
UCLIN.
REP OPTIONS(BAB)
DSSPACE(200,120,400)
ENDUCL.
```

Ensure that the global zone is updated with a BMC entry. When new target and distribution zones share the same global zone, the global zone must include an SREL(BOOL) entry before you can install your products. The Installation System generates the $B06SMPE job for Custom installations and the $B90SMPE (JES2) or $B90SMPE and $B91SMPE (JES3) jobs for Express installations. These jobs include an SREL(BOOL) entry. If your global zone already includes an SREL(BOOL) entry, its presence indicates that BMC products have been installed on your system previously.

**Considerations for existing global, target, and distribution zones**

The target libraries contain multiple products. When multiple products share libraries, use the same high-level prefix for the target libraries that you used previously. Common components between products, such as BBIIS25 or BBISS26, are installed only once, and maintenance needs to be applied only once.

**Considerations for global zones with new target and distribution zones**

For a global zone connected to two sets of target and distribution zones, common components are installed twice. Maintenance can be received once in that global zone, but it must be applied to both sets of target and distribution zones. If you want to run multiple products together, you need to concatenate the target libraries.

To install your products and apply maintenance, the new target and distribution zones must be related to the existing global zone. The Installation System generates the necessary job steps.

For Custom installations, the relevant jobs reside in $B05SMPE and $B06SMPE.

**Where to go from here**

Generate the JCL as instructed in “To generate the installation JCL” on page 118.
Generating installation JCL

After you have supplied user options, you are ready to select products to unload from the distribution media. This procedure generates installation batch jobs (JCL) that you can review and edit if necessary. Running the JCL will unload the products that you selected into your environment.

Before you begin

Ensure that you have completed the following tasks:

- Started the Installation System as instructed in “Starting the Installation System” on page 106.
- Obtained the base installation libraries and created your customized installation library as instructed in “Installation System overview” on page 23.
- Specified user options as instructed in “Specifying user options” on page 112.
- Set up your SMP/E environment as instructed in “Preparing an existing SMP/E environment” on page 116 (or for a new installation, see “Creating a new SMP/E environment” on page 124).

To generate the installation JCL

1. From the Main Menu, choose Product Install and press Enter.

   NOTE
   If you have previously run the Installation System, a checkpoint panel is displayed. You can stop your installation at a checkpoint. You can then start over, or you can resume the installation from one of the listed checkpoints.

2. On the Category Selection panel, select the categories for all products that you want to install and press Enter to continue.

   If you select more than one product category, the Installation System stacks the product lists so that you complete all product selections per category.

3. On the Product Selection panel, select the products that you want to install and press Enter to continue.

   A panel displays the selected products.
4 Verify that the displayed products are correct, and press Enter to continue.

Several panels are displayed, requesting information about your selections.

5 For each product, provide the requested information (modifying the displayed values, if necessary), and press Enter to continue.

6 On the Install System Product Library Merge Panel, select Y for a merged installation or N for a non-merged installation.

A merged installation combines the product files into libraries with prefixes such as IM (BMC products for IMS), DB (BMC products for DB2), XX (for infrastructure products), and BB (for MainView products). A non-merged installation distributes the product files into product-specific libraries that are usually prefixed by the product code.

**NOTE**

Carefully consider whether to use merged or non-merged libraries. This decision determines how the target and distribution libraries will be structured and impacts product customization. Switching from merged or non-merged libraries later would require uninstalling and reinstalling the products.

(MainView for DB2 or BMC products for DB2 only) If you select non-merged product libraries, your products must execute from runtime libraries. During product customization, you will not have the option to specify that the products execute from SMP/E target-zone libraries.

For more information, see “Merged and non-merged installations” on page 31.

7 After completing the product and solution panels, generate the installation jobs to unload the products from the distribution media:

**NOTE**

Downloading and decompressing products from the BMC ESD site requires approximately twice the DASD as a tape unload. The Installation System recovers this space after the decompression procedure is complete.

A On the JCL Generation Option panel, specify one of the following options:

- Generate installation jobs in the data set that you entered in “Specifying user options” on page 112.

The Installation System generates jobs that unload the product libraries from the media, overwriting any installation jobs that already exist in the specified data set. The panel displays the current status of the JCL generation.
Skip the installation job generation, and continue to the next panel.

For example, you might skip the installation job generation if you have already generated jobs and simply want to review the information that you provided for the installation.

**NOTE**

If you skip the job generation, no installation jobs are created. Instead, the Installation System skips to step 7C.

<table>
<thead>
<tr>
<th>B</th>
<th>Press <strong>Enter</strong> to generate the installation jobs.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>The installation jobs for the product or products are created.</td>
</tr>
</tbody>
</table>

| C | When all required jobs are generated, press **Enter** to display the list of generated jobs. |

| D | Review the product documentation for additional installation requirements. |

**NOTE**

When you generate installation JCL, jobs are automatically created that will restore your system to conditions that were in place before the installation. These jobs are located in the installation JCL library that you specified when you provided user options. See “Canceling the installation” on page 131 for more information.

| 8 | Run the generated JCL to complete the installation: |

|   | If you are performing an Express installation, see “Running JCL for an Express installation” on page 121. |

|   | If you are performing a Custom installation, see “Running JCL for a Custom installation” on page 123. |

**NOTE**

You should run the installation JCL before customizing your products because some of the customization steps for some products require installed product files.
Running JCL for an Express installation

This procedure explains how to run JCL to unload BMC products from tapes and to prepare for SMP/E maintenance for the Express installation method. To install products from tapes by using the Express installation method, run the JCL shown in Table 16 on page 121. If you are using Custom installation, see “Running JCL for a Custom installation” on page 123.

Before you begin

Ensure that you have generated the JCL as instructed in “Generating installation JCL” on page 118.

Before running the JCL, set NUMBERS OFF on the ISPF Command line.

To run Express installation JCL

1 Review the JCL that the Installation System generated in your HLQ.JCL library (Table 16).

You can modify the JCL if necessary. When you are satisfied that the JCL is correct, proceed to the next step.

Table 16 Generated jobs for an Express installation

<table>
<thead>
<tr>
<th>Job</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>$B00DOC</td>
<td>provides documentation relevant to the unload JCL</td>
</tr>
<tr>
<td>$B04DCMP</td>
<td>decompresses the images from tape sets and creates the data sets used for $B05UNLD</td>
</tr>
<tr>
<td>$B04DWNL</td>
<td>downloads the images from the ESD site and creates the data sets used for $B05UNLD</td>
</tr>
<tr>
<td>$B05UNLD</td>
<td>allocates libraries and unloads the products that you selected for this installation</td>
</tr>
<tr>
<td>LIBUPR</td>
<td>converts certain libraries from lowercase to uppercase</td>
</tr>
<tr>
<td></td>
<td><strong>Note</strong>: This job is automatically created only for the products that offer this conversion. The LIBUPR job is not automatically displayed with the unload jobs.</td>
</tr>
<tr>
<td>$B90SMPE</td>
<td>creates an SMP/E environment for future maintenance</td>
</tr>
<tr>
<td>$B91SMPE</td>
<td>allocates and loads the SMP/E environment</td>
</tr>
<tr>
<td>$B99CLNU</td>
<td>deletes UCLIN libraries that are left from the installation if you do not run $B90SMPE</td>
</tr>
<tr>
<td>$B99DUCL</td>
<td>clean up UCLIN input files</td>
</tr>
</tbody>
</table>
2 Run the $B04DCMP or $B04DWNL job.

3 Run the $B05UNLD job.

The product unload is now complete. The product libraries reside in the data sets that you specified in your user options (“Specifying user options” on page 112).

4 Assign a job class or specify a time parameter that allows sufficient CPU time for the $B90SMPE job (JES2) or $B90SMPE and $B91SMPE jobs (JES3) to be completed.

The required CPU time varies, depending on how many products you are installing.

5 Run the $B90SMPE job (JES2) or $B90SMPE and $B91SMPE jobs (JES3).

The $B90SMPE job prepares products and environments for SMP/E maintenance. $B90SMPE builds and populates zones, initializes the SMP/E environment, and allocates and populates SMP/E support data sets and distribution libraries.

**NOTE**

The VSMALLOC step in this job might complete with return code 8. This return code is normal and does not indicate an error condition.

The $B91SMPE job allocates and loads the SMP/E environment (JES3).

After $B90SMPE runs, the SMPLOG data set contains many UCLIN records. You can manage the SMPLOG data set in the following ways:

- Rename the data set and allocate a new data set for ongoing SMP/E processing.
- Use DISP=OLD instead of DISP=MOD so that existing SMPLOG data set space is rewritten.
- Make the SMPLOG a dummy data set by coding either DSN=NULLFILE or DD DUMMY.

**Where to go from here**

Most products require customization before you can run them. For more information, see Chapter 5, “Customizing BMC products for IMS.”
Running JCL for a Custom installation

If you are installing products by using the Custom method, you must complete several tasks that use the JCL that is generated by the Installation System:

1. Check for PTFs that might be in error (page 124).
2. If HOLDDATA exists for PTFs in error, move that data to a HOLDDATA set (page 124).
3. Set up your SMP/E environment to prepare for installing the product libraries (page 116).
4. Install the products libraries (page 126).
5. Allocate and construct the product data sets (page 128).

Before proceeding, note the following general guidelines for installing BMC products in an SMP/E environment:

- The SMP/E utility is described in these IBM publications:
  - System Modification Program Extended User’s Guide
  - System Modification Program Extended Reference

- BMC products have common components. When installing multiple BMC products into your SMP/E environment, you should install them into one set of target and distribution zones. SMP/E can then control the relationships among the components. Future products (and enhancements to existing products) might also share components that were distributed previously.

**NOTE**
If you plan to deploy products, apply any new fixes to the SMP/E target-zone data sets before customizing. (The maintenance that is included with your products is current as of the date of your installation media. However, new fixes might have become available since then.) Applying new fixes before deploying products ensures that all products are current and enables you to perform the maintenance action only once. For more information, see Chapter 7, “Applying maintenance.”

**WARNING**
BMC recommends that you do not install BMC products in zones that contain products that were distributed or manufactured by other vendors. Naming conventions between vendors is not guaranteed, so zone separation will avoid potential conflicts.
Checking for PTFs in error and HIPER conditions

You should not apply PTFs that are in error (PE) to your system. To determine whether your products have PTFs in error or HOLDDATA, check the most recent technical bulletins or flashes on the Customer Support website at http://www.bmc.com/support.

BMC supports Enhanced HOLDDATA, which is a single source of ERROR-type ++HOLDs. You can use Enhanced HOLDDATA to ensure that you do not install PTFs or FMIDs that are in error or that have High Impact or Pervasive (HIPER) conditions. To process these PTFs or FMIDs, use the procedure in “Processing enhanced HOLDDATA.” For more information about Enhanced HOLDDATA, see Appendix C, “Enhanced HOLDDATA.”

Processing enhanced HOLDDATA

If you want to optionally process enhanced HOLDDATA during installation, use the following procedure and review exception SYSMODs.

To process enhanced HOLDDATA

1. To process enhanced HOLDDATA from your data set and list the exception SYSMODs, run JCL members $B50HOLD and $B55LIST.

2. Review the list output to determine whether you need to download additional resolving PTFs.

Creating a new SMP/E environment

If you chose to create a new SMP/E environment during the installation process, the Installation System generated JCL to define new global, target, and distribution zones and non-VSAM data sets to SMP/E. This procedure describes the generated jobs and considerations for running them.

NOTE
Before submitting JCL, set NUMBERS OFF on the ISPF Command line.
Before you begin

Ensure that you have generated the JCL as instructed in “To generate the installation JCL” on page 118.

Before running the JCL, set NUMBERS OFF on the ISPF Command line.

To create a new SMP/E environment

1 Review the job steps from $B05SMPE and make modifications as necessary.

The $B05SMPE job completes the following tasks:

- creates a global zone
- creates new, separate target and distribution zones
- allocates non-VSAM data sets
- allocates target and distribution data sets for products

2 Review the job steps from $B06SMPE and make modifications as necessary.

The $B06SMPE job completes the following tasks:

- defines BMC options to be used for RECEIVE, APPLY, and ACCEPT processing and relates new BMC target and distribution zones to a global zone

**WARNING**

Before running the RECEIVE and APPLY processes on new products or maintenance in an existing environment, run the ACCEPT process on all previously installed products and maintenance.

**NOTE**

To create new target and distribution zones only for BMC products, you must relate these zones to the global zone. Return code 4 and ADD ASSUMED messages are normal. If the job ends with a higher return code, review the output to determine the cause. For further assistance, contact BMC Support.

- relates new target and distribution zones to an existing global zone and updates the global, target, and distribution zones with an SREL(BOOL) entry
- defines FMIDSETs for new target and distribution zones
- defines data sets to SMP/E by using DDDEF statements

3 Proceed to “Installing the product libraries with SMP/E” to install your products in the SMP/E target and distribution zones.
Installing the product libraries with SMP/E

This procedure explains how to unload product libraries with SMP/E. Specifically, it explains how to receive, apply, and accept product functions and maintenance, and how to define target and distribution libraries by using jobs that the Installation System generates.

Before you begin

Ensure that you have generated JCL for a Custom installation as described in “To generate the installation JCL” on page 118.

To install product libraries

1. Review the jobs that are listed in Table 17 and make modifications as necessary.

NOTE

These jobs require special consideration before you submit them. Review all descriptions and notes in Table 17.

Table 17 Jobs to review and modify for product library installation (part 1 of 2)

<table>
<thead>
<tr>
<th>Job</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>$B04DCMP</td>
<td>decompresses the images from the media and creates the data sets that are used for $B30RECP</td>
</tr>
<tr>
<td>$B30RECP</td>
<td>receives downloaded and decompressed product functions</td>
</tr>
<tr>
<td></td>
<td>You should use the $B35LIST and $B40REJT instructions only if you are installing your products in the same target and distribution libraries as other BMC products.</td>
</tr>
<tr>
<td>$B35LIST</td>
<td>lists the functions received but not applied to the specified target zone</td>
</tr>
<tr>
<td></td>
<td>When you are installing newer functions into existing functions, SMP/E requires a SELECT operand for the following operations:</td>
</tr>
<tr>
<td></td>
<td>- APPLY CHECK ($B75APCF)</td>
</tr>
<tr>
<td></td>
<td>- APPLY ($B76APLF)</td>
</tr>
<tr>
<td></td>
<td>- ACCEPT CHECK ($B77ACCF)</td>
</tr>
<tr>
<td></td>
<td>- ACCEPT ($B78ACPF)</td>
</tr>
<tr>
<td></td>
<td>Obtain the list of function IDs (FMIDs) that are needed to construct the SELECT operand from the $B35LIST output.</td>
</tr>
<tr>
<td></td>
<td><strong>Note:</strong> The Installation System generates this member only if you are installing BMC products into existing SMP/E data sets.</td>
</tr>
</tbody>
</table>
Installing the product libraries with SMP/E

Chapter 4  Installing product libraries

2  Submit the jobs in the order that they are listed on the Installation System panel.

3  Proceed to “Allocating and constructing product data sets with SMP/E” to finish the installation process.

Table 17  Jobs to review and modify for product library installation (part 2 of 2)

<table>
<thead>
<tr>
<th>Job</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>$B40REJT</td>
<td>rejects the functions that were previously received, applied, and accepted. If a subsequent SMP/E receive of functions contains REWORK dates later than the previously applied and accepted functions, these functions are not processed. Reject these functions selectively. <strong>Warning:</strong> Do not reinstall previously installed functions that are shipped with product upgrades. <strong>Note:</strong> The Installation System generates this member only if you are installing one or more products in the same target and distribution libraries as other BMC products.</td>
</tr>
<tr>
<td>$B45RECS</td>
<td>receives the PTFs from the maintenance files or service files that are prepackaged for the individual product media. After $B45RECS is completed, you can review system and error hold information by reviewing the RECEIVE ++HOLD/++RELEASE SUMMARY REPORT. You can also generate the system and error hold information by submitting $B55LIST and viewing the output. Because the service files include maintenance for most BMC products, output from $B45RECS might include ++VER messages, indicating that maintenance for other products was not received. <strong>Note:</strong> These diagnostic messages cause a step return code of 4.</td>
</tr>
<tr>
<td>$B50HOLD</td>
<td>receives HOLD statements that are stored in your data set. <strong>Note:</strong> To determine whether your products have HOLDDATA, check the most recent technical bulletins or flashes on the Customer Support website at <a href="http://www.bmc.com/support">http://www.bmc.com/support</a>. For more information, see “Checking for PTFs in error and HIPER conditions” on page 124.</td>
</tr>
<tr>
<td>$B55LIST</td>
<td>lists HOLDDATA. SYSMODs that are held because of errors are released automatically when an APAR or PTF resolves the error. SYSMODs that are held for documentation or action must be released with the BYPASS keyword in the APPLY JCL at the end of the $B75APCF, $B76APLF, $B80APCP, and $B81APLP jobs.</td>
</tr>
<tr>
<td>$B60DOCL</td>
<td>contains JCL to print PTF documentation from the media.</td>
</tr>
</tbody>
</table>
To complete a Custom installation, you must allocate product data sets in target and distribution zones, and you must apply and accept all functions and maintenance. The Installation System generates JCL that accomplishes these tasks. The following procedures provide considerations and instructions for running the jobs.

Before you begin

Ensure that you have installed the product libraries for a Custom installation as described in “Installing the product libraries with SMP/E” on page 126.

The Installation System generates JCL to allocate and construct product data sets. Review the generated jobs that are listed in Table 18:

Table 18 Jobs to allocate and construct product data sets

<table>
<thead>
<tr>
<th>Job</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>$B05SMPE</td>
<td>defines, creates, and updates SMP/E data sets</td>
</tr>
<tr>
<td>$B06SMPE</td>
<td>builds and updates the SMP/E environment</td>
</tr>
<tr>
<td>$B75APCF</td>
<td>performs APPLY CHECK for all functions</td>
</tr>
<tr>
<td>$B76APLF</td>
<td>applies all functions</td>
</tr>
<tr>
<td>$B77ACCF</td>
<td>performs ACCEPT CHECK for all functions</td>
</tr>
<tr>
<td>$B78ACPF</td>
<td>accepts all functions</td>
</tr>
<tr>
<td>$B80APCP</td>
<td>performs APPLY CHECK for all service maintenance</td>
</tr>
<tr>
<td>$B81APLP</td>
<td>applies all service maintenance</td>
</tr>
<tr>
<td>$B82ACCP</td>
<td>performs ACCEPT CHECK for all service maintenance</td>
</tr>
<tr>
<td>$B83ACPP</td>
<td>accepts all service maintenance</td>
</tr>
</tbody>
</table>

To apply all functions and maintenance

In general, you should accept all previously applied SYSMODs before applying new maintenance.

1 Perform APPLY checking by running the $B75APCF and $B80APCP jobs:

A Review the comments near the beginning of the $B75APCF and $B80APCP jobs.

B In the APPLY SELECT list, use the list of FMIDs that $B35LIST produced.

C Change the BYPASS keyword as needed to take appropriate action for system holds, as in the following example:

```
BYPASS(HOLDSYS(DOC,ACTION,DELETE))
```
D Submit the $B75APCF and $B80APCP jobs to perform APPLY checking.

E Review the $B75APCF and $B80APCP output to verify that the $B76APLF and $B81APLP jobs will apply the expected functions and maintenance.

---
**NOTE**

A return code of 4 is normal. If the jobs end with a higher return code, review the output to determine the cause. For further assistance, contact BMC Support.

---

2 Run the APPLY by running the $B76APLF and $B81APLP jobs:

A Review the comments near the beginning of the $B76APLF and $B81APLP jobs.

B Use the same APPLY SELECT list that you used for $B75APCF and $B80APCP in step 1B.

C Use the same BYPASS that you used for $B75APCF and $B80APCP in step 1C.

D Submit the $B76APLF and $B81APLP jobs to run the APPLY.

E Review the $B76APLF and $B81APLP output to verify that these jobs have applied the expected functions and maintenance.

---
**NOTE**

A return code of 4 is normal. If the jobs end with a higher return code, review the output to determine the cause. For further assistance, contact BMC Support.

---

The target libraries are defined by product line, not by product. Some products within a product line do not need all of the target libraries for that line. For this reason, the SMP/E APPLY might not use some target libraries. You can delete the unused target libraries if you do not plan to install other BMC products. However, do not delete the distribution libraries at this time; they are needed for ACCEPT processing.

**To accept functions and maintenance**

In general, you should accept all previously applied SYSMODs before applying new maintenance.

1 Perform ACCEPT checking by running the $B77ACCF and $B82ACCP jobs:

A Review the comments near the beginning of the $B77ACCF and $B82ACCP jobs.

B In the ACCEPT SELECT list, use the list of FMIDs that $B35LIST produces.
C Change the BYPASS keyword to take appropriate action for system holds, as in
the following example:

```
BYPASS(HOLDSYS(DOC,ACTION,DELETE))
```

D Submit the $B77ACCF and $B82ACCP jobs to perform ACCEPT checking.

E Review the $B77ACCF and $B82ACCP output to verify that the $B77ACCF and
$B82ACCP jobs accepted all expected functions and service maintenance.

**NOTE**

A return code of 4 is normal. If the jobs end with a higher return code, review the output
to determine the cause. For further assistance, contact BMC Support.

2 Run the ACCEPT by running the $B78ACPF and $B83ACPP jobs.

A Review the comments near the beginning of the $B78ACPF and $B83ACPP jobs.

B Use the same ACCEPT SELECT list that you used for $B77ACCF and
$B82ACCP in step 1B.

C Use the same BYPASS that you used for $B77ACCF and $B82ACCP in step 1C.

D Submit the $B78ACPF and $B83ACPP jobs to perform ACCEPT checking.

E Review the $B78ACPF and $B83ACPP output to verify that these jobs accepted
the expected functions and maintenance.

**NOTE**

A return code of 4 is normal. If the jobs end with a higher return code, review the output
to determine the cause. For further assistance, contact BMC Support.

**Where to go from here**

Most products require customization before you can run them. For more information,
see Chapter 5, “Customizing BMC products for IMS.”

**NOTE**

If you plan to deploy products, apply any new fixes to the SMP/E target-zone data sets before
customizing. (The maintenance that is included with your products is current as of the date of
your installation media. However, new fixes might have become available since then.)
Applying new fixes before deploying products ensures that all products are current and
enables you to perform the maintenance action only once. For more information, see
Chapter 7, “Applying maintenance.”
Canceling the installation

When you generate installation JCL, jobs are automatically created that will restore your system to conditions that were in place before the installation. These jobs are located in the installation JCL library that you specified when you provided user options. Table 19 describes these utility jobs.

Table 19 Installation System restore jobs

<table>
<thead>
<tr>
<th>Job</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>$B00DOC</td>
<td>contains relevant information about the installation and descriptions of generated jobs. Read this member before submitting any JCL.</td>
</tr>
<tr>
<td>$B99CLNU</td>
<td>deletes SMP/E input data sets that the $B90SMPE job would have used to populate the SMP/E environment with the products and components that were selected. Run this job only if $B90SMPE job was not executed.</td>
</tr>
<tr>
<td>#D98DCSI</td>
<td>deletes global, target, and distribution zones that were created during an SMP/E installation.</td>
</tr>
<tr>
<td>#D98DTGT</td>
<td>removes all product data sets from your SMP/E target libraries.</td>
</tr>
<tr>
<td>#D98DUSR</td>
<td>deletes all user data sets that $C05ALOC created.</td>
</tr>
<tr>
<td>#D99DDLB</td>
<td>removes all product data sets from your SMP/E distribution libraries.</td>
</tr>
<tr>
<td>#D98DROP</td>
<td>drops all DB2 data structures and frees all packages and plans that were created during installation. Run this job only when you want to remove the installed products from your environment. As a safeguard, you must edit the job before it will run.</td>
</tr>
<tr>
<td>#D99DVSM</td>
<td>deletes all VSAM data sets that $C10VSAM created. Run this job only when you want to remove the installed products from your environment. As a safeguard, you must edit the job before it will run.</td>
</tr>
<tr>
<td>#D99RTE</td>
<td>deletes all runtime data sets that $R05RTEC created.</td>
</tr>
</tbody>
</table>

To cancel an installation

1. Determine which jobs you need to run from Table 19.

2. Run the selected jobs.
Customizing BMC products for IMS

This chapter describes tasks for customizing BMC products for the IMS environment. Customizing refers to tasks that you perform within the Installation System to generate the jobs that are necessary to install the products. This chapter presents the following topics:

- Customization process .......................................................... 134
- Customization data sets ......................................................... 134
- Customization methods ......................................................... 135
- Overview of customization to execute products from runtime data sets ........................................ 136
- Customizing products to execute from runtime data sets ................................................................. 143
- Specifying runtime system values ........................................ 143
- Customizing your products for RTE ....................................... 148
- Creating initial runtime data sets .......................................... 151
- Completing product deployment ........................................... 152
- Deploying maintenance to BMC product runtime data sets ......................................................... 155
- Where to go from here ......................................................... 156
- Customizing products to execute from SMP/E target-zone data sets ............................................. 156
- Product authorization .......................................................... 157
- Customizing your products for SMP/E ................................... 157
- Where to go from here ......................................................... 162
- Using the Configuration Parameters customization panels ......................................................... 163
- Specifying IMS system library names .................................... 171
- Specifying UIM server options ............................................ 172
- Specifying EXTENDED BUFFER MANAGER options .............. 174
- Specifying PDX, DBRC, global options modules, and DBUSS options ........................................ 176
- Specifying CPC Advisor information .................................... 179
- Specifying customized global options modules ................................................................. 181
- Specifying Energizer for IMS Connect options ......................................................... 182
- Allocating the repository data set for the Recovery Manager functions and utilities .................... 183
- Allocating the JOBPDS for the Recovery Manager functions and utilities ..................................... 185
- Specifying startup information for the Recovery Manager functions and utilities ............................ 187
- Completing DATA PACKER/IMS customization ................................................................. 189
- Completing customization for the Fast Path database products ..................................................... 189
Customization process

The Installation System can customize your BMC products. During customization, the Installation System assigns values to default options and prepares a product for execution. The Installation System controls the customization process, but the assigned values are specific to your product and environment. During the customization process, the Installation System

- sets up your customization data sets to execute from runtime data sets or from SMP/E target-zone data sets (see “Customization data sets”)

- uses the OZI Customization method, the MainView Customization method, or both (see “Customization methods” on page 135)

Customization data sets

When you start the customization process, you are prompted to choose the type of customization data sets from which you want to execute your products. You can choose to execute from runtime data sets or SMP/E target-zone data sets:

- If you choose runtime data sets, the Installation System merges BMC product SMP/E target libraries and user data sets into a single set of runtime libraries that are not SMP/E managed. Merging reduces the number of data sets to manage in the production environment. Use this option if you want to provide an execution environment that is not SMP/E managed, or if you want to deploy the products to other systems.

- If you choose SMP/E target-zone data sets, the Installation System prepares the products to execute from the SMP/E target data sets. Use this option if you do not plan to deploy products, or if you plan to use the AutoCustomization method to customize MainView products.

NOTE

If you are installing MainView products in combination with Data Management products for DB2 or IMS (including MainView for DB2), consider the following scenarios:

- (using the Runtime data sets option) You can customize the products only to execute from individual sets of libraries on one or more systems in your sysplex (SYSTEM option).

- (using the SMP/E target-zone data sets option) You can customize the products only to execute from the SMP/E target libraries on the original installation system. If you share the SMP/E target libraries across several LPARs within that sysplex, you can customize the products for all of those systems to execute from the SMP/E target libraries. However, you cannot customize or deploy runtime copies in this scenario.
Depending on your choice, use the appropriate procedure to customize your products:

- “Customizing products to execute from runtime data sets” on page 143
- “Customizing products to execute from SMP/E target-zone data sets” on page 156

Customization methods

The Installation System uses OZI Customization, MainView Customization, both, or neither as needed for the products that you are customizing. The Installation System uses the appropriate customization method based on your product selection:

- If all products that you install use the same customization method, the correct customization method starts without a prompt.

- If both customization methods are required for your products, you can choose which method to use first. After you complete the first method, the Installation System returns to the panel of available products, where you can choose to continue customization or exit.

- The following products do not use customization:
  - APPLICATION RESTART CONTROL for IMS
  - APPLICATION RESTART CONTROL for DB2
  - APPLICATION RESTART CONTROL for VSAM
  - DELTA IMS for DBCTL
  - DELTA IMS VIRTUAL TERMINAL
  - DELTA IMS DB/DC
  - DELTA IMS/DC
  - DELTA PLUS
  - DELTA PLUS VIRTUAL TERMINAL
  - EXTENDED TERMINAL ASSIST PLUS
  - LOCAL COPY PLUS
  - BMC Log Analyzer for IMS

NOTE

During OZI Customization, you can invoke the SHOWINFO command to view the names of the profile data sets and JCL libraries. If you are customizing products to execute from runtime data sets, the SHOWINFO command also provides information such as the row ID of the runtime enablement (RTE) or target destination system (TDS) instance, the sysplex name, and the system name.
Overview of customization to execute products from runtime data sets

The Installation System can customize your BMC products to execute from runtime data sets for subsequent deployment. This section provides an overview of:

- customizing products to execute from runtime data sets
- deploying products to target destination systems (TDSs)
- customizing products on the TDSs

For step-by-step instructions, see “Customizing products to execute from runtime data sets” on page 143.

**NOTE**

Version 2.2.90 and earlier of the Installation System used Deployment Assister to aid in product deployment. Version 2.3.00 and later provides enhanced functionality to customize and transport the runtime data sets to TDSs. The Installation System panels no longer refer to Deployment Assister.

How deployment works

The Installation System uses a process called runtime enablement (RTE) to create runtime data sets that you customize and deploy to other systems; you do not need to reinstall the products on each subsequent system. However, you may need to further customize subsequent systems. By using RTE, you build an execution environment for products that is self-contained and does not need the SMP/E target data sets to run. The runtime enablement process assists with additional product customization.

RTE creates runtime data sets by merging your BMC product SMP/E target and user data sets into a single set of runtime data sets that are not SMP/E managed. Merging reduces the number of data sets to manage in the production environment. RTE also allows you to customize your products so that they can execute on other systems.

For more information, see “Runtime enablement” on page 29.
Summary of the deployment process

Product deployment involves several steps on the system of origin (where you initially installed your products) and on the TDS:

1. installing the products on the system of origin
2. specifying initial runtime and TDS values
3. specifying initial product customization information for the runtime environment
4. creating initial RTE data sets
5. transporting the RTE data sets to the TDSs, if needed
6. customizing the products on the TDSs, if needed

Deployment example

In Figure 9, the Installation System generates the customization jobs that are built with references to SMP/E target and user data sets on the system of origin (System 1). From System 1, you provide information about the initial runtime instance and the TDS instances (System 2). You can then customize your products on System 1, providing information such as release levels, library names, and options.

After product customization on System 1, you select runtime enablement (RTE) and create the initial RTE data sets. During this process, the Installation System customizes the products to execute from the RTE data sets. Because System 2 does not share DASD with System 1, you use the Transport feature to send a copy of the RTE data sets and the installation data sets from System 1 to System 2. If needed, you can use the Installation System that resides on System 2 to customize your environment further.

**NOTE**

If the system of origin and TDS share DASD, you can use the Installation System residing on the system of origin to customize your environment further.
Runtime system values

When customizing products for deployment, you provide information about the system of origin and TDSs to the Installation System:

- The system of origin is the system on which you initially installed your products and where you create your initial RTE data sets.
- The TDSs are the target destination systems to which you deploy your products.
During initial customization, you provide values to the Installation System that define the initial RTE data sets. This activity sets up your runtime execution environment so that it is consolidated and does not need the SMP/E target data sets to run. If you plan to deploy products, you also provide values for the TDSs. For example, you indicate preferences for the low-level qualifier (LLQ), whether to use aliases, and whether the products reside in a shared DASD environment or a stand-alone non-shared DASD environment. The Installation System uses this information to determine how to customize the runtime environment and whether to transport the RTE data sets to TDSs.

Alias relationships

During customization, you can choose to create an alias relationship to the runtime data sets. The user of aliases can assist with facilitating deployment to other systems. For MainView only installations, you can enable one JCL procedure to be used throughout the sysplex.

Creating aliases simplifies maintenance of the sysplex. After applying PUT maintenance to the data sets on your system of origin, you can change the alias values across the sysplex so that they reference the updated data sets.

LLQ values

The Installation System provides a default LLQ for all runtime data sets but allows you to specify a value that is more appropriate for your environment. The default LLQs for the RTE data sets have a BMC prefix followed by up to five characters. This syntax makes the LLQ unique while identifying the contents of the data sets. Although you can change the LLQ for a specific type of data set (such as LINK or MSGS), BMC recommends using the default so that you can more easily maintain each TDS in the deployment.

Non-shared DASD

If the system of origin does not share DASD with the TDS, the Installation System generates a job to collect and terse (compress) the RTE data sets and the installation data sets, and to transport them to each TDS.

Shared DASD

If the system of origin shares common data sets with the TDS, the system is said to share DASD:

- If the high-level qualifier (HLQ) of the TDS is different from the one used by the initial runtime instance, the Installation System generates a job to collect the initial runtime data sets, and copy them to each TDS.

- If you use aliases, the transport job will include an alias relationship step.
Product customization information

During product customization, you specify release levels of products, library names and locations, default options, and other information that is specific to the initial runtime instance:

- **(DB2 and most IMS products)** On non-shared DASD systems, you customize the products on each TDS after transporting the RTE data sets to the TDS.

  **NOTE**
  While most IMS products are customized on the TDS, those listed in “Customization methods” on page 135 do not require further customization.

- **(MainView products)** You customize all MainView products on the system of origin, whether or not the TDS shares DASD with the system of origin.

Product authorization

You can specify all product passwords during product customization as follows:

<table>
<thead>
<tr>
<th>Product line</th>
<th>When to specify the product password</th>
<th>Where to specify</th>
</tr>
</thead>
<tbody>
<tr>
<td>DB2&lt;sup&gt;a&lt;/sup&gt;</td>
<td>immediately after you create the initial runtime instance</td>
<td>Final Tasks panel</td>
</tr>
<tr>
<td>IMS&lt;sup&gt;a&lt;/sup&gt;</td>
<td>immediately after you create the initial runtime instance</td>
<td>Final Tasks panel</td>
</tr>
<tr>
<td>MainView</td>
<td>at the beginning of MainView Customization</td>
<td>MainView Customization panel</td>
</tr>
<tr>
<td>product exceptions&lt;sup&gt;a&lt;/sup&gt;</td>
<td>after providing values for the initial runtime instance and TDS instances</td>
<td>Main Menu’s Additional Options panel</td>
</tr>
</tbody>
</table>

<sup>a</sup> For exceptions, see the products listed in “Customization methods” on page 135.

**NOTE**

If a product uses the OZI Customization and MainView Customization methods, you can provide passwords for all products from OZI Customization, MainView Customization, or both.

Providing passwords through the customization panels instead of from the Main Menu Additional Options panels provides some benefits. From the customization panels, you can perform all password processing at once, rather than processing each product individually. Also, if you are installing a new version of the product and the existing password is still applicable, you can copy the password from the existing location to the new location.
Overview of customization to execute products from runtime data sets

RTE data set transport

After initially customizing the products, you create the RTE data sets that the Installation System uses for subsequent deployment. Depending on the preferences that you choose during customization (whether the system of origin is sharing DASD with the TDS, use of aliases, and HLQ and LLQ values), the Installation System determines which RTE data sets to transport to the TDSs.

During Transport, the Installation System packages the RTE data sets and the installation data sets (if DASD is not shared) on the system of origin, and uses FTP to transport this package to the TDSs. The Installation System also creates a job that you will run on the TDSs to unpack the bundle. Depending on the type of system, you might need to customize the products further before using them.

Additional product customization on the TDS

Some OZI-customized products require further customization on the TDSs. For these products, the transport job includes a special version of the Installation System; this version includes only actions that you need or might want to complete on the TDSs. After you unterse the data sets, you will need to start this version of the Installation System on the TDSs if you have OZI-customized products that need further customization.

If you use MainView Customization, you will need to perform the tasks in the generated checklist for each TDS.

Maintenance considerations

Before customizing the products and deploying them to other systems, consider how to apply PUT maintenance to them in the future. The choices that you make during customization will affect how easily you can apply PUT maintenance across the sysplex.

The following best practices can help you decide what values to use during customization and what data sets you should retain:

- BMC recommends retaining your repository and profile data sets and all other associated profile data sets. They contain the variables, values, and defaults that you used in the original installation and customization session. For more information about repository and profile data sets and naming conventions, see “Installation profile repository and installation profiles” on page 34 and your product installation guide.

- To ensure that PUT maintenance is applied efficiently across systems, retain the JCL libraries; they can help you locate the systems on which your runtime data sets were deployed.
When creating HLQ names for each customization instance, consider including the
system name in the HLQ. Doing so can help you keep track of the TDSs where the
products are deployed.

Consider using aliases when the DASD is shared within the sysplex environment.
In a shared DASD environment, aliases allow you to reference the HLQ and system
where the runtime data sets reside. In the future, when you apply PUT
maintenance to the system of origin, you can change these alias values to reference
the updated data sets.

**Task summary for deploying products**

Table 20 summarizes how to customize and deploy products to execute from runtime
data sets within the sysplex.

### Table 20  Task summary for deploying products to execute from runtime data sets

<table>
<thead>
<tr>
<th>Task</th>
<th>How to complete the task</th>
<th>Reference</th>
</tr>
</thead>
<tbody>
<tr>
<td>Specify runtime values</td>
<td>Specify global settings for the system of origin and TDS runtime data sets, and provide values for each system in the sysplex.</td>
<td>“Specifying runtime system values” on page 143</td>
</tr>
<tr>
<td>Customize your products</td>
<td>Customize the products on the system of origin, and specify product passwords.</td>
<td>“Customizing your products for RTE” on page 148</td>
</tr>
<tr>
<td>Create initial runtime data sets</td>
<td>Generate customized runtime JCL.</td>
<td>“Creating initial runtime data sets” on page 151</td>
</tr>
<tr>
<td>Complete deployment</td>
<td>Review additional steps needed to complete deployment.</td>
<td>“Completing product deployment” on page 152</td>
</tr>
<tr>
<td>Transport the RTE data sets to the TDSs</td>
<td>“Transporting RTE data sets to the TDSs” on page 153</td>
<td></td>
</tr>
<tr>
<td>Customize the products on the TDSs, as</td>
<td>“Customizing products on the TDSs” on page 154</td>
<td></td>
</tr>
<tr>
<td>Maintain products after products</td>
<td>Deploy maintenance to BMC product runtime data sets to keep your products current.</td>
<td>“Deploying maintenance to BMC product runtime data sets” on page 155</td>
</tr>
<tr>
<td>deployment</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Customizing products to execute from runtime data sets

This section explains how to customize products to execute from runtime data sets. The tasks in this section show you how to set up an execution environment that is not SMP/E managed and how to deploy products to other systems.

**NOTE**
If you have not already done so, apply SMP/E maintenance to the SMP/E target-zone data sets before proceeding. Applying maintenance before deploying products ensures that all products are current and enables you to perform the maintenance action only once. Before continuing, see Chapter 7, “Applying maintenance.”

Specifying runtime system values

Complete this procedure to provide information to the Installation System about the system of origin and TDS values. For example, you can provide values for the runtime data sets and preferences for aliases and low-level qualifiers (LLQs).

**Before you begin**

Unload your BMC products as instructed in “Generating installation JCL” on page 118.

Run the installation JCL as instructed in “Running JCL for an Express installation” on page 121, or “Running JCL for a Custom installation” on page 123.

The Installation System presents a series of panels that request information about your system and the products that you are installing. Before beginning, locate the resources that you might need (for example, product release notes and installation requirements). Be prepared to supply release levels of installed products, library names and locations, and so on.

**To specify initial runtime instance and TDS values**

1. On the Installation System’s Main Menu, select **Product Customization** and press Enter.

2. On the Product Customization Methods panel, select **Customize products to execute from runtime data sets** and press Enter.
3 On the Runtime Enablement (RTE) Process menu, press Enter to choose Specify runtime system values.

4 On the Runtime Customization Values panel, review global settings and provide information about the initial instance (Row ID RTE001).

The top portion of the panel provides options to set global settings for the system of origin and the TDS runtime data sets. The lower portion of the panel lists the initial runtime instance (the first row) and the TDS instances (subsequent rows) that you will customize.

Each row in the table contains the following information:

- whether the system of origin shares DASD with the TDS instances

  Shared DASD is the default for the system of origin, and not shared is the default for all TDSs. The value you choose for this option (Y or N) determines what the Installation System transports to the TDSs.

- row ID (RTE001 for the initial runtime instance and TDSxxx for each TDS instance, where xxx indicates a row number)

- sysplex name (the name, if applicable, of the common sysplex in which the products will run)

- system name (the name of the z/OS image in which the products will run)

  You can display the system name by using the D SYMBOLS system command and locating the ‘&SYSNAME’ system variable.

- high-level qualifier (HLQ) of the runtime data sets

- runtime setup status (either Reviewed or Not Reviewed)
Specifying runtime system values

**NOTE**
You must provide all initial runtime instance values before specifying any TDS values. You can then use the initial runtime instance as a model for the TDS instances. (Similarly, you can use any instance as a model for the next instance that you create.) When you finish specifying all initial runtime instance and TDS instance values, the Installation System sets the runtime status to **Reviewed**.

A In the **Modify the runtime data set low-level qualifiers (LLQs)** field, specify whether you will modify LLQs for the runtime data sets.

Specify Y to change the LLQ for a given type of data set (such as CLIB, CNFG, or LINK) from its default value to a value that is appropriate for your environment. You can also change the data set sizes; consider changing the sizes if you plan to add a product in the future and want to adjust for it now. Specify N to bypass this panel.

B In the **Create an alias relationship to the runtime data sets** field, type Y (for Yes) or N (for No) to specify whether you will use aliases for the initial installation and subsequent TDSs.

**NOTE**
If you choose to create an alias relationship, the Installation System appends the &SYSNAME variable to the alias HLQ that you provide.

**TIP**
In shared DASD environments, aliases facilitate deployment to other systems, allowing you to create a reference to the HLQ and system where the runtime data sets will reside.

C In the first row of the table, type S or / in the **Sel** column and press Enter to select the initial runtime instance row.

D If you specified Y in step 4A, complete the Runtime Data Set Naming and Sizing Options panel. Otherwise, proceed to step 5.

On this panel, you can change the default values for the displayed runtime data sets and the data set sizes. To increase all library sizes an equal amount, enter a value in the **Percent Increase** fields, and press Enter to display the recalculated sizes. Press Enter to continue to the Runtime Customization Values panel and again to continue to the Runtime Instance panel.
5 On the Runtime Customization Instance RTE001 Data Set Options panel, provide the following information and press Enter:

- HLQ of the associated runtime data sets

**TIP**
Consider including the system name in the HLQ name to help keep track of the TDSs where the products are deployed.

- sysplex name
- system name
- non-VSAM unit name for the runtime data sets
- (if data sets are SMS-managed) storage class, management class, and data class
- (if you specified Y to creating an alias) alias HLQ for the TDS data set

6 (optional) On the Runtime Customization Instance RTE001 - VSAM Allocation Parameters panel, specify VSAM data set information and press Enter.

7 (Products that use DBC or NGL Component Services) On the Runtime Customization Instance - DBC and NGL Component Services panel, provide the values for the Component Services and press Enter.

When the Runtime Customization Values panel returns, the Runtime Setup Status field indicates that the status of the RTE001 row is Reviewed.

8 (optional) If you plan to deploy products, specify multiple TDSs (if applicable) by replicating the RTE001 row.

**NOTE**
If you prefer, you can return to this step after completing the creation of the initial runtime data sets.

To replicate the first row (the initial runtime instance) for the number of TDSs that you plan to customize, specify Rxx (where xx is the number of rows that you want to replicate) on the first row.

For example, to replicate an initial runtime instance and create four TDS rows, specify R4 in the Sel column in the first row labeled RTE001.
Specifying runtime system values

Chapter 5 Customizing BMC products for IMS

The Row ID indicates TDSxxx (where xxx is the row number associated with the TDS).

NOTE

The Shared DASD column of all TDS rows defaults to N, indicating that DASD is not shared between the system of origin and the TDS. To change the column to Y for a specific TDS instance, position your cursor on the N and enter Y.

If you specified R4 in the Sel column to replicate the RTE001 row four times, the Runtime Customization Values panel would indicate four TDS rows:

<table>
<thead>
<tr>
<th>Row</th>
<th>SYSPLEX SYSTEM</th>
<th>Runtime Data Set</th>
<th>Runtime High-Level Qualifier (HLQ)</th>
<th>Setup Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>RTE001</td>
<td>BMCPLEX1 DB2B</td>
<td>BMC.V1234</td>
<td>Reviewed</td>
<td></td>
</tr>
<tr>
<td>TDS001</td>
<td>BMCPLEX1 DB2B</td>
<td>BMC.V1234</td>
<td>Not Reviewed</td>
<td></td>
</tr>
<tr>
<td>TDS002</td>
<td>BMCPLEX1 DB2B</td>
<td>BMC.V1234</td>
<td>Not Reviewed</td>
<td></td>
</tr>
<tr>
<td>TDS003</td>
<td>BMCPLEX1 DB2B</td>
<td>BMC.V1234</td>
<td>Not Reviewed</td>
<td></td>
</tr>
<tr>
<td>TDS004</td>
<td>BMCPLEX1 DB2B</td>
<td>BMC.V1234</td>
<td>Not Reviewed</td>
<td></td>
</tr>
</tbody>
</table>
To edit information about a TDS instance, select that instance by typing S or / in the Sel column and pressing Enter.

For each system, indicate whether it shares DASD with the system of origin, its sysplex name, its system name, and the HLQ of the associated runtime data set.

On the Runtime Customization Instance TDSxxx Data Set Options panel (where xxx is the row ID associated with the TDS), edit the information about each TDS and press Enter.

(Optional) On the Runtime Customization Instance TDSxxx - TDS Data Set Allocation Options panel, specify VSAM data set information and press Enter.

Continue to edit the entire list of TDSs until the Status field indicates Reviewed for all instances.

Press Enter to return to the Runtime Enablement (RTE) Process menu.

If the products that you are customizing and deploying do not require product customization (as listed in “Customization methods” on page 135), complete this step. Otherwise, proceed to “Customizing your products for RTE” on page 148.

A Press F3 to return to the Main Menu, and select Additional Options.

B On the Additional Options Menu, select Product Authorization.

C Follow the instructions on the panels.

For additional information, see Chapter 6, “Applying passwords.”

D Proceed to “Creating initial runtime data sets” on page 151.

### Customizing your products for RTE

**NOTE**

If the Installation System Product Customization Mix panel is displayed, select either customization path. For more information, see the MainView Installation Guide.

Complete this procedure to provide product customization information by using OZI Customization.
Before you begin

Provide values for the initial runtime instance and optional TDS instances as instructed in “Specifying runtime system values” on page 143.

**NOTE**
You must specify runtime system values for the initial runtime instance before creating the initial RTE data sets.

To customize your products by using OZI Customization


2. On the Runtime Customization Instance panel, select and customize the initial runtime instance (RTE001).

**NOTE**
(IBM DB2 and IBM IMS only) Although the initial runtime instance (RTE001) might be listed along with TDS instances on the Runtime Customization Instance panel, you will be customizing only the RTE001 instance on the system of origin. After you transport the runtime data sets to the TDSs, you might need to customize the TDS instances there.

3. On subsequent panels, provide release levels of installed products, library names and locations, default options, and other information.

When you finish specifying product customization values for the initial runtime instance, the status fields (which include OZI Status, MainView Status, or both, depending on your selection) indicate **Completed**.

4. On the Installation System - Final Tasks panel, select **Product Authorization** and follow the instructions on the panels.

Press F1 to display the online Help for these panels or see “Applying passwords with the online interface during OZI Customization” on page 217.

**NOTE**
During product customization, if you have a mixed customization (OZI Customization and MainView Customization), you can provide passwords for all products from OZI Customization, MainView Customization, or both.
5 Generate and submit the JCL:

A On the Installation System - Final Tasks panel, select **JCL Generation** and press **Enter**.

B Select **Generate custom JCL in name**.

The Installation System generates customization JCL in your installation JCL library.

---

**NOTE**

If the jobs already exist in your library, the Installation System overwrites them.

---

C When JCL generation is complete, press **Enter** to continue, note the name of the library that contains the JCL, and press **Enter** again to display an Edit member list from which you can edit or submit the generated JCL.

D From the list of JCL jobs that the Installation System generated, run the jobs in the order listed (or as instructed in $C00DOC or other customization procedures).

For more information about these jobs, see Table 21. Submitting the JCL from the list prepares the jobs for the next step, runtime enablement.

---

**NOTE**

Ensure that all jobs complete successfully before proceeding.

---

The Installation System displays several informational panels. Read them and perform any additional functions before continuing. When you have completed all tasks, press **Enter** to continue.

6 On the Installation System - Final Tasks menu, press **F3** to continue.

7 Proceed to “Creating initial runtime data sets” on page 151.
Creating initial runtime data sets

Complete this procedure to generate runtime data sets for the initial runtime instance.

Before you begin

Complete the product customization as instructed in “Customizing your products for RTE” on page 148.

To create initial runtime data sets

1. On the Runtime Enablement (RTE) Process menu, select **Create initial runtime data sets** and press **Enter**.

2. On the Customization System RTE Options panel, specify **Y** to indicate that all instance tasks have been completed, and indicate whether you want to modify the user options. Then, press **Enter**.

3. *(optional)* If you specified **Y** to modify the user options, complete this step.
   
   **A** On the Runtime Enablement (RTE) User Options panel, specify **Y** to sort the target copy steps by data type (such as LINK, MLIB, PLIB), or **N** to continue without changing the copy steps.
   
   **B** Press **Enter**.

4. On the Job Card panel, specify your job card information and press **Enter**.

5. On the JCL Generation Option Panel, select **Generate runtime JCL in name**.

   The Installation System generates the initial runtime JCL in your installation JCL library.

6. From the list of JCL jobs that the Installation System generated, run the jobs in the order listed.

7. On the Runtime Enablement (RTE) Process menu, select **Additional customization options** to provide further customization information for the following items:

   - Products that use DBC or NGL Component Services
   - DB2 subsystem options such as cloning and catalog indirection
Completing product deployment

**NOTE**
- For products that use component services, check after installation to ensure that the BPM file system is mounted as part of an IPL.
- For help with these panels, press **F1** to access online Help.

If you need to deploy products, proceed to “Completing product deployment” on page 152.

If you do not need to deploy products, you have completed the task of customizing the products to execute from runtime data sets.

### Completing product deployment

Depending on whether the TDS shares DASD with the system of origin, you might need to complete several additional steps:

<table>
<thead>
<tr>
<th>Shares DASD with the TDS?</th>
<th>Uses the same HLQ?</th>
<th>Uses aliases?</th>
<th>Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Transport is needed but only defines the alias to the TDS.(^a) Complete the procedure in “Transporting RTE data sets to the TDSs” on page 153.</td>
</tr>
<tr>
<td>Yes</td>
<td>Yes</td>
<td>No</td>
<td>Transport is not needed because data sets are shared and aliases are not used. No further customization is required.(^a)</td>
</tr>
</tbody>
</table>
| Yes                      | No                | Yes or no     | 1. Complete the procedure in “Transporting RTE data sets to the TDSs” on page 153.  
2. Complete the procedure in “To customize the products on the TDSs when DASD is shared” on page 155. |
| No                       | Yes or no         | Yes or no     | 1. Complete the procedure in “Transporting RTE data sets to the TDSs” on page 153.  
2. Complete the procedure in “To customize the products on the TDSs when DASD is not shared” on page 154. |

\(^a\) This scenario applies only when using MainView Customization to customize MainView products (with the exception of MainView for DB2) and you have selected to generate at the sysplex level.
Transporting RTE data sets to the TDSs

Complete this procedure to execute the transport job for the TDS.

Before you begin

Create the runtime data sets as instructed in “Creating initial runtime data sets” on page 151.

To transport the RTE data sets to the TDSs

1. On the Runtime Enablement (RTE) Process menu, select Transport runtime data sets for target destination system (TDS) instances and press Enter.

2. On the Generate TDS Transport JCL panel, select Generate transport JCL for ALL TDS instances and press Enter.

3. On the Edit TDS Transport JCL panel, submit the TDS jobs.

The Installation System creates a JCL library for each TDS and creates one or two jobs, depending on your configuration:

- If the system of origin and the TDS share DASD, the Installation System creates the $TRA0010 job to collect the runtime data sets and to make a copy of them (using the new TDS names). You execute this job on the system of origin.

- If the system of origin and the TDS do not share DASD, the Installation System creates the $TRA0010 job to collect and terse the runtime data sets and installation data sets. You execute this job on the system of origin. The Installation System creates a second job, $TRA0020, to unterse the data sets on the TDS.

You can allow the Installation System to transport the data sets to the TDS through FTP, or you can transport the data sets yourself:

— If you instruct the Installation System to transport the data sets, it sends $TRA0020 to the TDS and converts $TRA0020 into a sequential data set. The data set includes JCL to unterse the data that was previously tersed on the system of origin. The name of the tersed data set is $installHLQ.systemName.RJCL.

— If you choose to transport the data sets yourself, you will need to send $TRA0020 and unterse the data on the TDS.

- If you specified to use aliases, the Installation System generates a job step to define them in the $TRA0010 job if DASD is shared, or in the $TRA0020 job if DASD is not shared.
Customizing products on the TDSs

Complete one of the following procedures to customize the products on the TDS:

- If you used MainView Customization only, perform the tasks in the generated checklist for each TDS. The checklists ($CHEKLST) are on your system of origin in the data set named HLQ.STGSAMP.

- If you used OZI Customization only or in combination with MainView Customization, perform one of the following tasks:
  
  — “To customize the products on the TDSs when DASD is not shared” on page 154
  — “To customize the products on the TDSs when DASD is shared” on page 155

**NOTE**

For products that do not use OZI Customization or MainView Customization, see your product customization guide for additional information about how to customize your products.

Before you begin

Transport the runtime data sets as instructed in “Transporting RTE data sets to the TDSs” on page 153.

To customize the products on the TDSs when DASD is not shared

1 On each TDS, locate the tered data set (`installHLQ.systemName.RJCL`), run the JCL to unterse the data sets, create the Installation System, and set up the TDS runtime environment.

2 On the TSO Commands panel on the TDS, start the Installation System (TDS installation):

   ```
   EX 'HLQ.INST.systemName(TDSINSTL)' 'SETUP'
   ```

   The Installation System displays the Main Menu with two active options: **Product Customization** and **Additional Options**.

3 On the Main Menu, select **Product Customization** and press Enter.

4 On the Product Customization Methods panel, select **Customize products to execute from runtime data sets** and press Enter.

5 On the Runtime Enablement (RTE) Process panel, select **Specify product customization values for TDS instances**.
Deploying maintenance to BMC product runtime data sets

6 On the Runtime Customization Instance panel, select the appropriate TDS instance and customize it.

Complete all required tasks before continuing to JCL generation. Follow the instructions on the panels or press F1 to display the online Help.

To customize the products on the TDSs when DASD is shared

Use this procedure to customize the products on TDSs when DASD is shared and the HLQ on the TDS is different from the HLQ used for the initial runtime instance.

1 On the TSO Commands panel on the system of origin, start the Installation System:

```
EX 'HLQ.BMC.INSTALL(BMCINSTL)' |
```

The Installation System displays the Main Menu.

2 On the Main Menu, select Product Customization and press Enter.

3 On the Product Customization Methods panel, select Customize products to execute from runtime data sets and press Enter.

4 On the Runtime Enablement (RTE) Process panel, select Specify product customization values for TDS instances.

5 On the Runtime Customization Instance panel, select the appropriate TDS instance and customize it.

Complete all required tasks before continuing to JCL generation. Follow the instructions on the panels or press F1 to display the online help.

Deploying maintenance to BMC product runtime data sets

WARNING

Do not reuse the $R05RTEC and $TRA0010 jobs to create RTE data sets and transport jobs for the purpose of applying maintenance. Use these jobs only to create the initial instance of the products. Reusing $R05RTEC and $TRA0010 to deploy maintenance might overwrite customized data in the BMC product runtime data sets.
After customizing and deploying products, you might need to apply maintenance to keep your products current. Complete the following procedure:

1. Create a backup of the BMC SMP/E environment and BMC product runtime data sets.
2. Apply BMC maintenance.
3. Copy the SMP/E target data sets to the BMC product runtime data sets residing on the system of origin.

**NOTE**
Be careful not to overwrite members that you have customized.

4. *(non-shared DASD only)* Transfer the BMC SMP/E target data sets to the TDS.
5. Copy the SMP/E target data sets to the BMC product runtime data sets residing on the TDS.

**NOTE**
Be careful not to overwrite members that you have customized.

To ensure data consistency and to maintain PDS member alias relationships, BMC recommends copying complete SMP/E target data sets rather than individual members.

Where to go from here

Many products require additional configuration. For more information, see the *Database Products for IMS Configuration Guide*.

Customizing products to execute from SMP/E target-zone data sets

This section explains how to customize products to execute from SMP/E target data sets. Use this option if you do not plan to deploy products, or if you plan to use the AutoCustomization method to customize MainView products.
Product authorization

You can authorize products during customization or through the Additional Options panels. Providing passwords through the customization panels provides some benefits over providing passwords through the Additional Options panels:

- From the customization panels, you can perform all password processing at once, rather than for each product individually.
- If you are installing a new version of the product and the existing password is still applicable, you can copy the password from the existing location to the new location.

**NOTE**
If a product uses both customization methods (OZI Customization and MainView Customization), you can provide passwords for all products from OZI Customization, MainView Customization, or both.

Customizing your products for SMP/E

**NOTE**
If you have a mix of MainView products and BMC products for DB2 or for IMS, you will need to select each customization path (OZI Customization and MainView Customization). For more information, see the MainView Installation Guide.

This customization process (called OZI customization) generates JCL that assigns initial operating parameter values to your BMC Data Management products for DB2 and IMS to execute from SMP/E target-zone data sets.

**Before you begin**

Unload your BMC products as instructed in “Generating installation JCL” on page 118.

Run the installation JCL as instructed in “Running JCL for an Express installation” on page 121 or “Running JCL for a Custom installation” on page 123. Some of the customization steps for some products require installed product files.

The Installation System will present a series of panels that request information about your system and the products that you are installing. Before proceeding, locate the resources that you might need (for example, product release notes and installation requirements). Be prepared to supply release levels of installed products, library names and locations, and so on.
To generate customization JCL to execute from SMP/E target-zone data sets

1 Specify customization information for your products:

A From the Installation System’s Main Menu, select Product Customization.

B From the Product Customization Methods panel, select Customize products to execute from the SMP/E target-zone data sets and press Enter.

C From the SMP/E Target Zone Customization panel, press Enter to specify product customization information for the SMP/E target libraries.

D (Products that use DBC or NGL Component Services) From the DBC and NGL Component Services panel, provide values for the listed components and press Enter.

E If the Install System Product Customization Mix panel prompts you to select the customization type, choose option 1 (OZI Customization).

**NOTE**
The Installation System uses the appropriate customization method based on your product selection. If all products that you install use the same customization method, the correct customization method will start without a prompt.

F On subsequent panels that request information about your system and the products that you are installing, provide the requested information or accept the displayed values.

G From the SMP/E Target Zone Customization panel, select Additional customization options to provide further customization information for the following items:

- Products that use DBC or NGL Component Services
- DB2 subsystem options such as cloning and catalog indirection

**NOTE**
- For products that use component services, check after installation to ensure that the BPM file system is mounted as part of an IPL.
- For help with these panels, press F1 to access online Help.
When you have completed the customization panels, the Final Tasks panel (Figure 10) is displayed.

**Figure 10 Install System - Final Tasks panel**

| Command ===> ________________________________ |
| Select one or more options then press Enter to continue. |
| _ Review Customization Review Values Selected During Customization. |
| _ JCL Generation Generate Jobs to Perform Customization. |

2 Generate customization JCL:

A Select **JCL Generation**.

A panel similar to **Figure 11** is displayed.

**Figure 11 Install System JCL Generation Option panel**

| Command ===> __________________________________________________________________ |
| Select an option. Press Enter to continue. |
| S Generate install JCL in RDAVEM4.XBM.JCL |
| _ Skip generation process and display next panel |

Member Status Function

$C00DOCD Customization Documentation
$C20APF Copy Load Mods to an APF Lib
$C10VSAM Process VSAM datasets
CLISTS Product Invocation Clists
DROPVSAM Delete VSAM Files

B Select **Generate install JCL in name**.

The Installation System generates customization JCL in your installation JCL library.

**NOTE**

If the jobs already exist in your library, the Installation System overwrites them.
When JCL generation is complete, press Enter to continue, note the name of the library that contains the JCL, and press Enter again to display an Edit member list that you can use to edit or submit the generated JCL.

For more information about these jobs, see Table 21.

Press F3 to return to the Main Menu.

Prepare to run the customization JCL:

Set NUMBERS OFF on the ISPF Command line.

For each product that you are installing, check the following sources to determine whether that product has specific requirements for submitting customization batch jobs:

- $C00DOC member of the installation batch jobs
- release notes, flashes, and technical bulletins for the product
- additional customization procedures in this chapter

In your HLQ.JCL library, review the generated jobs (including comments near the beginning of each job), modify the JCL if needed, and run the jobs in the order listed (or as instructed in $C00DOC or other customization procedures).

The customization jobs that are generated vary, depending on the products that you install and the customization features that you choose. Table 21 lists the typical jobs.

**NOTE**

Return codes greater than 0 are specific to the job that is run and the referenced products. For more information, see the comments near the beginning of the job and its members.

For some products, bind steps in customization jobs might generate return code 4. Typically, return code 4 does not indicate a problem with your installation.

<table>
<thead>
<tr>
<th>Job</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>$C00DOC</td>
<td>provides documentation relevant to the customization JCL</td>
</tr>
<tr>
<td>$C05ALOC</td>
<td>creates the user libraries that contain members used to execute and customize the products</td>
</tr>
<tr>
<td>$C10VSAM</td>
<td>defines the VSAM data sets that are required for the products that you have selected for this installation</td>
</tr>
<tr>
<td>$C15PSWD</td>
<td>applies product or solution passwords in preparation for execution</td>
</tr>
<tr>
<td>$C20APF</td>
<td>copies load modules to an APF-authorized library</td>
</tr>
<tr>
<td>$C26XIMP</td>
<td>copies the XIM parameter member to the data PDS</td>
</tr>
</tbody>
</table>
Table 21  Generated JCL for OZI customization (part 2 of 3)

<table>
<thead>
<tr>
<th>Job</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>$C30DOPT</td>
<td>creates and assembles the installation options modules for the products that you have selected for this installation. Verify that the parameter names and the data definition names in this job are compatible with your site requirements.</td>
</tr>
<tr>
<td>$C31CPYS</td>
<td>copies the generated BMC RECOVERY MANAGER for DB2 options to the ARM$OPTS member in the HLQ.*.DBCNTL file.</td>
</tr>
<tr>
<td>$C31HIST</td>
<td>allocates the &amp;DTVSGSPN DB2 history and LOGRANGE files if they do not exist.</td>
</tr>
<tr>
<td>$C32SOPT</td>
<td>creates and assembles the installation options module for BMCSORT, the BMC sort engine.</td>
</tr>
<tr>
<td>$C34INIT</td>
<td>establishes the base AUTOEDIT variables in the BMC Control-O product.</td>
</tr>
<tr>
<td>$C35BNDI</td>
<td>binds the plan that is needed to install DB2 products.</td>
</tr>
<tr>
<td>$C38ALTR</td>
<td>alters the tables, adding columns to each table if they do not already exist.</td>
</tr>
<tr>
<td>$C38INDX</td>
<td>builds additional indexes for existing common utility tables.</td>
</tr>
<tr>
<td>$C39ALTR</td>
<td>alters the common utility tables to the latest configuration.</td>
</tr>
<tr>
<td>$C40ALTR</td>
<td>alters the BMC ALTER or CHANGE MANAGER product tables and builds additional objects.</td>
</tr>
<tr>
<td>$C40INST</td>
<td>executes a series of worklists to create the DB2 environment for the products that you selected for this installation. This job creates DB2 objects and binds application plans. The BMC product load library must be APF authorized for this job to complete successfully.</td>
</tr>
<tr>
<td>$C45CNTL</td>
<td>copies generated control members to the SAMP library.</td>
</tr>
<tr>
<td>$C45COPY</td>
<td>copies JCL-generated members to the libraries where they will be used.</td>
</tr>
<tr>
<td>$C46EDIT</td>
<td>tailors job skeletons that are copied to the CNTL library.</td>
</tr>
<tr>
<td>$C60GRNT</td>
<td>grants user authority to the various product tables and plans.</td>
</tr>
<tr>
<td>$C63MIGP</td>
<td>migrates data for the BMC Performance products.</td>
</tr>
<tr>
<td>$C64INIT</td>
<td>initializes and allocates various files that are required for the BMC products for IMS.</td>
</tr>
<tr>
<td>$C65MIG</td>
<td>unloads data from a previous release of the product.</td>
</tr>
<tr>
<td>$C66MIG</td>
<td>loads data from a previous release of the product into the new environment.</td>
</tr>
<tr>
<td>$C66TBLD</td>
<td>loads the initialization data for the BMC DASD MANAGER PLUS product, the BMCSTATS component, and the BMC CATALOG MANAGER product tables.</td>
</tr>
<tr>
<td>$C67COPY</td>
<td>produces an image copy of the new environment after migrating data from a previous release.</td>
</tr>
<tr>
<td>$C68ALP</td>
<td>migrates data from previous releases of the BMC Log Master for DB2 product to the new environment in the specified DB2 subsystem.</td>
</tr>
<tr>
<td>$C68ARM</td>
<td>migrates groups from the repository for version 9.1.00 or earlier of the BMC RECOVERY MANAGER for DB2 product to the repository for version 9.2.00 or later.</td>
</tr>
<tr>
<td>$C68DOM</td>
<td>migrates VSAM data for BMC Performance products.</td>
</tr>
</tbody>
</table>
If you have not already done so, apply passwords next. For more information, see Chapter 6, “Applying passwords.”

Also, BMC strongly recommends that you apply maintenance to your installed products after generating and running your customization jobs. Applying maintenance ensures that your products are running at the current level. For information about applying maintenance, see Chapter 7, “Applying maintenance.”

### Table 21 Generated JCL for OZI customization (part 3 of 3)

<table>
<thead>
<tr>
<th>Job</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>$C70IVP</td>
<td>runs the installation verification procedure (IVP) for several BMC Utility and Backup and Recovery products</td>
</tr>
<tr>
<td></td>
<td>This job performs the following tasks:</td>
</tr>
<tr>
<td></td>
<td>- builds all required DB2 objects</td>
</tr>
<tr>
<td></td>
<td>- loads the required data</td>
</tr>
<tr>
<td></td>
<td>- verifies that the $B90SMPE job (Express installation) or the $B06SMPE job (Custom installation) ran to create an SMP/E environment for maintenance</td>
</tr>
<tr>
<td></td>
<td>- deletes the temporary database that it uses for its own testing</td>
</tr>
<tr>
<td></td>
<td><strong>Note:</strong> BMC recommends that you do not run this job until after you have completed all other customization and configuration tasks.</td>
</tr>
<tr>
<td></td>
<td>For more information about the $B90SMPE job (JES2) or $B90SMPE and $B91SMPE jobs (JES3), see “Running JCL for an Express installation” on page 121.</td>
</tr>
<tr>
<td>$C79BBVC</td>
<td>runs the BMC StopX37/II stand-alone customization</td>
</tr>
<tr>
<td>$C79TMPD</td>
<td><em>(only for DB2 version 8)</em> builds a temporary database that several products require</td>
</tr>
<tr>
<td>$C81PERF</td>
<td>creates database and table space for dynamic Explain</td>
</tr>
</tbody>
</table>
Using the Configuration Parameters customization panels

This section provides configuration information that is provided for the BMC products for IMS.

Some of the customization options that you specify for BMC for IMS are divided into categories within a product or product group. You specify these options on the Configuration Parameters customization panels. When you complete the information for one category within a product or product group, you move to the next category until you have provided the required information for all categories within that product or product group. When all categories within one product or product group are complete, you move to the next product or product group and repeat the process.

**NOTE**

Depending on the products that you are installing, you may not be required to specify customization options on the Configuration Parameters customization panels.

For example, assume that IMS Common Utilities is the first product group displayed, and the first category within the IMS Common Utilities product group is IMS_UTILITIES_OPTIONS. When you specify all of the required information for the IMS_UTILITIES_OPTIONS category, you move to the next category within the IMS Common Utilities product group. When you provide the required information for the last category within the IMS Common Utilities product group, you move to the next product or product group. Figure 12 shows a panel that uses this format.

**Figure 12  Product group and category example**
The online Help for the Configuration Parameters customization panels is context-sensitive at the field level. To display online Help for a field, place the cursor on that field and press F1. A pop-up Help panel displays (usually at the bottom of the main panel). To remove the pop-up, perform one of the following actions:

- Place the cursor within the pop-up and press Enter.
- Place the cursor on the next field and press F1 to display online Help for that field.

When you complete all of the required fields on a panel, press Enter to advance to the next panel. If you have reached the last category within a product or product group, a pop-up displays to inform you that there are no more categories within that product or product group. Remove the pop-up and perform one of the following actions:

- To display a selection list of available products or product groups, place the cursor on the Product field and press F11.
- To display a selection list of available categories for a product or product group, place the cursor on the Category field and press F11.
- To proceed to the end of the customization dialog, press F3.

When you reach the end of the customization dialog, you have the opportunity to review the values that you specified during the customization process.

Where to go from here

Table 22 lists the BMC Software products for IMS and the customization tasks that you must complete for each product.

**NOTE**

Some BMC Software products for IMS do not have customization tasks associated with them; however, these products do have associated configuration tasks that you must perform in order to complete the installation. Configuring refers to tasks that you perform outside of the Installation System to complete product implementation.

**Table 22  BMC products for IMS customization tasks (part 1 of 8)**

<table>
<thead>
<tr>
<th>If you are installing...</th>
<th>See...</th>
</tr>
</thead>
<tbody>
<tr>
<td>BMC Log Analyzer for IMS</td>
<td>No customization tasks are associated with this product.</td>
</tr>
<tr>
<td></td>
<td>For information about configuration tasks that are associated with this product, see the System Administration Products for IMS Configuration Guide.</td>
</tr>
<tr>
<td>BMC System Administration for IMS</td>
<td>“Specifying IMS system library names” on page 171</td>
</tr>
<tr>
<td></td>
<td>“Specifying UIM server options” on page 172</td>
</tr>
<tr>
<td></td>
<td>“Specifying CPC Advisor information” on page 179</td>
</tr>
<tr>
<td></td>
<td>“Specifying Energizer for IMS Connect options” on page 182</td>
</tr>
</tbody>
</table>
### Table 22  BMC products for IMS customization tasks (part 2 of 8)

<table>
<thead>
<tr>
<th>If you are installing...</th>
<th>See...</th>
</tr>
</thead>
</table>
| **BMC System Communication for IMS** | ■ “Specifying IMS system library names” on page 171  
■ “Specifying UIM server options” on page 172  
■ “Specifying CPC Advisor information” on page 179  
■ “Specifying Energizer for IMS Connect options” on page 182 |
| **Backup and Recovery Solution for IMS** | ■ “Specifying IMS system library names” on page 171  
■ “Specifying UIM server options” on page 172  
■ “Specifying EXTENDED BUFFER MANAGER options” on page 174  
■ “Specifying PDX, DBRC, global options modules, and DBUSS options” on page 176  
■ “Specifying CPC Advisor information” on page 179  
■ “Specifying customized global options modules” on page 181  
■ “Allocating the repository data set for the Recovery Manager functions and utilities” on page 183  
■ “Allocating the JOBPDS for the Recovery Manager functions and utilities” on page 185  
■ “Specifying startup information for the Recovery Manager functions and utilities” on page 187 |
| **CHANGE ACCUMULATION PLUS** | ■ “Specifying IMS system library names” on page 171  
■ “Specifying PDX, DBRC, global options modules, and DBUSS options” on page 176  
■ “Specifying customized global options modules” on page 181 |
| **CHANGE RECORDING FACILITY for IMS** | ■ “Specifying IMS system library names” on page 171  
■ “Specifying PDX, DBRC, global options modules, and DBUSS options” on page 176  
■ “Specifying customized global options modules” on page 181 |
| **DATA PACKER/IMS** | ■ “Specifying IMS system library names” on page 171  
■ “Completing DATA PACKER/IMS customization” on page 189 |
| **DATABASE INTEGRITY PLUS** | ■ “Specifying IMS system library names” on page 171  
■ “Specifying PDX, DBRC, global options modules, and DBUSS options” on page 176  
■ “Specifying customized global options modules” on page 181 |
<table>
<thead>
<tr>
<th>If you are installing...</th>
<th>See...</th>
</tr>
</thead>
<tbody>
<tr>
<td>DELTA IMS DB/DC</td>
<td>No customization tasks are associated with these products. For information about configuration tasks that are associated with these products, see the System Administration Products for IMS Configuration Guide.</td>
</tr>
<tr>
<td>DELTA IMS for DBCTL</td>
<td></td>
</tr>
<tr>
<td>DELTA IMS VIRTUAL TERMINAL</td>
<td></td>
</tr>
<tr>
<td>DELTA PLUS</td>
<td>No customization tasks are associated with these products. For information about configuration tasks that are associated with these products, see the System Administration Products for IMS Configuration Guide.</td>
</tr>
<tr>
<td>DELTA PLUS for DBCTL</td>
<td></td>
</tr>
<tr>
<td>DELTA PLUS VIRTUAL TERMINAL</td>
<td>No customization tasks are associated with this product. For information about configuration tasks that are associated with this product, see the System Administration Products for IMS Configuration Guide.</td>
</tr>
<tr>
<td>Energizer for IMS Connect</td>
<td>“Specifying IMS system library names” on page 171 “Specifying UIM server options” on page 172 “Specifying Energizer for IMS Connect options” on page 182</td>
</tr>
<tr>
<td>EXTENDED TERMINAL ASSIST PLUS</td>
<td>No customization tasks are associated with this product. For information about configuration tasks that are associated with this product, see the System Administration Products for IMS Configuration Guide.</td>
</tr>
<tr>
<td>Fast Path Analyzer/EP</td>
<td>“Specifying IMS system library names” on page 171 “Completing customization for the Fast Path database products” on page 189</td>
</tr>
<tr>
<td>Fast Path Enhanced Online Suite</td>
<td>“Specifying IMS system library names” on page 171 “Specifying UIM server options” on page 172 “Specifying CPC Advisor information” on page 179 “Completing customization for the Fast Path database products” on page 189</td>
</tr>
<tr>
<td>Fast Path Indexer/EP</td>
<td>“Specifying IMS system library names” on page 171 “Completing customization for the Fast Path database products” on page 189</td>
</tr>
<tr>
<td>Fast Path Offline Suite</td>
<td>“Specifying IMS system library names” on page 171 “Specifying UIM server options” on page 172 “Specifying CPC Advisor information” on page 179 “Completing customization for the Fast Path database products” on page 189</td>
</tr>
<tr>
<td>Fast Path Online Analyzer/EP</td>
<td>“Specifying IMS system library names” on page 171 “Completing customization for the Fast Path database products” on page 189</td>
</tr>
<tr>
<td>Fast Path Online Image Copy/EP</td>
<td>“Specifying IMS system library names” on page 171 “Completing customization for the Fast Path database products” on page 189</td>
</tr>
</tbody>
</table>
### Table 22  BMC products for IMS customization tasks (part 4 of 8)

<table>
<thead>
<tr>
<th>If you are installing...</th>
<th>See...</th>
</tr>
</thead>
</table>
| Fast Path Online Reorg/EP | - “Specifying IMS system library names” on page 171  
- “Completing customization for the Fast Path database products” on page 189 |
| Fast Path Online Suite | - “Specifying IMS system library names” on page 171  
- “Specifying UIM server options” on page 172  
- “Specifying CPC Advisor information” on page 179  
- “Completing customization for the Fast Path database products” on page 189 |
| Fast Path Recovery Utility | - “Specifying IMS system library names” on page 171  
- “Completing customization for the Fast Path database products” on page 189 |
| Fast Path Reorg/EP | - “Specifying IMS system library names” on page 171  
- “Completing customization for the Fast Path database products” on page 189 |
| Fast Path Restart Control Facility | - “Specifying IMS system library names” on page 171  
- “Completing customization for the Fast Path database products” on page 189 |
| FAST REORG FACILITY | - “Specifying IMS system library names” on page 171  
- “Specifying PDX, DBRC, global options modules, and DBUSS options” on page 176  
- “Specifying customized global options modules” on page 181 |
| FAST REORG FACILITY/EP | - “Specifying IMS system library names” on page 171  
- “Specifying PDX, DBRC, global options modules, and DBUSS options” on page 176  
- “Specifying customized global options modules” on page 181 |
| IMAGE COPY PLUS | - “Specifying IMS system library names” on page 171  
- “Specifying EXTENDED BUFFER MANAGER options” on page 174  
- “Specifying PDX, DBRC, global options modules, and DBUSS options” on page 176  
- “Specifying customized global options modules” on page 181 |
| LOADPLUS for IMS | - “Specifying IMS system library names” on page 171  
- “Specifying PDX, DBRC, global options modules, and DBUSS options” on page 176  
- “Specifying customized global options modules” on page 181 |
### Table 22  BMC products for IMS customization tasks (part 5 of 8)

<table>
<thead>
<tr>
<th>If you are installing...</th>
<th>See...</th>
</tr>
</thead>
<tbody>
<tr>
<td>LOADPLUS/EP for IMS</td>
<td>- “Specifying IMS system library names” on page 171</td>
</tr>
<tr>
<td></td>
<td>- “Specifying PDX, DBRC, global options modules, and DBUSS options” on page 176</td>
</tr>
<tr>
<td></td>
<td>- “Specifying customized global options modules” on page 181</td>
</tr>
<tr>
<td>LOCAL COPY PLUS</td>
<td>There are no customization tasks associated with this product.</td>
</tr>
<tr>
<td></td>
<td>For information about configuration tasks that are associated with this product, see the <em>System Administration Products for IMS Configuration Guide</em>.</td>
</tr>
<tr>
<td>MAXM Database Advisor for IMS</td>
<td>- “Specifying IMS system library names” on page 171</td>
</tr>
<tr>
<td></td>
<td>- “Specifying UIM server options” on page 172</td>
</tr>
<tr>
<td></td>
<td>- “Specifying PDX, DBRC, global options modules, and DBUSS options” on page 176</td>
</tr>
<tr>
<td></td>
<td>- “Specifying CPC Advisor information” on page 179</td>
</tr>
<tr>
<td></td>
<td>- “Specifying customized global options modules” on page 181</td>
</tr>
<tr>
<td>MAXM Reorg for IMS</td>
<td>- “Specifying IMS system library names” on page 171</td>
</tr>
<tr>
<td></td>
<td>- “Specifying UIM server options” on page 172</td>
</tr>
<tr>
<td></td>
<td>- “Specifying PDX, DBRC, global options modules, and DBUSS options” on page 176</td>
</tr>
<tr>
<td></td>
<td>- “Specifying CPC Advisor information” on page 179</td>
</tr>
<tr>
<td></td>
<td>- “Specifying customized global options modules” on page 181</td>
</tr>
<tr>
<td>MAXM Reorg for IMS with Online/Defrag Feature</td>
<td>- “Specifying IMS system library names” on page 171</td>
</tr>
<tr>
<td></td>
<td>- “Specifying UIM server options” on page 172</td>
</tr>
<tr>
<td></td>
<td>- “Specifying PDX, DBRC, global options modules, and DBUSS options” on page 176</td>
</tr>
<tr>
<td></td>
<td>- “Specifying CPC Advisor information” on page 179</td>
</tr>
<tr>
<td></td>
<td>- “Specifying customized global options modules” on page 181</td>
</tr>
</tbody>
</table>
Table 22  BMC products for IMS customization tasks (part 6 of 8)

<table>
<thead>
<tr>
<th>If you are installing...</th>
<th>See...</th>
</tr>
</thead>
<tbody>
<tr>
<td>MAXM Reorg/EP for IMS</td>
<td>■ “Specifying IMS system library names” on page 171</td>
</tr>
<tr>
<td></td>
<td>■ “Specifying UIM server options” on page 172</td>
</tr>
<tr>
<td></td>
<td>■ “Specifying EXTENDED BUFFER MANAGER options” on page 174</td>
</tr>
<tr>
<td></td>
<td>■ “Specifying PDX, DBRC, global options modules, and DBUSS options” on page 176</td>
</tr>
<tr>
<td></td>
<td>■ “Specifying CPC Advisor information” on page 179</td>
</tr>
<tr>
<td></td>
<td>■ “Specifying customized global options modules” on page 181</td>
</tr>
<tr>
<td>MAXM Reorg/EP for IMS with Online/Defrag Feature</td>
<td>■ “Specifying IMS system library names” on page 171</td>
</tr>
<tr>
<td></td>
<td>■ “Specifying UIM server options” on page 172</td>
</tr>
<tr>
<td></td>
<td>■ “Specifying EXTENDED BUFFER MANAGER options” on page 174</td>
</tr>
<tr>
<td></td>
<td>■ “Specifying PDX, DBRC, global options modules, and DBUSS options” on page 176</td>
</tr>
<tr>
<td></td>
<td>■ “Specifying CPC Advisor information” on page 179</td>
</tr>
<tr>
<td></td>
<td>■ “Specifying customized global options modules” on page 181</td>
</tr>
<tr>
<td>MAXM Reorg/EP Express for IMS</td>
<td>■ “Specifying IMS system library names” on page 171</td>
</tr>
<tr>
<td></td>
<td>■ “Specifying UIM server options” on page 172</td>
</tr>
<tr>
<td></td>
<td>■ “Specifying PDX, DBRC, global options modules, and DBUSS options” on page 176</td>
</tr>
<tr>
<td></td>
<td>■ “Specifying CPC Advisor information” on page 179</td>
</tr>
<tr>
<td></td>
<td>■ “Specifying customized global options modules” on page 181</td>
</tr>
<tr>
<td>MAXM Reorg/Online for IMS</td>
<td>■ “Specifying IMS system library names” on page 171</td>
</tr>
<tr>
<td></td>
<td>■ “Specifying UIM server options” on page 172</td>
</tr>
<tr>
<td></td>
<td>■ “Specifying EXTENDED BUFFER MANAGER options” on page 174</td>
</tr>
<tr>
<td></td>
<td>■ “Specifying PDX, DBRC, global options modules, and DBUSS options” on page 176</td>
</tr>
<tr>
<td></td>
<td>■ “Specifying CPC Advisor information” on page 179</td>
</tr>
<tr>
<td></td>
<td>■ “Specifying customized global options modules” on page 181</td>
</tr>
</tbody>
</table>
### Table 22  BMC products for IMS customization tasks (part 7 of 8)

<table>
<thead>
<tr>
<th>If you are installing...</th>
<th>See...</th>
</tr>
</thead>
<tbody>
<tr>
<td>Message Advisor for IMS</td>
<td>No customization tasks are associated with this product. For information about configuration tasks that are associated with this product, see the <em>System Administration Products for IMS Configuration Guide</em>.</td>
</tr>
</tbody>
</table>
| PREFIX RESOLUTION PLUS | • “Specifying IMS system library names” on page 171  
• “Specifying PDX, DBRC, global options modules, and DBUSS options” on page 176  
• “Specifying customized global options modules” on page 181 |
| POINTER CHECKER PLUS | • “Specifying IMS system library names” on page 171  
• “Specifying PDX, DBRC, global options modules, and DBUSS options” on page 176  
• “Specifying customized global options modules” on page 181 |
| RECOVERY MANAGER for IMS | • “Specifying IMS system library names” on page 171  
• “Specifying PDX, DBRC, global options modules, and DBUSS options” on page 176  
• “Specifying customized global options modules” on page 181  
• “Allocating the repository data set for the Recovery Manager functions and utilities” on page 183  
• “Allocating the JOBPDS for the Recovery Manager functions and utilities” on page 185  
• “Specifying startup information for the Recovery Manager functions and utilities” on page 187 |
| RECOVERY PLUS for IMS | • “Specifying IMS system library names” on page 171  
• “Specifying PDX, DBRC, global options modules, and DBUSS options” on page 176  
• “Specifying customized global options modules” on page 181 |
| SECONDARY INDEX UTILITY | • “Specifying IMS system library names” on page 171  
• “Specifying PDX, DBRC, global options modules, and DBUSS options” on page 176  
• “Specifying customized global options modules” on page 181 |
Specifying IMS system library names

Use the IMS System Library Specification panel (Figure 13) to specify information about IMS system data sets. You must specify the information for any BMC Software product for IMS that has customization tasks associated with its installation.

**NOTE**

To determine whether this customization task is required for your products, see Table 22.

Figure 13  IMS System Library Specification panel

![Specifying IMS system library names](image-url)
Specifying UIM server options

Specify a high-level qualifier for your IMS system data sets and verify that the system library names that are displayed are correct for your site. You can change the displayed values if necessary.

NOTE

If you selected to install the Fast Path Recovery Utility or the Fast Path Enhanced Online Suite, the FRU ‘ASMMSP’ MACRO Location field is displayed. Replace the SYS1.MACLIB value with the data set name of the high-level Assembler macro library that contains the ASMMSP macro. Otherwise, assembly of the TSSAFR1x module will fail.

When you are satisfied that the IMS system library names are correct, press Enter to proceed to the next panel in the customization dialog.

Specifying UIM server options

The UIM server resides on the mainframe and handles communication between the console and console-enabled mainframe products and features.

The console is the graphical user interface (GUI). The console runs on a client workstation under the Microsoft Windows operating system and communicates with the UIM server through TCP/IP technology.

The UIM server libraries are installed if you selected to install any console-enabled products, or if a console-enabled feature (such as the DBA Toolkit) is included with a product that you selected to install.

Once the UIM server is installed, you must customize the UIM server by specifying information on the UIM Server Middleware Options panel (Figure 14).

NOTE

To determine whether this customization task is required for your products, see Table 22.

For information about configuring the UIM server and the console for your environment, see the configuration guide for your products.
To specify UIM server information, perform the following steps:

1. Specify a name for the UIM server started task procedure in the **UIM Started task name** field.

   The default started task procedure name for the UIM server is UIMx. The procedure contains the required parameter and statements for the UIM server address space. The installation process customizes the procedure.

2. Specify a port number in the **UIM Port Number** field.

   A port number is the address of a TCP/IP application on a z/OS image. The UIM server has one port number that clients use to contact the UIM server. For the appropriate port number for your site, contact your TCP/IP administrator.

3. Specify a data set that either already exists or that will be allocated during the installation in the **UIM Customized Parm Library** field.

   The data set that you specify will hold members customized by the Installation System that apply to setting up a UIM environment.

4. Specify a data set that either already exists or that will be allocated during the installation in the **UIM Customized Config Library** field and press **Enter** to save the information and proceed to the next panel in the customization dialog.

   The data set that you specify will hold members that the Installation System created that apply to configuring a UIM environment.
Specifying EXTENDED BUFFER MANAGER options

Some database products for IMS provide the snapshot technology of the BMC Software SNAPSHOT UPGRADE FEATURE (SUF) at no additional cost. This technology enables use of the snapshot feature in the Unload function API and use of the Snapshot Copy function and the Instant Snapshot Copy function of the Image Copy utility.

SUF is a subset of the functions and features of the EXTENDED BUFFER MANAGER (XBM) for IMS product. However, a separate license for XBM is not required to use its snapshot technology with database products for IMS. When you select to install a product that uses SUF technology, the Installation System will also install XBM during the installation session.

Before you start customizing the SNAPSHOT UPGRADE FEATURE component, you must gather the information that is described in Table 23. You can then input this information on the Install System EXTENDED BUFFER MANAGER Options Verification panel.

**NOTE**

For more information about the XBM subsystem, see the chapter about configuring XBM in the Database Products for IMS Configuration Guide.

For information about implementing SUF, see the EXTENDED BUFFER MANAGER and SNAPSHOT UPGRADE FEATURE User Guide.

---

Table 23  **Installation information for XBM (part 1 of 3)**

<table>
<thead>
<tr>
<th>Field</th>
<th>Input</th>
<th>Your value</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>XBM version information</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Previous Release Version of XBM</td>
<td>current version of XBM installed on your system</td>
<td></td>
</tr>
<tr>
<td><strong>APF authorization information</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>APF Data Set Name</td>
<td>name of the APF-authorized data set</td>
<td></td>
</tr>
<tr>
<td></td>
<td>BMC products require APF authorization. Also, if the</td>
<td></td>
</tr>
<tr>
<td></td>
<td>installation task unloads the distribution tape, the</td>
<td></td>
</tr>
<tr>
<td></td>
<td>install dialog will generate a job to copy all load</td>
<td></td>
</tr>
<tr>
<td></td>
<td>modules unloaded from the distribution tape to the</td>
<td></td>
</tr>
<tr>
<td></td>
<td>specified data set.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>The APF data set will be used as the target load library</td>
<td></td>
</tr>
<tr>
<td></td>
<td>or STEPLIB in all other install jobs. It will be used in</td>
<td></td>
</tr>
<tr>
<td></td>
<td>place of the load library created when the distribution</td>
<td></td>
</tr>
<tr>
<td></td>
<td>tape was unloaded.</td>
<td></td>
</tr>
</tbody>
</table>
### Specifying EXTENDED BUFFER MANAGER options

#### Chapter 5 Customizing BMC products for IMS

- **APF Data Set Block Size**
  - Block size of the APF-authorized data set
  - If an APF-authorized library is specified and the install dialog will unload the distribution tape, specify the APF-authorized block size. The install system will generate an IEBCOPY job with a COPYMOD statement. The unloaded load modules are blocked at 23476. The install system will reblock to the specified APF data set block size.

### XBM general information

<table>
<thead>
<tr>
<th>Field</th>
<th>Input</th>
<th>Your value</th>
</tr>
</thead>
<tbody>
<tr>
<td>System Identifier</td>
<td>identifier for your XBM system</td>
<td></td>
</tr>
<tr>
<td>This field is used as the XBM subsystem ID and as an identifier for your XBM started task.</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Note:</strong> If you are installing XBM for use on multiple LPARs or in a sysplex environment, use a generic XBM subsystem ID and then tailor your XBM subsystems so that they have a unique subsystem identifier.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>VOLSER for VSAM data sets</td>
<td>volume serial number where you want all generated VSAM data sets to reside</td>
<td></td>
</tr>
<tr>
<td><strong>Note:</strong> You can edit this value before submitting the SCI0VSAM JCL if you want the VSAM data sets to reside on different volumes.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>For SMS — VSAM Storage Class</td>
<td>for an SMS-managed data set, the class to use for obtaining storage-related information (such as record length, block size, and space units)</td>
<td></td>
</tr>
<tr>
<td>For SMS — VSAM Management Class</td>
<td>for an SMS-managed data set, the class to use for obtaining information related to data management (such as migration, and backup criteria)</td>
<td></td>
</tr>
<tr>
<td>For SMS—VSAM Data Class</td>
<td>for an SMS-managed data set, the class to use for obtaining data-related information (such as SPACE, LRECL, BLKSIZE, and BUFNO)</td>
<td></td>
</tr>
<tr>
<td>XBM for Storage Systems Integration</td>
<td>whether you will use SIBBATCH</td>
<td></td>
</tr>
<tr>
<td>If SIBBATCH is to be used by XBM, select this option to enter the SIBBATCH program location.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### XBM repository information

<table>
<thead>
<tr>
<th>Field</th>
<th>Input</th>
<th>Your value</th>
</tr>
</thead>
<tbody>
<tr>
<td>VSAM Repository High-level Qualifier</td>
<td>high-level qualifier (25 characters or less) for the XBM repository data sets</td>
<td></td>
</tr>
<tr>
<td>Size of VSAM Repository data sets (in CYLS)</td>
<td>size of each repository data set in cylinders</td>
<td></td>
</tr>
<tr>
<td>A default of 1 cylinder is normally sufficient to hold the XBM object definitions.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Use the Configuration Parameters panel for the IMS_UTILITIES_OPTIONS category (Figure 15) to specify PDX, Database Recovery Control (DBRC), global options, and DBUSS information for applicable database products for IMS.

**NOTE**

To determine whether the customization tasks in this section apply to your products, see Table 22 on page 164.

For general usage information about the Configuration Parameters panels, see “Using the Configuration Parameters customization panels” on page 163.
Specifying the PDX option

The PDX is an optional data set that some database products for IMS can use to store DBD-level options, execution history, and statistics that are gathered during execution.

**NOTE**

For more information about the PDX, see the *IMS Database Supplemental Utilities Reference Manual*.

If you want to use a PDX data set, provide the information that the Installation System needs for generating JCL to allocate and format the PDX. You can use the same PDX data set for all products that use a PDX. If you have a previously allocated PDX that you want to share among the products, do not specify PDX information within the Installation System. If you are using a PDX in a multiple-CPU environment, see the chapter about configuring backup and recovery products in the *Database Products for IMS Configuration Guide*.

To specify the PDX option, perform the following steps:

1. If you want to use a PDX data set, specify **Y** in the *Use a PDX Data Set* field.

   If you do not want to use a PDX data set, specify **N**.

2. Specify the name of the PDX data set in the *PDX Data Set Name* field.

3. Specify the VOLSER to use to allocate the PDX data set in the *PDX VOLSER* field.
4 Specify the size of the PDX data set in cylinders in the PDX Allocation field.

5 Specify the unit name to use for the PDX data set allocation in the PDX Unit Name field.

**Specifying the DBRC option**

The DBRC feature of IMS is required for the Online Reorg function and the Online/Defrag function. DBRC must be active and all databases must be registered.

The DBRC feature is also required for the Recovery Manager functions and utilities. All databases to be managed by the RECOVERY MANAGER for IMS product must be registered to DBRC. All image copies, logs, and change accumulations must also be included in the operating system ICF catalog. The Recovery Manager functions and utilities do not support the use of DEFLTJCL.

DBRC is supported but not required for all other functions and utilities of the database products for IMS. BMC Software recommends using DBRC.

To specify the DBRC option, perform one of the following actions:

- To use DBRC for the IVP, specify Y in the Use DBRC field.
- To not use DBRC for the IVP, specify N.

**Specifying the global options modules option**

You can choose to copy existing global options modules from your old libraries to the new libraries.

To specify the global options modules option, perform one of the following actions:

- To copy your existing global options modules to the new libraries, specify Y in the Use/Copy Existing Global Option field.
- To not copy your existing global options modules to the new libraries, specify N.

**Specifying the DBUSS option**

The DBUSS can be used with many database products for IMS to obtain several services, including APF-authorization and fast I/O services for some products. The DBUSS is never required, but it is recommended depending on the products that you are installing.
To specify the DBUSS option, perform the following steps:

1. To install the DBUSS, specify Y in the **Install DBUSS** field.
   To not install the DBUSS, specify N.

2. If the solutions and products that you are installing can obtain APF-authorization from the DBUSS and you want to use the DBUSS to obtain authorization, specify the name of the APF-authorized data set that will contain the required DBUSS modules in the **APFLIB Data Set Name** field.

### Specifying CPC Advisor information

Use the Configuration Parameters panel for the IMS_UTILITIES_ADVISOR category (Figure 16) to specify CPC information for applicable products.

---

**NOTE**

To determine whether this customization task is required for your products, see Table 22.

When you install one of the Fast Path suites, support for the DBA Toolkit feature in MAXM Database Advisor for IMS is included.

For general usage information about the Configuration Parameters panels, see “Using the Configuration Parameters customization panels” on page 163.
To specify CPC information, perform the following steps:

1. Specify a valid started task name for the BCSS/CPC subsystem in the **BCSS/CPC Started Task Name** field.

   The BCSS/CPC server runs as a started task and must have authority to create and alter data sets and issue operator commands. The started task name cannot exceed four characters.

2. Specify a data set that either already exists or that will be allocated during the installation in the **BMCP/BCSS/CPC Options Lib** field.

   The data set that you specify will hold members that the Installation System created that apply to configuring a CPC environment. The $C30DOPT job assembles and links the CPCCOPT module into this specified data set.

   **NOTE**

   To ensure that your UIM/CPC environment works correctly, you must manually add the CPCCOPT module to your UIM concatenation or copy the module into a library within the UIM //STEPLIB concatenation.

3. Specify the prefix to use to allocate the Advisor repositories in the **ADV Repositories Prefix** field.

4. If you do not plan to use the Storage Management Subsystem (SMS) to store the Advisor repository data sets, specify the candidate volumes for the Advisor repositories in the **VOL_n** fields.
5 If you plan to use SMS to store the Advisor repository data sets, specify the storage class, management class, and data class in the Storage Class, Management Class, and Data Class fields.

--- WARNING ---

With previous installation methods, the CPCCOPT module was saved into the product load library during customization, for example, DBULIB. Ensure that the CPCCOPT module that was created by running the $C30DOPT job during installation has been copied to a load library within your //STEPLIB DD concatenation in your CPCx and CPCxADV started task servers.

CPCx ADV and CPCx are the Advisor and BCSS server task names that are created during customization and can be found in the UIM customized Parm library.

--- Specifying customized global options modules ---

Use the Configuration Parameters panel for the COPY_GLOBAL_OPTIONS category (Figure 17) to provide the data set name of each library that contains one or more global options modules that you want to copy.

--- NOTE ---

This panel is displayed only if you specified Y for the Use/Copy Existing Global Option field on the Configuration Parameters panel for the IMS_UTILITIES_OPTIONS category (Figure 15).

To determine whether this customization task applies to your products, see Table 22.

For general usage information about the Configuration Parameters panels, see “Using the Configuration Parameters customization panels” on page 163.
To specify customized global options modules, provide a data set name in the field for each product for which you have a global options module to copy, even if some of the data set names are identical.

**Specifying Energizer for IMS Connect options**

Use the Configuration Parameters panel for the Energizer_Options category (Figure 18) to specify customization options for the Energizer for IMS Connect product or for the Energizer component of the BMC System Administration for IMS product or the BMC System Communication for IMS product.

**NOTE**

For general usage information about the Configuration Parameters panels, see “Using the Configuration Parameters customization panels” on page 163.
To specify customization options for Energizer, perform the following steps:

1. Specify the eLink in the eLink Name field.

To use the console interface or to enter Energizer commands from an MVS operator console, you must create an eLink. An eLink is the Energizer address space that provides the communications between the UIM server, the operator console, and the IMS Connects.

2. Specify the data set that will store Energizer processing options in the IPROPTS field.

3. Specify the volume serial number to use for the IPROPTS data set allocation in the VOLSER field.

4. If you plan to use Storage Management Subsystem (SMS) to store the IPROPTS data set, specify the storage class, management class, and data class in the Storage Class, Management Class, and Data Class fields.

Allocating the repository data set for the Recovery Manager functions and utilities

Use the Configuration Parameters panel for the VSAM_Repository_Data_Set category (Figure 19) to allocate the repository data set for the Recovery Manager functions and utilities. The repository stores configuration and recovery information about RECOVERY MANAGER for IMS (RMGR) objects and groups and IMS system data sets. The repository is a VSAM key-sequenced data set (KSDS).
Allocating the repository data set for the Recovery Manager functions and utilities

**WARNING**

If you do not specify values, an allocation failure is probable.

**NOTE**

To determine whether this customization task is required for your products, see Table 22 on page 164.

For general usage information about the Configuration Parameters panels, see “Using the Configuration Parameters customization panels” on page 163.

Figure 19  Configuration Parameters panel for VSAM_Repository_Data_Set category

To allocate the repository data set, perform the following steps:

1. Specify the data set name for the RMGR repository in the **Repository VSAM Cluster Name** field.

   Specify a name by using standard operating system naming conventions. The name cannot exceed 38 characters. The qualifiers .INDEX and .DATA are appended to the name that you specify to form the index and data name portions of the repository.

2. Specify the volume serial number of the device to contain the repository data set in the **Repository VOLSER** field.

3. Specify the unit name to use for the repository data set allocation in the **Unit** field.
4 Specify the primary number of cylinders to allocate for the repository in the **Primary Allocation** field.

You can specify a number from 1 to 999. The default value is 50.

A value is required unless you are using SMS and define a default number of cylinders for the SMS data class.

5 Specify the secondary number of cylinders to allocate for the repository in the **Secondary Allocation** field.

You can specify a number from 1 to 999. The default value is 10.

A value is required unless you are using SMS and define a default number of cylinders for the SMS data class.

6 To use SMS to allocate the repository, specify the storage class, management class, and data class in the **Storage Class**, **Management Class**, and **Data Class** fields.

### Allocating the JOBPDS for the Recovery Manager functions and utilities

Use the Configuration Parameters panel for the JOBPDS_Data_Set category (**Figure 20**) to allocate the default JOBPDS. The default JOBPDS stores recovery JCL unless an override PDS is specified through an RMGR profile or when a function is initiated.

---

**NOTE**

To determine whether this customization task is required for your products, see Table 22.

For general usage information about the Configuration Parameters panels, see “Using the Configuration Parameters customization panels” on page 163.
To allocate the JOBPDS, perform the following steps:

1. Specify the data set name of the JOBPDS in the Data Set Name field.
   Specify a name using standard operating system naming conventions. The name cannot exceed 44 characters.

2. Specify the volume serial of the device to contain the JOBPDS in the JOBDS VOLSER field.

3. Specify the unit name of the direct access storage device to contain the JOBPDS in the Unit field.
   The default value is SYSALLDA.

4. Specify the primary number of cylinders to allocate for the JOBPDS in the Primary Allocation field.
   The default value is 25.

5. Specify the secondary number of cylinders to allocate for the JOBPDS in the Secondary Allocation field.
   The default value is 5.

6. Specify the number of directory blocks to allocate for the JOBPDS in the Directory Blocks field.
   The default value is 75.
7 To use SMS to allocate the JOBPDS, specify the storage class, management class, and data class in the Storage Class, Management Class, and Data Class fields.

Specifying startup information for the Recovery Manager functions and utilities

Use the Configuration Parameters panel for the Startup_Control category (Figure 21) to specify information for control statements that are used during RMGR startup. For more information, see the topics about starting RMGR in the Database Products for IMS Configuration Guide.

NOTE

To determine whether this customization task is required for your products, see Table 22.

For general usage information about the Configuration Parameters panels, see “Using the Configuration Parameters customization panels” on page 163.

Figure 21 Configuration Parameters panel for Startup_Control category

<table>
<thead>
<tr>
<th>File</th>
<th>Lists</th>
<th>Help</th>
<th>Command ====&gt;</th>
<th>Configuration Parameters</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>Product</td>
<td>RECOVERY MANAGER for IMS</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Category</td>
<td>Startup_Control</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Startup Information:</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>IMSID</td>
<td>A</td>
</tr>
<tr>
<td>(Optional)</td>
<td></td>
<td></td>
<td>SHAREGROUP</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>GMTTABLEPDS</td>
<td>BMC.OZIV2040.DBUSAMP</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>GMTTABLEMEM</td>
<td>IRMGMTTB</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>SECUREREPOSITORY</td>
<td>NO</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>TASKLIMIT</td>
<td>10</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>TSONOTIFY</td>
<td>NO</td>
</tr>
</tbody>
</table>
To specify the startup information, perform the following steps:

1. Specify the IMS ID of the IMS system for which RMGR will provide recovery management services in the **IMSID** field.

   The IMS ID cannot exceed four characters.

2. If this RMGR is a member of a sharegroup, specify the sharegroup name in the **SHAREGROUP** field.

   The sharegroup name cannot exceed four characters and must be unique in your environment.

   In an IMS data-sharing environment, each IMS must be managed by a different RMGR, and these RMGRs are associated with each other through the SHAREGROUP keyword. All RMGRs in the data-sharing environment must use the same sharegroup name. This name must be different from the RMGR name.

3. You can specify the name of the partitioned data set in which you have defined a member that identifies your OS/390 clock information in the **GMTTABLEPDS** field.

   This information is necessary to support timestamp recoveries across a time change boundary if you are using IMS 6.1 or later. The attributes for this data set must be LRECL=80 and RECFM=FB. If you specify a value for this field, you must also specify a value for the **GMTTABLEMEM** field. If you omit the value for this field, RMGR builds a default table by using your current operating system clock to determine local time and offset from GMT.

4. If you specify a value for the **GMTTABLEPDS** field, specify the name of the member in which the operating system clock information is stored in the **GMTTABLEMEM** field.

   For an example of the contents of this member, see member IRMGMTTB in the sample data set (*hlq*.DBUSAMP or *hlq*.IMSAMP).

5. Use the **SECUREREPOSITORY** field to enable or disable additional security checking during attempts to access the RMGR repository through the RMGR ISPF interface. This checking is performed in addition to the data set security checks that are set up through your site security package (such as RACF).

   The default value is **NO**.

   - If you do not want to perform additional security checking in the RMGR ISPF interface, specify **NO**.

     If the user is not authorized to perform the read or update repository access, a RACF-type message is issued and an abend may occur.
To perform security checking in the RMGR ISPF interface, specify **YES**.

During initialization of the RMGR ISPF interface, a RACROUTE check is executed to determine repository access authority. If the user is not authorized to perform the read or update repository access, a BMC Software error message is displayed, and the function is denied.

6. You can specify the maximum number (1–99) of function requests (tasks) that RMGR may process concurrently in the **TASKLIMIT** field.

The default value is **10**. As the value increases, the resources that are consumed (such as storage and CPU cycles) increase proportionally.

7. You can specify whether to send a TSO notify message to RMGR users when a function completes in the **TSONOTIFY** field.

The default value is **NO**.

An RMGR user is anyone who submits a function from the ISPF interface or whose user ID is specified by the **FROM** keyword when a function is submitted in batch.

- If you do not want to send TSO notify messages, specify **NO**.
- To send TSO notify messages to RMGR users who are logged on to the same operating system as the RMGR started task or job, specify **YES**.

### Completing DATA PACKER/IMS customization

To complete customization for the DATA PACKER/IMS product, ensure that you run the `$C70IVP` job when you reach the end of the customization dialog.

The `$C70IVP` job creates a test database for testing compression and expansion of database segments.

### Completing customization for the Fast Path database products

To complete customization for the Fast Path database products, ensure that you run the customization jobs that apply to the products that you are installing when you reach the end of the customization dialog. Table 24 lists the customization jobs and the product(s) to which each job applies.
### Table 24 Customization jobs for Fast Path database products

<table>
<thead>
<tr>
<th>JCL member</th>
<th>Product</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>$C45COPY</td>
<td>Fast Path Indexer/EP</td>
<td>creates the PFXLEVEL module that is required for product initialization</td>
</tr>
<tr>
<td>$C30DOPT</td>
<td>Fast Path Recovery Utility</td>
<td>reassembles and links module TSSAFRIx with your PUT maintenance level for IMS log records</td>
</tr>
<tr>
<td>$C64INIT</td>
<td>Fast Path/EP products</td>
<td>initializes the LIBDEF table (PFMXMLBFT) to enable use of the Fast Path/EP ISPF interface without modifying the TSO logon PROC For more information about the ISPF interface, see the chapter about configuring Fast Path products in the <em>Database Products for IMS Configuration Guide</em>.</td>
</tr>
<tr>
<td>$C70IVP</td>
<td>Fast Path/EP products, excluding Fast Path Indexer/EP and Fast Path Online Image Copy/EP</td>
<td>installation verification procedure (IVP) demo job that executes a reorganization and performs analysis based on the products selected for installation Proper execution of the job ensures that all product elements are complete.</td>
</tr>
</tbody>
</table>

**NOTE**

The DBA Toolkit is included when you select to install any of the following products:

- Fast Path Enhanced Online Suite
- Fast Path Offline Suite
- Fast Path Online Suite

If you are installing the DBA Toolkit because you selected to install one of the products listed above, you also need to complete customization tasks for the UIM server and the CPC subsystem. For more information, see “Specifying UIM server options” on page 172 and “Specifying CPC Advisor information” on page 179.
Chapter 6 Applying passwords

This chapter describes how to apply passwords to license BMC Software products for the IMS™ environment.

This chapter presents the following topics:

- Overview .......................................................... 192
- How licensing works ........................................... 192
- Overview of the Product Authorization utility ............. 195
- Products that the Installation System supports .......... 198
- CPU password worksheet .................................. 202
- Applying passwords with the online interface (Additional Options menu) .... 203
  - Starting the online Product Authorization utility ........ 204
  - Processing a permanent password for an existing processor .... 206
  - Adding authorization for a new processor ............... 206
  - Deleting authorization for a processor ................... 208
  - Replacing authorization for a processor ................. 209
  - Modifying authorization for an existing processor ...... 211
  - Resetting authorization for all processors ............... 213
  - Processing a temporary password ....................... 213
  - Displaying product authorization ....................... 214
  - Displaying current processor information ............... 216
- Applying passwords with the online interface during OZI Customization ... 217
- Applying passwords with the batch interface ............ 219
  - Running the batch Product Authorization utility ....... 220
  - Using control statements and keywords .................. 224
  - Checking return codes .................................... 225
Overview

When processing a license agreement for a product, BMC issues CPU authorization passwords. These passwords authorize specific CPUs (also referred to as processors) to run the licensed product. Because BMC licenses its products for use on individual CPUs, the passwords are product specific and CPU specific (one license per product per CPU). You must also have a password to delete or replace an authorized CPU.

You use the BMC Product Authorization utility to apply passwords and to change your CPU configuration. You can apply passwords in either of the following ways:

- as part of an online procedure
- in a batch interface that uses a job which is supplied on the product distribution tape

NOTE
The Product Authorization utility does not apply to all BMC products. Some products are authorized during product customization. To determine whether unique licensing requirements and authorization procedures are applicable, review your product’s release notes.

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

How licensing works

BMC offers temporary passwords and permanent passwords.

Temporary passwords

During a trial period for a BMC product, you can install and use the product on any CPU by using the temporary password that you obtained from your BMC sales representative. (You can also obtain a temporary password in other special circumstances, such as when a hardware failure prevents you from using an authorized CPU.) Because each temporary password has an expiration date (typically 30 days after the password is issued), you should apply temporary passwords as soon as possible after receiving them.

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**

When you finish the trial and 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 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 that is issued for that CPU. You do not need to reinstall and retest the product.
- You can install multiple passwords in the same password library. This capability lets you use the same password library to run a product on multiple CPUs or to install a product at a central site and run it at remote sites.

--- NOTE ---
BMC products expect to find passwords in the library that is indicated in the product BMCPSWD DD statement or in the product load library. Passwords are saved in the corresponding library during execution of the installation dialog.

BMC also issues permanent passwords when you need to delete or replace a CPU or to modify the properties of a CPU or the product authorization.

--- NOTE ---
A password is an activation key for the software license, not the software license itself.

You do not need to apply passwords or update CPU authorization when you install product maintenance or version upgrades. Although the Product Authorization utility is not required for product maintenance and version upgrades, you must consider certain issues that are associated with these upgrades. For more information, see “Product maintenance or version upgrades” on page 197.
### Scenarios for obtaining passwords

Table 25 provides details about each situation in which you must 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>
<thead>
<tr>
<th>Scenario</th>
<th>Password type</th>
<th>Password function</th>
<th>How to obtain</th>
</tr>
</thead>
<tbody>
<tr>
<td>You want to begin a free trial period.</td>
<td>temporary</td>
<td>temporarily bypasses authorization checking and lets you run the product on any CPU for a limited time</td>
<td>BMC sales representative</td>
</tr>
<tr>
<td>You purchase a license for a new product.</td>
<td>permanent</td>
<td>adds a designated CPU to the list of CPUs that are authorized to run a licensed product</td>
<td>BMC sales representative</td>
</tr>
<tr>
<td>You stop using an authorized CPU.</td>
<td>permanent</td>
<td>removes a designated CPU from the list of CPUs that are authorized to run a licensed product</td>
<td>BMC sales representative</td>
</tr>
<tr>
<td>You upgrade to a new CPU.</td>
<td>permanent</td>
<td>authorizes the transfer of a license from one CPU to another CPU</td>
<td>BMC sales representative</td>
</tr>
<tr>
<td>You want to run the product on an additional CPU.</td>
<td>permanent</td>
<td>adds a designated CPU to the list of CPUs that are authorized to run a licensed product</td>
<td>BMC sales representative</td>
</tr>
<tr>
<td>The authorized CPU is not available because of an emergency (such as hardware failure).</td>
<td>temporary</td>
<td>temporarily bypasses authorization checking and lets you run the product on any CPU for a limited time</td>
<td>BMC sales representative and BMC support</td>
</tr>
</tbody>
</table>

If you have installed the Product Authorization utility and have created the password library, you can apply the new passwords before you completely install the product. Also, you can apply the passwords even if the product is not yet running on a specific CPU. For example, your installation process might require that you install and run the product on a test system before migrating the product to the production system. In that case, you can apply the password for the production system CPU, even though the product is not yet running there.
Overview of the Product Authorization utility

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 that are associated with these upgrades. For more information, see “Product maintenance or version upgrades” on page 197.

When you apply passwords, the Product Authorization utility builds or updates the product authorization tables. Those tables contain entries that define the authorization for the relevant products. The utility also uses the applied passwords to validate software licenses. The types of product authorization tables are as follows:

- When you install or apply a permanent password, the utility builds or updates a permanent product authorization table. The permanent table controls which CPUs are licensed to run the product, based on serial, model, and submodel numbers.

- When you apply a temporary password, the utility builds or updates a temporary product authorization table.

For more information about permanent and temporary passwords, see “How licensing works” on page 192.

Product authorization tables are product specific and are identified by a three-character product code (prd in the following examples):

- prdTBL3P (permanent)
- prdTBL3T (temporary)

Product trials and permanent licensing

Permanent passwords update the permanent authorization table for a product. Each permanent password authorizes one of the functions that are described in Table 26. When you apply a permanent password, the Product Authorization utility automatically recognizes the function of the password and prompts you accordingly.
CPU upgrades

When you upgrade to a new CPU, you must obtain a new permanent password for each product that 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 the use of a licensed CPU, BMC can provide a temporary password that lets the product run on a backup CPU for a limited time. Before the temporary password expires, you must acquire a permanent password for the backup CPU or you must resume using the original CPU. At the end of the grace period, you can no longer run the affected product on the backup CPU. If the grace period ends, 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 password 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 password library.

The concatenated authorization table library should have the same DCB attributes as the product load library. (The RECFM for the table library must be U.)

**Tip**

If you have several BMC 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 the data set is in LNKLST, the license-validation process does 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 ends, the product will not run or will run with diminished functionality.

**NOTE**

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

To prevent this situation, you should obtain a RESET password from BMC. If you apply the Reset password before the grace period ends, the 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 (online or in batch mode) and the affected product issue a message that advises 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 a 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 maintenance or upgrade.

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

```
IEW2515W 4731 DIRECTORY ENTRY FOR prdTL3n IDENTIFIED BY DDNAME ISPddname IS NOT MARKED AS LOAD MODULE.
IEW2522E 470E MEMBER prdTL3n IDENTIFIED BY DDNAME ISPddname... IS NOT A LOAD MODULE- (INVALID RECORD TYPE).
```
In these messages, the variable *prd* is the three-character product code and *n* is *P* (permanent) or *T* (temporary). For more information, see “How licensing works” on page 192.

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

### Products that the Installation System supports

The Installation System uses a V3 password for all supported products. A V3 password means that the product is accessible through the typical BMC security panel and JCL. For current lists of supported products, see the web pages cited in Table 27.

**Table 27 Supported products**

<table>
<thead>
<tr>
<th>Product line</th>
<th>Where to find the current list</th>
</tr>
</thead>
</table>

### Product codes used by the BMC Product Authorization utility

Table 28 lists the product and product component codes used by the BMC Product Authorization utility to process passwords. The table provides the following information:

- complete BMC product or component name
- three-character code that is referenced in the product security panel
<table>
<thead>
<tr>
<th>Product or component name</th>
<th>Product code</th>
</tr>
</thead>
<tbody>
<tr>
<td>3270 SUPEROPTIMIZER/CICS®</td>
<td>CSO</td>
</tr>
<tr>
<td>Administrative Assistant for DB2®</td>
<td>AAD</td>
</tr>
<tr>
<td>ALTER for DB2®</td>
<td>ALU</td>
</tr>
<tr>
<td>APPLICATION RESTART CONTROL for DB2®</td>
<td>ARD</td>
</tr>
<tr>
<td>APPLICATION RESTART CONTROL for IMS™</td>
<td>ARC</td>
</tr>
<tr>
<td>APPLICATION RESTART CONTROL for VSAM</td>
<td>ARV</td>
</tr>
<tr>
<td>Apply Plus (See High-speed Apply Engine)</td>
<td>not applicable</td>
</tr>
<tr>
<td>APPTUNE for DB2®</td>
<td>ASQ</td>
</tr>
<tr>
<td>Backup and Recovery Solution for IMS™</td>
<td>BRI</td>
</tr>
<tr>
<td>BMC Discovery for z/OS</td>
<td>MDZ</td>
</tr>
<tr>
<td>BMC Impact Integration for z/OS</td>
<td>BIZ</td>
</tr>
<tr>
<td>BMC Log Analyzer for IMS™</td>
<td>LUI, CSU, or IPT</td>
</tr>
<tr>
<td>BMC System Administration for IMS™</td>
<td>IPT</td>
</tr>
<tr>
<td>BMC System Communication for IMS™</td>
<td>CSU</td>
</tr>
<tr>
<td>BMC System Performance for DB2®</td>
<td>SPD</td>
</tr>
<tr>
<td>CATALOG MANAGER for DB2®</td>
<td>ACT</td>
</tr>
<tr>
<td>CATALOG MANAGER for DB2® (Browse only)</td>
<td>no password required</td>
</tr>
<tr>
<td>CHANGE ACCUMULATION PLUS</td>
<td>CAP or BRI</td>
</tr>
<tr>
<td>CHANGE MANAGER for DB2®</td>
<td>ACM</td>
</tr>
<tr>
<td>CHANGE RECORDING FACILITY for IMS™</td>
<td>CRF or MXO</td>
</tr>
<tr>
<td>CHECK PLUS for DB2®</td>
<td>ACK</td>
</tr>
<tr>
<td>CMF MONITOR</td>
<td>BFZ</td>
</tr>
<tr>
<td>COPY PLUS for DB2®</td>
<td>ACP</td>
</tr>
<tr>
<td>Cross-System Image Manager</td>
<td>XIM</td>
</tr>
<tr>
<td>DASD MANAGER PLUS for DB2®</td>
<td>ASU</td>
</tr>
<tr>
<td>DATA PACKER for DB2®</td>
<td>DPD</td>
</tr>
<tr>
<td>DATA PACKER/IMS™</td>
<td>DPK</td>
</tr>
<tr>
<td>Database Administration for DB2®</td>
<td>DAD</td>
</tr>
<tr>
<td>DATABASE INTEGRITY PLUS</td>
<td>DBI</td>
</tr>
<tr>
<td>Database Performance for DB2®</td>
<td>DFD</td>
</tr>
<tr>
<td>DELTA IMS™ DB/DC</td>
<td>DLA or IPT</td>
</tr>
<tr>
<td>DELTA IMS™ for DBCTL</td>
<td>DDC or IPT</td>
</tr>
<tr>
<td>DELTA IMS™ VIRTUAL TERMINAL</td>
<td>DLA or IPT</td>
</tr>
<tr>
<td>DELTA PLUS</td>
<td>DLP or IPT</td>
</tr>
<tr>
<td>DELTA PLUS for DBCTL</td>
<td>DTD or IPT</td>
</tr>
<tr>
<td>DELTA PLUS VIRTUAL TERMINAL</td>
<td>DLV or IPT</td>
</tr>
<tr>
<td>Energizer for CICS</td>
<td>ECS</td>
</tr>
<tr>
<td>Energizer for IMS™ Connect</td>
<td>IPR, CSU, or IPT</td>
</tr>
</tbody>
</table>
## Table 28  Product codes used by the BMC Product Authorization utility (part 2 of 4)

<table>
<thead>
<tr>
<th>Product or component name</th>
<th>Product code</th>
</tr>
</thead>
<tbody>
<tr>
<td>EXTENDED BUFFER MANAGER for DB2™</td>
<td>XBM</td>
</tr>
<tr>
<td>EXTENDED BUFFER MANAGER for IMS™</td>
<td>XBI</td>
</tr>
<tr>
<td>EXTENDED TERMINAL ASSIST PLUS</td>
<td>ETA or IPT</td>
</tr>
<tr>
<td>Fast Path Analyzer/EP</td>
<td>PFA</td>
</tr>
<tr>
<td>Fast Path Indexer/EP</td>
<td>PFX</td>
</tr>
<tr>
<td>Fast Path Online Analyzer/EP</td>
<td>PFO</td>
</tr>
<tr>
<td>Fast Path Online Image Copy/EP</td>
<td>PFI</td>
</tr>
<tr>
<td>Fast Path Online Reorg/EP</td>
<td>PFL</td>
</tr>
<tr>
<td>Fast Path Online Restructure/EP</td>
<td>PFC</td>
</tr>
<tr>
<td>Fast Path Recovery Utility</td>
<td>FRU</td>
</tr>
<tr>
<td>Fast Path Reorg/EP</td>
<td>PFR</td>
</tr>
<tr>
<td>Fast Path Restart Control Facility</td>
<td>RCF</td>
</tr>
<tr>
<td>FAST REORG FACILITY</td>
<td>FRF, MXB, or MXC</td>
</tr>
<tr>
<td>FAST REORG FACILITY/EP</td>
<td>HRF, MXE, MXH, MXO, or MXP</td>
</tr>
<tr>
<td>High-speed Apply Engine</td>
<td>APT</td>
</tr>
<tr>
<td>IMAGE COPY PLUS</td>
<td>ICP or BRI</td>
</tr>
<tr>
<td>LOADPLUS for DB2™</td>
<td>AMU</td>
</tr>
<tr>
<td>LOADPLUS for IMS™</td>
<td>LDP, MXB, or MXC</td>
</tr>
<tr>
<td>LOADPLUS/EP for IMS™</td>
<td>HLD, MXE, MXH, MXO, or MXP</td>
</tr>
<tr>
<td>LOCAL COPY PLUS</td>
<td>LCP</td>
</tr>
<tr>
<td>Log Master for DB2™</td>
<td>ALP</td>
</tr>
<tr>
<td>MainView AutoOPERATOR Access NV</td>
<td>BKG</td>
</tr>
<tr>
<td>MainView AutoOPERATOR for CICS</td>
<td>BCC</td>
</tr>
<tr>
<td>MainView AutoOPERATOR for IMS™</td>
<td>BCD</td>
</tr>
<tr>
<td>MainView AutoOPERATOR for SAP High Availability</td>
<td>SHA</td>
</tr>
<tr>
<td>MainView AutoOPERATOR for WebSphere MQ</td>
<td>BCI</td>
</tr>
<tr>
<td>MainView AutoOPERATOR for z/OS</td>
<td>BCE</td>
</tr>
<tr>
<td>MainView AutoOPERATOR TapeSHARE</td>
<td>BCG</td>
</tr>
<tr>
<td>MainView FOCAL POINT</td>
<td>BDQ</td>
</tr>
<tr>
<td>MainView for CICS</td>
<td>BDR</td>
</tr>
<tr>
<td>MainView for DB2™ - Data Collector</td>
<td>SPD or BDS</td>
</tr>
<tr>
<td>MainView for DBCTL</td>
<td>DBC</td>
</tr>
</tbody>
</table>

**Note:** If you have a license to use System Performance for DB2, use the product password code SPD. If you do not have a license for System Performance for DB2, use the product password code BDS.
### Table 28  Product codes used by the BMC Product Authorization utility (part 3 of 4)

<table>
<thead>
<tr>
<th>Product or component name</th>
<th>Product code</th>
</tr>
</thead>
<tbody>
<tr>
<td>MainView for IMSTM Offline</td>
<td>IOF</td>
</tr>
<tr>
<td>MainView for IMSTM Online</td>
<td>ION</td>
</tr>
<tr>
<td>MainView for IP</td>
<td>BFX</td>
</tr>
<tr>
<td>MainView for Linux® - Servers</td>
<td>MML</td>
</tr>
<tr>
<td>MainView for UNIX® System Services</td>
<td>BFH</td>
</tr>
<tr>
<td>MainView for VM Systems Cloning</td>
<td>MTA</td>
</tr>
<tr>
<td>MainView for VTAM®</td>
<td>BFW</td>
</tr>
<tr>
<td>MainView for WebSphere Application Server</td>
<td>MVW</td>
</tr>
<tr>
<td>MainView for WebSphere MQ</td>
<td>BCL</td>
</tr>
<tr>
<td>MainView for WebSphere MQ Integrator</td>
<td>MQJ</td>
</tr>
<tr>
<td>MainView for z/OS</td>
<td>BEH</td>
</tr>
<tr>
<td>MainView Infrastructure</td>
<td>BFV</td>
</tr>
<tr>
<td>MainView Storage Resource Manager (SRM)</td>
<td>BRO</td>
</tr>
<tr>
<td>MainView SYSPROG Services</td>
<td>BEW</td>
</tr>
<tr>
<td>MainView Transaction Analyzer</td>
<td>MTA</td>
</tr>
<tr>
<td>MainView VistaPoint</td>
<td>BEZ</td>
</tr>
<tr>
<td>MAXM Database Advisor for IMSTM</td>
<td>MXA</td>
</tr>
<tr>
<td>MAXM Reorg for IMSTM</td>
<td>MXC</td>
</tr>
<tr>
<td>MAXM Reorg for IMSTM with Online/Defrag Feature</td>
<td>MXB</td>
</tr>
<tr>
<td>MAXM Reorg/EP Express for IMSTM</td>
<td>MXP</td>
</tr>
<tr>
<td>MAXM Reorg/EP for IMSTM</td>
<td>MXE</td>
</tr>
<tr>
<td>MAXM Reorg/EP for IMSTM with Online/Defrag Feature</td>
<td>MXH</td>
</tr>
<tr>
<td>MAXM Reorg/Online for IMSTM</td>
<td>MXO</td>
</tr>
<tr>
<td>Message Advisor for IMSTM</td>
<td>MAQ, IPT, or CSU</td>
</tr>
<tr>
<td>OPERTUNE for DB2®</td>
<td>DDT</td>
</tr>
<tr>
<td>PACLOG for DB2®</td>
<td>ALM</td>
</tr>
<tr>
<td>PATROL for WebSphere MQ for z/OS and OS/390</td>
<td>WMZ</td>
</tr>
<tr>
<td>POINTER CHECKER PLUS</td>
<td>PCP</td>
</tr>
<tr>
<td>Pool Advisor for DB2®</td>
<td>PMD</td>
</tr>
<tr>
<td>PREFIX RESOLUTION PLUS</td>
<td>PRP, MXB, MXC, MXH, MXO, or MXP</td>
</tr>
<tr>
<td>R+/CHANGE ACCUM for DB2®</td>
<td>ACA</td>
</tr>
<tr>
<td>RECOVER PLUS for DB2®</td>
<td>AFR</td>
</tr>
<tr>
<td>Recovery Management for DB2®</td>
<td>RMD</td>
</tr>
<tr>
<td>RECOVERY MANAGER for DB2®</td>
<td>ARM</td>
</tr>
<tr>
<td>RECOVERY MANAGER for IMSTM</td>
<td>IRM or BRI</td>
</tr>
<tr>
<td>RECOVERY PLUS for IMSTM</td>
<td>RVP or BRI</td>
</tr>
<tr>
<td>REORG PLUS for DB2®</td>
<td>ARU</td>
</tr>
</tbody>
</table>
When you request a permanent product license from BMC Software, you must furnish information about the affected CPUs.

**NOTE**

CPU information is not required for temporary passwords.
For each product that you license, use the worksheet in Table 29 to record the CPU information and the passwords that you receive from BMC. The first line of the table provides a sample entry for a 9X2 model with three processors and a CPU ID of 10309-9021-DA.

<table>
<thead>
<tr>
<th>CPU serial</th>
<th>CPU type</th>
<th>Version code</th>
<th>CPU model</th>
<th>Number of CPUs</th>
<th>Permanent password</th>
</tr>
</thead>
<tbody>
<tr>
<td>10309</td>
<td>9021</td>
<td>DA</td>
<td>9X2</td>
<td>3</td>
<td>123,456,789,ABC</td>
</tr>
</tbody>
</table>

For information about determining your CPU ID, see “Displaying current processor information” on page 216 or use the LIST option of the batch Product Authorization utility.

### Applying passwords with the online interface (Additional Options menu)

This section provides instructions for using the online ISPF interface to manage product authorizations when invoked from Additional Options on the Main Menu. To use the batch interface to manage authorizations, see “Applying passwords with the batch interface” on page 219.
Starting the online Product Authorization utility

Use this procedure to start the Product Authorization utility from the ISPF interface.

Before you begin

Ensure that you have completed the following tasks:

- Specify user options as described in “Specifying user options” on page 112.
- Obtain your BMC product authorization passwords.

To start the online Product Authorization utility

1. From the Installation System Main Menu, choose Additional Options.

   The Additional Options Menu (Figure 22) is displayed.

   Figure 22  Additional Options Menu

   BMIPX10  BMC Software Installation System Additional Options Menu
   Command ===> ______________________________________________________________
   Select an option.
   _  Product Maintenance        Apply SMP/E Maintenance.
   _  Additional Installs        Additional Installs for DB2 Administrative Products.

2. From the Additional Options Menu, choose Product Authorization.

3. From the displayed list of products, select a product that requires authorization.
The Installation System starts the Product Authorization utility and displays the Product Authorization Primary Menu (Figure 23).

**Figure 23  Product Authorization Primary Menu (SECEPPRI)**

```
SECEPPRI > <productName> Product Authorization Primary Menu
COMMAND ===> ________________________________________________________________
```

Select an option. Type additional information if applicable. Then press Enter.

Options

1. Process password (Requires password library and password)
2. Display product authorization (Requires password library only)
3. Display current processor information
4. Help about...
5. Exit

Additional information

Password library . . . 'HLQ.BMCPSWD'
Authorization password . . ___  ___  ___  ___

F1=Help    F2=Split   F3=Exit    F7=Bkwd    F8=Fwd     F9=Swap    F12=Cancel

---

**NOTE**

This panel is the only panel that you will use if you are processing a new password for an existing CPU. Additional panels to add, delete, replace, or modify a CPU are displayed only if the password that you enter on this panel provides authorization to perform those functions.

Table 30 describes each option on the primary menu.

**Table 30  Product Authorization Primary Menu options  (part 1 of 2)**

<table>
<thead>
<tr>
<th>Option</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 (Process password)</td>
<td>processes a password that BMC provides to you</td>
</tr>
<tr>
<td></td>
<td>Use this option to complete these tasks:</td>
</tr>
<tr>
<td></td>
<td>■ process a password on an existing processor</td>
</tr>
<tr>
<td></td>
<td>■ add, delete, replace, modify, or reset authorization for a specific processor</td>
</tr>
<tr>
<td>2 (Display product authorization)</td>
<td>lists the processors that are authorized to use the product</td>
</tr>
<tr>
<td></td>
<td>The list also displays the date and time that the authorization was last modified (and by whom) and the trial or temporary expiration date.</td>
</tr>
</tbody>
</table>
Processing a permanent password for an existing processor

This procedure permanently authorizes an existing processor (a CPU that is already listed in your product authorization tables) to run the selected product. To process a temporary password, see “Processing a temporary password” on page 213.

To process a permanent password for an existing processor

1. Start the Product Authorization utility as instructed in “To start the online Product Authorization utility” on page 204.

2. On the Product Authorization Primary Menu, type 1 (Process password) and press Tab.

3. In the Password library field, type a fully qualified data set name and press Tab.

   The utility saves the library name in your ISPF profile and uses that name as the default library.

4. In the Authorization password field, type your permanent password and press Enter.

5. To exit the Product Authorization utility, press F3.

Adding authorization for a new processor

This procedure adds a new processor to your product authorization table.

Before you begin

Ensure that you have received a new ADD password from BMC.

Table 30  Product Authorization Primary Menu options (part 2 of 2)

<table>
<thead>
<tr>
<th>Option</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>3 (Display current processor information)</td>
<td>displays information about the current processor, including the serial number, the model number, the version code (submodel), and the number of available processors</td>
</tr>
<tr>
<td>4 (Help about)</td>
<td>displays version, copyright, and licensing information about the Product Authorization utility</td>
</tr>
<tr>
<td>5 (Exit)</td>
<td>exits the Product Authorization utility and returns to the previous menu or panel</td>
</tr>
</tbody>
</table>
**Adding authorization for a new processor**

1. Access the ADD Authorization for a Processor panel:
   
   **A** Start the Product Authorization utility as instructed in “To start the online Product Authorization utility” on page 204.

   **B** On the Product Authorization Primary Menu, type 1 (Process password) and press **Tab**.

   **C** In the Password library field, type a fully qualified data set name and press **Tab**.

   **D** In the Authorization password field, type your ADD password and press **Enter**.

   The ADD Authorization for a Processor panel (Figure 24) is displayed.

2. In the New serial number field, type the serial number of the processor for which you are adding authorization.

3. In the New model number field, type the model number of the processor for which you are adding authorization and press **Enter**.

   A pop-up message on the Product Authorization Primary Menu explains that the product authorization table was updated successfully.

4. To exit the Product Authorization utility, press **F3**.
Deleting authorization for a processor

This procedure removes a processor from your product authorization table.

Before you begin

Ensure that you have received a new DELETE password from BMC.

To delete authorization for a processor

1. Access the DELETE Authorization for a Processor panel:

   A. Start the Product Authorization utility as instructed in “To start the online Product Authorization utility” on page 204.

   B. On the Product Authorization Primary Menu, type 1 (Process password) and press Tab.

   C. In the Password library field, type a fully qualified data set name and press Tab.

   D. In the Authorization password field, type your DELETE password and press Enter.

   The DELETE Authorization for a Processor panel (Figure 25) is displayed.

Figure 25  DELETE Authorization for a Processor panel (SECEPDEL)

Supply information for all input fields. Then press Enter.

Authorization password . . : BFP A=M QG3 =7V

Old serial number . . . 10293
Old model number . . . 9672   (for example, 9021, 9121, 3090)
Replacing authorization for a processor

This procedure replaces one processor in the product authorization table with another processor. This replacement allows the new processor to run the associated product in place of the old processor.

Before you begin

Ensure that you have received a new REPLACE password from BMC.

To replace authorization for a processor

1 Access the REPLACE Authorization for a Processor panel:

   A Start the Product Authorization utility as instructed in “To start the online Product Authorization utility” on page 204.

   B On the Product Authorization Primary Menu, type 1 (Process password) and press Tab.

   C In the Password library field, type a fully qualified data set name and press Tab.

2 In the Old serial number field, type the serial number of the processor for which you are deleting authorization.

3 In the Old model number field, type the model number of the processor for which you are deleting authorization and press Enter.

   A pop-up message on the Product Authorization Primary Menu explains that the product authorization table was updated successfully.

4 To exit the Product Authorization utility, press F3.
In the **Authorization password** field, type your REPLACE password and press Enter.

The REPLACE Authorization for a Processor panel (Figure 26) is displayed.

**Figure 26  REPLACE Authorization for a Processor panel (SECEPREP)**

Supply information for all input fields. Then press Enter.

```
Authorization password . . : 4XY YAL AMB 48S
Old serial number . . . 10293
Old model number . . . 9672  (for example, 9021, 9121, 3090)
New serial number . . . 10293
New model number . . . 9652  (for example, 9021, 9121, 3090)
```

2 In the **Old serial number** field, type the serial number of the processor to be replaced.

3 In the **Old model number** field, type the model number of the processor to be replaced.

4 In the **New serial number** field, type the serial number of the processor that will replace the old processor.

5 In the **New model number** field, type the model number of the processor that will replace the old processor and press Enter.

A pop-up message on the Product Authorization Primary Menu explains that the product authorization table was updated successfully, replacing the old processor with the new processor.

6 To exit the Product Authorization utility, press F3.
Modifying authorization for an existing processor

This procedure changes one or more properties of a processor in the product authorization table. You can change the following properties:

- number of significant digits for the serial number
- maximum number of processors
- expiration date for the product license

Before you begin

Ensure that you have received a new MODIFY password from BMC.

To modify authorization for a processor

1. Access the MODIFY Authorization for an Existing Processor panel:

   A. Start the Product Authorization utility as instructed in “To start the online Product Authorization utility” on page 204.

   B. On the Product Authorization Primary Menu, type 1 (Process password) and press Tab.

   C. In the Password library field, type a fully qualified data set name and press Tab.
In the **Authorization password** field, type your MODIFY password and press Enter.

The MODIFY Authorization for an Existing Processor panel (Figure 27) is displayed.

**Figure 27  MODIFY Authorization for an Existing Processor panel (SECEPUPD)**

2 In the **Serial number** field, type the serial number of the processor for which you want to modify the authorization.

3 In the **Model number** field, type the model number of the processor for which you want to modify the authorization and press Enter.

The properties are modified automatically. A pop-up message on the Product Authorization Primary Menu explains that the product authorization table was updated successfully.

4 To exit the Product Authorization utility, press F3.
Resetting authorization for all processors

This procedure resets a global property (one that applies to all CPU IDs) of the authorization table.

Before you begin

Ensure that you have received a new RESET password from BMC.

To reset authorization for all processors

1. Start the Product Authorization utility as instructed in “To start the online Product Authorization utility” on page 204.

2. On the Product Authorization Primary Menu, type 1 (Process password) and press Tab.

3. In the Password library field, type a fully qualified data set name and press Tab.

4. In the Authorization password field, type your permanent password and press Enter.

   A pop-up message explains that the product authorization table was updated successfully.

5. To exit the Product Authorization utility, press F3.

Processing a temporary password

This procedure temporarily authorizes a processor to run the selected product. To process a permanent password, see “Processing a permanent password for an existing processor” on page 206.

To process a temporary password

1. Start the Product Authorization utility as instructed in “To start the online Product Authorization utility” on page 204.

2. On the Product Authorization Primary Menu, type 1 (Process password) and press Tab.

3. In the Password library field, type a fully qualified data set name and press Tab.
4 In the Authorization password field, type your temporary password and press Enter.

A pop-up message explains that the product authorization table was built or updated successfully.

5 To exit the Product Authorization utility, press F3.

Displaying product authorization

This procedure displays the current authorization for a product.

To display authorization for a product

1 Start the Product Authorization utility as instructed in “To start the online Product Authorization utility” on page 204.

2 On the Product Authorization Primary Menu, type 2 (Display product authorization) and press Tab.

3 In the Password library field, type a fully qualified data set name and press Enter.

The Product Authorization Display panel (Figure 28) is displayed.

Figure 28  Product Authorization Display panel (SECEPTBL)
Table 31 describes the fields on this panel.

<table>
<thead>
<tr>
<th>Field</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Password library</td>
<td>name of the password library</td>
</tr>
<tr>
<td>Product code</td>
<td>code that BMC assigns to the product</td>
</tr>
<tr>
<td>Last changed (mm/dd/yy-hh:mm)</td>
<td>date and time that the product authorization tables were last modified</td>
</tr>
<tr>
<td>Last changed by</td>
<td>user ID or job that requested the modification</td>
</tr>
<tr>
<td>Grace period ends (mm/dd/yyyy)</td>
<td>date when the grace period (if triggered) will end</td>
</tr>
<tr>
<td>Temporary expiration date (mm/dd/yyyy)</td>
<td>date on which you will no longer be allowed to bypass the CPU ID check or the product</td>
</tr>
<tr>
<td>Licensed Processors</td>
<td>list of properties for each licensed CPU</td>
</tr>
</tbody>
</table>

The variables are as follows:
- **mm** represents the month (in the range 01–12).
- **dd** represents the day (in the range 01–31).
- **yy** represents the year (in the range 00–99).
- **hh** represents the hour (in the range 00–23).
- **mm** represents minutes (in the range 00–59).

**Note:** This line appears only if the failure mode is phased and the grace period has been triggered. The grace period can be triggered when you run a permanently licensed product on an unlicensed processor. You should apply a RESET password to reset the grace period. For assistance, contact your BMC sales representative.

**Note:** If this expiration date has not yet been reached, you can run this product on any processor. On the date shown, your trial period will end or (if you have licensed the product) you will be able to run the product only on authorized processors.

4 To exit the Product Authorization utility, press F3.
Displaying current processor information

This procedure displays the current authorization for a processor. If you experience problems, BMC Support might require this information.

To display processor information

1. Start the Product Authorization utility as instructed in “To start the online Product Authorization utility” on page 204.

2. On the Product Authorization Primary Menu, type 3 (Display current processor information) and press Enter.

The Current Processor Information panel (Figure 29) is displayed.

Figure 29  Current Processor Information panel (SECEPCPU)

This panel displays the CPU serial and model numbers for the processor on which TSO is running. The panel also displays the version code of the processor. The version code is the hardware representation of the submodel (for example, the 942 in ES/9000-942 or 600 for a 3090-600 processor).
Applying passwords with the online interface during OZI Customization

**NOTE**

Version code X'FF' indicates that MVS is running as a VM guest. Code X'FF' is not the processor version code. To determine the processor version code, run the LIST option of the batch Product Authorization utility from an APF-authorized library. For more information, see Table 33 on page 224.

This panel also displays the number of processors that are online to the current operating system. This information might be relevant to your BMC license agreement.

**NOTE**

The information that is displayed on this panel might not refer to a computer on which you are licensed to run a BMC product. For example, if you log on to TSO on SYSA but run your BMC product on SYSB, your product authorization entries might refer to SYSB.

3. To exit the Product Authorization utility, press F3.

**Applying passwords with the online interface during OZI Customization**

This section provides instructions for using the online ISPF interface to manage product authorizations from within the **Product Customization** menus on the Main Menu.

Through the OZI Customization interface, you can use the Product Authorization utility to add trial or permanent passwords, and to copy previous passwords. To obtain CPU information about currently authorized products or to modify existing CPU information, use the Product Authorization utility through **Additional Options** on the Main Menu or the batch interface.

**To add permanent passwords during OZI Customization**


2. On the Install System Product Authorization panel, enter 3 in the Sel column and press Enter.
### Applying passwords with the online interface during OZI Customization

**3** On the Install System Permanent Password Authorization panel, enter your password authorization information.

Each row represents one product on one processor. Use as many rows as you need to specify all of the passwords and systems on which your products will be run.

- Enter the password three digits at a time, with each set separated by a blank (for example: `xxx xxx xxx xxx`).

- To install all of the products on the same CPU, type `Y` in the **Select a single CPUID-TYPE for all products selected** field. Then, specify the CPU ID in the CPUID-TYPE field.

- To change a CPUID-Type, type over the displayed information.

- To deselect a product, specify a blank in the **Sel** column.

**4** Press **Enter** to validate and accept your changes.

**5** Use the **END** primary command to process the passwords.

**6** On the Install System - Final Tasks panel, select **JCL Generation** and press **Enter** to generate the JCL members.

JCL member `$C15PSWD` is the job for password processing. For more information, see Chapter 5, “Customizing BMC products for IMS.”

### To add trial passwords during OZI Customization

**1** On the Install System - Final Tasks panel, select **Product Authorization** and press **Enter**.

**2** On the Install System Product Authorization panel, enter `2` in the **Sel** column and press **Enter**.

**3** On the Install System Product Trial Authorization panel, enter your password authorization information, three digits at a time, with each set separated by a blank (for example, `xxx xxx xxx xxx`).

**4** Press **Enter** to validate and accept your changes.

**5** Use the **END** primary command to process the passwords.

**6** On the Install System - Final Tasks panel, select **JCL Generation** and press **Enter** to generate the JCL members.

JCL member `$C15PSWD` is the job for password processing. For more information, see Chapter 5, “Customizing BMC products for IMS.”
To copy passwords during OZI Customization

1 On the Install System - Final Tasks panel, select Product Authorization and press Enter.

2 On the Install System Product Authorization panel, enter 1 in the Sel column and press Enter.

3 On the Install System Retain Product Authorization panel, specify whether the product authorization modules are in one load or password library.

4 (optional) If the product authorization modules are not in one library, provide the load or password library from which to copy the product authorization modules.

5 Press Enter to validate and accept your changes.

6 Use the END primary command to process the passwords.

7 On the Install System - Final Tasks panel, select JCL Generation and press Enter to generate the JCL members.

JCL member $C15PSWD is the job for password processing. For more information, see Chapter 5, “Customizing BMC products for IMS.”

Applying passwords with the batch interface

This section describes the batch interface that you can use for product authorization outside of the Installation System. To use the online interface, see “Applying passwords with the online interface (Additional Options menu)” on page 203.

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

- process a password
- obtain current product authorization and processor information
- apply passwords to multiple products at one time
Running the batch Product Authorization utility

You can find product-specific JCL samples in your JCL library and the base installation library. Follow the instructions in the comments of one of the following members:

- ###CPUID (in your JCL library)
- BMISPSWD (in the base installation library)

Figure 30 is a sample JCL script for running batch product authorization.

**Figure 30  Sample JCL for running batch product authorization (part 1 of 3)**

```plaintext
//** MODIFY JOB STATEMENT BELOW AS APPROPRIATE
//CPUAUTH JOB (ACCT),'CPUID AUTHORIZATION',MSGCLASS=X,CLASS=A
//**
//**
//********************************************************************************
// BMC SOFTWARE - PRODUCT PASSWORD PROCESSING JCL AND INFORMATION*
//******************************************************************************

//** PRODUCT    PRODUCT
//** CODE   NAME
//** XBA  SNAPSHOT UPGRADE FEATURE for VSAM
//** XBI  EXTENDED BUFFER MANAGER for IMS
//** XBM  EXTENDED BUFFER MANAGER
//** XBU  SNAPSHOT UPGRADE FEATURE for IMS
//** XBS  SNAPSHOT UPGRADE FEATURE
//** ACT  CATALOG MANAGER for DB2
//** ACP  COPY PLUS for DB2

//******************************************************************************

//** I N S T R U C T I O N S

//** --> MODIFY THE STEPLIB AND SYSLIB STATEMENTS BELOW.
//** STEPLIB SHOULD SPECIFY THE NAME OF THE DATASET WHERE THE
//** PROGRAM BLFSEC3B RESIDES.
//** SYSLIB SHOULD SPECIFY THE NAME OF THE PASSWORD LIBRARY

//******************************************************************************

//** VALID KEYWORDS AND EXAMPLES ARE:
//** PSWD  ==> PSWD=XXX,XXX,XXX,XXX
//** WHERE XXX,XXX,XXX,XXX IS THE PASSWORD

//** OLDCPUID  ==> OLDCPUID=$SSSSS-MMMM
//** WHERE $SSSS IS THE CPU SERIAL NUMBER OF
//** YOUR "OLD" CPU
//** MMMM IS THE CPU MODEL NUMBER OF
//** YOUR "OLD" CPU
```
THE "OLDCPUID" KEYWORD IS USED WITH "DELETE", "REPLACE", *
AND "MODIFY" PASSWORDS.
*
*
NEWCPUID ==> NEWCPUID=CCCCC-NNNN *
*
WHERE CCCCC IS THE CPU SERIAL NUMBER OF *
*
YOUR "NEW" OR CURRENT CPU *
*
NNNN IS THE CPU MODEL NUMBER OF *
*
YOUR "NEW" OR CURRENT CPU *
*
THIS KEYWORD IS USED WITH "ADD" AND "REPLACE" PASSWORDS *
*
*
LIST ==> LIST *
*
THIS KEYWORD WILL LIST ALL OF THE ENTRIES *
*
IN THE PRODUCT AUTHORIZATION TABLE. *
*
*
KEYWORD SYNTAX FOR PSWD, NEWCPUID, OLDCPUID:
*
THE SYNTAX FOR THE PSWD, NEWCPUID, AND OLDCPUID KEYWORDS IS
*
FREE FORM. THESE KEYWORDS MAY START IN ANY COLUMN AND IN ANY
*
ORDER AS LONG AS THE STATEMENT DOES NOT EXCEED COLUMN 72.
*
ALL KEYWORDS MUST BE SPECIFIED ON A SINGLE LINE WITHOUT
*
COMMENTS. THE SYSIN CONTROL STATEMENT CANNOT BE CONTINUED.
*
MULTIPLE SYSIN CONTROL STATEMENTS CAN BE PROCESSED IN A
*
SINGLE JOB STEP.
*
*
KEYWORD SYNTAX FOR LIST:
*
THE LIST KEYWORD CANNOT BE SPECIFIED WITH ANY OTHER KEYWORD.
*
IF SPECIFIED IN CONJUNCTION WITH OTHER KEYWORDS, IT WILL BE
*
IGNORED AND WILL NOT BE PROCESSED. THE LIST KEYWORD SHOULD
*
NOT EXCEED COLUMN 72.
*
*
MULTIPLE PRODUCTS / SINGLE JOBSTEPS:
*
REPLACE PARM=PRODCODE WITH SPACES; IE: PARM='   ' *
*
ADD PRODUCT CODE TO PASSWORD LINE IN COLS 1-3 (COLS4 IS BLANK) *
*
WHERE 'PPP' IS THREE LETTER PRODUCT CODE.
*
PPP PSWD=123,456,789,ABC NEWCPUID=98765-4321 *
*
PPP LIST *
*

EXAMPLES:
*
** PROCESS AN "ADD" PASSWORD:
** PSWD=123,456,789,ABC NEWCPUID=98765-4321 *
**
** PROCESS A "DELETE" PASSWORD:
** PSWD=123,456,789,ABC OLDCPUID=98765-4321 *
**
** PROCESS A "MODIFY" PASSWORD:
** PSWD=123,456,789,ABC OLDCPUID=98765-4321 *
**
** PROCESS A "REPLACE" PASSWORD:
** PSWD=123,456,789,ABC OLDCPUID=98765-4321 NEWCPUID=98777-4321 *
**
** PROCESS A "RESET" PASSWORD:
** PSWD=123,456,789,ABC
Figure 30  Sample JCL for running batch product authorization  (part 3 of 3)

```verbatim
/*                                                                   *
/*   PROCESS A "TEMPORARY" PASSWORD:                                 *
/*     PSWD=123,456,789,ABC                                          *
/*                                                                   *
/*   REPORT PROCESOR INFORMATION AND AUTHORIZATION:                  *
/*     LIST                                                          *
/*                                                                   *
//APPLYPW EXEC PGM=BLFSEC3B,PARM='PPP' <= INSERT PRODUCT CODE        
//STEPLIB DD DSN=HLQ.BBLINK,                                       
//                  DISP=SHR                                          
//SYSLIB DD DSN=<PASSWORD LIBRARY>,       <= INSERT PASSWORD LIBRARY     
//                  DISP=SHR                                         
//SYSPRINT DD SYSOUT=*,DCB=RECFM=FBA                               
//SYSUDUMP DD SYSOUT=                                               
//SYSSIN DD *                                                      
/* REPLACE THIS LINE WITH PASSWORD CONTROL STATEMENT               */
```

Table 32 lists information that is required for the JCL script.

Table 32  Sample JCL script information

<table>
<thead>
<tr>
<th>JCL statement</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>JOB</td>
<td>varies, depending on your system</td>
</tr>
<tr>
<td>EXEC</td>
<td>identifies the program (BLFSEC3B) and displays a BMC product code in the PARM field</td>
</tr>
<tr>
<td></td>
<td>Replace PPP with the three-character product code.</td>
</tr>
<tr>
<td>STEPLIB DD</td>
<td>identifies the load library in which BLFSEC3B resides</td>
</tr>
<tr>
<td></td>
<td>This statement is optional if BLFSEC3B resides in LNKLST or is specified in JOBLIB.</td>
</tr>
<tr>
<td>SYSLIB DD</td>
<td>identifies the password library</td>
</tr>
<tr>
<td></td>
<td>Product authorization tables are stored and updated in this data set.</td>
</tr>
<tr>
<td>SYSPRINT DD</td>
<td>enables the product to issue messages and output from the LIST control statement</td>
</tr>
<tr>
<td>SYSIN DD</td>
<td>identifies the location of the control statements that define which actions the program should take</td>
</tr>
<tr>
<td></td>
<td>For a description of these control statements, see “Using control statements and keywords” on page 224.</td>
</tr>
</tbody>
</table>

**NOTE**

The passwords that are created with the PGM=BLFSEC3B program are compatible with the passwords that are created with the SECSEC3B program.
You can apply passwords to multiple products in one batch operation by using the batch product authorization utility. Figure 31 is a sample JCL script for applying passwords to multiple products.

**Figure 31 Sample JCL for applying passwords to multiple products**

```
//APPLYPW EXEC PGM=BLFSEC3B,PARM='PPP' <= PRODUCT CODE
//STEPLIB DD DSN=HLQ.BBLINK. <= BLFSEC3B LOADLIB
//SYSLIB DD DSN=HLQ.BMCPWD. <= PASSWORD LIBRARY
//SYSPRINT DD SYSOUT=*,DCB=RECFM=FBA
//SYSSDUMP DD SYSOUT=*  
//SYSIN SPD PSWD=123,456,789,ABC  NEWCPUID=98765-4321
//                AFD PSWD=456,789,ABC,123  NEWCPUID=87659-4213
//                DFD PSWD=123,789,ABC,456  NEWCPUID=97658-4312
/*
```

To apply passwords to multiple products in one batch operation

1. Replace **PPP** in the BLFSEC3B line with three spaces, as follows:

   ```
   //BLFSEC3B EXEC PGM=BLFSEC3B,PARM='  '  
   ```

2. Replace **PPP** with the product code in each PSWD line:

   ```
   PPP PSWD=123,456,789,ABC  NEWCPUID=98765-4321
   ```

   Ensure that the product code is in columns 1 through 3 and that column 4 is blank.

3. In each PSWD line, replace XXX,XXX,XXX,XXX with the new password and replace CCCCC-NNNN with the new CPU ID.

   Figure 32 is an example of these changes.

**Figure 32 Sample JCL with changes**

```
//APPLYPW EXEC PGM=BLFSEC3B,PARM='  ' <= PRODUCT CODE
//STEPLIB DD DSN=BMC.V2060.BBLINK. <= BLFSEC3B LOADLIB
//SYSLIB DD DSN=BMC.V2060.BMCPWD. <= PASSWORD LIBRARY
//SYSPRINT DD SYSOUT=*,DCB=RECFM=FBA
//SYSSDUMP DD SYSOUT=*  
//SYSIN SPD PSWD=123,456,789,ABC  NEWCPUID=98765-4321
   AFD PSWD=456,789,ABC,123  NEWCPUID=87659-4213
   DFD PSWD=123,789,ABC,456  NEWCPUID=97658-4312
/*
```
Using control statements and keywords

Some tasks require different input parameters, depending on the type of password that you are installing. The sample JCL shown in Figure 30 shows various tasks that you can perform by using the batch version of product authorization. You must 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 blank spaces 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, or OLDCPUID.

Table 33 describes the control statement keywords.

Table 33  Control statement keywords

<table>
<thead>
<tr>
<th>Keyword</th>
<th>Data</th>
<th>Explanation</th>
</tr>
</thead>
<tbody>
<tr>
<td>PSWD</td>
<td>12-character password that is formatted as four fields of three characters each, separated by a comma or a blank</td>
<td>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.</td>
</tr>
<tr>
<td></td>
<td>See the sample JCL in Figure 30.</td>
<td>Twelve continuous characters are also acceptable.</td>
</tr>
<tr>
<td></td>
<td>Twelve continuous characters are also acceptable.</td>
<td></td>
</tr>
<tr>
<td>NEWCPUID</td>
<td>five-digit serial number, followed by a hyphen and a four-digit model number</td>
<td>The serial number and the model number must be hexadecimal characters and must be separated by a single hyphen.</td>
</tr>
<tr>
<td>OLDCPUID</td>
<td>five-digit serial number, followed by a hyphen and a four-digit model number</td>
<td>The serial number and the model number must be hexadecimal characters and must be separated by a single hyphen.</td>
</tr>
<tr>
<td>LIST</td>
<td>not applicable</td>
<td>This keyword prints a report that shows the contents of the product authorization tables and information about the processor on which the job ran.</td>
</tr>
</tbody>
</table>
Checking return codes

After you run a batch job to perform product authorization, check the job’s return code to ensure that the job completed successfully. Table 34 lists the return codes that the batch Production Authorization utility generates.

Table 34  Return codes from the batch Product Authorization utility

<table>
<thead>
<tr>
<th>Keyword</th>
<th>Explanation</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>All requests completed successfully. See the SYSPRINT output for messages about each operation.</td>
</tr>
<tr>
<td>4</td>
<td>A LIST was requested, but no tables were in the load library.</td>
</tr>
<tr>
<td>8</td>
<td>An error prevented completion of some or all of your requests. See the SYSPRINT output for messages about the error and any completed operations.</td>
</tr>
</tbody>
</table>
Checking return codes
Applying maintenance

This chapter describes how to obtain and apply maintenance to BMC Software products for the IMS™ environment.

This chapter presents the following topics:

Overview .......................................................... 227
Advantages of BMC ISR over eFix .......................... 228
Task summary for applying maintenance .................. 229
Backing up site-defined modifications for system administration products ........... 230
Applying SMP/E maintenance ............................... 234
Generating jobs to perform SMP/E maintenance ...... 234
Running jobs to apply SMP/E maintenance .............. 237
Obtaining additional maintenance (BMC ISR method) ........... 241
Preparing to use BMC ISR ............................... 241
Creating and submitting a request .................. 249
Retrieving and processing a service package .......... 256
Removing JCL data sets generated by previous requests ............... 259
Obtaining additional maintenance (eFix method) .......... 260
Reassembling the global options module ............. 262

Overview

Typically, you can apply the most recent program update tape (PUT) maintenance during product installation. BMC delivers SMP/E maintenance, which is required for all products that are installed through the Installation System:

- If you used the Express installation method, you must set up the SMP/E environment by running the $B90SMPE job (for JES2) or $B90SMPE and $B91SMPE (for JES3) as discussed in “Running JCL for an Express installation” on page 121.
Advantages of BMC ISR over eFix

If you used the Custom installation method, the SMP/E environment is set up during the installation process.

The SMP/E-applied maintenance is current as of the date of your installation media. However, new fixes might have occurred since then. After you apply SMP/E maintenance, BMC recommends checking the Customer Support site (for example, the Knowledge Database) for more recent fixes, technical bulletins, or flashes.

If new fixes are available, you can obtain them by using either BMC Internet Service Retrieval (ISR) (the recommended method) or eFix PTF Distribution Services. These services are available from the Customer Support site.

**NOTE**
- You can obtain PUT maintenance at any time by using BMC ISR, the BMC electronic software distribution (ESD) site, or by requesting a distribution tape.
- ISR currently supports the Database and Performance Management (DPM) products, which includes products for MainView, DB2®, and IMS.

Advantages of BMC ISR over eFix

Consider using BMC ISR if you want to automate service retrieval. BMC ISR simplifies ordering and retrieving service updates, either on demand or through your scheduler. You can use BMC ISR to inventory your target zones and generate a single request, or schedule a request on a recurring basis to retrieve maintenance updates.

Specifically, you can use BMC ISR to

- request a corrective or preventive service that encompasses any of the following areas:
  - critical fixes
  - recommended fixes
  - authorized program analysis reports (APARs)
  - program temporary fixes (PTFs)
  - enhanced HOLDDATA
  - a specific PUT level
  - all fixes

- automate the service (via your scheduler) by running JCL on a recurring basis to identify service needs

- receive e-mail notification when your service package is ready
- download the service package to your mainframe or to a personal computer
- apply the service system modifications (SYSMODs) to the appropriate zone

In contrast, eFix does not offer scheduling. It accommodates downloading individual corrective maintenance and co- and prerequisites on an ad-hoc basis (for example, when you receive a flash). You can query eFix to locate specific PTFs, groups of PTFs, APARS, or elements and then select any that you need to apply to your environment. However, BMC ISR offers the same functionality.

**Task summary for applying maintenance**

Table 35 summarizes the tasks for applying maintenance to your products.

<table>
<thead>
<tr>
<th>Task</th>
<th>How to complete the task</th>
<th>Reference</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Apply SMP/E maintenance</strong></td>
<td>Generate jobs to perform SMP/E maintenance.</td>
<td>“Generating jobs to perform SMP/E maintenance” on page 234</td>
</tr>
<tr>
<td></td>
<td>Run jobs to apply SMP/E maintenance.</td>
<td>“Running jobs to apply SMP/E maintenance” on page 237</td>
</tr>
<tr>
<td><strong>Check the BMC Support site for additional fixes</strong></td>
<td>Check the Customer Support site for new fixes or PTFs that BMC released after your installation media was prepared.</td>
<td>BMC Customer Support site</td>
</tr>
</tbody>
</table>
| **Obtain additional maintenance with BMC ISR or eFix** | If you want to use BMC ISR (recommended), perform the following subtasks to apply new fixes:  
  - Prepare to use BMC ISR (initial setup).  
  - Create and submit an ISR request.  
  - Retrieve and process a service package.  
  - (optional) Remove JCL data sets that previous requests generated. | “Obtaining additional maintenance (BMC ISR method)” on page 241 |
|                                           | If you want to use eFix, download and apply the new maintenance from eFix.                | “Obtaining additional maintenance (eFix method)” on page 260 |
Backing up site-defined modifications for system administration products

The information in this section applies to the following products:

- DELTA IMS DB/DC
- DELTA IMS for DBCTL
- DELTA IMS VIRTUAL TERMINAL
- DELTA PLUS
- DELTA PLUS for DBCTL
- DELTA PLUS VIRTUAL TERMINAL
- EXTENDED TERMINAL ASSIST PLUS (ETA)
- Message Advisor for IMS

Before applying maintenance to the listed products, you must back up your site-defined modifications. You can reapply the changes to the new product libraries. Table 36 through Table 40 list the members that you should back up.

Table 36 lists the members that you should back up before applying maintenance to DELTA IMS products. Depending on your environment, keyword table members that support DBCS and DELTA IMS for DBCTL may not be present.

**Table 36  DELTA IMS libraries affected by maintenance (part 1 of 2)**

<table>
<thead>
<tr>
<th>Library</th>
<th>Member</th>
<th>Description</th>
<th>Copy from...</th>
</tr>
</thead>
<tbody>
<tr>
<td>LOAD</td>
<td>IPTTBL3P</td>
<td>BMC System Administration for IMS permanent password</td>
<td>your APF-authorized library</td>
</tr>
<tr>
<td></td>
<td>IPTTBL3T</td>
<td>BMC System Administration for IMS temporary password</td>
<td></td>
</tr>
<tr>
<td></td>
<td>DLATBL3P</td>
<td>DELTA DC, DB/DC and VT permanent password</td>
<td></td>
</tr>
<tr>
<td></td>
<td>DLATBL3T</td>
<td>DELTA DC, DB/DC and VT temporary password</td>
<td></td>
</tr>
<tr>
<td></td>
<td>DDCTBL3P</td>
<td>DELTA IMS for DBCTL permanent password</td>
<td></td>
</tr>
<tr>
<td></td>
<td>DDCTBL3T</td>
<td>DELTA IMS for DBCTL temporary password</td>
<td></td>
</tr>
<tr>
<td></td>
<td>DLA#iiii</td>
<td>IMSID basic options</td>
<td></td>
</tr>
<tr>
<td></td>
<td>DLA@iiii</td>
<td>IMSID extended options</td>
<td></td>
</tr>
<tr>
<td></td>
<td>VTFEXITr</td>
<td>VIRTUAL TERMINAL exits module</td>
<td></td>
</tr>
<tr>
<td>LOAD</td>
<td>DLA$GBL0</td>
<td>global options</td>
<td>your ISPF LOAD library</td>
</tr>
<tr>
<td></td>
<td>DLAKWTnn</td>
<td>keyword tables</td>
<td></td>
</tr>
<tr>
<td></td>
<td>DLAKWTUC</td>
<td>keyword tables (DBCS)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>DDKWTTnn</td>
<td>DELTA IMS for DBCTL keyword tables</td>
<td></td>
</tr>
<tr>
<td></td>
<td>DDKWTTUC</td>
<td>DELTA IMS for DBCTL keyword tables (DBCS)</td>
<td></td>
</tr>
</tbody>
</table>
Table 36  DELTA IMS libraries affected by maintenance (part 2 of 2)

<table>
<thead>
<tr>
<th>Library</th>
<th>Member</th>
<th>Description</th>
<th>Copy from...</th>
</tr>
</thead>
<tbody>
<tr>
<td>CNTL</td>
<td>VTF#SMPE</td>
<td>VTF usermod RECEIVE/APPLY</td>
<td>your DLA.CNTL library</td>
</tr>
<tr>
<td>SAMP</td>
<td>DLAXRCN0</td>
<td>RACF Class and Resource List (optional)</td>
<td>your DLA.SAMP library</td>
</tr>
<tr>
<td></td>
<td>DLAXUID0</td>
<td>TSO User ID Access List (optional)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>DLAXSAF1</td>
<td>SAF class name (optional)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>DLA#MODx</td>
<td>optional usermod</td>
<td></td>
</tr>
<tr>
<td>PLIB</td>
<td>DLAPl@00</td>
<td>ISP F Profile Defaults panel</td>
<td>your PLIB library</td>
</tr>
</tbody>
</table>

Table 37 lists the members that you should back up before applying maintenance to DELTA PLUS or DELTA PLUS VIRTUAL TERMINAL. Depending on your environment, keyword table members that support DELTA PLUS for DBCTL may not be present.

Table 37  DELTA PLUS and DELTA PLUS VIRTUAL TERMINAL libraries affected by maintenance (part 1 of 2)

<table>
<thead>
<tr>
<th>Library</th>
<th>Member</th>
<th>Description</th>
<th>Copy from...</th>
</tr>
</thead>
<tbody>
<tr>
<td>LOAD</td>
<td>IPTTBL3P</td>
<td>BMC System Administration for IMS permanent password</td>
<td>your APF-authorized library</td>
</tr>
<tr>
<td></td>
<td>IPTTBL3T</td>
<td>BMC System Administration for IMS temporary password</td>
<td></td>
</tr>
<tr>
<td></td>
<td>DLPTBL3P</td>
<td>DELTA PLUS permanent password</td>
<td></td>
</tr>
<tr>
<td></td>
<td>DLPTBL3T</td>
<td>DELTA PLUS temporary password</td>
<td></td>
</tr>
<tr>
<td></td>
<td>DLVTBL3P</td>
<td>DELTA PLUS VIRTUAL TERMINAL permanent password</td>
<td></td>
</tr>
<tr>
<td></td>
<td>DLVTBL3T</td>
<td>DELTA PLUS VIRTUAL TERMINAL temporary password</td>
<td></td>
</tr>
<tr>
<td></td>
<td>DTDTBL3P</td>
<td>DELTA PLUS for DBCTL permanent password</td>
<td></td>
</tr>
<tr>
<td></td>
<td>DTDTBL3T</td>
<td>DELTA PLUS for DBCTL temporary password</td>
<td></td>
</tr>
<tr>
<td></td>
<td>DLP#iii</td>
<td>IMSID options</td>
<td></td>
</tr>
<tr>
<td></td>
<td>DLA@iii</td>
<td>virtual terminal IMSID extended options (optional)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>DLPZggg</td>
<td>Group options</td>
<td></td>
</tr>
<tr>
<td></td>
<td>VTFEXIT</td>
<td>DELTA PLUS VIRTUAL TERMINAL exits module</td>
<td></td>
</tr>
<tr>
<td>LOAD</td>
<td>DLP$GBL0</td>
<td>global options</td>
<td>your ISPF LOAD library</td>
</tr>
</tbody>
</table>
### Table 37  DELTA PLUS and DELTA PLUS VIRTUAL TERMINAL libraries affected by maintenance (part 2 of 2)

<table>
<thead>
<tr>
<th>Library</th>
<th>Member</th>
<th>Description</th>
<th>Copy from...</th>
</tr>
</thead>
<tbody>
<tr>
<td>SAMP</td>
<td>DLPYLIST</td>
<td>sample DELTA List build</td>
<td>your DLP.SAMP library</td>
</tr>
<tr>
<td></td>
<td>DLPYRCN0</td>
<td>RACF Class and Resource List (optional)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>DLPYUID0</td>
<td>TSO User ID Access List (optional)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>DLPYSAF</td>
<td>SAF class name (optional)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>DLP#MODx</td>
<td>optional usermod</td>
<td></td>
</tr>
<tr>
<td></td>
<td>DLPCLI@00</td>
<td>DELTA PLUS CLIST</td>
<td></td>
</tr>
<tr>
<td></td>
<td>DLVCI@00</td>
<td>DELTA PLUS VIRTUAL TERMINAL CLIST</td>
<td></td>
</tr>
<tr>
<td></td>
<td>DTDCl@00</td>
<td>DELTA PLUS for DBCTL CLIST</td>
<td></td>
</tr>
<tr>
<td></td>
<td>DLPYRPI0</td>
<td>History File Input exit (optional)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>DLPYRPO0</td>
<td>History File Output exit (optional)</td>
<td></td>
</tr>
<tr>
<td>PLIB</td>
<td>DLPZUSER</td>
<td>user defaults panel</td>
<td>your DLP.PLIB library</td>
</tr>
<tr>
<td>VPROFILE</td>
<td>DEFAULT</td>
<td>default DELTA PLUS View Profile</td>
<td>your DLP.VPROFILE library</td>
</tr>
<tr>
<td></td>
<td>DBCTL</td>
<td>default DELTA PLUS for DBCTL View Profile</td>
<td></td>
</tr>
<tr>
<td></td>
<td><strong>OR</strong>, for users of UPF with DELTA PLUS</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>DLAKWT</td>
<td>default DELTA PLUS View Profile (former keyword table that has been converted to a View Profile)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>DLAKWTnn</td>
<td>customized DELTA PLUS View Profiles (former keyword tables that have been converted to View Profiles)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>DDCKWT</td>
<td>default DELTA PLUS for DBCTL View Profile (former keyword table that has been converted to a View Profile)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>DDCKWTnn</td>
<td>customized DELTA PLUS for DBCTL View Profiles (former keyword tables that have been converted to View Profiles)</td>
<td></td>
</tr>
</tbody>
</table>
Table 38 lists the members that you should back up before applying maintenance to ETA.

### Table 38 ETA libraries affected by maintenance

<table>
<thead>
<tr>
<th>Library</th>
<th>Member</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>LOAD</td>
<td>ETA#iiii</td>
<td>IMSID options</td>
</tr>
<tr>
<td></td>
<td>ETAExxxx</td>
<td>user-defined exit modules (optional)</td>
</tr>
<tr>
<td></td>
<td>IPTTBL3P</td>
<td>BMC System Administration for IMS permanent password</td>
</tr>
<tr>
<td></td>
<td>IPTTBL3T</td>
<td>BMC System Administration for IMS temporary password</td>
</tr>
<tr>
<td></td>
<td>ETATBL3P</td>
<td>permanent security password</td>
</tr>
<tr>
<td></td>
<td>ETATBL3T</td>
<td>temporary security password</td>
</tr>
<tr>
<td></td>
<td>ETAZxxxx</td>
<td>user-customized tables (optional)</td>
</tr>
<tr>
<td></td>
<td>ETA$GBL1</td>
<td>global options</td>
</tr>
<tr>
<td>SAMP</td>
<td>ETACI@00</td>
<td>CLIST that invokes ETA online interface (optional)</td>
</tr>
<tr>
<td></td>
<td>ETAXRCN0</td>
<td>RACF Class and Resource List (optional)</td>
</tr>
<tr>
<td></td>
<td>ETAXSAF1</td>
<td>SAF class for ETA (optional)</td>
</tr>
<tr>
<td></td>
<td>ETMXUID0</td>
<td>TSO User ID Access List (optional)</td>
</tr>
<tr>
<td>PLIB</td>
<td>ETAZUSER</td>
<td>user defaults panel</td>
</tr>
</tbody>
</table>

Table 39 lists the members that you should back up before applying maintenance to Message Advisor.

### Table 39 Message Advisor libraries affected by maintenance

<table>
<thead>
<tr>
<th>Library</th>
<th>Member</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>LOAD</td>
<td>IPTTBL3P</td>
<td>BMC System Administration for IMS permanent password</td>
</tr>
<tr>
<td></td>
<td>IPTTBL3T</td>
<td>BMC System Administration for IMS temporary password</td>
</tr>
<tr>
<td></td>
<td>CSUTBL3P</td>
<td>BMC System Communication for IMS permanent password</td>
</tr>
<tr>
<td></td>
<td>CSUTBL3T</td>
<td>BMC System Communication for IMS temporary password</td>
</tr>
<tr>
<td></td>
<td>MAQTBL3P</td>
<td>permanent security password</td>
</tr>
<tr>
<td></td>
<td>MAQTBL3T</td>
<td>temporary security password</td>
</tr>
<tr>
<td>SAMP</td>
<td>QMRCLIST</td>
<td>ISPF logon CLIST</td>
</tr>
<tr>
<td></td>
<td>QMRXSM0</td>
<td>security module source for internally coded list</td>
</tr>
<tr>
<td></td>
<td>QMRXSM1</td>
<td>security module source for RACF and SAF</td>
</tr>
<tr>
<td></td>
<td>QMRPUSER</td>
<td>ISPF Profile Defaults panel</td>
</tr>
<tr>
<td></td>
<td>QMREXIT0</td>
<td>user exit</td>
</tr>
</tbody>
</table>
Applying SMP/E maintenance

If you are running the Message Advisor QPF component, you should also back up the members that are listed in Table 40.

### Table 40  Message Advisor QPF libraries affected by maintenance

<table>
<thead>
<tr>
<th>Library</th>
<th>Member</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>SAMP</td>
<td>QPFSTG1</td>
<td>test application</td>
</tr>
<tr>
<td>CNTL</td>
<td>QPF#PSB</td>
<td>PSB/ACB GEN</td>
</tr>
<tr>
<td></td>
<td>QPF#MFS</td>
<td>MFSGEN job</td>
</tr>
<tr>
<td></td>
<td>QPF#COMP</td>
<td>compile linkedit</td>
</tr>
</tbody>
</table>

**NOTE**

Applying maintenance does not replace the options module (QMRUOPT0). However, if you allocate new data sets for maintenance, you must migrate QMRUOPT0 to the new data sets.

---

**Applying SMP/E maintenance**

After you generate SMP/E jobs in your installation JCL library (page 234), running the jobs applies maintenance to your products (page 237).

**NOTE**

If you used the Express installation method, you must set up the SMP/E environment by running the $B90SMPE job (for JES2) or $B90SMPE and $B91SMPE (for JES3) as discussed in “Running JCL for an Express installation” on page 121.

---

**Generating jobs to perform SMP/E maintenance**

This procedure produces SMP/E batch jobs in your installation JCL library.

**Before you begin**

PUT maintenance is available on distribution tapes and from the ESD site. The method of PUT maintenance distribution that you choose must be compatible with the distribution method you selected when you created your customized installation library. If you are choosing a different method for receiving PUT maintenance, perform the following steps:
1 Run the installation setup procedure to create a customized installation library as described in “Creating a customized installation library” on page 102:

- Select the electronic distribution method if you are accessing PUT maintenance from the ESD site.
- Select the tape distribution method if you are accessing PUT maintenance from a distribution tape.

2 Run the Installation System as described in “Starting the Installation System” on page 106.

--- TIP

If you select the installation profile that you used to install and create your SMP/E environment, the Installation System will be populated with the information for that environment.

To preserve the original installation profile, you can copy the original profile and use the copy to perform SMP/E maintenance.

You can use the JCL library from the original installation or create a new JCL library if you want to preserve the original JCL.

--- NOTE

To access the Additional Options Menu, you must first select Product Install. However, when the system displays a list of available products, do not select a product.

3 Press F3 to return to the Main Menu.

The Additional Options choice is now selectable.

To generate SMP/E maintenance jobs

1 From the Installation System’s Main Menu, choose Additional Options and press Enter.

   The Additional Options Menu is displayed.

2 Select Product Maintenance and press Enter.

   The Installation System requests job card information.

3 Provide the requested job card information and press Enter.
Generating jobs to perform SMP/E maintenance

4 Select to receive maintenance from a distribution tape, or from the ESD site.

**NOTE**
Electronic PUT maintenance is available as a download from the ESD site.

- To receive PUT maintenance from a distribution tape, you must provide the maintenance tape VOLSER.
- To receive PUT maintenance from the ESD site, the Installation System generates JCL that downloads the latest maintenance. If you need to select specific PUT versions, you can do so from the BMC PUT Image Files panel.

5 When prompted, supply all required information.

6 To apply maintenance to installed products, generate the JCL jobs:

   A In the JCL Generation Option panel, generate the installation jobs in the data set that you entered in “Specifying user options” on page 112.

   The Installation System generates JCL that applies maintenance to your installed products, overwriting any maintenance batch jobs that already exist in the specified data set. The status of the JCL generation is updated on the panel as updates occur.

   B To generate the JCL, press **Enter**.

   The Installation System creates the job streams that are used for applying product maintenance.

   C When all required jobs are generated, press **Enter** to display a list of generated jobs.

   The Installation System generates and displays the JCL that applies maintenance to your products. The maintenance jobs are located in the JCL library that you designated in your user options and are identified with the prefix $M.

7 Review the generated jobs.

**NOTE**
You can edit the jobs if necessary.
To run the maintenance jobs, proceed to “Running jobs to apply SMP/E maintenance.”

**NOTE**
You do not have to submit the generated jobs from within this procedure. You can submit them from your JCL library at any convenient time.

---

Running jobs to apply SMP/E maintenance

After you generate maintenance jobs in your HLQ JCL library (as instructed in “Generating jobs to perform SMP/E maintenance” on page 234), running the jobs applies maintenance to your products. Run these tasks in the specified order:

1. Receive the maintenance data (page 238).
2. *(optional)* Receive the enhanced SYSMOD HOLDDATA (page 238).
3. List the SYSMODS that have a status of HOLD (page 239).
4. Print the PTF documentation (page 239).
5. Apply the maintenance (page 239).
6. Accept the maintenance data (page 240).

**Before you begin**

Ensure that you completed the necessary procedure to prepare your products and environments for SMP/E maintenance. For more information, see “Installation System overview” on page 23.

Also, ensure that you generated SMP/E maintenance JCL as discussed in “Generating jobs to perform SMP/E maintenance” on page 234.

Obtain the most recent technical bulletins or flashes for your products from the BMC Customer Support site. Technical bulletins or flashes contain information that was made available after your maintenance tape was produced.

Table 41 lists the typical jobs created for SMP/E maintenance.
Running jobs to apply SMP/E maintenance

Table 41  Generated JCL for SMP/E maintenance

<table>
<thead>
<tr>
<th>Job</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>$M42DWNL</td>
<td>download PUT maintenance files</td>
</tr>
<tr>
<td>$M45RECV</td>
<td>receive maintenance</td>
</tr>
<tr>
<td>$M50HOLD</td>
<td>receive hold statements</td>
</tr>
<tr>
<td>$M55LIST</td>
<td>list HOLDDATA</td>
</tr>
<tr>
<td>$M60DOCL</td>
<td>print PTF doc from tape</td>
</tr>
<tr>
<td>$M65CLNU</td>
<td>clean maintenance input files</td>
</tr>
<tr>
<td>$M75APCK</td>
<td>apply check job</td>
</tr>
<tr>
<td>$M76APLY</td>
<td>apply job</td>
</tr>
<tr>
<td>$M80ACCK</td>
<td>accept check job</td>
</tr>
<tr>
<td>$M81ACPT</td>
<td>accept job</td>
</tr>
</tbody>
</table>

To receive maintenance data

Submit the $M45RECV job to receive SMP/E efix or PUT maintenance data.

NOTE

The maintenance tape includes maintenance for all BMC products. The output might include ++VER messages indicating that maintenance for other products was not received. Therefore, the submitted job receives diagnostic messages with a step return code of 4. These messages do not require any action.

To receive SYMMD HOLDDATA

If you want to process enhanced HOLDDATA during maintenance, complete this procedure:

1. Download the enhanced HOLDDATA file.
2. Modify the $M50HOLD job to process the enhanced HOLDDATA file.
3. Run the $M50HOLD and $M55LIST jobs.
4. Review the list output to determine whether you need to download additional resolving PTFs.
To list SYSMODS with a HOLD status

1. Submit the $M55LST job to list any SYSMODs that have a HOLD status.

   **NOTE**
   SYSMODs that are held because of errors are automatically released when an APAR or PTF resolves the error. SYSMODs held for documentation or action are released by specifying BYPASS(HOLDSYS) in the following jobs:
   - $M76APCK
   - $M76APLY
   - $M80ACCK
   - $M81ACPT

2. Review the hardcopy listings to determine whether you need to take any action.

To print PTF documentation

1. Submit the $M60DOC job to print PTF documentation from tape.
2. Keep the product documentation and insert it into the appropriate book.

To apply maintenance

1. Perform APPLY checking before applying maintenance:
   
   A. Review comments near the beginning of the $M75APCK job.
   B. Submit the $M75APCK job to perform APPLY checking.
   C. Review the $M75APCK output to verify that the expected maintenance will be applied by the $M76APLY job.

2. Review the comments near the beginning of the $M76APLY job.

3. Change the BYPASS keyword to take appropriate action for system HOLDs, as in the following example:

   \[\text{BYPASS(HOLDSYS(DOC, ACTION))}\]

   This statement releases SYSMODs that are held for documentation and action.

4. Save your changes.
5 Submit the $M76APLY job to run the APPLY.

---

**NOTE**

$M76APLY applies a selected list of PTFs and their prerequisites.

---

**To accept maintenance data**

1 Perform ACCEPT checking before accepting maintenance:

   A  Review the comments near the beginning of the $M80ACCK job.

   B  Submit the $M80ACCK job to perform ACCEPT checking.

   C  Review the $M80ACCK output to verify that the expected maintenance will be accepted by the $M81ACPT job.

2 Review the comments near the beginning of the $M81ACPT job.

3 Change the BYPASS keyword to take appropriate action for system HOLDs, as in the following example:

   BYPASS(HOLDSYS(DOC,ACTION))

   This statement releases SYSMODs that are held for documentation and action.

4 Save your changes.

5 Submit $M81ACPT to run the ACCEPT.

---

**NOTE**

You should accept PTFs and APARs before applying the next maintenance tape for the following reasons:

- Accepting PTFs and APARs removes them from the SMPPTS data set and makes the space available for additional use. The data set must be compressed.
- Accepting the PTFs and APARs will reduce the required effort if you need to restore future PTFs.
- The prerequisite chains will become long and complex if you defer ACCEPT processing.
If you are using the runtime enablement option or your own runtime data sets, you
must copy the updated data sets from your SMP/E target libraries to your runtime
data sets.

If you are using the runtime enablement option, you can edit the $R05RTEC job
that created the runtime enablement data sets to help you copy the data sets from
your SMP/E target libraries to your runtime data sets.

Where to go from here

To check for new maintenance (released after your installation media was prepared),
see “Obtaining additional maintenance (eFix method)” on page 260. As an
alternative, you can use BMC ISR to obtain maintenance either on demand or
automatically. For details, see “Obtaining additional maintenance (BMC ISR
method)” on page 241.

Obtaining additional maintenance (BMC ISR
method)

The procedures in this section explain how to use BMC ISR:

- “Preparing to use BMC ISR” on page 241
- “Creating and submitting a request” on page 249
- “Retrieving and processing a service package” on page 256
- “Removing JCL data sets generated by previous requests” on page 259

Preparing to use BMC ISR

Before you use BMC ISR to obtain maintenance, either on demand or through your
scheduler, you need to perform the following tasks:

1. Review the environment requirements as instructed in “Requirements” on
   page 242.

2. Obtain the ISR installation files, upload them to the mainframe, and decompress
   them as instructed in “Obtaining the ISR installation libraries” on page 243.
3. Start the BMC ISR application and set up initial values to accommodate ISR file processing for the following items:

- job card
- data sets
- firewall
- hierarchical file system (HFS) or IBM® zSeries® file system (zFS)

For details, see “Setting up initial values for the BMC ISR jobs” on page 246.

Requirements

Consider the following special requirements before using BMC ISR:

- Space requirements for retrieved service packages

Before retrieving your service package from the BMC ISR server, ensure that you have adequate space on your UNIX® file system on an IBM z/OS® platform. The service package is provided in compressed format; however, the space that GIMUNZIP (which extracts data sets and files from the archive files) requires on the UNIX file system is two to three times the size of the package.

To determine the amount of space that the uncompressed files require, review the file attributes contained in GIMFAF.XML (in the downloaded package). For details, see the archive files section of the IBM manual SMP/E V3R4.0 for z/OS Reference.

If you choose to separate the GIMUNZIP data sets (SMPNTS and SMPWKDIR), SMPNTS must contain space equivalent to the size of the downloaded service; SMPWKDIR must contain space equivalent to two times the size of the service package.

- Integrated Cryptographic Service Facility (ICSF) requirements

When you submit a request, BMC ISR assumes that the ICSF is running. If ICSF is not available, you must include the SMPCPATH and SMPJHOME DD statements in the following jobs:

— $E05XTRT before submitting a request
— $J05RETV before retrieving the service package

SMPCPATH specifies a directory in the UNIX file system where the SMP/E Java classes reside. SMPJHOME specifies a directory in the UNIX file system where the Oracle® Java runtime resides. The $E05XTRT and $J05RETV jobs also indicate where to include these DD statements. For more information about these statements, see the IBM SMP/E commands manual.
Preparing to use BMC ISR

Chapter 7 Applying maintenance

Obtaining the ISR installation libraries

You can obtain the base installation libraries from the BMC electronic software distribution (ESD) FTP site. Complete the procedure that best suits your needs:

- Download BMC ISR libraries from the ESD site to your mainframe by using FTP (if your site allows direct downloads through FTP). For details, see page 243.

- Download BMC ISR libraries from the ESD site by using a web browser. You can download the files to a PC and then transfer them to the mainframe. For details, see page 245.

NOTE

You can use either download method to obtain the files, but you must process the service package on the mainframe.

Before you begin

To download the BMC ISR libraries from the ESD site, you must have an ESD user ID and password. To view the current password, go to http://www.bmc.com/support/downloads-patches/ptf-ftp-installation.html and select Electronic software distribution (ESD) FTP site user ID and password.

NOTE

To access the server password information, you need a valid support user ID and password. To register for a support user ID and password, go to http://www.bmc.com/support.

To download ISR installation libraries to your mainframe by using FTP

1 Create a batch job that is similar to the sample in Figure 33:

A Ensure that the JCL is unnumbered; FTP reads all 80 characters.

B Set CAPS OFF and NUM OFF.

C Customize the job card to comply with your site’s requirements.

NOTE

The job card requires a REGION parameter value of 0M.
Preparing to use BMC ISR

D Change variable text in the INPUT DD section (highlighted in bold in Figure 33 on page 244) as follows:

- Change **user ID** and **password** to the user ID and password that you obtained from BMC.
- Change **unit** to the unit parameter.
- *(optional)* Change **volume** and the storage management subsystem (SMS) variables to the correct values for your site.

---

**WARNING**
The FTP server is case sensitive. You must use lowercase letters for all data in the INPUT DD section.

---

- Change **versionNumber** to the latest version of the BMC ISR image (for example, 1102).

---

**NOTE**
If you do not use these parameters, delete these lines. Do not leave blank lines in the JCL.

---

- Change **HLQ.BMCISR.image** to a data set name appropriate to your site.
- Make any additional changes that your site requires, such as providing proxy information to get outside your firewall.

---

**Figure 33**  Sample FTP download job for the ISR libraries (part 1 of 2)

```
//JOB_NAME JOB (ACCOUNT),'USER COMMENT',
//       CLASS=JOB_CLASS,MSGCLASS=MSG_CLASS,
//       REGION=0M,NOTIFY=&SYSUID
//FTPGET EXEC PGM=FTP,REGION=5120K,
//       PARM='filedownload.bmc.com (timeout 720 exit=8'
//SYSMDUMP DD SYSOUT=*
//SYSPRINT DD SYSOUT=*
//SYSOUT DD SYSOUT=* 
```
2 Submit the JCL to download the compressed libraries.

3 After the job completes successfully, edit the downloaded data set according to the instructions in the file.

4 Submit the edited JCL to decompress the ISR libraries.

This job creates the following data sets at the same location as the decompressed libraries.  *HLQ* is a high-level qualifier that cannot exceed 17 characters and, by default, is your TSO ID:

- *HLQ*.BMC.LOAD  (ISR load library)
- *HLQ*.BMC.CNTL  (ISR control library)

**To download ISR installation libraries by using a web browser**

1 Using a web browser, determine the current version number of the BMC ISR image (bmcisr) by typing the following location:

   ftp://filedownload.bmc.com/bmc/esd/odzi/

   **NOTE**

   When prompted for a user ID and password, provide the user ID and password that you obtained for the ESD FTP site (not your support user ID and password).
Preparing to use BMC ISR

2 Download the following file to your PC’s desktop:

ftp://filedownload.bmc.com/bmc/esd/ozi/bmcisr-versionNumber-image.bin

NOTE
The variable versionNumber represents the current BMC ISR installation version number (for example, 1102).

3 Copy the downloaded file to your mainframe by using the transfer program of your choice.

NOTE
The file transfer must meet the following requirements:

- The transfer must be binary.
- The data set on the mainframe must be a fixed-block 80 sequential file.
- The block size must be 6160.
- The primary allocation must be set to 5 cylinders, and the secondary allocation must be set to 2 cylinders.

4 After the transfer completes successfully, edit the downloaded data set according to the instructions in the file.

5 Submit the edited JCL to decompress the base installation libraries.

This job creates the HLQ.BMC.LOAD and HLQ.BMC.CNTL data sets at the same location as the decompressed libraries. HLQ is a high-level qualifier that cannot exceed 17 characters and, by default, is your TSO ID).

NOTE
You can submit the data set (JCL) externally. Alternatively, if you have adequate space allocated for your TSO session, you can submit the JCL from within the member.

Setting up initial values for the BMC ISR jobs

Complete this one-time procedure to set up BMC ISR.

Before you begin

Ensure that you have downloaded the ISR installation files from the ESD site (“Obtaining the ISR installation libraries” on page 243.) Also, ensure that you have read, write, and execute authority on the HFS or zFS and write authority on GIMZIP.
To set up initial values for the BMC ISR jobs

1 On the TSO Commands panel, start the ISR application by entering the following command:

   EX 'HLQ.BMC.CNTL(BMCISR)'

   The BMC Internet Service Retrieval (ISR) Menu panel is displayed.

2 Select Specify job card and ISR data set information.

3 On the BMC ISR Job Card and Data Set Information panel, provide the following information:

   A Specify the BMC ISR process load library, HLQ.BMC.LOAD, that you downloaded from the ESD site.

   B Specify the HLQ of the data sets that ISR will generate to store request information.

   C Specify the non-VSAM data set unit name and VOLSER.

   D If your data sets are managed by SMS, type Y in the Manage Non-VSAM Data Sets with SMS field, and specify the storage class, management class, and data class for the data sets. Otherwise, leave these fields blank.

   E Press Enter to continue.
4 On the Firewall Free Form Input Template Specifications panel, provide the FTP requirements to allow access through the firewall, and press Enter to return to the main menu.

5 On the BMC Internet Service Retrieval (ISR) Menu, select Specify HFS or ZFS information.

6 On the Application Server UNIX Options panel, identify the file system directories into which all incoming and outgoing ISR request ID files will be compressed and decompressed:

   **NOTE**
   The frombmc directory contains all files that are retrieved from the BMC ISR server. The tobmc directory contains all files that are sent to the BMC ISR server.

   A Specify the numeric UNIX user ID and group ID.
      If you are unsure about these values, consult your security administrator.

   B *(HFS only)* Specify a root directory for the location of the BMC ISR HFS path.

   **NOTE**
   Ensure that you have read, write, and execute authority on the HFS or zFS and write authority on GIMZIP.

   C Specify HFS for a hierarchical file system or zFS for a zSeries file system.

   D Specify the HLQ for the file system data set.

   E Specify the unit name for the file system data set.

   F Specify the file system VOLSER or SMS value, depending on the file system type:
      - *(HFS)* Enter the file system VOLSER.
      - *(zFS)* Enter the file system VOLSER or an SMS value.

   G If your data sets are managed by SMS, type Y in the Manage File System with SMS field, and specify the management class, the data class, and the storage class for the data sets. Otherwise, leave these fields blank.

   H Press Enter to continue.

7 Submit the job.
8 Proceed to “Creating and submitting a request” to create a single service request or to create JCL for a scheduled service request.

Creating and submitting a request

You can choose between the following alternatives for creating and submitting requests:

- Create and submit a single service request by using BMC ISR to determine the required SYSMODs (“To create and submit a single service request by using BMC ISR” on page 250).

- Create and submit a single service request manually (“To send a single service request manually” on page 252).

- Create a scheduled service request to be run from a scheduler, to query your target zones regularly, and to send requests to the ISR server for service updates (“To create a scheduled service request” on page 253).

**NOTE**

Each BMC ISR request that you submit must use a unique request ID (that BMC ISR generates). The BMC ISR server will not process duplicate request IDs.

**Before you begin**

After processing your request, the BMC ISR server sends an e-mail message to the address that you provided during setup, indicating that your request is ready to retrieve.

**NOTE**

To ensure that this message does not go to your unsolicited (junk) folder, add BMCISR to your safe senders list.
To create and submit a single service request by using BMC ISR

1 On the BMC Internet Service Retrieval (ISR) Menu, select \textit{Create and submit a single service request}.

2 On the Create New Request pop-up panel, indicate whether to retrieve existing parameter data to create your JCL:

- Specify \textbf{N} to create a new parameter data set and press \textbf{Enter}.
- Specify \textbf{Y} to retrieve existing parameter data. Then, enter the BMC ISR request ID and HLQ of the JCL data set that contains the request job.

\[ \text{NOTE} \]

If you do not know the request ID, specify a question mark (\texttt{?}) in the \textbf{BMC ISR request ID} field to see a list of available data sets. From the list, select the request ID that you want to retrieve or enter \textbf{B} to browse the data sets. When finished, press \textbf{Enter}. Press \textbf{Enter} again to continue.

Review the parameters from the BMC ISR Request panel and provide the user ID and password of the ESD site. Then, proceed to step H on page 251.

3 If you specified \textbf{N} in \textbf{step 2}, provide the following information on the BMC ISR Request panel:

\begin{itemize}
  \item[A] Specify the user ID and password of the BMC ISR server.
  \item[B] Note the BMC ISR request ID.
  \item[C] In the \textit{ISR request Global CSI name} field, specify the data set name containing the Global CSI to be processed.
  \item[D] Specify the request target zones and zone definitions for the software inventory.
\end{itemize}

BMC ISR uses resulting target zones to create the software inventory on which the resulting service package will be based.

\[ \text{NOTE} \]

To view the current password, go to \url{http://www.bmc.com/support/downloads-patches/ptf-ftp-installation.html} and select \textit{Electronic software distribution (ESD) FTP site user ID and password}. To access the server password information, you need a valid support user ID and password. To register for a support user ID and password, go to \url{http://www.bmc.com/support}.
**NOTE**

The request target zones correspond to and perform the same function as FORTGTZONES, as documented in the IBM SMP/E commands manual.

**E** In the ISR request Content Type field, specify a number to indicate the type of request:

<table>
<thead>
<tr>
<th>Option</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 - CRITICAL</td>
<td>Include all PTFs that resolved high-priority pervasive (HIPER) or PTF in error (PE) conditions.</td>
</tr>
<tr>
<td>2 - RECOMMENDED</td>
<td>Include all PTFs that are included on the installation media or PUT media.</td>
</tr>
<tr>
<td>3 - APARS</td>
<td>Include only APARs.</td>
</tr>
<tr>
<td>4 - PTFs</td>
<td>Include only PTFs.</td>
</tr>
<tr>
<td>5 - HOLDDATA</td>
<td>Include only HOLDDATA.</td>
</tr>
<tr>
<td>6 - PUT</td>
<td>Include a specific PUT (restricted to no more than two years).</td>
</tr>
<tr>
<td>7 - ALL</td>
<td>Include all SYSMODs (PTFs and APARs) and HOLDDATA content.</td>
</tr>
</tbody>
</table>

**NOTE**

The option names correspond to and perform the same functions as documented in the IBM SMP/E commands manual. You can specify only one option. The returned service package includes only PTFs and APARs that are not already applied in the zones for which the inventory is created.

**F** Specify your e-mail address twice (to verify). Then, press Enter.

**NOTE**

BMC ISR saves your parameters in the JCL library on your system in the profile data set; you can generate another request without having to enter the criteria again.

**G** If you specified PTF, APAR, or PUT-level values, provide additional information about these values as prompted.

**NOTE**

Each time you generate a request for a service package, JCL files are generated and appended to the tobmc directory. Consider clearing this directory from time to time. For details, see “Removing JCL data sets generated by previous requests” on page 259.

**H** Press Enter to generate the request JCL.
4 (If you are not running ICSF) Include the SMPCPATH and SMPJHOME DD statements in the $E05XTRT job before you submit it.

SMPCPATH specifies a directory in the UNIX file system where the SMP/E Java classes reside. SMPJHOME specifies a directory in the UNIX file system where the Java runtime resides. For more information about these DD statements, see the IBM SMP/E commands manual.

5 Submit the $E05XTRT job.

Upon receiving this request, the BMC ISR server creates a folder, using your request ID as part of the folder name. After processing your request, the BMC ISR server notifies you via your provided e-mail address that the service package is ready to retrieve (typically, within an hour after you submit the request).

**NOTE**

If you submit a request during the weekly mainframe maintenance window (Saturday Coordinated Universal Time, or UTC), you should receive the e-mail notification within 24 hours. All requests are placed in a queue and are processed as soon as the mainframe systems become available.

If you do not receive notification within the stated timeframes, check your unsolicited (junk) e-mail folder. If the notification is not in your junk folder, contact BMC Customer Support.

6 Proceed to “Checking the progress of a request” on page 255 to retrieve the request.

**To send a single service request manually**

1 Create a directory on your PC’s desktop, using the request ID.

2 Send the request from your mainframe to the PC’s desktop:
   A At the command prompt, enter `ftp` and press **Enter**.
   B From the local z/OS image, specify the user ID and password.
   C Change the directory to the path where the request ID files reside.
   D Enter the following command to get the data:
      ```
      mget *
      ```
   E When prompted, enter **Y** to get each file.
   F When you have all of the files, enter **quit**.
3 Send your files to the incoming directory on the BMC ISR server:

A From the command prompt, enter `ftp filedownload.bmc.com`.

B Enter the bmcisri user ID and password.

C At the ftp prompt, enter the following commands to send your request and all associated files:

   `mkdir requestID`
   `cd requestID`
   `mput *`

D When prompted, enter `Y` to send each file.

4 Proceed to “Checking the progress of a request” on page 255 to retrieve the request.

To create a scheduled service request

1 On the BMC Internet Service Retrieval (ISR) Menu, select Create JCL for a scheduled service request.

2 On the Create New Request pop-up panel, either specify N to create a new parameter data set and press Enter, or specify Y to retrieve existing parameter data and complete these additional steps:

A Enter the BMC ISR request ID and HLQ of the JCL data set that contains the request job.

   **NOTE**
   If you do not know the request ID, specify a question mark (?) in the BMC ISR request Id field to see a list of available data sets. From the list, select the request ID that you want to retrieve or enter B to browse the data sets. When finished, press Enter. Press Enter again to continue.

B Review the parameters from the BMC ISR Request panel and provide the following information:

- user ID and password of the ESD site
- middle qualifier name
- SYSOUT class for jobs submitted to the internal reader
When finished, press Enter and proceed to step J on page 255.

**NOTE**
Because BMC ISR generates a new request ID each time the scheduler runs the job, this data set name contains a middle qualifier instead of a request ID. The SYSOUT class becomes the default message class for jobs that are submitted to the internal reader.

3 If you specified N in step 2 on page 253, provide the following information on the BMC ISR Request panel:

A Specify the user ID and password of the BMC ISR server.

**NOTE**
To view the current password, go to http://www.bmc.com/support/downloads-patches/ptf-ftp-installation.html and select Electronic software distribution (ESD) FTP site user ID and password. To access the server password information, you need a valid support user ID and password. To register for a support user ID and password, go to http://www.bmc.com/support.

B In the ISR request Global CSI name field, specify the data set name containing the CSI zone to be processed.

C Specify the request target zones and zone definitions for the software inventory.

D In the ISR request Content Type field, specify a number to indicate the type of request:

<table>
<thead>
<tr>
<th>Option</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 - CRITICAL</td>
<td>Include all PTFs that resolved HIPER or PE conditions.</td>
</tr>
<tr>
<td>2 - RECOMMENDED</td>
<td>Include all PTFs that are included on the installation media or PUT media.</td>
</tr>
<tr>
<td>3 - APARS</td>
<td>Include only APARs.</td>
</tr>
<tr>
<td>4 - PTFs</td>
<td>Include only PTFs.</td>
</tr>
<tr>
<td>5 - HOLDDATA</td>
<td>Include only HOLDDATA.</td>
</tr>
<tr>
<td>6 - PUT</td>
<td>Include a specific PUT (restricted to no more than two years).</td>
</tr>
<tr>
<td>7 - ALL</td>
<td>Include all SYSMODs (PTFs and APARs) and HOLDDATA content.</td>
</tr>
</tbody>
</table>

E Specify your e-mail address twice (to verify).

After you submit the request, the BMC ISR server notifies you by e-mail when your service package is ready to retrieve.
F Specify a unique middle qualifier for this request.

Because BMC ISR generates a new request ID each time the scheduler runs the job, this data set name contains a middle qualifier instead of a request ID.

G Specify a SYSOUT class for jobs that are submitted to the internal reader (INTRDR).

This class becomes the default message class for jobs that are submitted to the internal reader.

H Press Enter.

I If you specified PTF, APAR, or PUT-level values, provide additional information about these values as prompted.

J Press Enter to generate the request JCL.

4 Use your scheduler to schedule the request JCL.

**NOTE**

BMC ISR saves these parameters in the JCL library on your system in the profile data set; you can generate another request without having to enter the criteria again.

Each time you generate a request for a service package, JCL files are generated and appended to the outgoing directory. Consider clearing this directory from time to time. For details, see “Removing JCL data sets generated by previous requests” on page 259.

**Checking the progress of a request**

The BMC ISR server processes most requests within an hour of receiving them, but you can check the progress of a request if needed.

**To review the progress of a request**

1 Using a web browser, enter the following address:

   ftp://filedownload.bmc.com/

2 Enter the user ID and password of the BMC ISR server.

3 Select your request ID from the list.
4 If processing has started, you can select `REQSTAT.txt` to see the request’s current status (PROCESSING, REJECTED, or AVAILABLE).

---

**NOTE**

If the status is REJECTED or AVAILABLE, view `REQLOG.txt` for explanatory messages.

---

Retrieving and processing a service package

After receiving e-mail notification that your service package is available, you can retrieve and process the package through BMC ISR or manually:

- “To retrieve and process a service package by using BMC ISR” on page 256
- “To retrieve and process a service package manually” on page 258

---

**NOTE**

If you have previously retrieved a processed request, you are now ready to process and submit the jobs to apply the service package. For details, see “To submit a previously retrieved request” on page 258.

---

**Before you begin**

Ensure that you have allocated adequate space on your z/OS UNIX file system for the service package. For details, see “Requirements” on page 242.

---

**To retrieve and process a service package by using BMC ISR**

1 On the TSO Commands panel, start BMC ISR by entering the following command:

```
EX 'HLQ.BMC.CNTL(BMCISR)'
```

2 On the BMC Internet Service Retrieval (ISR) Menu, select **Retrieve a requested service package** and press **Enter**.
3 On the Retrieve a Processed Request panel, provide the request ID to retrieve a processed request and enter the BMC ISR server credentials:

A Specify the BMC ISR request ID and HLQ of the JCL data set that contains the request job.

---

**NOTE**
If you do not know the request ID, specify a question mark (?) in the BMC ISR request ID field to see a list of available data sets. From the list, select the request ID that you want to retrieve. When finished, press Enter. Press Enter again to continue.

B Specify the BMC ISR server credentials by entering the outgoing directory and user ID. Then, press Enter.

4 On the BMC ISR Retrieve Menu, select **Retrieve a Request** and press Enter.

5 (If you are not running ICSF) Include the SMPCPATH and SMPJHOME DD statements in the $J05RETV job before you submit it.

SMPCPATH specifies a directory in the UNIX file system where the SMP/E Java classes reside. SMPJHOME specifies a directory in the UNIX file system where the Java runtime resides. For more information about these DD statements, see the IBM SMP/E commands manual.

6 Select the $J0nRETV job and submit it to retrieve the BMC ISR service package from the BMC ISR server.

When you receive the service package, BMC ISR verifies that the target zones contain only the BMC FMIDs that were encountered during the extraction process. If the FMIDs differ, you will need to submit a new request. (In this case, the current request does not contain the correct SYSMODs to update all FMIDs that are currently installed in the target zones.) BMC ISR also generates SMP/E installation JCL to apply the changes to your target zone.

7 On the BMC ISR Retrieve Menu, select **Generate and submit SMP/E jobs for this Request** and press Enter.

8 From the list of jobs, select each one and submit it.
To retrieve and process a service package manually

1. Create a directory on your PC’s desktop, using the request ID.

2. Retrieve your files from the outgoing directory on the BMC ISR server:
   - A From the command prompt, enter `ftp filedownload.bmc.com`.
   - B Enter the user ID and password of the BMC ISR server.
   - C At the ftp prompt, enter the following commands to retrieve your service package and all associated files:
     ```
     cd requestID
     mget *
     ```
   - D When prompted, enter `Y` for each file.

3. Retrieve the service package files from your PC’s desktop:
   - A From the local z/OS image, change directory to the getdata step.
   - B Enter the following commands to retrieve the data:
     ```
     cd /var/tws/bmc/bmcisr/incoming/requestID
     cd /requestID/data
     bin
     mput *
     ```
   - C When prompted, enter `Y` for each file.

4. From the list of jobs in the retrieved service package, submit each one to apply maintenance.

To submit a previously retrieved request

1. On the TSO Commands panel, start BMC ISR by entering the following command:
   ```
   EX ‘HLQ.BMC.CNTL(BMCISR)’
   ```

3 On the Submit SMP/E Jobs panel, enter the BMC ISR request ID and HLQ of the JCL data set that contains the request job. Then, press Enter.

NOTE
If you do not know the request ID, specify a question mark (?) in the BMC ISR request ID field to see a list of available data sets. From the list, select the REQID that you want to retrieve. When finished, press Enter. Press Enter again to continue.

4 From the list of jobs, select each job and submit it to apply maintenance:

<table>
<thead>
<tr>
<th>Job name</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>$I45RECV</td>
<td>receives HOLDDATA, APARs, and PTFs</td>
</tr>
<tr>
<td>$I75APCK</td>
<td>applies and checks functions and service to the target libraries</td>
</tr>
<tr>
<td>$I75APLY</td>
<td>applies functions and service to the target libraries</td>
</tr>
<tr>
<td>$I80ACCK</td>
<td>accepts and checks functions and service to the distribution libraries</td>
</tr>
<tr>
<td>$I81ACPT</td>
<td>accepts functions and service to the distribution libraries</td>
</tr>
</tbody>
</table>

Removing JCL data sets generated by previous requests

When you request a service package, BMC ISR generates JCL files and appends them to the outgoing directory. Consider clearing this directory regularly.

1 On the TSO Commands panel, start BMC ISR by entering the following command:

```
EX 'HLQ.BMC.CNTL(BMCISR)'
```

2 On the BMC Internet Service Retrieval (ISR) Menu, select Remove JCL data sets for previous service requests and press Enter.

3 From the pop-up menu, enter the HLQ of the previous service request data sets and press Enter.

4 From Select a request ID from a list, enter D to delete the data set and press Enter.
Obtaining additional maintenance (eFix method)

This procedure explains how to obtain fixes from eFix, download them to your hard drive, transfer them to your mainframe, and receive and apply them to your target zone.

Before you begin

If you installed this product by using the Express installation method, and you are downloading a PTF from eFix, ensure that you have run the $B90SMPE job (for JES2) and both the $B90SMPE and $B91SMPE jobs (for JES3) to set up an SMP/E environment file for your product.

To download and apply new maintenance from eFix

1 Go to eFix PTF Distribution Services at http://efix.bmc.com.

   If you are not logged on to the Customer Support site, you will be prompted to enter your user ID and password.

2 Specify your search parameters in the query fields and run the query.

   For more details and tutorials demonstrating the use of eFix, click Help at the top of the eFix page.

3 Download the PTFs to your hard drive:

   A Select the PTFs in the list and click Download selected PTFs on this Page.

   B In the File Download dialog box, click Save.

   C In the Save As dialog box, save the zipped file on your system.

   D Extract the zipped file on your system.

   The zipped file contains a .PTF file and a .HLD file (if applicable). The PTF file contains the PTFs, and the HLD file contains Enhanced HOLDDATA defined for any of the downloaded PTFs.
4 Transfer the extracted files to your mainframe:

A Transfer the files that contain the PTF and HOLDDATA information to mainframe data sets with the settings LRECL=80 and either RECFM=F or RECFM=FB. This transfer must be a binary transfer, without specifying ASCII/EBCDIC translation or CR/LF.

B You can use the Installation System to generate JCL to process the PTF or manually edit the SMP/E RECEIVE job.

In the SMP/E RECEIVE job, use the following guidelines to edit the DD cards for the data sets for the PTF and HOLD files:

- Edit the SMPPTFIN DD card to point to the data set that contains the PTF.
- If applicable, edit the SMPHOLD DD card to point to the data set that contains the HOLDDATA.

The following example shows the steps in the RECEIVE job that process these data sets:

```plaintext
//SMPSTEP EXEC smpProc  <== Name of the SMP procedure
//SMPPTFIN DD DISP=SHR,DSN=your.upload.ptf.dataSet
//SMPHOLD DD DISP=SHR,DSN=your.upload.holdData.dataSet
//SMPCNTL DD *
    SET BDY(GLOBAL).
    RECEIVE LIST.
    SET BDY(targetZone).  <== Name of the target zone
    APPLY S(ptfNum1, ptfNum2,...) CHECK.
/*
```

C Complete RECEIVE and APPLY processing.

For more information, see “Running JCL for a Custom installation” on page 123.

5 Repeat steps 2 through 4 for each product or component.
Reassembling the global options module

After you apply maintenance, BMC recommends that you reassemble the global options module (DLIGSET0).

To reassemble the global options module

1. Review the current settings for the global option keywords in member #DLISETP of the IMSAMP library.

2. Reassemble the DLIGSET0 global options module with the JCL in member #DLIGLBL of the IMSAMP library.
Appendixes

This part presents the following topics:

Appendix A
Handling modified modules .................................................. 265

Appendix B
Merged and non-merged installations ..................................... 269

Appendix C
Enhanced HOLDDATA ....................................................... 283

Appendix D
Non-disruptive maintenance for MAXM Reorg Online products ..... 293

Appendix E
Installation utilities ............................................................ 301

Appendix F
Typical installation jobs ....................................................... 303
Handling modified modules

This appendix provides information about how to handle a maintenance issue that might affect BMC database products for the IMS environment on the I-series distribution tape or ESD image.

**NOTE**
The information in this appendix does not apply if you are using System Modification Program Extended (SMP/E) to maintain the BMC Software product libraries.

This appendix presents the following topics:

- Overview .................................................................................................................. 265
- Actions to preserve modified modules ...................................................................... 266
  - Overview of the DBUCOPY utility ................................................................. 266
  - Sample DBUCOPY job .............................................................................. 266
  - Installation procedures ............................................................................... 268

**Overview**

BMC Software uses a single library to distribute the load modules for all of the products on the I-series distribution tape or ESD image. When you reinstall any database product for IMS, you automatically reinstall the other products on the tape at the same time.

A maintenance issue can arise if the following conditions are true:

- You are installing a new version, release, or maintenance level (VRMM) of one or more products from a new I-series tape.

- You have applied between-tape or special maintenance (in the form of zaps and replacement load modules) for a product, and this product has the same VRMM on the new tape as the VRMM that you already have installed.
Under these conditions, the zapped and replacement modules are back-leveled by the original, unmodified modules unless you take action to preserve the modified modules.

**Actions to preserve modified modules**

If you already have procedures in place to preserve your modified load modules, you do not need to take further action. If not, one method for preserving them is to use the DBUCOPY utility with the IEBCOPY utility.

**Overview of the DBUCOPY utility**

The DBUCOPY utility produces a control statement data set that can be passed directly to the standard IEBCOPY utility. SELECT control statements for the DBUCOPY utility let you provide masking values for the generic selection of modules. Generic selection of modules ensures that all relevant product modules are selected, even if new modules are added to the load library over time, and it reduces the effort of creating and maintaining JCL. BMC Software distributes the DBUCOPY utility in the load library on the I-series distribution tape.

**Sample DBUCOPY job**

Figure 34 shows a sample job for using the DBUCOPY utility:

```plaintext
// standard JOB statement

//DELETE1 EXEC PGM=IEFBR14
//DD1 DD DSN=TSO10.DBUCOPY.BRILIB,DISP=(MOD,DELETE,DELETE),
//     UNIT=SYSALLDA,SPACE=(TRK,(1,1))

//DBUCOPY EXEC PGM=DBUCOPY
//STEPLIB DD DISP=SHR,DSN=BMC.DBU.LOAD
//SYSPRINT DD SYSOUT=*  
//PDSIN DD DISP=SHR,DSN=BMC.DBU.LOAD
//COPYCRDS DD DSN=&&COPYCC,UNIT=WORK,DISP=(,PASS),SPACE=(TRK,(1,1))
//BMCIN DD *

COPY INDD=((SYSUT1,R)),OUTDD=SYSUT2
SELECT MEMBER=(BRI*)
SELECT MEMBER=(CAP*)
SELECT MEMBER=(ICP*)
```
Sample job steps

This sample job performs the following steps:

- The DELETE1 step executes the IEFBR14 utility to delete the library that contains the existing product modules (if this library already exists).

- The DBUCOPY step executes the DBUCOPY utility to produce control statements for the IEBCOPY utility.

- The COPY2 step executes the IEBCOPY utility with the control statements that the DBUCOPY utility produces.

DBUCOPY utility actions

The DBUCOPY performs the following actions in this sample:

- It processes the PDSIN data set (the load library) to determine which members to select, based on the control statements in the BMCIN data set.

- It writes IEBCOPY control statements to the COPYCRDS data set.

- It handles the control statements in the BMCIN data set as follows:

  — It writes the COPY control statement, without modification, to the COPYCRDS output data set. This statement should refer to the DD names that you want the IEBCOPY utility to use for the input and output data sets in the COPY2 step.
For each SELECT statement, it selects members with names that match the value in parentheses. An asterisk matches any character (and any number of characters) in the position that it is coded. For example, the value BRI* selects all members with names that start with BRI. The sample includes the statements to select members for all Backup and Recovery products for IMS. You can delete or comment out SELECT statements that select members for products you do not use:

- For Backup and Recovery Solution for IMS, retain all statements.
- For IMAGE COPY PLUS, retain the statement with the ICP* value.
- For CHANGE ACCUMULATION PLUS, retain the statement with the CAP* value.
- For RECOVERY PLUS for IMS, retain the statement with the RVP* value.
- For RECOVERY MANAGER for IMS, retain the statement with the IRM* value.

**Installation procedures**

Typically, you would execute a job that is similar to the sample before you start the first-time or maintenance installation procedure. Then, when you have completed the installation procedure, you would copy all modules from the IEBCOPY output data set to the new load library.
Merged and non-merged installations

This appendix contains the following topics:

Merged and non-merged installations ................................................................. 269
  Merged installation ...................................................................................... 270
  Non-merged installation .............................................................................. 274
Library names ................................................................................................. 277

Merged and non-merged installations

For BMC products for DB2 and IMS, you can select a merged or non-merged installation. For BMC products for DB2 and IMS, the Installation System supports individual function modification ID (FMID) data definitions (DDDEFs). Because the MainView products (with the exception of MainView for DB2) do not support individual FMID DDDEFs, the target library structure looks the same whether you select merged or non-merged.

Carefully consider whether to use merged or non-merged libraries. This decision determines how the target and distribution libraries will be structured and impacts product customization. Switching from merged or non-merged libraries later would require uninstalling and reinstalling the products.
Merged installation

Merged installation is the default method for all versions of the Installation System. For examples of a merged installation, see the following figures:

- Figure 35 on page 271 (BMC Data Management products for DB2)
- Figure 36 on page 271 (BMC Data Management products for IMS)
- Figure 37 on page 272 (MainView for DB2)

In this type of merged installation, many FMIDs share a few DDDEFs. These DDDEFs are prefixed with BB, DB, or XX in Figure 35 on page 271, BB, IM, and XX in Figure 36 on page 271, and BB, DB, and TOSZ in Figure 37 on page 272.

**NOTE**

During installation, each FMID indicates to SMP/E which DDDEFs the FMID uses for every data set (such as LINK, LOAD, PLIB, and CLIB) that it needs.

When you select a merged installation, you can use runtime enablement or you can customize the products to execute from the SMP/E target library structure:

- If you are installing only MainView products (except for MainView for DB2), you can perform the following actions:
  - Customize and deploy runtime copies of the SMP/E target libraries to remote systems.
  - Configure multiple sysplexes with or without shared DASD or a shared catalog.
  - Customize the products to execute directly from target libraries on the system of origin (the local system containing the SMP/E libraries) and any other systems that share DASD or share the catalog with the system of origin.

- If you are installing MainView products (which includes MainView for DB2) with Data Management products for DB2 or IMS, you can customize the products only to execute from the SMP/E target libraries on the original installation sysplex. If you share the SMP/E environment across several LPARs within that sysplex, you can customize the products for all of those systems to execute from the SMP/E target libraries. You cannot customize or deploy runtime copies in this scenario.
Figure 35  Example of a merged installation using RTE for BMC Data Management products for DB2

![Diagram of a merged installation using RTE for BMC Data Management products for DB2]

Figure 36  Example of a merged installation using RTE for BMC Data Management products for IMS

![Diagram of a merged installation using RTE for BMC Data Management products for IMS]
The Installation System also provides the use of more granular DDDEFs with a merged installation (Figure 38). Multiple DDDEFs for the SMP/E environment refer to the same physical data sets. Instead of FMIDs sharing the DDDEF, the DDDEFs share the data sets.
The FMIDs for most BMC products for DB2 have their own DDDEFs instead of sharing the BB, DB, and XX DDDEFs. The DDDEF name is prefixed by the product code. The additional DDDEFs enable you to manage the code for them individually, if needed.

**NOTE**

Most shared components (such as EXTENDED BUFFER MANAGER (XBM), SNAPSHOT UPGRADE FEATURE (SUF), and the BMC Password Security System) remain in their current shared DDDEFs.

Many users combine the multiple data sets, such as the LINK libraries shown in Figure 35 on page 271, into a single set of non-SMP/E data sets to simplify deployment. You can optionally use runtime enablement (RTE) with the merged installation to combine the data sets. Runtime enablement (the $R05RTEC job) creates jobs to assist in creating runtime libraries for deployment across multiple subsystems.
Non-merged installation

You can select a non-merged installation for most BMC products that the Installation System supports. MainView products support only a merged installation with the exception of MainView for DB2.

A non-merged installation places your product libraries in product-specific data sets that are prefixed by the product code. For examples of a non-merged installation, see the following figures:

- Figure 39 (BMC Data Management products for DB2)
- Figure 40 on page 275 (BMC Data Management products for IMS)
- Figure 41 on page 276 (MainView for DB2)

For BMC products for DB2 and MainView for DB2, a non-merged installation requires the use of runtime enablement (RTE).

**Figure 39**  Example of a non-merged installation using RTE for BMC Data Management products for DB2
Figure 40  Example of a non-merged installation using RTE for BMC Data Management products for IMS
Figure 41  Example of a non-merged installation using RTE for MainView for DB2

Non-merged installation

User Libs:

Included

SMP/E DDDEFs

Actual
data sets

Product or
Solution

SMP/E Managed

Non-SMP/E

RTE
Runtime
Enablement

MainView for DB2

BBPW32

ZACS093

ZACT093

ZAEX093

ZAIN031

ZASH093

ZBDS062

ZDAS062

ZDCO062

ZDDOM062

ZPS062

ZEIO010

MainView for
DB2

BBACM20

BBBEK16

BBDD092

BBDDP92

BBDD592

BBDDZ92

BBGAD41

BBI5S26

BBLBQ11

BB01071

BBOIM71

BBTTC11

BBYZX33

BBZZ60

BBAPW32

ZACS093

ZACT093

ZAEX093

ZAIN031

ZASH093

ZBDS062

ZDAS062

ZDCO062

ZDDOM062

ZPS062

ZEIO010

BBACM20

BBBEK16

BBDD092

BBDDP92

BBDD592

BBDDZ92

BBGAD41

BBI5S26

BBLBQ11

BB01071

BBOIM71

BBTTC11

BBYZX33

BBZZ60

ZOSZLINK

.ZOSZLINK

UxxPLIB

UxxCLIB...
Library names

When you customize the libraries, observe the following guidelines:

- If you are customizing a component within the Installation System, the Installation System applies your changes to members in the JCL library to the members in the UDB user libraries.

- If you are customizing a product or component outside of the Installation System, you must copy the members from the DB SMP/E target libraries to the UDB user libraries. Then, update the members in the UDB libraries.

- If you apply maintenance to your runtime libraries or if you modify your user libraries, you must copy the members from the DB, BB, and XX SMP/E target libraries and the user UDB user libraries to the BMC runtime libraries.

The following tables list the non-merged, merged, and runtime library names.

Table 42   Library names used by most BMC products for DB2 (part 1 of 2)

<table>
<thead>
<tr>
<th>Included in library</th>
<th>Merged installation library name</th>
<th>Non-merged installation library name&lt;sup&gt;a&lt;/sup&gt;</th>
<th>Runtime library name</th>
</tr>
</thead>
<tbody>
<tr>
<td>CUSTOM starter data set</td>
<td>HLQ.BBCSTM (member DOMCUST)</td>
<td>HLQ.BBCSTM (member DOMCUST)</td>
<td>HLQ.BMCCSTM (member DOMCUST)</td>
</tr>
<tr>
<td>STATUS, HELP, PROFILE, and SECURITY starter data sets</td>
<td>HLQ.BBVSA (member DOMSTAT)</td>
<td>HLQ.BBVSA (member DOMSTAT)</td>
<td>HLQ.BBVSA (member DOMSTAT)</td>
</tr>
<tr>
<td>password data</td>
<td>HLQ.BMCPSWD</td>
<td>HLQ.BMCPSWD</td>
<td>HLQ.BMCPLAIN</td>
</tr>
<tr>
<td>DB2 DBRMs</td>
<td>HLQ.DBDBRM</td>
<td>HLQ.prdDBRM</td>
<td>HLQ.BMCDBRM</td>
</tr>
<tr>
<td>IBM QMF™ interface to DASD MANAGER PLUS</td>
<td>HLQ.DBQMFF</td>
<td>HLQ.prdQMFF</td>
<td>HLQ.BMCQMFF</td>
</tr>
<tr>
<td>reports</td>
<td>HLQ.DBRXX</td>
<td>HLQ.prdREXX</td>
<td>HLQ.BMCREXX</td>
</tr>
<tr>
<td>product attributes and data loaded during installation</td>
<td>HLQ.DBSYSR</td>
<td>HLQ.prdSYSR</td>
<td>not applicable</td>
</tr>
<tr>
<td>utility generation XML templates</td>
<td>HLQ.DBXML</td>
<td>HLQ.prdXML</td>
<td>HLQ.BMCXML</td>
</tr>
<tr>
<td>SAS/C</td>
<td>HLQ.SASCARES</td>
<td>not applicable</td>
<td>not applicable</td>
</tr>
<tr>
<td>product CLISTS</td>
<td>HLQ.UBBCLIB</td>
<td>HLQ.prdCLIB</td>
<td>HLQ.BMCCCLIB</td>
</tr>
<tr>
<td>JCL examples</td>
<td>HLQ.UDBCNTL</td>
<td>HLQ.prdCNTL</td>
<td>HLQ.BMCCNTL</td>
</tr>
</tbody>
</table>
Table 42  Library names used by most BMC products for DB2 (part 2 of 2)

<table>
<thead>
<tr>
<th>Included in library</th>
<th>Merged installation library name</th>
<th>Non-merged installation library namea</th>
<th>Runtime library name</th>
</tr>
</thead>
<tbody>
<tr>
<td>executable modules, batch portions of products, required libraries, STEPLIB or JOBLIB DD statements, load library, link lists, generated options modules, JCL compiled skeletons, user JCL data set for customized members, password data</td>
<td>HLQ.UBBLINK HLQ.UDBLINK HLQ.UXXLINK HLQ.XXLINK HLQ.BBLINK HLQ.XXLINK HLQ.BMCPASWD HLQ.prdLINK</td>
<td>HLQ.UBBLINK HLQ.UDBLINK HLQ.BMCPASWD HLQ.prdLINK</td>
<td>HLQ.BMCCLINK</td>
</tr>
<tr>
<td>product macros used to create the installation options modules</td>
<td>HLQ.UDBMAC HLQ.BBMAC HLQ.DBMAC</td>
<td>HLQ.UDBMAC HLQ.prdMAC</td>
<td>HLQ.BMCMAC</td>
</tr>
<tr>
<td>messages</td>
<td>HLQ.UDBMLIB HLQ.BBMLIB HLQ.DBMLIB</td>
<td>HLQ.UDBMLIB HLQ.prdMLIB</td>
<td>HLQ.BMCMLIB</td>
</tr>
<tr>
<td>product parameter descriptions</td>
<td>HLQ.UDBPARM HLQ.BBPARM HLQ.DBPARM</td>
<td>HLQ.UDBPARM HLQ.prdPARM</td>
<td>HLQ.BMCPARM</td>
</tr>
<tr>
<td>panels and Help libraries, user JCL data set for customized members</td>
<td>HLQ.UBBPLIB HLQ.UDBPLIB HLQ.BBPB PLIB HLQ.DBPLIB</td>
<td>HLQ.UBBPLIB HLQ.UDBPLIB HLQ.prdPLIB</td>
<td>HLQ.BMCPLIB</td>
</tr>
<tr>
<td>sample user exits, CLISTs, PROC, REXX executable modules, JCL library, user JCL data set for customized members</td>
<td>HLQ.UUBSAMP HLQ.UDBSAMP HLQ.BBSAMP HLQ.DBSAMP</td>
<td>HLQ.UUBSAMP HLQ.UDBSAMP HLQ.prdSAMP</td>
<td>HLQ.BMCSAMP</td>
</tr>
<tr>
<td>ISPF skeletons</td>
<td>HLQ.UDBSLIB HLQ.BBSLIB HLQ.DBSLIB</td>
<td>HLQ.UDBSLIB HLQ.prdSLIB</td>
<td>HLQ.BMCSLIB</td>
</tr>
<tr>
<td>product attributed and data loaded during installation</td>
<td>HLQ.DBSYSR</td>
<td>HLQ.prdSYSR</td>
<td>HLQ.BMCSTLIB</td>
</tr>
<tr>
<td>ISPF tables</td>
<td>HLQ.UDBTLIB HLQ.BBTLIB HLQ.DBTLIB</td>
<td>HLQ.UDBTLIB HLQ.prdTLIB</td>
<td>HLQ.BMCTLIB</td>
</tr>
<tr>
<td>template library</td>
<td>HLQ.BBTMPLT</td>
<td>HLQ.DCCTMLT</td>
<td>HLQ.BMCTMTPLT</td>
</tr>
<tr>
<td>Japanese Explain rules set</td>
<td>HLQ.BBJRULE</td>
<td>HLQ.PSSJRL</td>
<td>not applicable</td>
</tr>
</tbody>
</table>

a  *prd* represents the product code.
Table 43  Library names used by most BMC products for IMS (part 1 of 2)

<table>
<thead>
<tr>
<th>Included in library</th>
<th>Non-merged installation library name&lt;sup&gt;a&lt;/sup&gt;</th>
<th>Merged installation library name</th>
<th>Runtime library name</th>
</tr>
</thead>
<tbody>
<tr>
<td>product CLISTs</td>
<td>HLQ.BBCLIB</td>
<td>HLQ.BBCLIB</td>
<td>HLQ.BMCCLIB</td>
</tr>
<tr>
<td>executable modules, batch portions of products, required libraries, STEPLIB or JOBLIB DD statements, link lists, JCL Generation compiled skeletons, or generated options modules</td>
<td>HLQ.BBLINK HLQ.XXLINK HLQ.prdLINK</td>
<td>HLQ.IMLINK HLQ.BBLINK HLQ.XXLINK HLQ.BMCP5WD</td>
<td>HLQ.BMCLINK</td>
</tr>
<tr>
<td>messages</td>
<td>HLQ.BBMLIB HLQ.prdMLIB</td>
<td>HLQ.BBMLIB HLQ.IMMLIB</td>
<td>HLQ.BMCMLIB</td>
</tr>
<tr>
<td>panels and Help libraries</td>
<td>HLQ.BBPLIB HLQ.XXPPLIB HLQ.prdPLIB</td>
<td>HLQ.BBPLIB HLQ.IMPLIB HLQ.XXPPLIB</td>
<td>HLQ.BMCPLIB</td>
</tr>
<tr>
<td>sample user exits</td>
<td>HLQ.BBSAMP HLQ.prdSAMP</td>
<td>HLQ.BBSAMP HLQ.IMSSAMP HLQ.XXSAMP</td>
<td>HLQ.BMCSAMP</td>
</tr>
<tr>
<td>ISPF skeletons</td>
<td>HLQ.prdSLIB</td>
<td>HLQ.IMSLIB</td>
<td>HLQ.BMCSLIB</td>
</tr>
<tr>
<td>ISPF tables</td>
<td>HLQ.BBTLIB HLQ.prdTLIB</td>
<td>HLQ.BBTLIB HLQ.IMTLIB</td>
<td>HLQ.BMCTLIB</td>
</tr>
<tr>
<td>configuration files</td>
<td>HLQ.prdCNFG</td>
<td>HLQ.IMCNFG HLQ.XXCNFG</td>
<td>HLQ.BMCNFG</td>
</tr>
<tr>
<td>JCL examples</td>
<td>HLQ.prdCNTL</td>
<td>HLQ.IMCNTL</td>
<td>HLQ.BMCCNTL</td>
</tr>
<tr>
<td>content files</td>
<td>HLQ.prdCONT</td>
<td>HLQ.IMCONT HLQ.XXCONT</td>
<td>HLQ.BMCCONT</td>
</tr>
<tr>
<td>executable modules</td>
<td>HLQ.DBLIB HLQ.prdLIB</td>
<td>HLQ.IMLIB</td>
<td>HLQ.BMCLIB</td>
</tr>
<tr>
<td>PFX sample application - program, PSB, DBD, and MFS source</td>
<td>HLQ.IVPSRC</td>
<td>HLQ.IMIVPSR</td>
<td>HLQ.BMCIIVPSR</td>
</tr>
<tr>
<td>FP/EP IVP database area data sets</td>
<td>HLQ.PFPIVP1</td>
<td>HLQ.PFPIVP1</td>
<td>HLQ.BMCPIVP1</td>
</tr>
<tr>
<td>PFX sample application - database area data sets</td>
<td>HLQ.PFPIVP2</td>
<td>HLQ.PFPIVP2</td>
<td>HLQ.BMCIIVP2</td>
</tr>
<tr>
<td>database image for Backup and Recovery products and database utilities</td>
<td>HLQ.prdIVP</td>
<td>HLQ.IMIVP</td>
<td>HLQ.BMCIIVP</td>
</tr>
<tr>
<td>Recovery Manager repository initialization input</td>
<td>HLQ.prdIVP1</td>
<td>HLQ.IMIVP1</td>
<td>HLQ.BMCIIVP1</td>
</tr>
<tr>
<td>product macros used to create the installation options modules</td>
<td>HLQ.prdMAC</td>
<td>HLQ.IMMAC</td>
<td>HLQ.BMCMAC</td>
</tr>
<tr>
<td>DB utilities SCRL</td>
<td>HLQ.prdSCRL</td>
<td>HLQ.IMSCRL</td>
<td>HLQ.BMCSCR</td>
</tr>
</tbody>
</table>
### Library names

**Table 43**  Library names used by most BMC products for IMS (part 2 of 2)

<table>
<thead>
<tr>
<th>Included in library</th>
<th>Non-merged installation library name</th>
<th>Merged installation library name</th>
<th>Runtime library name</th>
</tr>
</thead>
<tbody>
<tr>
<td>DB utilities SCRS</td>
<td>HLQ.prdSCRS</td>
<td>HLQ.IMSCR斯</td>
<td>HLQ.BMCSCRS</td>
</tr>
<tr>
<td>reports</td>
<td>HLQ.REPORTS</td>
<td>HLQ.IMREPORTS</td>
<td>HLQ.BMCREPORTS</td>
</tr>
</tbody>
</table>

*a prd represents the product code.*

**Table 44**  Library names used by most MainView products (part 1 of 2)

<table>
<thead>
<tr>
<th>Included in library</th>
<th>Non-merged installation library name</th>
<th>Merged installation library name</th>
<th>Runtime library name</th>
</tr>
</thead>
<tbody>
<tr>
<td>action definition library</td>
<td>HLQ.BBACTDEF</td>
<td>HLQ.BBACTDEF</td>
<td>HLQ.BMCACCTDEF</td>
</tr>
<tr>
<td>product CLISTs</td>
<td>HLQ.BBCLIB</td>
<td>HLQ.BBCLIB</td>
<td>HLQ.BMCCLIB</td>
</tr>
<tr>
<td>product DBRM library</td>
<td>HLQ.BBDDBRM</td>
<td>HLQ.BBDDBRM</td>
<td>HLQ.BMCDBRM</td>
</tr>
<tr>
<td>MQ message format maps</td>
<td>HLQ.BBFORTM</td>
<td>HLQ.BBFORTM</td>
<td>HLQ.BMCFORTM</td>
</tr>
<tr>
<td>help library</td>
<td>HLQ.BBHELP</td>
<td>HLQ.BBHELP</td>
<td>HLQ.BMCHelp</td>
</tr>
<tr>
<td>installation library</td>
<td>HLQ.BBILIB</td>
<td>HLQ.BBILIB</td>
<td>HLQ.BMCILIB</td>
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<tr>
<td>authorization load library</td>
<td>HLQ.BBLINK</td>
<td>HLQ.BBLINK</td>
<td>HLQ.BMCLINK</td>
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<td>non-authorization load library</td>
<td>HLQ.BBLOAD</td>
<td>HLQ.BBLOAD</td>
<td>HLQ.BMCLOAD</td>
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<tr>
<td>message library</td>
<td>HLQ.BBLOCLE</td>
<td>HLQ.BBLOCLE</td>
<td>HLQ.BMCLOCLE</td>
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<td>product macro library</td>
<td>HLQ.BBMAC</td>
<td>HLQ.BBMAC</td>
<td>HLQ.BMCMAC</td>
</tr>
<tr>
<td>message library</td>
<td>HLQ.BBMLIB</td>
<td>HLQ.BBMLIB</td>
<td>HLQ.BMCMLIB</td>
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<tr>
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<td>HLQ.BBPARM</td>
<td>HLQ.BMCPARM</td>
</tr>
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<td>panels library</td>
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<td>HLQ.BBPLIB</td>
<td>HLQ.BMCPLIB</td>
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<td>distributed executables</td>
<td>HLQ.BBPROC</td>
<td>HLQ.BBPROC</td>
<td>HLQ.BMCPROC</td>
</tr>
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<td>profile library</td>
<td>HLQ.BBPROF</td>
<td>HLQ.BBPROF</td>
<td>HLQ.BMCPROF</td>
</tr>
<tr>
<td>product sample library</td>
<td>HLQ.BBSAMP</td>
<td>HLQ.BBSAMP</td>
<td>HLQ.BMCSAMP</td>
</tr>
<tr>
<td>screen definition library</td>
<td>HLQ.BBSDEF</td>
<td>HLQ.BBSDEF</td>
<td>HLQ.BMCSDef</td>
</tr>
<tr>
<td>MainView explorer scrips and binaries</td>
<td>HLQ.BBSERVER</td>
<td>HLQ.BBSERVER</td>
<td>HLQ.BMCERVER</td>
</tr>
<tr>
<td>skeleton library</td>
<td>HLQ.BBSLIB</td>
<td>HLQ.BBSLIB</td>
<td>HLQ.BMCBLIB</td>
</tr>
<tr>
<td>sample security exits</td>
<td>HLQ.BBSRC</td>
<td>HLQ.BBSRC</td>
<td>HLQ.BMCSSRC</td>
</tr>
<tr>
<td>table library</td>
<td>HLQ.BBTLIB</td>
<td>HLQ.BBTLIB</td>
<td>HLQ.BMCTLIB</td>
</tr>
<tr>
<td>sample executables</td>
<td>HLQ.BBUSER</td>
<td>HLQ.BBUSER</td>
<td>HLQ.BMCUSER</td>
</tr>
<tr>
<td>view definition library</td>
<td>HLQ.BBVDEF</td>
<td>HLQ.BBVDEF</td>
<td>HLQ.BMCVDEF</td>
</tr>
<tr>
<td>DLIB to target zone copy library</td>
<td>HLQ.BBYCOPY</td>
<td>HLQ.BBYCOPY</td>
<td>HLQ.BMCYCOPY</td>
</tr>
<tr>
<td>RTSERVER code page binaries</td>
<td>HLQ.BIN</td>
<td>HLQ.BIN</td>
<td>HLQ.BMCBIN</td>
</tr>
<tr>
<td>password files</td>
<td>HLQ.BMCPSWD</td>
<td>HLQ.BMCPSWD</td>
<td>HLQ.BMCCLINK</td>
</tr>
<tr>
<td>RTSERVER commands help</td>
<td>HLQ.CMDSHLP</td>
<td>HLQ.CMDSHLP</td>
<td>HLQ.BMCCMDH</td>
</tr>
<tr>
<td>RTSERVER options help</td>
<td>HLQ.OPTSHLP</td>
<td>HLQ.OPTSHLP</td>
<td>HLQ.BMCOPTh</td>
</tr>
</tbody>
</table>
### Table 44  Library names used by most MainView products (part 2 of 2)

<table>
<thead>
<tr>
<th>Included in library</th>
<th>Non-merged installation library name</th>
<th>Merged installation library name</th>
<th>Runtime library name</th>
</tr>
</thead>
<tbody>
<tr>
<td>RTSERVER program library</td>
<td>HLQ.PGMLIB</td>
<td>HLQ.PGMLIB</td>
<td>HLQ.BMCPGMLI</td>
</tr>
<tr>
<td>MainView for Linux® archive files</td>
<td>HLQ.RPMS</td>
<td>HLQ.RPMS</td>
<td>HLQ.BMCRPMS</td>
</tr>
<tr>
<td>RTSERVER configuration members</td>
<td>HLQ.STDCM</td>
<td>HLQ.STDCM</td>
<td>HLQ.BMCSTDCM</td>
</tr>
<tr>
<td>RTSERVER message text</td>
<td>HLQ.STDTXT</td>
<td>HLQ.STDTXT</td>
<td>HLQ.BMCSTDTXT</td>
</tr>
<tr>
<td>BiiZ installation packages</td>
<td>HLQ.TAR</td>
<td>HLQ.TAR</td>
<td>HLQ.BMCTAR</td>
</tr>
<tr>
<td>CNTL library</td>
<td>HLQ.TOSZCNTL</td>
<td>HLQ.TOSZCNTL</td>
<td>HLQ.BMCTOSZC</td>
</tr>
<tr>
<td>HTML library</td>
<td>HLQ.TOSZHTML</td>
<td>HLQ.TOSZHTML</td>
<td>HLQ.BMCTOSZH</td>
</tr>
<tr>
<td>LINK library</td>
<td>HLQ.TOSZLINK</td>
<td>HLQ.TOSZLINK</td>
<td>HLQ.BMCTOSZL</td>
</tr>
<tr>
<td>RTCS library</td>
<td>HLQ.TOSZRTCS</td>
<td>HLQ.TOSZRTCS</td>
<td>HLQ.BMCTOSZR</td>
</tr>
<tr>
<td>RXML library</td>
<td>HLQ.TOSZRXML</td>
<td>HLQ.TOSZRXML</td>
<td>HLQ.BMCTOSZX</td>
</tr>
</tbody>
</table>
Enhanced HOLDDATA

This appendix contains the following topics:

Overview ................................................................. 283
Obtaining Enhanced HOLDDATA ...................................... 284
  Downloading Enhanced HOLDDATA ............................. 284
  Receiving Enhanced HOLDDATA .................................. 287
Running the Exception SYSMOD report ............................. 289

Overview

Enhanced HOLDDATA is a single source of ERROR-type ++HOLDs. You can use Enhanced HOLDDATA for the following purposes:

■ to ensure that you do not install PTFs or FMIDs with PTF-in-error (PE) or High Impact or Pervasive (HIPER) conditions

■ to monitor critical maintenance and conditions that affect your SMP/E environments

With Enhanced HOLDDATA, you can use the Exception SYSMOD report to detect critical conditions known to BMC, their relative severity, and how to fix them.

The BMC implementation of Enhanced HOLDDATA uses the same published format as the IBM Enhanced HOLDDATA. (For more information about IBM Enhanced HOLDDATA, see http://service.software.ibm.com/holddata/390holddata.html.) The BMC implementation of Enhanced HOLDDATA provides the following benefits:

■ BMC provides the Enhanced HOLDDATA for all BMC products in a single file.

■ BMC updates the Enhanced HOLDDATA daily.

■ BMC makes the data available for download for up to the previous three years.
Data includes ERROR-type ++HOLDs, such as PE and HIPER conditions.

You can download individual Enhanced ++HOLDs with maintenance from eFix PTF Distribution Services (eFix).

If a ++HOLD is rescinded, BMC includes ++RELEASE statements.

The smart data in the comment field indicates whether an error has occurred and provides the associated PTF number.

If you have FTP and job scheduling capability, you can automate retrieving updated data and generating reports.

The Exception SYSMOD report summarizes missing critical service and the correcting PTFs that have not been applied.

**NOTE**
The BMC implementation of Enhanced HOLDDATA does not use SOURCEIDs of PRP and HIPER. In addition, the Enhanced HOLDDATA initially applies only to BMC Common Environment products, such as BMC products in the IMS®, DB2®, and MainView product families.

---

### Obtaining Enhanced HOLDDATA

To obtain Enhanced HOLDDATA, perform the following steps:

1. Download the Enhanced HOLDDATA file (see page 284).
2. Receive the file (see page 287).
3. Run the Exception SYSMOD report (see page 289).

### Downloading Enhanced HOLDDATA

BMC provides the Enhanced HOLDDATA in plain text (.txt) and binary compressed (.bin) formats in the ftp://ftp.bmc.com/bmc/holddata directory, as shown in Table 45.

<table>
<thead>
<tr>
<th>File</th>
<th>Period covered</th>
<th>Plain text</th>
<th>Compressed</th>
</tr>
</thead>
<tbody>
<tr>
<td>month</td>
<td>last 30 days</td>
<td>month.txt</td>
<td>month.bin</td>
</tr>
<tr>
<td>quarter</td>
<td>last 90 days</td>
<td>quarter.txt</td>
<td>quarter.bin</td>
</tr>
</tbody>
</table>

---

*BMC Products for IMS Installation Guide*
You can download Enhanced HOLDDATA by using the following methods:

- **web browser** (see page 285)
- **FTP command line** (see page 285)
- **FTP batch job** (see page 286)

You can download the same Enhanced HOLDDATA more than once. Download the file that will overlap the time from your last update of Enhanced HOLDDATA. For example, if you are downloading the Enhanced HOLDDATA on a weekly basis, download the file for the last month.

### Using a web browser

1. In Table 45 on page 284, click the name of the file that you want to download, and save the file.

2. Upload the file to the mainframe system:
   - If you downloaded the compressed file, upload the file as binary data using any file transfer facility. Use TRSMAIN to unpack the packed file into a data set.
   - If you downloaded the text file, upload the file as ASCII using any file transfer facility.

### Using the FTP command line


2. Log on to the site anonymously.

3. Change the directory to `bmc/holddata`.

4. Obtain the appropriate file. (For a list of the files, see Table 45 on page 284.)
Using an FTP batch job

To download the Enhanced HOLDDATA directly to the mainframe, use the sample JCL in Figure 42.

**TIP**
You can copy the JCL from the SampleFTP.txt file in the ftp://ftp.bmc.com/bmc/holddata directory.

---

**Figure 42  Sample FTP batch JCL (part 1 of 2)**

```plaintext
//JOB_NAME JOB (ACCOUNT), 'USER COMMENT',
//             CLASS=JOB_CLASS, MSGCLASS=MSG_CLASS,
//             REGION=0M, NOTIFY=&SYSUID
//****************************************************************************
//* NOTE: use 'caps off' when editing
//* USE THIS SAMPLE BATCH FTP JOB TO RETRIEVE
//* ENHANCED HOLDDATA FROM BMC.
//* IF A PROXY IS REQUIRED, INSERT SITE-SPECIFIC VALUES
//****************************************************************************
// FTPGET EXEC PGM=FTP, REGION=5120K,
//   PARM=('timeout 720 exit=8',
//         SYSMDUMP DD SYSOUT=*,
//         SYSPRINT DD SYSOUT=*,
//         SYSOUT DD SYSOUT=*,
//         OUTPUT DD SYSOUT=*),
//   SAMPLE INPUT DD FOR TEXT FILE
// INPUT DD *
ftp.bmc.com anonymous
your_email@domain.com
cd bmc/holddata
locsite rec=fb lr=80 blk=6160
locsite cy pri=1 sec=1
locsite u=<unit>
locsite vol=<volume>
locsite stor=<smsStorageClass>
locsite mg=<smsManagementClass>
locsite datac=<smsDataClass>
get bmc-holddata-file-name.txt +
  '<newDataSetName>'
quit
```
Receiving Enhanced HOLDDATA

You should always receive the latest Enhanced HOLDDATA before you perform any of the following actions:

- install products (to prevent installing FMIDs with known issues)
- apply maintenance (to prevent applying maintenance with known issues)
- run the Exception SYMMD report

When you install a BMC product through the Installation System, you can use the $B50HOLD job to receive the Enhanced HOLDDATA.

To receive Enhanced HOLDDATA

1. If you downloaded the compressed binary file, use the sample JCL in Figure 43 on page 288 to decompress, or unpack, the file.

**TIP**

Receiving Enhanced HOLDDATA

To receive the Enhanced HOLDDATA, use the sample JCL in Figure 44.

**TIP**
Running the Exception SYSMOD report

Enhanced HOLDDATA is updated daily. Thus, you are likely to receive updates between the APPLY and ACCEPT steps, or to encounter ++HOLDs on the ACCEPT step that were not identified at the time of the APPLY step. By reviewing the Exception SYSMOD report before the ACCEPT step, you can identify any outstanding PE or HIPER conditions.

**NOTE**

PE and HIPER conditions that existed before BMC adopted Enhanced HOLDDATA are converted, and they list the APAR number for reference.

To run the Exception SYSMOD report, use the sample JCL in Figure 45.

**TIP**


---

**Figure 44**  Sample receive JCL (part 2 of 2)

```plaintext
//SYSPRINT DD SYSOUT=*  
//SMPCNTL DD *  
  SET BDY(GLOBAL).  
  RECEIVE HOLDDATA.  
/*
```

**Figure 45**  Sample Exception SYSMOD report JCL (part 1 of 2)

```plaintext
//JOB_NAME JOB (ACCOUNT), 'USER COMMENT',  
//CLASS=JOB_CLASS,MSGCLASS=MSG_CLASS,  
//REGION=OM,NOTIFY=&SYSUID  
 quadruple******************************************  
 quadruple * USE THIS SAMPLE BATCH JOB TO EXECUTE THE  
 quadruple * SMP/E REPORT ERRSYSMODS.  
 quadruple * MODIFY JOB CARD, DATA SET NAMES, AND ZONE FOR YOUR SITE.  
 quadruple******************************************  
//REPORT EXEC PGM=GIMSMP  
//SMPCSI DD DISP=SHR,DSN=your.smpe.global.csi  
//SMPPPTS DD DISP=SHR,DSN=your.smpe.smppts  
//SMPLIST DD SYSOUT=*  
//SYSPRINT DD SYSOUT=*  
//SMPCNTL DD *
```
Running the Exception SYSMOD report

Sample Exception SYSMOD report

The Exception SYSMOD report (Figure 46) provides the following information:

- affected FMID
- APAR that describes the HIPER or PE condition
- SYSMOD that resolves the condition, when available

If the resolving SYSMOD has been applied, the report will not include the condition.

- whether the resolving SYSMOD has been received
- class of the hold
- hold symptoms

NOTE

To complete any product installation, ensure that all critical service is installed for the products by reviewing the Exception SYSMOD report. Some PE or HIPER conditions might not have a PTF that resolves the problem. Analyze the symptoms, or contact BMC Customer Support to determine whether you want to BYPASS the specific ERROR HOLDs and continue the installation.

Figure 45  Sample Exception SYSMOD report JCL (part 2 of 2)

```sql
SET BDY(GLOBAL).
REPORT ERRSYSMODS
   ZONES(your_zone).
/*

Sample Exception SYSMOD report

The Exception SYSMOD report (Figure 46) provides the following information:

- affected FMID
- APAR that describes the HIPER or PE condition
- SYSMOD that resolves the condition, when available

If the resolving SYSMOD has been applied, the report will not include the condition.

- whether the resolving SYSMOD has been received
- class of the hold
- hold symptoms

Figure 46  Sample Exception SYSMOD report (part 1 of 2)

<table>
<thead>
<tr>
<th>PAGE 0001 - NOW SET TO GLOBAL ZONE</th>
<th>DATE 12/13/08 TIME 19:13:26 GIMS</th>
</tr>
</thead>
<tbody>
<tr>
<td>EXCEPTION SYSMOD REPORT FOR ZONE MV3913C</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>HOLD</th>
<th>SYMMOD</th>
<th>APAR</th>
<th>---RESOLVING SYSMOD---</th>
<th>HOLD</th>
<th>HOLD</th>
<th>FMID</th>
<th>NAME</th>
<th>NUMBER</th>
<th>NAME</th>
<th>STATUS</th>
<th>RECEIVED</th>
<th>CLASS</th>
<th>SYMPTOMS</th>
</tr>
</thead>
<tbody>
<tr>
<td>BBDDZ82</td>
<td>BBDDZ82</td>
<td>BAD9998</td>
<td>***NONE</td>
<td>HIPER</td>
<td>IPL - E37 failure</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>BBII525</td>
<td>BPI9594</td>
<td>BA18761</td>
<td>BPI9999</td>
<td>GOOD</td>
<td>PE</td>
<td>PRV - see BA18761 for details</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>BBGSC74</td>
<td>BPG5406</td>
<td>BAG3490</td>
<td>***NONE</td>
<td>PE</td>
<td>IPL - fails with E37 abend</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>BPG5465</td>
<td>BAG3490</td>
<td>***NONE</td>
<td>PE</td>
<td>IPL - fails with E37 abend</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>BBGCO75</td>
<td>BPG5407</td>
<td>BAG9999</td>
<td>BPG9999</td>
<td>GOOD</td>
<td>NO</td>
<td>PE</td>
<td>DAL - Perf reports invalid</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>BPG5466</td>
<td>BAG9999</td>
<td>BPG9999</td>
<td>GOOD</td>
<td>NO</td>
<td>PE</td>
<td>DAL - Perf reports invalid</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

EXCEPTION SYSMOD REPORT SUMMARY

<table>
<thead>
<tr>
<th>ZONE</th>
<th>FMID</th>
<th>TOTAL APARS</th>
<th>TOTAL RESOLVING</th>
<th>AGAINST FMID</th>
<th>SYMMODS AGAINST FMID</th>
</tr>
</thead>
</table>
Figure 46  Sample Exception SYSMOD report (part 2 of 2)

| MV3913C  | BB0DZ82 | 1 | 0 |
| BBIIIS25 |          | 1 | 1 |
| BBGSC74  |          | 1 | 0 |
| BBGCO75  |          | 1 |    |

Table 46 describes the BMC hold symptoms.

<table>
<thead>
<tr>
<th>Symptom</th>
<th>Keyword</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>DAL</td>
<td>DATALOSS</td>
<td>indicates destruction or contamination of data</td>
</tr>
<tr>
<td>FUL</td>
<td>FUNCTIONLOSS</td>
<td>causes a major loss of function</td>
</tr>
<tr>
<td>IPL</td>
<td>SYSTEMOUTAGE</td>
<td>causes a re-IPL, reboot, recycle, or restart on one or more systems or subsystems</td>
</tr>
<tr>
<td>PRF</td>
<td>PERFORMANCE</td>
<td>causes severe impact to system performance or throughput</td>
</tr>
<tr>
<td>PRV</td>
<td>PERVASIVE</td>
<td>identifies a problem that might affect many users</td>
</tr>
<tr>
<td>SYSPLXDS</td>
<td>SYSPLEXDS</td>
<td>identifies HIPER fixes that are needed to support and implement SYSPLEX data sharing</td>
</tr>
<tr>
<td>XSYS</td>
<td>XSYSTEM</td>
<td>identifies HIPER fixes that provide cross-system, migration, compatibility, or toleration support</td>
</tr>
</tbody>
</table>
Running the Exception SYSMOD report
Non-disruptive maintenance for MAXM Reorg Online products

This appendix provides information about non-disruptive maintenance (NDM) for MAXM Reorg Online products.

This appendix presents the following topics:

Overview ................................................................. 293
Updating MAXM Online products using NDM ................. 297

Overview

In a continuing effort to maximize IMS database availability, BMC Software offers non-disruptive maintenance (NDM). NDM provides a means to install a maintenance tape, a maintenance ESD image, or an emergency fix without an IMS system outage.

NDM is available for the following MAXM Reorg Online products:

- MAXM Reorg/Online for IMS
- MAXM Reorg/EP for IMS with Online/Defrag Feature
- MAXM Reorg for IMS with Online/Defrag Feature
NDM is modeled on the IMS Online Change Utility. Figure 47 shows sample IMS Online Change Utility JCL.

**Figure 47   Sample IMS Online Change Utility JCL**

```*
//IMSACBA DD DSN=IMS.&SYS2.ACBLIBA,DISP=SHR
//IMSACBB DD DSN=IMS.&SYS2.ACBLIBB,DISP=SHR
//MODBLKSA DD DSN=IMS.&SYS2.MODBLKSA,DISP=SHR
//MODBLKSB DD DSN=IMS.&SYS2.MODBLKSB,DISP=SHR
//MODSTAT DD DSN=IMS.&SYS.MODSTAT,DISP=SHR
//MODSTAT2 DD DSN=IMS.&SYS.MODSTAT2,DISP=SHR
//FORMATA DD DSN=IMS.&SYS2.FORMATA,DISP=SHR
//FORMATB DD DSN=IMS.&SYS2.FORMATB,DISP=SHR
//*
```

Because NDM is modeled on the IMS Online Change Utility, the library requirements are similar. Figure 48 shows a comparison of the IMS Online Change Utility and NDM data sets.

**Figure 48   IMS Online Change Utility and NDM analogous data sets**

<table>
<thead>
<tr>
<th>IMS Online Change Utility</th>
<th>NDM</th>
</tr>
</thead>
<tbody>
<tr>
<td>MODBLCKSA</td>
<td>BMCLIBA</td>
</tr>
<tr>
<td>MODBLCKSB</td>
<td>BMCLIBB</td>
</tr>
<tr>
<td>MODBSTAT</td>
<td>BMCSTAT</td>
</tr>
</tbody>
</table>

To use NDM, you must create the following libraries:

- BMCLOADLIB
- BMCLIBA
- BMCLIBBB
Table 47 describes the NDM libraries.

### Table 47  NDM data sets

<table>
<thead>
<tr>
<th>Data set</th>
<th>Description</th>
<th>Attributes</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>BMCLOADLIB</strong></td>
<td>BMCLOADLIB contains the update or fix for the MAXM Reorg Online solution code. Its contents are copied by NDM to either BMCLIBA or BMCLIBB.</td>
<td>DSORG: partitioned, DSNTYPE: PDS, RECFM: U, LRECL: 0, BLKSIZE: &gt; or = 18432 (default 18432)</td>
</tr>
<tr>
<td></td>
<td>BMCLOADLIB, BMCLIBA, and BMCLIBB should have the same BLKSIZE.</td>
<td></td>
</tr>
<tr>
<td><strong>BMCLIBA/B</strong></td>
<td>BMCLIBA and BMCLIBB contain BMCLOADLIB members. When one of these libraries is active (in use by the online product), the contents of BMCLOADLIB are copied to the other, or inactive, library for use in the next online change run.</td>
<td>DSORG: partitioned, DSNTYPE: PDS, RECFM: U, LRECL: 0, BLKSIZE: &gt; = 18432 (default 18432)</td>
</tr>
<tr>
<td></td>
<td>Prior to running online, you should APF authorize these data sets to the MVS system.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>BMCLOADLIB, BMCLIBA, and BMCLIBB should have the same BLKSIZE.</td>
<td></td>
</tr>
<tr>
<td><strong>BMCSTAT</strong></td>
<td>BMCSTAT contains information to indicate which of the following suffixed data sets Online Reorg must use at initialization time. BMCSTAT must be the ddname for the BMCLIBA and BMCLIBB data sets.</td>
<td>DSORG: PS, DSNTYPE: sequential, RECFM: FB, LRECL: 80, BLKSIZE: any multiple of 80</td>
</tr>
</tbody>
</table>
Figure 49 illustrates NDM library usage.
To update MAXM Online products using NDM, perform the following steps:

1. Unload the maintenance tape or ESD image.
   
   For more information, see Chapter 3, “Setting up the Installation System.”

2. Install the MAXM Online products into a set of staging libraries.
   
   For more information, see Chapter 4, “Installing product libraries” and Chapter 5, “Customizing BMC products for IMS.”
   
   The outcome of installation is a BMC LOAD library.

3. Allocate the BMCLIBA and BMCLIBB data sets that are large enough to contain the BMC library from the distribution tape or ESD image.

4. Allocate a file that contains the CRF startup module. This file will be concatenated first in the STEBLIB DD statement that is in the control region JCL.
   
   A sample of a CRF startup module is `your.BMC.PPUE0.module`.

5. Allocate the BMCSTAT library with the following parameters:
   
   ```
   DSORG=PS, RECFM=FB, LRECL=80
   ```
   
   Leave the BMCSTAT file uninitialized. This file is populated at CRF initialization in the IMS control region.

6. Determine which library is active in the IMS control region by looking in the BMCSTAT data set.

7. Copy the BMC LOAD library into the inactive library (BMCLIBA or BMCLIBB).
   
   Copy the following modules from the BMC LOAD library to your `BMCPPUE0.MODULE` library, and ensure that `LCLPPUE0` is an alias of `DFSPPUE0`:
   
   - `DFSPPUE0`
   - `DLIGMSGF`
   - `DLIGMSGT`
   - `DLIGMSG0`
   - `DLIGMSL1`
   - `DLIGMST1`
8 Set up the JCL for your IMS control region to contain the libraries that are used to refresh the MAXM Reorg Online environment.

These libraries have the following requirements:

- They must be APF authorized because the IMS STEPLIB DD statement requires APF authorization in the IMS control region JCL.
- They must be included in the BMCLIBA, BMCLIBB, and BMCSTAT DD statements in the IMS control region JCL.

**NOTE**
The JCL changes above only occur in the IMS control region JCL. You must concatenate the full BMC load library in the DBRC region JCL. This is not a problem for NDM because the pieces of BMC code used by the DBRC region are not subject to change, except when IMS releases change.

Figure 50 shows the IMS control region JCL NDM DD statement requirements.

**Figure 50  IMS control region JCL NDM DD statement requirements**

```
//STEPLIB DD DSN=your.BMC.PPUE0.module,DISP=SHR
// DD DSN=your.IMS.RESLIB,DISP=SHR
//BMCLIBA DD DSN=your.BMCLIBA
//BMCLIBB DD DSN=your.BMCLIBB
//BMCSTAT DD DSN=your.BMCSTAT
/*
```

9 Submit the IMS control region JCL.

10 Create the switch JCL.

The data sets named in the RECONx DD statements define the DBRC RECON data sets. The RECON data sets statements are used to determine which IMS regions receive the switch command. BMC Software strongly recommends that you do not include them in the JCL. Instead, add an MDALIB that contains the RECON data sets to your STEPLIB concatenation. RECON MDAs can be stored in the RESLIB.

Figure 51 shows a sample of the switch JCL.

**Figure 51  Switch JCL sample (part 1 of 2)**

```
//SWITCHB EXEC PGM=DLIGENTR
//STEPLIB DD DISP=SHR,DSN=your.BMCDBU.LOADLIB
// DD DISP=SHR,DSN=your.IMS.RESLIB
```
To modify the MAXM Reorg Online product that is running in your online system, submit the switch JCL.

The batch job issues a SWITCH request for a library change of the BMCLIBs. The RECONs are searched for active IMS systems. Then, the SWITCH request is routed to all active IMS systems through XCF.

Each IMS system determines if any Online Reorg (CRF) or Online/Defrag (HSR) activity is present, and responds in one of the following ways:

- If CRF or HSR activity is not present, the IMS system establishes a prohibitor for any new CRF or HSR activity and responds to the IMS system with a GO response.

- If CRF or HSR activity is present, the IMS system responds to the batch job with a NOGO response that includes the name of active CRF and HSR jobs.

The batch job waits for response from all active IMS systems, and responds in one of the following ways:

- If all systems provide a GO response, the batch job sends a COMMIT response to the IMS systems that allows them to begin CRF refresh in each system.

- If a COMMIT response is sent to all IMS systems, the batch job waits for a COMPLETED response from all IMS systems and reports each response as it arrives.

- If any system provides a NOGO response, an ABORT response is sent to all IMS systems that allows them to remove the CRF or HSR prohibitor.

- Information in the NOGO response is formatted into a Write to Operator Response (WTOR) that allows you to determine the next step. In this case, the next step is either RETRY or QUIT.

Figure 51  Switch JCL sample (part 2 of 2)

```
//SYSUDUMP DD SYSOUT=*  
//BMCMOG DD SYSOUT=*  
//BMCTRACE DD SYSOUT=*  
//IMS DD DISP=SHR,DSN=your.DBDLIB  
//PLUSIN DD  *  
SWITCH  
/*
```
Installation utilities

Table 48 describes the utilities that the Installation System provides.

<table>
<thead>
<tr>
<th>CLIST</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>READREPO</td>
<td>enables you to review installation profiles</td>
</tr>
<tr>
<td></td>
<td>To use the READREPO CLIST, copy it from your custom installation library to</td>
</tr>
<tr>
<td></td>
<td>a CLIST library from which you can run it.</td>
</tr>
<tr>
<td></td>
<td>The READREPO CLIST is used outside the Installation System.</td>
</tr>
<tr>
<td>FIXSQNUM</td>
<td>enables you to verify and fix SQL worklists sequencing</td>
</tr>
<tr>
<td></td>
<td>To use the FIXSQNUM CLIST, copy it from your installation library to a</td>
</tr>
<tr>
<td></td>
<td>CLIST library from which you can run it.</td>
</tr>
<tr>
<td></td>
<td>The FIXSQNUM CLIST is used outside the Installation System.</td>
</tr>
<tr>
<td>CKSQNUM</td>
<td>enables you to verify SQL worklists sequencing</td>
</tr>
<tr>
<td></td>
<td>To use the CKSQNUM CLIST, copy it from your installation library to a</td>
</tr>
<tr>
<td></td>
<td>CLIST library from which you can run it.</td>
</tr>
<tr>
<td></td>
<td>The CKSQNUM CLIST is used outside the Installation System.</td>
</tr>
<tr>
<td>SHOWINFO</td>
<td>enables you to view the names of the profile data sets and JCL libraries</td>
</tr>
<tr>
<td></td>
<td>If you are using OZI Customization to customize products to execute from</td>
</tr>
<tr>
<td></td>
<td>runtime data sets, the SHOWINFO command also provides information such as</td>
</tr>
<tr>
<td></td>
<td>the row ID of the RTE or TDS instance, the sysplex name, and the system</td>
</tr>
<tr>
<td></td>
<td>name.</td>
</tr>
<tr>
<td>WHATSNEW</td>
<td>enables you to review newly supported features for the current version of</td>
</tr>
<tr>
<td></td>
<td>the Installation System</td>
</tr>
</tbody>
</table>
Typical installation jobs

The Installation System creates different jobs, depending on the installation media, installation method, and your environment. This section lists the installation jobs that the Installation System typically creates for the most common combinations of media and installation methods:

<table>
<thead>
<tr>
<th>Distribution method</th>
<th>Installation method</th>
<th>Environment</th>
<th>Reference</th>
</tr>
</thead>
<tbody>
<tr>
<td>ESD</td>
<td>Custom</td>
<td>JES2</td>
<td>Table 49 on page 303</td>
</tr>
<tr>
<td></td>
<td></td>
<td>JES3</td>
<td>Table 50 on page 304</td>
</tr>
<tr>
<td></td>
<td>Express</td>
<td>JES2</td>
<td>Table 51 on page 305</td>
</tr>
<tr>
<td></td>
<td></td>
<td>JES3</td>
<td>Table 52 on page 305</td>
</tr>
<tr>
<td>tape</td>
<td>Custom</td>
<td>JES2</td>
<td>Table 53 on page 305</td>
</tr>
<tr>
<td></td>
<td></td>
<td>JES3</td>
<td>Table 54 on page 306</td>
</tr>
<tr>
<td></td>
<td>Express</td>
<td>JES2</td>
<td>Table 55 on page 307</td>
</tr>
<tr>
<td></td>
<td></td>
<td>JES3</td>
<td>Table 56 on page 307</td>
</tr>
</tbody>
</table>

**NOTE**
You might get slightly different jobs, depending on which combination of products you are installing.

### Table 49 Jobs for an ESD–Custom installation on JES2 (part 1 of 2)

<table>
<thead>
<tr>
<th>Job</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>$B00DOC</td>
<td>unload documentation files</td>
</tr>
<tr>
<td>$B04DWNL</td>
<td>download product files</td>
</tr>
<tr>
<td>$B05SMPE</td>
<td>define, create, and update SMP/E data sets</td>
</tr>
<tr>
<td>$B06SMPE</td>
<td>build and update the SMP/E environment</td>
</tr>
<tr>
<td>$B30RECP</td>
<td>receive products</td>
</tr>
<tr>
<td>$B45RECS</td>
<td>receive PTFs from the maintenance files or prepackaged service files specific to the product media</td>
</tr>
</tbody>
</table>
### Table 49  Jobs for an ESD–Custom installation on JES2 (part 2 of 2)

<table>
<thead>
<tr>
<th>Job</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>$B50HOLD</td>
<td>receive hold statements</td>
</tr>
<tr>
<td>$B55LIST</td>
<td>list HOLDDATA</td>
</tr>
<tr>
<td>$B60DOCL</td>
<td>print PTF documentation from maintenance files</td>
</tr>
<tr>
<td>$B65MNTD</td>
<td>clean up maintenance input files</td>
</tr>
<tr>
<td>$B68MHFS</td>
<td>create the HFS or zFS directory and mount the HFS or zFS</td>
</tr>
<tr>
<td>$B75APCF</td>
<td>perform APPLY CHECK for all functions</td>
</tr>
<tr>
<td>$B76APLF</td>
<td>apply all functions</td>
</tr>
<tr>
<td>$B77ACCF</td>
<td>perform ACCEPT CHECK for all functions</td>
</tr>
<tr>
<td>$B78ACP</td>
<td>accept all functions</td>
</tr>
<tr>
<td>$B80APCP</td>
<td>perform APPLY CHECK for all service maintenance</td>
</tr>
<tr>
<td>$B81APLP</td>
<td>apply all service maintenance</td>
</tr>
<tr>
<td>$B82ACCP</td>
<td>perform ACCEPT CHECK for all service maintenance</td>
</tr>
<tr>
<td>$B83ACPP</td>
<td>accept all service maintenance</td>
</tr>
<tr>
<td>BACKOUT</td>
<td>jobs remove products for restart</td>
</tr>
<tr>
<td></td>
<td>The BACKOUT jobs include the #D98 and #D99 jobs.</td>
</tr>
</tbody>
</table>

### Table 50  Jobs for an ESD–Custom installation on JES3 (part 1 of 2)

<table>
<thead>
<tr>
<th>Job</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>$B00DOC</td>
<td>unload documentation files</td>
</tr>
<tr>
<td>$B03DWNL</td>
<td>download JES3 product files</td>
</tr>
<tr>
<td>$B04DCMP</td>
<td>decompress JES3 product files</td>
</tr>
<tr>
<td>$B05SMPE</td>
<td>define, create, and update SMP/E data sets</td>
</tr>
<tr>
<td>$B06SMPE</td>
<td>build and update the SMP/E environment</td>
</tr>
<tr>
<td>$B30RECP</td>
<td>receive products</td>
</tr>
<tr>
<td>$B45RECS</td>
<td>receive PTFs from the maintenance files or prepackaged service files</td>
</tr>
<tr>
<td></td>
<td>specific to the product media</td>
</tr>
<tr>
<td>$B50HOLD</td>
<td>receive hold statements</td>
</tr>
<tr>
<td>$B55LIST</td>
<td>list HOLDDATA</td>
</tr>
<tr>
<td>$B60DOCL</td>
<td>print PTF documentation from maintenance files</td>
</tr>
<tr>
<td>$B65MNTD</td>
<td>clean up maintenance input files</td>
</tr>
<tr>
<td>$B75APCF</td>
<td>perform APPLY CHECK for all functions</td>
</tr>
<tr>
<td>$B76APLF</td>
<td>apply all functions</td>
</tr>
<tr>
<td>$B77ACCF</td>
<td>perform ACCEPT CHECK for all functions</td>
</tr>
<tr>
<td>$B78ACP</td>
<td>accept all functions</td>
</tr>
<tr>
<td>$B80APCP</td>
<td>perform APPLY CHECK for all service maintenance</td>
</tr>
<tr>
<td>$B81APLP</td>
<td>apply all service maintenance</td>
</tr>
<tr>
<td>$B82ACCP</td>
<td>perform ACCEPT CHECK for all service maintenance</td>
</tr>
</tbody>
</table>
### Table 50  Jobs for an ESD–Custom installation on JES3 (part 2 of 2)

<table>
<thead>
<tr>
<th>Job</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>$B83ACPP</td>
<td>accept all service maintenance</td>
</tr>
<tr>
<td>BACKOUT jobs</td>
<td>remove products for restart</td>
</tr>
<tr>
<td></td>
<td>The BACKOUT jobs include the #D98 and #D99 jobs.</td>
</tr>
</tbody>
</table>

### Table 51  Jobs for an ESD–Express installation on JES2

<table>
<thead>
<tr>
<th>Job</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>$B00DOC</td>
<td>unload documentation files</td>
</tr>
<tr>
<td>$B04DWNL</td>
<td>download product files</td>
</tr>
<tr>
<td>$B05UNLD</td>
<td>unload product files</td>
</tr>
<tr>
<td>$B90SMPE</td>
<td>unload SMP/E auxiliary files</td>
</tr>
<tr>
<td>$B99CLNU</td>
<td>clean up SMP/E auxiliary input</td>
</tr>
<tr>
<td>$B99DUCL</td>
<td>clean up UCLIN input files</td>
</tr>
<tr>
<td>BACKOUT jobs</td>
<td>remove products for restart</td>
</tr>
<tr>
<td></td>
<td>The BACKOUT jobs include the #D98 and #D99 jobs.</td>
</tr>
<tr>
<td>LIBUPR</td>
<td>convert certain libraries from lowercase to uppercase</td>
</tr>
</tbody>
</table>

### Table 52  Jobs for an ESD–Express installation on JES3

<table>
<thead>
<tr>
<th>Job</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>$B00DOC</td>
<td>unload documentation files</td>
</tr>
<tr>
<td>$B03DWNL</td>
<td>download JES3 product files</td>
</tr>
<tr>
<td>$B04DCMP</td>
<td>decompress JES3 product files</td>
</tr>
<tr>
<td>$B05UNLD</td>
<td>unload product files</td>
</tr>
<tr>
<td>$B90SMPE</td>
<td>unload SMP/E auxiliary files</td>
</tr>
<tr>
<td>$B91SMPE</td>
<td>allocate and load SMP/E environment</td>
</tr>
<tr>
<td>DELETE</td>
<td>delete Installation System data set</td>
</tr>
<tr>
<td>$B99CLNU</td>
<td>clean up SMP/E auxiliary input</td>
</tr>
<tr>
<td>$B99DUCL</td>
<td>clean up UCLIN input files</td>
</tr>
<tr>
<td>BACKOUT jobs</td>
<td>remove products for restart</td>
</tr>
<tr>
<td></td>
<td>The BACKOUT jobs include the #D98 and #D99 jobs.</td>
</tr>
<tr>
<td>LIBUPR</td>
<td>convert certain libraries from lowercase to uppercase</td>
</tr>
</tbody>
</table>

### Table 53  Jobs for a tape distribution–Custom installation on JES2 (part 1 of 2)

<table>
<thead>
<tr>
<th>Job</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>$B00DOC</td>
<td>unload documentation files</td>
</tr>
<tr>
<td>$B04DCMP</td>
<td>decompress product files</td>
</tr>
<tr>
<td>$B05SMPE</td>
<td>define, create, and update SMP/E data sets</td>
</tr>
<tr>
<td>$B06SMPE</td>
<td>build and update the SMP/E environment</td>
</tr>
</tbody>
</table>
Table 53   Jobs for a tape distribution–Custom installation on JES2  (part 2 of 2)

<table>
<thead>
<tr>
<th>Job</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>$B30RECP</td>
<td>receive products</td>
</tr>
<tr>
<td>$B45RECS</td>
<td>receive PTFs from the maintenance files or prepackaged service files specific to the product media</td>
</tr>
<tr>
<td>$B50HOLD</td>
<td>receive hold statements</td>
</tr>
<tr>
<td>$B55LIST</td>
<td>list HOLDDATA</td>
</tr>
<tr>
<td>$B60DOCL</td>
<td>print PTF documentation from the maintenance files</td>
</tr>
<tr>
<td>$B75APCF</td>
<td>perform APPLY CHECK for all functions</td>
</tr>
<tr>
<td>$B76APLF</td>
<td>apply all functions</td>
</tr>
<tr>
<td>$B77ACCF</td>
<td>perform ACCEPT CHECK for all functions</td>
</tr>
<tr>
<td>$B78ACPF</td>
<td>accept all functions</td>
</tr>
<tr>
<td>$B80APCP</td>
<td>perform APPLY CHECK for all service maintenance</td>
</tr>
<tr>
<td>$B81APLP</td>
<td>apply all service maintenance</td>
</tr>
<tr>
<td>$B82ACCP</td>
<td>perform ACCEPT CHECK for all service maintenance</td>
</tr>
<tr>
<td>BACKOUT jobs</td>
<td>remove products for restart</td>
</tr>
<tr>
<td></td>
<td>The BACKOUT jobs include the #D98 and #D99 jobs.</td>
</tr>
</tbody>
</table>

Table 54   Jobs for a tape distribution–Custom Installation on JES3  (part 1 of 2)

<table>
<thead>
<tr>
<th>Job / Member Name</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>$B00DOC</td>
<td>unload documentation files</td>
</tr>
<tr>
<td>$B04DCMP</td>
<td>decompress product files</td>
</tr>
<tr>
<td>$B05SMPE</td>
<td>define, create, and update SMP/E data sets</td>
</tr>
<tr>
<td>$B06SMPE</td>
<td>build and update the SMP/E environment</td>
</tr>
<tr>
<td>$B30RECP</td>
<td>receive products</td>
</tr>
<tr>
<td>$B45RECS</td>
<td>receive PTFs from the maintenance files or prepackaged service files specific to the product media</td>
</tr>
<tr>
<td>$B50HOLD</td>
<td>receive hold statements</td>
</tr>
<tr>
<td>$B55LIST</td>
<td>list HOLDDATA</td>
</tr>
<tr>
<td>$B60DOCL</td>
<td>print PTF documentation from maintenance files</td>
</tr>
<tr>
<td>$B75APCF</td>
<td>perform APPLY CHECK for all functions</td>
</tr>
<tr>
<td>$B76APLF</td>
<td>apply all functions</td>
</tr>
<tr>
<td>$B77ACCF</td>
<td>perform ACCEPT CHECK for all functions</td>
</tr>
<tr>
<td>$B78ACPF</td>
<td>accept all functions</td>
</tr>
<tr>
<td>$B80APCP</td>
<td>perform APPLY CHECK for all service maintenance</td>
</tr>
<tr>
<td>$B81APLP</td>
<td>apply all service maintenance</td>
</tr>
<tr>
<td>$B82ACCP</td>
<td>perform ACCEPT CHECK for all service maintenance</td>
</tr>
</tbody>
</table>
Table 54  Jobs for a tape distribution–Custom Installation on JES3 (part 2 of 2)

<table>
<thead>
<tr>
<th>Job / Member Name</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>$B83ACPP</td>
<td>accept all service maintenance</td>
</tr>
</tbody>
</table>
| BACKOUT jobs      | remove products for restart  
The BACKOUT jobs include the #D98 and #D99 jobs. |

Table 55  Jobs for a tape distribution–Express installation on JES2

<table>
<thead>
<tr>
<th>Job</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>$B00DOC</td>
<td>unload documentation files</td>
</tr>
<tr>
<td>$B04DCMP</td>
<td>decompress the images from tape sets and create the data sets for $B05UNLD</td>
</tr>
<tr>
<td>$B04DWNL</td>
<td>download product files and create the data sets for $B05UNLD</td>
</tr>
<tr>
<td>$B05UNLD</td>
<td>unload product files</td>
</tr>
<tr>
<td>$B90SMPE</td>
<td>unload SMP/E auxiliary files</td>
</tr>
<tr>
<td>$B99CLNU</td>
<td>clean up SMP/E auxiliary input</td>
</tr>
<tr>
<td>$B99DUCL</td>
<td>clean up UCLIN input files</td>
</tr>
</tbody>
</table>
| BACKOUT   | remove products for restart                                                 
The BACKOUT jobs include the #D98 and #D99 jobs. |
| LIBUPR    | convert certain libraries from lowercase to uppercase                       |

Table 56  Jobs for a tape distribution–Express installation on JES3

<table>
<thead>
<tr>
<th>Job</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>$B00DOC</td>
<td>unload documentation files</td>
</tr>
<tr>
<td>$B04DCMP</td>
<td>decompress product files</td>
</tr>
<tr>
<td>$B05UNLD</td>
<td>unload product files</td>
</tr>
<tr>
<td>$B90SMPE</td>
<td>unload SMP/E auxiliary files</td>
</tr>
<tr>
<td>$B91SMPE</td>
<td>allocate and load the SMP/E environment</td>
</tr>
<tr>
<td>DELETE</td>
<td>delete the Installation System data set</td>
</tr>
<tr>
<td>$B99CLNU</td>
<td>clean up SMP/E auxiliary input</td>
</tr>
<tr>
<td>$B99DUCL</td>
<td>clean up UCLIN input files</td>
</tr>
</tbody>
</table>
| BACKOUT   | remove products for restart                                                 
The BACKOUT jobs include the #D98 and #D99 jobs. |
| LIBUPR    | convert certain libraries from lowercase to uppercase                       |
Glossary

A

alias

A relative value that you can define to reference your runtime data sets. Aliases facilitate product deployment to other systems. You can use an alias to enable one JCL procedure for use throughout the sysplex.

C

catalog indirection

An optional method that allows BMC Administrative Products for DB2 to access the DB2 catalog indirectly when making information queries. Catalog indirection uses synonyms that point either to a copy of the DB2 catalog or to user-created views of the catalog. Benefits include reducing catalog contention and providing an additional level of security for sensitive catalog data.

cloning

A simplified process for installing a product on multiple DB2 subsystems during a single installation session. After generating jobs for the first subsystem, the Installation System generates jobs for installing the product on subsequent DB2 subsystems. The difference is that the subsequent jobs do not access the distribution media again. You can clone products from the system of origin in a shared DASD environment, or from target destination systems (TDSs) after the Installation System transports the necessary data sets to the TDSs.

customization

The process by which you tailor products to execute from runtime data sets or SMP/E target-zone data sets. This process follows product installation.

H

high-level qualifier (HLQ)

A prefix that consists of the first 17 to 30 characters of a data set name. The prefix can include a single node or multiple nodes.

I

initial runtime instance

The first runtime instance that you create during customization. This instance serves as a model for other instances.
installation
   The process of extracting content from the media and placing it on a system.

L
low-level qualifier (LLQ)
   A suffix (up to 8 characters) for a data set name. The default LLQs for the RTE data sets start
   with BMC, followed by up to 5 characters. This syntax makes the LLQ unique while identifying
   the contents of the data sets. For example, the LLQ of the messages data set is BMCMLIB.

M
MainView Customization
   A method of customizing products that is used by MainView products. See also OZI
   Customization.

merged installation
   An installation that places product libraries into consolidated SMP/E target data sets. The
   SMP/E target data set LLQs use prefixes with BB, DB, IM, or XX (for example, for BBLINK,
   DBLINK, IMLINK, or XXLINK).

N
non-merged installation
   An installation that places product libraries into granular SMP/E target data sets. The SMP/E
   target data set LLQs are prefixed with three-character product codes followed by the type of
   data set (for example, ACPLINK, ASUDBRM, DBUSAMP, or XBMPLIB).

non-shared DASD
   The condition that exists when the system of origin does not share common data sets with the
   TDS.

O
OZI Customization
   A method of customizing products that is used by BMC Data Management products for DB2,
   many IMS products, MainView for DB2, and MainView SRM StopX37 products. See also
   MainView Customization.

P
product deployment
   The process of customizing products on the system of origin, transporting the data sets to the
   TDSs, and (if needed), customizing the products further on the TDSs.
**R**

runtime data sets
For BMC products, SMP/E target-zone data sets and user data sets that are merged into a single set of runtime data sets that are not SMP/E managed. You can use runtime data sets if you want an execution environment that is not SMP/E managed, or if you want to deploy products to other systems.

runtime enablement (RTE)
A process that creates runtime data sets that you customize and deploy to other systems. By using RTE, you build an execution environment for products that is self-contained and does not need the SMP/E target-zone data sets to run.

**S**

shared DASD
The condition that exists when the system of origin shares common data sets with the TDS.

system of origin
The system on which a product or solution is initially installed and on which you create the initial runtime instance.

**T**

target destination system (TDS)
The system to which a product is deployed and on which the product will be executed.

TDS instance
A copy of the initial runtime instance that you can customize for a particular system.

transport
The process of packaging the runtime data sets and the installation data sets (if DASD is not shared) on the system of origin, and using file transport protocol (FTP) to transport the package to the TDSs.
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