Installation System Reference Manual

Supporting

Version 3.1.00 and later of Installation System

December 2016
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<td>2103 CITYWEST BLVD</td>
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You can obtain technical support from BMC 24 hours a day, 7 days a week at http://www.bmc.com/support. From this website, you can:

- Read overviews about support services and programs that BMC offers
- Find the most current information about BMC products
- Search a database for problems similar to yours and possible solutions
- Order or download product documentation
- Download products and maintenance
- Report a problem or ask a question
- Subscribe to receive proactive e-mail alerts
- Find worldwide BMC support center locations and contact information, including e-mail addresses, fax numbers, and telephone numbers

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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 problem
- Commands and options that you used
- Messages received (and the time and date that you received them)
  - Product error messages
  - Messages from the operating system
  - Messages from related software
License key and password information

If you have questions about your license key or password, contact Customer Support through one of the following methods:

■ Send an e-mail message to customer_support@bmc.com. (In the Subject line, enter SupID:yourSupportContractID, such as SupID:12345.)

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About this book

This book contains detailed information about the associated product or products. This preface explains the special conventions that the book uses, and how to access related publications.

If applicable, the preface also summarizes the major changes included in the latest release of the product.

Related publications

From the BMC Support Central website, you can use the following methods to access related publications that support your product or solution:


- View Quick Course videos (short overviews of selected product concepts, tasks, or features), which are available from the following locations:
  - Documentation Center (primary center and secured center)
  - Support Central (at http://www.bmc.com/support/mainframe-demonstrations)
  - BMC Mainframe YouTube channel (https://www.youtube.com/user/BMCSoftwareMainframe)


Products with online interfaces also offer online Help via the F1 key or, for graphical user interfaces (GUIs), via a Help button.
If you prefer hardcopy documentation, you can order it from your BMC sales representative or from Support Central. Also, from Support Central you can subscribe to receive proactive e-mail alerts when BMC issues notices.

Conventions

This document 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`

- Menu sequences use a symbol to convey the sequence. For example, `Actions => Create Test` instructs you to choose the `Create Test` command from the `Actions` menu.

Summary of changes

This topic summarizes product changes and enhancements by version number and release date.

Version 3.1.00, December 2016

This release includes the following enhancements:

- New product releases necessitate a new Installation System FMID. Before installing any products, always ensure that you have the most recent version of the Installation System installed and that you have refreshed its runtime environment.

  This change enables PTF maintenance for individual levels of the Installation System. The change also eliminates the requirement to provide the Installation Maintenance Value to the Installation System setup utility.

- Updated support for the new versions of the following products (see individual product release notes for more information):
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<td>LOADPLUS for DB2</td>
<td>12.1.00</td>
</tr>
<tr>
<td>Log Master for DB2</td>
<td>12.1.00</td>
</tr>
<tr>
<td>MainView AutoOPERATOR</td>
<td>8.1.00</td>
</tr>
<tr>
<td>MainView Automation</td>
<td>6.1.01</td>
</tr>
<tr>
<td>MainView for CICS Management</td>
<td>6.1.01</td>
</tr>
<tr>
<td>MainView for DB2</td>
<td>12.1.00</td>
</tr>
<tr>
<td>MainView for DB2 Management</td>
<td>6.1.01</td>
</tr>
<tr>
<td>MainView for IMS Management</td>
<td>6.1.01</td>
</tr>
<tr>
<td>MainView for Networks</td>
<td>6.1.02</td>
</tr>
<tr>
<td>MainView Message Management</td>
<td>6.1.02</td>
</tr>
<tr>
<td>OPERTUNE for DB2</td>
<td>12.1.00</td>
</tr>
<tr>
<td>PACLOG for DB2</td>
<td>12.1.00</td>
</tr>
<tr>
<td>Pool Advisor for DB2</td>
<td>12.1.00</td>
</tr>
<tr>
<td>R+/CHANGE ACCUM for DB2</td>
<td>12.1.00</td>
</tr>
<tr>
<td>RECOVERY MANAGER for DB2</td>
<td>12.1.00</td>
</tr>
<tr>
<td>REORG PLUS for DB2</td>
<td>12.1.00</td>
</tr>
<tr>
<td>Recovery Management for DB2</td>
<td>12.1.00</td>
</tr>
<tr>
<td>SNAPSHOT UPGRADE FEATURE for DB2</td>
<td>6.2.01</td>
</tr>
<tr>
<td>SNAPSHOT UPGRADE FEATURE for IMS</td>
<td>6.2.01</td>
</tr>
<tr>
<td>SNAPSHOT UPGRADE FEATURE for VSAM</td>
<td>6.2.01</td>
</tr>
<tr>
<td>SQL Explorer for DB2</td>
<td>12.1.00</td>
</tr>
<tr>
<td>SQL Performance for DB2</td>
<td>12.1.00</td>
</tr>
<tr>
<td>UNLOAD PLUS for DB2</td>
<td>12.1.00</td>
</tr>
</tbody>
</table>

**Version 3.0.00, December 2015**

This release includes the following enhancements:

- The Installation System is now installed and maintained by using SMP/E. After creating the Installation System SMP/E environment, you apply PTFs to keep it updated. (The PTFs support releases of new BMC products, or fix problems in the
Installation System itself.) You will not need to install the Installation System again until BMC releases a new version of it.

- Updated support for the new versions of the following products (see individual product release notes for more information):
  - APPLICATION RESTART CONTROL for DB2
  - APPLICATION RESTART CONTROL for IMS
  - APPLICATION RESTART CONTROL for VSAM
  - Backup and Recovery Solution for IMS
  - BMC Application Accelerator for IMS
  - BMC Log Analyzer for IMS
  - BMC Partitioned Database Facility for IMS
  - BMC System Administration for IMS
  - BMC System Communication for IMS
  - CHANGE ACCUMULATION PLUS
  - CHANGE RECORDING FACILITY (CRF)
  - DATA PACKER/IMS
  - DATABASE INTEGRITY PLUS
  - DELTA IMS DB/DC
  - DELTA IMS for DBCTL
  - DELTA IMS VIRTUAL TERMINAL
  - DELTA PLUS
  - DELTA PLUS for DBCTL
  - DELTA PLUS VIRTUAL TERMINAL
  - Energizer for IMS Connect
  - EXTENDED TERMINAL ASSIST PLUS
  - Fast Path Analyzer/EP
  - Fast Path Enhanced Online Suite
  - Fast Path Indexer/EP
  - Fast Path Offline Suite
  - Fast Path Online Analyzer/EP
  - Fast Path Online Image Copy/EP
  - Fast Path Online Reorg/EP
  - Fast Path Online Restructure/EP
  - Fast Path Online Suite
  - Fast Path Recovery Utility
  - Fast Path Reorg/EP
  - Fast Path Restart Control Facility
  - FAST REORG FACILITY
  - FAST REORG FACILITY/EP
  - IMAGE COPY PLUS
— LOADPLUS for IMS
— LOADPLUS/EP for IMS
— LOCAL COPY PLUS
— MAXM Database Advisor for IMS
— MAXM Reorg for IMS
— MAXM Reorg for IMS with Online/Defrag Feature
— MAXM Reorg/EP Express for IMS
— MAXM Reorg/EP for IMS
— MAXM Reorg/EP for IMS with Online/Defrag Feature
— MAXM Reorg/Online for IMS
— Message Advisor for IMS
— POINTER CHECKER PLUS
— PREFIX RESOLUTION PLUS
— RECOVERY MANAGER for IMS
— RECOVERY PLUS for IMS
— SECONDARY INDEX UTILITY
— SECONDARY INDEX UTILITY/EP
— UNLOAD PLUS for IMS
— UNLOAD PLUS/EP for IMS
Overview of the installation process

You use the Installation System to install and maintain BMC MainView products, cost optimization products, most BMC products for the IBM DB2 environment, and most BMC products for the IBM IMS environment. After gathering information, the Installation System generates all of the jobs that you need to install your products.

For more information, view the Quick Course "BMC Installation System - Installation System Overview."

Chapter 1 Overview of the installation process 21
Installation process flow

The following figure depicts the overall flow for installing a product:

Figure 1: Installation flow

1. Set up Installation System
2. Prepare for installation
3. Start an installation
4. Generate installation jobs
5. Generate configuration jobs
6. Run generated jobs
7. Maintain products
8. Deploy products

- Obtain Installation System set up
- Decompress Installation System set up
- Run the Installation System set up
- Run the generated JCL
- Prepare installation repository
- Define programs to CA ACF2
- Review installation requirements
- Start Installation System
- Define site-wide installation values
- Create or select project
- Select products to install
- Specify information for SMP/E
- Specify JCL for installation jobs
- Generate installation jobs
- Specify information for runtime data sets
- Specify configuration information
- Specify JCL for configuration jobs
- Generate configuration jobs
- Review generated jobs and files
- Perform tasks in generated checklists
- Create copy of JCL library
- Modify INCLUDE members
- Run jobs
Installation projects

The Installation System uses projects to organize separate installations of one or more products. Each project:

■ Accumulates the information needed to generate the JCL to install and configure a product
■ Installs and configures any combination of products, solutions, families, and components at the same time

For more information, view the Quick Course "BMC Installation System - Installation Projects."

Advantages of projects

Using projects offers these advantages:

■ You can exit the installation at any time and resume at your convenience. To resume, go to the Execute Project panel and select the option corresponding to where you stopped.
■ Multiple people can use the same project—although only one person can access the project at a time.
■ You can copy projects and JCL data sets to aid in subsequent installations.
■ Projects are stored in the Installation System repository (discussed in “Preparing the Installation System repository” on page 49) and remain there unless manually deleted.

Note
For security, a project's associated FTP and firewall user IDs and passwords are not stored in the Installation System repository.

Best practice
BMC recommends retaining your projects. They contain the variables, values, and defaults that you used in the original installation.

Active project

The active project is indicated in the following ways:

■ In the Active Project field on the Installation System Main Menu
By an asterisk next to the project name on the Manage Projects panel

**Autosave of projects**

Projects are automatically saved at the following points:

- When you make a change to the project and exit the project.
- Before generating the installation JCL.
- Before generating the configuration JCL.
- After selecting a configuration option on the Configure Products or Components panel but not making any changes to the project and exiting the project.

**Conventions for using the Installation System**

The Installation System uses conventions for entities such as function keys, data set names, and symbolic variables.

**Character for selecting options on panels**

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

**Navigation, function keys, and commands**

Use the following information to navigate the Installation System panels.

**Quick Clear and Quick Fill fields**

Some panels include the **Quick Clear** and **Quick Fill** fields. Use the fields as follows:

- **Quick Clear**
  
  Erase all the fields in a column. Enter a slash (/) in the field and press **Enter** to erase all the values in the column.
Quick Fill
Fill in all the fields in a column with the same information. Type the common information you want propagated to the other fields in the column and press **Enter**. The information is copied into the remaining blank fields (existing values are not overwritten). You can then make changes as needed before proceeding to the next panel.

Use both fields at the same time to replace existing values.

**Function keys**

In the Installation System panels, use the following function keys:

- **F1 (HELP)** displays the Help panel for the current panel.
  Within a Help panel, highlighted words are links to additional information, such as field descriptions and commands. To go to the additional information, place the cursor on a highlighted word and press **F1**.

  **Note**
  The online Help panels use the standard ISPF keys for navigation. For information about the keys, press **F1** while on a Help panel (but not on a highlighted word).

- **F3 (EXIT)** returns to the previous menu, such as the Execute Project panel.
  If you are on the Execute Project panel, the project is saved. If you are on the Installation System Main Menu, the Installation System is exited.

- **F12 (BACKUP)** displays the previous panel and in most cases discards the values entered on the current panel.

- **Enter** saves all information on the panel and proceeds to the next panel.
  To exit the job lists, use the **F3** key.

**Considerations for function keys**

Consider the following information about the use of function keys in the Installation System:

- BMC recommends the use of keylists. If you have keylists disabled, (KEYLIST OFF), you might need to ensure that you have the following function keys set inside of the Installation System to avoid errors:
  - **F1 HELP**
  - **F3 END**
  - **F12 CANCEL**
  
  Type **KEYS** on the Command line to review your function key settings.
By default, the active function keys are not displayed. To display the active keys, type **PFSHOW** on the **Command** line and press **Enter**.

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**.

**Data set naming conventions**

Keep the following information in mind when specifying data set names on the Installation System panels:

- Do not use single or double quote marks.
- All names are used exactly as they are specified. If you use the TSO/E PROFILE PREFIX command, it is ignored.
- The maximum length for a data set name is 44 characters.

**Symbolic variables**

The Installation System frequently uses symbolic variables in data set names, data set prefixes, and job-statement information.

Most symbolic variables are related to keyword values that you specify in the Installation System panels. Symbolic variable names begin with an ampersand (&).

When the Installation System assembles product options, macro processing tries to resolve all symbolic variables in the listing. Most symbolic variables are resolved when the Installation System 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>
</tbody>
</table>
Naming conventions

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

**Naming conventions for FMIDs**

BMC uses a naming convention for function modification identifiers (FMIDs) of `Zpppvrx`. For example, `ZPWD330` is the FMID for version 3.3 of the Product Authorization utility.

*Note*

These naming conventions went into effect on March 31, 2009. FMIDs before that date used various formats to convey the same type of information.

<table>
<thead>
<tr>
<th>Digit</th>
<th>Explanation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Z</td>
<td>Indicates BMC Software</td>
</tr>
<tr>
<td><code>ppp</code></td>
<td>Product or component identifier</td>
</tr>
<tr>
<td><code>vr</code></td>
<td>Version and release of a product or component Numbers 00 to 09 are represented as 0 to 9, and numbers 10 to 35 are represented as A to Z. For example, <code>IB</code> indicates version 1, release 11; and <code>A1</code> indicates version 10, release 1.</td>
</tr>
<tr>
<td><code>x</code></td>
<td>Unique identifier for products or components that use multiple FMIDs</td>
</tr>
</tbody>
</table>

**Naming conventions for SYSMODs, PTFs, and APARs**

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

<table>
<thead>
<tr>
<th>Digit</th>
<th>Explanation</th>
</tr>
</thead>
<tbody>
<tr>
<td>B</td>
<td>Indicates BMC Software</td>
</tr>
<tr>
<td>Digit</td>
<td>Explanation</td>
</tr>
<tr>
<td>-------</td>
<td>-------------</td>
</tr>
<tr>
<td>T</td>
<td>SYSMOD type</td>
</tr>
<tr>
<td>■</td>
<td>B indicates a function. For example, BBBBX16 or BBIBA26.</td>
</tr>
<tr>
<td>■</td>
<td>A indicates an APAR. For example, BAB0001 or BAI0002.</td>
</tr>
<tr>
<td>■</td>
<td>P indicates a PTF. For example, BPB0123 or BPI0456</td>
</tr>
<tr>
<td>P</td>
<td>An identifier that groups products by product line</td>
</tr>
<tr>
<td>F</td>
<td>A two-character identifier that is used only for a function SYSMOD</td>
</tr>
<tr>
<td>V</td>
<td>A two-digit version number that is used only for a function SYSMOD</td>
</tr>
<tr>
<td>N</td>
<td>An APAR or PTF number within a product line</td>
</tr>
</tbody>
</table>

**Note**

The letters C, D, and E are reserved for future APAR SYSMOD use. The letters Q and R are reserved for future PTF SYSMOD use.

**Naming conventions for installation images**

For the installation images, BMC uses naming conventions that identify the product and version of the image.

<table>
<thead>
<tr>
<th>Image type</th>
<th>Syntax</th>
<th>Variable</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Installation System setup utility</td>
<td>bmcozi-vnnnn-setup-image.bin</td>
<td>nnnn</td>
<td>Version number</td>
</tr>
<tr>
<td>Installation System and product</td>
<td>bmcprd-vnnnn-xxx-image.bin</td>
<td>Installation System images and product prd</td>
<td>Product code</td>
</tr>
<tr>
<td></td>
<td></td>
<td>nnnn</td>
<td>Version number</td>
</tr>
<tr>
<td></td>
<td></td>
<td>xxx</td>
<td>Image type</td>
</tr>
<tr>
<td>Enhanced HOLDDATA</td>
<td>bmcehd.timePeriod.bin</td>
<td>timePeriod</td>
<td>Time period that the Enhanced HOLDDATA encompasses</td>
</tr>
</tbody>
</table>
Naming conventions for product distribution files

BMC uses naming conventions for product distribution files to prevent conflicts between system and product data sets.

The following naming conventions apply to the installation 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>BMC.V2400.ESD6.DBLINK</td>
</tr>
<tr>
<td>distributionLibraryName</td>
<td>Distribution or maintenance library ddname or DDDEF name</td>
<td>BMC.V2400.ESD6.ADBLINK</td>
</tr>
<tr>
<td>runtimeLibraryName</td>
<td>Runtime library data set name</td>
<td>BMC.V2400.RTE6.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).

Naming conventions for runtime libraries

The Installation System creates different runtime libraries based on the options you choose during installation.
The Installation System can create the following types of libraries:

- **Runtime libraries**
  Runtime libraries use one of the following conventions as specified by you (for more information about LLQs, see “Specifying runtime data set information” on page 80:
  - BMC*
    All LLQs begin with *BMC*, followed by the type of library (such as LINK, SAMP, or PLIB). This is the recommended default naming convention.
  - Product-line designators
    LLQs begin with one of the following designators, followed by the library type:
    - *BB* for MainView and some performance products
    - *DB* for BMC products for IBM DB2
    - *IM* for BMC products for IBM IMS
    - *XX* for Infrastructure components
  - LLQs are specified by you

- **User libraries**, which use a qualifier of UBMC.
  User libraries contain configuration information.

“Library names” on page 367 lists the libraries that the Installation System creates.
Setting up the Installation System

Before you can use the Installation System, you must install it and set it up. Starting with version 3.0.00, the Installation System is installed by using SMP/E.

BMC provides a set up utility to generate the JCL that creates an:

- Isolated Installation System SMP/E environment
- Installation System runtime environment, from which you run the Installation System

**Note**
Always use the most current version of the Installation System with the most current maintenance applied.
To determine the most current version number, see the most recent Installation System release notes on any product page from the A-Z Supported Product List on Support Central. To determine the version number of your current Installation System, see the title line on the Installation System Main Menu.

The following figure depicts the process to set up the Installation System.

**Figure 2: Flow for setup**

Distribution methods and media

BMC distributes its products as image files: an image file for the Installation System (created by the setup utility), image files for the products, and image files for maintenance.
Images are obtained from the BMC Electronic Software Distribution (BMC ESD) FTP site or from physical media (DVD).

For more information, view the Quick Course "BMC Installation System - Distributed FTP Physical Media."

**Methods for obtaining the Installation System setup utility**

You can use any of these methods to obtain the setup utility from the ESD FTP site or from physical media (DVD):

- **Direct FTP**
  
  In this method (recommended method with FTP service available on mainframe), you use FTP to transfer the setup utility directly to your mainframe.

- **Distributed FTP**
  
  You use FTP once to transfer the setup utility to your workstation and again to transfer the setup utility to your mainframe. This method is useful when you cannot use FTP to transfer files directly to your mainframe from an external site.

- **Web browser**
  
  You use a web browser to copy the setup utility to your workstation, and then you upload the setup utility to your mainframe. This method is used when you cannot use FTP.

- **Physical media**
  
  You obtain the setup utility from physical media and then upload the setup utility to your mainframe. This method is used when you cannot download files from an external site.

  **Note**

  The following considerations apply to using the ESD FTP site:

- To download from the ESD FTP site, you must have an ESD user ID and password (which changes annually). To view the current password, go to [http://www.bmc.com/support/reg/esd-password.html](http://www.bmc.com/support/reg/esd-password.html). When prompted, 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).

- Your site might have restrictions that apply to transferring files through FTP (such as byte limits, or network or server timeout limits). If so, specify FTP proxy and firewall access information in the **Local FTP Site Options** section of the Site Wide Default Default Values panel.
Maintenance files

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

BMC provides the following types of maintenance files:

- **Recommended Service Level (RSL)**
  RSL files contain program temporary fixes (PTFs) and HOLDDATA for products. The PTFs have been certified by BMC against the IBM Recommended Service Update (RSU). You can obtain quarterly RSL maintenance at any time by using BMC Internet Service Retrieval (BMC ISR). You can obtain cumulative RSL maintenance from the BMC Electronic Software Distribution (BMC ESD) FTP site, or by requesting physical media.

  **Note**
  Maintenance for the Installation System is not included on RSL files.
  As of April 4, 2016, product update tapes (PUTs) have been replaced by RSL. Existing PUT images remain available for two years after the date on which they became available (in accordance with the BMC two-year rolling maintenance policy). For additional information about this change, see the Recommended Service Level technical bulletin dated March 1, 2016.

- **PTFs**
  You can obtain individual PTFs at any time by using BMC ISR.

- **SMP/E service files (packaged with the corresponding products on the installation media)**
  SMP/E service files contain additional maintenance to be applied during installation to bring the product to the GA level or to a specific RSL 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 installation media.

  **Note**
  The SMP/E service files are not interchangeable with the RSL files. Use the SMP/E service files only when performing a new installation of a product. Do not use the service files in place of the RSL files.
Obtaining the Installation System setup utility by using direct FTP

The direct FTP method downloads the Installation System setup utility image and the job to decompress the image from the BMC Electronic Software Distribution (BMC ESD) FTP site. Use the following procedure to use direct FTP:

1. Create a job by copying and modifying the following sample:

   ```plaintext
   //<JOB_NAME> JOB (<ACCOUNT>), 'USER COMMENT',
   // CLASS=<JOB_CLASS>, MSGCLASS=<MSG_CLASS>,
   // TIME=1440, REGION=0M, NOTIFY=&SYSUID
   //
   // DESCRIPTION:
   //   This job downloads the Installation System set-up image
   //   and sample JCL to decompress the installation set-up image.
   //
   // STEPS:
   //
   // 1. Customize the jobcard to comply with your site's requirements.
   //    PARAMETER TO OVERRIDE/CHANGE:
   //       -----------------------------------------------------------------------
   //       Job Name     - Change <JOB_NAME> to a valid job name for your site.
   //       Job Account  - Change <ACCOUNT> to a valid job account for your site.
   //       Job Class   - Change <JOB_CLASS> to a valid job class for your site.
   //       Message Class - Change <MSG_CLASS> to a valid message class for your site.
   //
   // 2. Change the FTPGET step parameters to comply with your site requirements. Remove any parameters that are not needed.
   //    The syntax in the input DD is case sensitive.
   //    PARAMETER TO OVERRIDE/CHANGE:
   //       -----------------------------------------------------------------------
   //       UNIT         - Change <unit> to a valid DASD unit for your site.
   //       VOLUME       - Change <volume> to a valid VOLUME serial number for YOUR SITE.
   //       SMS storage class - CHANGE <smsStorageClass> to a valid SMS storage class for your site.
   //       SMS management class - CHANGE <smsManagementClass> to a valid SMS management class for your site.
   //       SMS data class  - Change <smsDataClass> to a valid SMS data class for your site.
   //       Set-up Image   - Change <InstallSetupImageDatasetName> to name to be allocated on your host system.
   ```
Decompress JOB - Change <INSTSetupDCMPDatasetName> to name to be allocated on your host system.

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

4. Submit this JOB to FTP requested files.

FTPGET EXEC PGM=FTP, REGION=5120K, PARM='epddownload.bmc.com (timeout 720 exit=8'
//SYSMDUMP DD SYSOUT=* //SYSPRINT DD SYSOUT=* //SYSOUT DD SYSOUT=* //OUTPUT DD SYSOUT=* //INPUT DD *
mainframe <ESDpassword>
cd /bmc/esd/ozi
binary
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 bmcozi-vrrmm-setup-image.bin + '<InstallSetupImageDatasetName>'
locsite tr pri=2 sec=1
ascii
get inst_dcmp_sample_jcl.txt + '<INSTSetupDCMPDatasetName>'
quit
/*

Tip
You can also copy the sample JCL for direct FTP from the Installation System web page as follows:


2 Click Sample JCL.

3 Click the link under "Sample JCL when using direct FTP."

Make the changes described in the following table.

When editing the job:

- Ensure that the JCL is unnumbered; FTP reads all 80 characters.
- Set CAPS OFF and NUM OFF.
- Remove the angle brackets (< >) from around the variables when you update them.
<table>
<thead>
<tr>
<th>Item</th>
<th>Description</th>
</tr>
</thead>
</table>
| JOB statement | Customize the JOBCARD to comply with your site’s requirements.  
**Note:** This job requires a REGION parameter value of 0M. |
| Variable text in the INPUT DD section | Change the following variables in the INPUT DD section.  
**Note:** The FTP server is case sensitive. You must use lowercase letters for all data in the INPUT DD section.  
- `<ESDpassword>` to the ESD password  
  To view the current password, go to [http://www.bmc.com/support/reg/esd-password.html](http://www.bmc.com/support/reg/esd-password.html). When prompted, 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).  
- `<unit>`, `<volume>`, and, optionally, the SMS variables to the correct values for your site  
  If you do not use a variable, delete the line. Do not leave unused lines in the JCL.  
- `vrmm` to the current Installation System version number  
  To determine the version number, see the most recent release notes on any product page on [Support Central](http://www.bmc.com/support).  
- `<InstallSetupImageDataSetName>` to a valid data set name for your site  
  This data set should *not* already exist. The data set is created when the setup utility file is downloaded.  
- `<INSTSetupDCMPDatasetName>` to a valid data set name for your site  
  This data set should *not* already exist. The data set is created when the setup utility file is downloaded.  
  Make any additional changes that your site requires, such as providing proxy information to get outside your firewall. |

3. Submit the JCL to perform the download.

4. Continue to “Decompressing the Installation System setup utility” on page 41.
Obtaining the Installation System setup utility by using distributed FTP

The distributed FTP method downloads the Installation System setup utility image and the job to decompress the image from the BMC Electronic Software Distribution (BMC ESD) FTP site. It then uploads the files to your mainframe. Use the following procedure to use distributed FTP:

1. Download the following files:
   - DistributedFTP_downloadfiles.txt
   - DistributedFTP_uploadfiles.txt


3. Click Sample JCL.

4. Click the links under "Sample JCL when using distributed FTP."

2. Open a command prompt and go to the drive and folder to which you want to download files.

3. Execute the following command to download the setup image and decompression job to your workstation:

   ftp -n -s:"myPath\DistributedFTP_downloadfiles.txt"

   Update myPath with the path where you saved the DistributedFTP_downloadfiles.txt file.

   Message 250 Transfer completed successfully. displays at the end of each file transfer, and message 221 Quit command received. Goodbye. displays at the end of the output.

   **Note**

   This command is case sensitive.

   If an error occurs, the following items are common causes:
   - The quotation marks are missing.
   - If you copied and pasted the command, the dashes in front of n and s can be misinterpreted. Type the dashes manually.

4. Update the following variables in the DistributedFTP_uploadfiles.txt file:
<table>
<thead>
<tr>
<th>Variable</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Your_zOS_SSID</td>
<td>Domain name server (DNS) host name for your mainframe subsystem</td>
</tr>
<tr>
<td>Your_Mainframe_UserID</td>
<td>Your mainframe user ID</td>
</tr>
<tr>
<td>Your_Mainframe_Password</td>
<td>Your mainframe password</td>
</tr>
<tr>
<td>hlq</td>
<td>High-level qualifier for data set naming</td>
</tr>
<tr>
<td></td>
<td>The HLQ is 1 to 26 characters, and it must adhere to your system’s standards.</td>
</tr>
<tr>
<td></td>
<td>The HLQ that you specify will be used in subsequent jobs.</td>
</tr>
<tr>
<td>unit_a</td>
<td><em>(optional)</em> Unit</td>
</tr>
<tr>
<td>volume_a</td>
<td><em>(optional)</em> Volume</td>
</tr>
<tr>
<td>smsStorageClass_a</td>
<td><em>(optional)</em> SMS storage class</td>
</tr>
<tr>
<td>smsManagementClass_a</td>
<td><em>(optional)</em> SMS management class</td>
</tr>
<tr>
<td>smsDataClass_a</td>
<td><em>(optional)</em> SMS data class</td>
</tr>
</tbody>
</table>

a Delete the line if you do not use the variable.

**Note**
Remove the angle brackets (< >) from the variables in the DistributedFTP_uploadfiles.txt file.

5 Execute the following command to transfer the setup image and decompression job to your mainframe:

```
ftp -n -s:"myPath\DistributedFTP_uploadfiles.txt"
```

Update myPath with the path where you saved the DistributedFTP_uploadfiles.txt file.

**Note**
This command is case sensitive.
If an error occurs, the following items are common causes:

- The quotation marks are missing.
- If you copied and pasted the command, the dashes in front of n and s can be misinterpreted. Type the dashes manually.

6 Continue to “Decompressing the Installation System setup utility” on page 41.
Obtaining the Installation System setup utility by using a web browser

The web browser method downloads the Installation System setup utility image and the job to decompress the image from the BMC Electronic Software Distribution (BMC ESD) FTP site. It then uploads the files to your mainframe. Use the following procedure to obtain the Installation System setup utility by using a web browser:

1. Using a web browser, go to the ESD site (ftp://epddownload.bmc.com/bmc/esd/ozi) and download the most recent version of the Installation System setup utility file (bmcozi-v vrmm-setup-image.bin).

To determine the version number (vrmm), see the most recent Installation System release notes on any product page on Support Central.

When prompted, provide the ESD FTP site user ID and password. Obtain these from the Installation System web page (http://www.bmc.com/support/reg/esd-password.html). BMC Support Central logon credentials are required.

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

The following guidelines apply:

- 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 27 cylinders, and the secondary allocation must be set to 2 cylinders.

3. Continue to “Decompressing the Installation System setup utility” on page 41.

Obtaining the Installation System setup utility by using physical media

The physical media method uploads the Installation System setup utility image and the job to decompress the image from a DVD to your mainframe. Use the following procedure to use physical media:

1. Copy the uploadfiles.txt file from the DVD to your workstation.
2 Update the following variables in the `uploadfiles.txt` file:

**Note**
Remove the angle brackets (<> ) from around the variables when you update them.

<table>
<thead>
<tr>
<th>Variable</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><code>Your_zOS_SSID</code></td>
<td>Domain name server (DNS) host name for your mainframe subsystem</td>
</tr>
<tr>
<td><code>Your_Mainframe_UserID</code></td>
<td>Your mainframe user ID</td>
</tr>
<tr>
<td><code>Your_Mainframe_Password</code></td>
<td>Your mainframe password</td>
</tr>
<tr>
<td><code>HLQ</code></td>
<td>High-level qualifier for data set naming</td>
</tr>
<tr>
<td></td>
<td>The HLQ is 1 to 26 characters, and it must adhere to your system’s standards.</td>
</tr>
<tr>
<td></td>
<td>The HLQ that you specify will be used in subsequent jobs.</td>
</tr>
<tr>
<td><code>unit</code></td>
<td><em>(optional)</em> Unit</td>
</tr>
<tr>
<td><code>volume</code></td>
<td><em>(optional)</em> Volume</td>
</tr>
<tr>
<td><code>smsStorageClass</code></td>
<td><em>(optional)</em> SMS storage class</td>
</tr>
<tr>
<td><code>smsManagementClass</code></td>
<td><em>(optional)</em> SMS management class</td>
</tr>
<tr>
<td><code>smsDataClass</code></td>
<td><em>(optional)</em> SMS data class</td>
</tr>
</tbody>
</table>

*a* Delete the line if you do not use the variable.

3 Open a command prompt.

For example, in Windows 7, from the Windows **Start** menu, select **All Programs => Accessories => Command Prompt**.

4 Change to the drive that contains the DVD.

For example, if your DVD reader is assigned designated as drive D, type `d:`.

5 Change to the `ga` directory.

6 Execute the following command to transfer the setup image and decompression job to your mainframe:

```
ftp -n -s:"myPath\uploadfiles.txt"
```
Decompressing the Installation System setup utility

Use the following procedure to decompress the Installation System setup utility:

1. After successfully obtaining the Installation System setup image and decompression job, edit the decompression JCL data set (<INSTSetupDCMPDatasetName>) according to the instructions in the job.

   **Note**
   The decompression JCL contains a job within a job that is submitted to the internal reader.

2. Submit the edited JCL to decompress the Installation System setup utility.

   Decompressing the Installation System setup utility creates the HLQ.BMC.SETUP library.

3. Continue to “Running the Installation System setup utility” on page 41.

Running the Installation System setup utility

The setup utility creates new global, target, and distribution zones for the Installation System. Use the following procedure to run the Installation System setup utility:
The Installation System must be:

- Installed into its own SMP/E zone
- Reinstalled any time there is an FMID change for the product or the Installation System (that is, whenever there is a new release of a product or the Installation System)

Running the setup utility

1. On the ISPF TSO Commands panel, execute the following command:

   EX 'HLQ.BMC.SETUP(BMCSETUP)'

   The variable HLQ is the high-level qualifier that you assigned to the setup utility data set when you ran the decompression job.

   The Installation System SMP/E JCL Options panel is displayed:

   | Command ==> __________________________ |
   | Installation System SMP/E JCL Options |
   | Provide the information below and press Enter. The information is used to generate the JCL that creates the SMP/E environment for the Installation System and must be kept separate from any product SMP/E environments. More: + |
   | Installation System Data Set HLQs: |
   | Temporary Files HLQ __________________________ (max. resolved length is 17) |
   | CSI, TARGET and DLIB HLQ __________________________ |
   | Runtime Enablement (RTE) __________________________ |
   | Allocation Options (SMS values will be used when specified) |
   | Allocation controlled by SMS ACS routines? ________ (Y=yes, N=no) |
   | Allocation Type | STORCLAS | MGMTCLAS | DATACLAS | UNIT | VOLSER |
   | Temporary Files | ________ | ________ | ________ | ________ | ________ |
   | SMP/E Data Sets | ________ | ________ | ________ | ________ | ________ |
   | RTE Data Sets | ________ | ________ | ________ | ________ | ________ |
   | Job Card Template: |
   | //<JOBID> JOB (<ACCOUNT>),'<NAME>', |
   | //             CLASS=<CLASS>,MSGCLASS=<MSGCLASS>, |
   | //             NOTIFY=&SYSUID |
   | //* |
   | Job Name Options |
   | Match generated member names ________ (Y=Yes, N=No) (Both options cannot Suffix with member name number ________ (Y=Yes, N=No) contain 'Y') |
   | BMC FTP Site and Download Options: |
   | Directory ________ ga (GA or BETA) |
   | BMC User ________ mainframe (GA or BETA) |
   | BMC Password ________ (non-display) |
   | JES Message Class ________ (for large output from decompress process) |
   | Local FTP Site Options: |
   | FTP Program Name ________ FTP |
   | Is Batch FTP Allowed ________ (Y=N) |
   | Media type ________ (P=Physical, D=Distributed FTP) |
2. On the panel, supply all the requested information and press **Enter**.

Consider the following information when completing the panel:

- The online Help explains the purpose of each field on the panel.

- The Installation System SMP/E JCL Options panel is a multi-page panel as indicated by the More field (on the right side of the panel, near the top). To scroll through the pages, use **F8** (down) and **F7** (up).

- If you are using distributed FTP or physical media for installation, ensure that you complete the **Local FTP Site Options** fields. These are used to create the jobs you need to obtain the Installation System image.

The list of generated SMP/E jobs is displayed.

<table>
<thead>
<tr>
<th>Name</th>
<th>Prompt</th>
<th>Size</th>
<th>Created</th>
<th>Changed</th>
<th>ID</th>
</tr>
</thead>
<tbody>
<tr>
<td>$1INCGEN</td>
<td></td>
<td>52</td>
<td>2016/10/15</td>
<td>2016/10/15 14:14:46</td>
<td>USER1</td>
</tr>
<tr>
<td>$1000DC</td>
<td></td>
<td>56</td>
<td>2016/10/15</td>
<td>2016/10/15 14:14:48</td>
<td>USER1</td>
</tr>
<tr>
<td>$103DWNL</td>
<td></td>
<td>132</td>
<td>2016/10/15</td>
<td>2016/10/15 14:14:48</td>
<td>USER1</td>
</tr>
<tr>
<td>$104DCMP</td>
<td></td>
<td>112</td>
<td>2016/10/15</td>
<td>2016/10/15 14:14:49</td>
<td>USER1</td>
</tr>
<tr>
<td>$105SMPE</td>
<td></td>
<td>711</td>
<td>2016/10/15</td>
<td>2016/10/15 14:14:50</td>
<td>USER1</td>
</tr>
<tr>
<td>$106SMPE</td>
<td></td>
<td>457</td>
<td>2016/10/15</td>
<td>2016/10/15 14:14:51</td>
<td>USER1</td>
</tr>
<tr>
<td>$130RECP</td>
<td></td>
<td>114</td>
<td>2016/10/15</td>
<td>2016/10/15 14:14:51</td>
<td>USER1</td>
</tr>
<tr>
<td>$145RECS</td>
<td></td>
<td>125</td>
<td>2016/10/15</td>
<td>2016/10/15 14:14:51</td>
<td>USER1</td>
</tr>
<tr>
<td>$175APCF</td>
<td></td>
<td>68</td>
<td>2016/10/15</td>
<td>2016/10/15 14:14:52</td>
<td>USER1</td>
</tr>
<tr>
<td>$176APLF</td>
<td></td>
<td>92</td>
<td>2016/10/15</td>
<td>2016/10/15 14:14:52</td>
<td>USER1</td>
</tr>
<tr>
<td>$177ACCF</td>
<td></td>
<td>66</td>
<td>2016/10/15</td>
<td>2016/10/15 14:14:53</td>
<td>USER1</td>
</tr>
<tr>
<td>$178ACPFI</td>
<td></td>
<td>65</td>
<td>2016/10/15</td>
<td>2016/10/15 14:14:53</td>
<td>USER1</td>
</tr>
<tr>
<td>$180APCP</td>
<td></td>
<td>69</td>
<td>2016/10/15</td>
<td>2016/10/15 14:14:53</td>
<td>USER1</td>
</tr>
<tr>
<td>$181APLP</td>
<td></td>
<td>68</td>
<td>2016/10/15</td>
<td>2016/10/15 14:14:54</td>
<td>USER1</td>
</tr>
<tr>
<td>$182ACCP</td>
<td></td>
<td>67</td>
<td>2016/10/15</td>
<td>2016/10/15 14:14:54</td>
<td>USER1</td>
</tr>
<tr>
<td>$183ACPP</td>
<td></td>
<td>66</td>
<td>2016/10/15</td>
<td>2016/10/15 14:14:55</td>
<td>USER1</td>
</tr>
<tr>
<td>$184UMOD</td>
<td></td>
<td>45</td>
<td>2016/10/15</td>
<td>2016/10/15 14:14:55</td>
<td>USER1</td>
</tr>
<tr>
<td>$205RTEC</td>
<td></td>
<td>115</td>
<td>2016/10/15</td>
<td>2016/10/15 14:14:56</td>
<td>USER1</td>
</tr>
<tr>
<td>$206RTEC</td>
<td></td>
<td>245</td>
<td>2016/10/15</td>
<td>2016/10/15 14:14:56</td>
<td>USER1</td>
</tr>
</tbody>
</table>

You can run the jobs now or later (see “Running the SMP/E JCL for the Installation System” on page 44).

**Note**

If you are using distributed FTP or physical media for installation, do not run the $103DWNL job. Instead use #103GET and #103PUT as explained in “Running the SMP/E JCL for the Installation System” on page 44.

3. Press **F3** to exit the list and the setup utility.
Running the SMP/E JCL for the Installation System

After the Installation System jobs are created, you must run them to perform the SMP/E installation and create the runtime environment. The jobs perform the following actions:

- $103DWNL, #103GET, and #103PUT download the Installation System image files. Which jobs you run depends on the method you used to obtain the Installation System:
  - If you used direct FTP, run the $103DWNL job.
    Complete the “To run the $103DWNL job” on page 44 procedure.
  - If you used distributed FTP, run #103GET and #103PUT.
    Complete the “To run #103GET” on page 44 and “To run #103PUT” on page 45 procedures.
  - If you used physical media, run #103PUT.
    Complete the “To run #103PUT” on page 45 procedure.

- $1xx jobs build the Installation System SMP/E environment.
  Complete the “To run the remaining jobs” on page 46 procedure.

- $205RTEC and $206RTEC jobs build the Installation System runtime environment.
  Complete the “To run the remaining jobs” on page 46 procedure.

**To run the $103DWNL job**

1 Run the $103DWNL job.

   The Installation System image files are downloaded.

**To run #103GET**

1 Copy the #103GET file to your workstation by using the transfer program of your choice, and name it #103GET.txt.

2 Perform the following steps:

   a On your workstation, open a command prompt and go to the drive and folder to which you want to download the Installation System image files.

   b Execute the following command to download the Installation System image files:
Update myPath with the path where you saved the #103GET.txt file.

Message 250 Transfer completed successfully. displays at the end of each file transfer, and message 221 Quit command received. Goodbye. displays at the end of the output.

Note
This command is case sensitive.
If an error occurs, the following items are common causes:

■ The quotation marks are missing.
■ If you copied and pasted the command, the dashes in front of n and s can be misinterpreted. Type the dashes manually.

The Installation System image files are downloaded to your workstation.

To run #103PUT

1 Copy the #103PUT file to your workstation by using the transfer program of your choice, and name it #103PUT.txt.

2 Update the following variables in the #103PUT.txt file:

<table>
<thead>
<tr>
<th>Variable</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Your_zOS_SSID</td>
<td>Domain name server (DNS) host name for your mainframe subsystem</td>
</tr>
<tr>
<td>Your_Mainframe_UserId</td>
<td>Your mainframe user ID</td>
</tr>
<tr>
<td>Your_Mainframe_Password</td>
<td>Your mainframe password</td>
</tr>
</tbody>
</table>

3 Execute the following command:

ftp -n -s:"myPath\#103PUT.txt"

Update myPath with the path to where the Installation System image files reside.

Note
This command is case sensitive.
If an error occurs, the following items are common causes:

■ The quotation marks are missing.
■ If you copied and pasted the command, the dashes in front of n and s can be misinterpreted. Type the dashes manually.
The Installation System image files are uploaded to your mainframe.

**To run the remaining jobs**

1. Display a member list of Installation System SMP/E JCL library.

2. Review the information in the $$INCGEN and $$100DOC members.

3. Run each job in numerical order starting with the $$104DCMP job.

   Each job should end with a return code of 4 or less.

When all of the jobs finish successfully, the Installation System is ready to use. The following libraries are created:

- HLQ.INSTALL
- HLQ.INSTALL.LOAD
- Other libraries, such as the Runtime Component System (RTCS) bootstrap library

---

**Tip**

Before beginning an installation, review the information in “Preparing for an installation” on page 49.

The $$205RTEC and $$206RTEC jobs can be used to rebuild the runtime environment after maintenance is applied or to build a new runtime environment if you want to have different runtime environments based on the maintenance that is applied.

---

### Updating the Installation System

Periodically, the Installation System is updated for:

- Support of new product releases

  This is the most common reason the Installation System is updated. This type of update requires that you reinstall the Installation System (see “Setting up the Installation System” on page 31).

---

**Note**

Ensure that you refresh the Installation System runtime data sets. The $$205RTEC and $$206RTEC jobs can be used to rebuild the runtime environment after maintenance is applied or to build a new runtime environment if you want to have different runtime environments based on the maintenance that is applied.
Corrective maintenance to the Installation System

Corrective maintenance is available as PTFs. To perform corrective maintenance, use the following procedure:

1. Obtain the PTF by using one of the following methods:
   - *(recommended method)* Use BMC Internet Service Retrieval (BMC ISR)
     For information about using BMC ISR, see “Maintaining products” on page 95.
   - Use BMC eFix PTF Distribution Services (eFix)
     You can access eFix directly at http://efix.bmc.com/ or from the support site. For information about eFix, see the eFix online Help.

2. Apply the PTF to the Installation System SMP/E environment.
   You can use the Installation System to create the needed JCL.

3. Refresh the Installation System runtime data sets.
   The $205RTEC and $206RTEC jobs can be used to rebuild the runtime environment after maintenance is applied or to build a new runtime environment if you want to have different runtime environments based on the maintenance that is applied.

4. Restart the Installation System.
Preparing for an installation

Preparing for an installation provides a smoother installation.

The following figure depicts the process for preparing for an installation.

Figure 3: Flow for preparing for installation

Preparing the Installation System repository

The Installation System repository stores information about:

- Installation projects
- Site-wide default values

The Runtime Component System (RTCS) hosts the Installation System repository. RTCS must be active (that is, the RTCS started task is running) on the system on which you run the Installation System. All systems configured to use this RTCS share an Installation System repository.

For more information, view the Quick Course "BMC Installation System - Installation System Repository."

When you start the Installation System, if RTCS:

- Is active on your system, it will be used for the Installation System repository and no additional actions are required to prepare the repository.
Is not installed or active on your systems, the Runtime Component System Not Active panel is displayed:

```
BMIPRTCS              Runtime Component System Not Active
Command ===>
```

The Runtime Component System (RTCS) is not active on this system. The BMC Software Installation System requires that RTCS be active. The data entered while installing products is stored in a repository hosted by RTCS. If RTCS is not installed you can choose to run a bootstrap version.

Select one of the following actions:

1. RTCS was installed and has now been started
2. Setup a bootstrap version of RTCS
3. Exit the Installation system

Regardless of the action selected, the Installation System will terminate and after RTCS is active, you will be able to access the Installation System.

In this case, use one of the following procedures to prepare the Installation System repository:

— “Preparing when RTCS is available on a system other than the one you are using” on page 50

— “Preparing when RTCS is not installed” on page 51

For information about managing a bootstrap RTCS, see:

- “To stop the bootstrap RTCS” on page 53
- “To start the bootstrap RTCS” on page 53
- “To switch to a permanent RTCS” on page 53

### Preparing when RTCS is available on a system other than the one you are using

Complete the following procedure:

1. Perform one of the following actions:

   - Copy or move the Installation System data sets to a system on which RTCS is available. The system on which you run the Installation System needs access to SMP/E to execute installation jobs.
   - Reconfigure RTCS so that it is available on the system on which you will run the Installation System.

For more information about RTCS, see the *BMC Runtime Component System Configuration and Administration Guide*. 

---

50 *Installation System Reference Manual*
2 Restart the Installation System and proceed with the installation.

Preparing when RTCS is not installed

If RTCS is not installed on your systems, you use the bootstrap version that the Installation System provides. Use the following procedure to set up the bootstrap version of the Installation System repository.

---

**Note**

A bootstrap RTCS is used for the Installation System repository only. It is not a full-function RTCS for use by products. If a product requires RTCS, install the product, including the full-function RTCS. After the installation, the full-function RTCS will be used for the Installation System repository. Before using the product, stop the bootstrap RTCS and optionally import the bootstrap RTCS repository information into the full-function RTCS. For more information performing these tasks, see “Managing the bootstrap RTCS” on page 53.

---

For more information, view the Quick Course "BMC Installation System - Set up bootstrap RTCS."

---

To prepare the bootstrap Installation System repository

1 If you have not started the Installation System, do so as described in “Starting the Installation System” on page 62.

2 On the Runtime Component System Not Active panel, select **Setup a bootstrap version of RTCS**.

   BMIPRTCS   Runtime Component System Not Active
   Command ===>

   The Runtime Component System (RTCS) is not active on this system. The BMC Software Installation System requires that RTCS be active. The data entered while installing products is stored in a repository hosted by RTCS. If RTCS is not installed you can choose to run a bootstrap version.

   Select one of the following actions:
   __  1. RTCS was installed and has now been started
   2. Setup a bootstrap version of RTCS
   3. Exit the installation system

   Regardless of the action selected, the Installation System will terminate and after RTCS is active, you will be able to access the Installation System.

3 On the RTCS Bootstrap Options panel, specify the requested information.

   BMIPBRTC   RTCS Bootstrap Options
   Command ===>

   Enter the information below for the RTCS Bootstrap system. These values will be used in generating the jobs to establish the RTCS Bootstrap system.

   RTCS Bootstrap Registry Data Set
Data Set HLQ . . . ______________________________

Allocation Options
STORCLAS  MGMTCLAS  DATACLAS  UNIT  VOLSER
    ______  ________  ________  ________  ______

RTCS Started Task Information
STC Procedure Name . . . ________
Program Library HLQ . . . ______________________________

Job Card Template
=====> _______________________________________________________________________
=====> _______________________________________________________________________
=====> _______________________________________________________________________
=====> _______________________________________________________________________

a Specify the high-level qualifier (HLQ) and allocation information for the bootstrap RTCS data set.

The data set will be named HLQ.BOOTSTRAP.JCL.

b Specify a started task name and a program library HLQ for the bootstrap RTCS.

c Specify job card information for the generated JCL.

d Press Enter.

Note
The bootstrap RTCS libraries must be APF authorized.

4 On the list of bootstrap jobs, run each job as instructed in the $000$DOC member.

<table>
<thead>
<tr>
<th>Name</th>
<th>Prompt</th>
<th>Size</th>
<th>Created</th>
<th>Changed</th>
<th>ID</th>
</tr>
</thead>
<tbody>
<tr>
<td>.$$INCGEN</td>
<td></td>
<td>34</td>
<td>2014/10/06</td>
<td>10:12:47</td>
<td>USER1</td>
</tr>
<tr>
<td>.$$INCINF</td>
<td></td>
<td>14</td>
<td>2014/10/06</td>
<td>10:12:47</td>
<td>USER1</td>
</tr>
<tr>
<td>.$$000$200</td>
<td></td>
<td>40</td>
<td>2014/10/06</td>
<td>10:12:47</td>
<td>USER1</td>
</tr>
<tr>
<td>.$$000$240</td>
<td></td>
<td>25</td>
<td>2014/10/06</td>
<td>10:12:48</td>
<td>USER1</td>
</tr>
<tr>
<td>.$$000$310</td>
<td></td>
<td>33</td>
<td>2014/10/06</td>
<td>10:12:48</td>
<td>USER1</td>
</tr>
<tr>
<td>.$$000$325</td>
<td></td>
<td>26</td>
<td>2014/10/06</td>
<td>10:12:49</td>
<td>USER1</td>
</tr>
<tr>
<td>.$$000$345</td>
<td></td>
<td>24</td>
<td>2014/10/06</td>
<td>10:12:49</td>
<td>USER1</td>
</tr>
<tr>
<td>.BMIRSDN</td>
<td></td>
<td>180</td>
<td>2008/09/02</td>
<td>19:34:27</td>
<td>USER1</td>
</tr>
<tr>
<td>.BMIRXFT</td>
<td></td>
<td>1350</td>
<td>2013/11/15</td>
<td>17:20:54</td>
<td>USER1</td>
</tr>
<tr>
<td>.OSZBOOT</td>
<td></td>
<td>63</td>
<td>2014/10/06</td>
<td>10:12:48</td>
<td>USER1</td>
</tr>
</tbody>
</table>

**End**

a Select a job by using the S line command.

b Review the contents of the member.

c Submit the job by using the SUBmit primary command.

5 After successfully running all of the jobs, press F3 to exit.
The bootstrap RTCS is now installed and active. For more information about the bootstrap RTCS, see “Managing the bootstrap RTCS” on page 53.

6 Restart the Installation System and proceed with the installation.

Managing the bootstrap RTCS

The bootstrap RTCS creates the RTCS address space, which is used to store data and anchor resources. All processing occurs in the TSO session or batch jobs. Use the following procedures to manage the bootstrap RTCS:

To stop the bootstrap RTCS

When you are not using the Installation System, you should stop the bootstrap RTCS address space.

1 Have all users exit the Installation System.

2 Have all users of the Installation System log off their TSO sessions.

3 Issue the following command:

\[P \text{STCProcName}\]

\text{STCProcName} is the name of the bootstrap RTCS address space you assigned when creating the bootstrap RTCS.

To start the bootstrap RTCS

When you want to use the Installation System again, you need to start the bootstrap RTCS address space.

1 Issue the following command:

\[S \text{STCProcName}\]

\text{STCProcName} is the name of the bootstrap RTCS address space you assigned when creating the bootstrap RTCS.

To switch to a permanent RTCS

If you have been using the bootstrap RTCS, and you have now installed a permanent RTCS, you can copy the Installation System repository from the bootstrap RTCS to the permanent RTCS.

Perform this procedure before starting the Installation System.
1 Perform a backup of the bootstrap RTCS.

   Use the BACKUP control statement of the RTCS Registry Maintenance Utility (RMU).

   For more information about RMU, see the *BMC Runtime Component System Configuration and Administration Guide*.

2 Perform an import of the bootstrap RTCS to your permanent RTCS.

   Use the RESTORE control statement of the RMU.

### CA ACF2 usage

If you are using the CA ACF2 command limiting feature, several BMI* programs need to be defined to your CA ACF2 command table. These programs are contained in the Installation System LOAD library. Defining the programs to CA ACF2 enables access to them when you run the Installation System.

### Review installation requirements

Review the following questions to prepare for your installation:

<table>
<thead>
<tr>
<th>Question</th>
<th>Answer</th>
</tr>
</thead>
<tbody>
<tr>
<td>My company is new to BMC. Will I need to register in order to obtain downloads and access technical support?</td>
<td>If your company has never used any BMC product before, register your support ID (also called a <em>Contract ID</em>). For details about registering, see “Gaining full access to BMC Support Central” on page 55.</td>
</tr>
<tr>
<td>I am installing a new product. What type of product authorization will I need?</td>
<td>Each product requires a CPU authorization password that you apply by using the Installation System. You can apply a password before, during, or after installing a product, but you must apply the password before you can use the product. For details about passwords, see “Obtain your CPU authorization password” on page 57.</td>
</tr>
</tbody>
</table>
## Question and Answer

<table>
<thead>
<tr>
<th>Question</th>
<th>Answer</th>
</tr>
</thead>
<tbody>
<tr>
<td>What are the requirements for installing and running the Installation System?</td>
<td>The Installation System requires:</td>
</tr>
<tr>
<td></td>
<td>■ ISPF Version 4.0 or later</td>
</tr>
<tr>
<td></td>
<td>■ DD ISPTABL library in your ISPF logon PROC (for ISPF table processing)</td>
</tr>
<tr>
<td></td>
<td>■ For your ISPPROF or ISRPROF data set, shared disposition (DISP=SHR) in your logon procedure (to allow batch TSO to update the data set)</td>
</tr>
<tr>
<td></td>
<td><strong>Note:</strong> This setting allows you to merge product source files and to run the BMCINSTL REXX EXEC. If you do not set the disposition to shared, you will receive an ISPS105 error (invalid keyword) when submitting the installation JCL to merge product source files, and when running BMCINSTL REXX EXEC.</td>
</tr>
<tr>
<td></td>
<td>■ Approximately 40 cylinders of space for the user data sets that the Installation System allocates in the $205ALOC job (one of the generated configuration jobs)</td>
</tr>
<tr>
<td>How much space do I need to install a product?</td>
<td>During the installation process, the Installation System determines space requirements for the SMP/E target, distribution, and auxiliary data sets based on the products that you selected for installation. The generated $100DOC member lists the amount of DASD needed for the SMP/E libraries. You can increase the amounts for the target and distribution libraries in the project.</td>
</tr>
<tr>
<td></td>
<td><strong>Note:</strong> If you are using objects that DB2 defined, you must have a previously defined storage group (STOGROUP). The Installation System does not define STOGROUPs.</td>
</tr>
<tr>
<td>What are the operating system and database requirements for my product?</td>
<td>Use the BMC Solution and Product Availability and Compatibility (SPAC) utility to determine the platform, database, technology, and third-party software requirements for a product. To access the SPAC utility, select <strong>Product Availability and Compatibility</strong> on Support Central (<a href="http://www.bmc.com/support">http://www.bmc.com/support</a>).</td>
</tr>
<tr>
<td>Do additional requirements apply to the product I am installing?</td>
<td>See “Product-specific requirements for installation” on page 58 and “Product-specific considerations for installation” on page 58.</td>
</tr>
</tbody>
</table>

### Gaining full access to BMC Support Central

After processing your product order, BMC sends an order detail e-mail, which contains your Support Contract ID and password.

A Support Contract ID:
- Is registered once per company
- Can apply to one or more products
- Is used by one or more persons to obtain a Support Central account with a unique Support ID and password

You use a Support ID to:

- Download product installation files
- Access product documentation
- Receive product support, including opening cases
- Access the Knowledge Base

**Note**
If you register with a temporary Contract ID, you also have to register the permanent Contract ID.

If you cannot locate your Contract ID or encounter a problem during registration, submit a request to Customer_Care@bmc.com, using your company e-mail address. Include Support Contract ID in the subject line. Provide your name and your company’s name (including alternative names that might apply to your company—for example, due to a name change or acquisitions in recent years).

For more information about support IDs and passwords, see Getting Started with Support Central on BMC Support Central.

**To obtain a Support ID**

1. In a web browser, go to Support Central and select **Register**.
   
   The Create BMC Account/Profile dialog is displayed.

2. Select **Are you a current/future BMC Customer?**.
   
   The dialog expands with identification fields.

3. Complete the required fields (marked with an asterisk).

4. Select **Access to BMC Support**.
   
   The dialog expands with contract fields.

5. Supply your Support Contract credentials and click **Validate**.

6. Complete the remaining required fields (marked with an asterisk), type the security word, agree to the BMC Privacy Policy, and click **Submit**.

   You will receive an activation e-mail.
7 Activate your account according to the instructions in the activation e-mail.
You will receive an e-mail verifying your account activation.

**Obtain your CPU authorization password**

After processing your order, BMC sends a passwords e-mail that contains the CPU authorization passwords for the products that you licensed. You will use these passwords during the installation process to authorize products.

CPU authorization passwords authorize specific CPUs (also referred to as *processors*) to run licensed products. Because BMC licenses its products for use on individual CPUs, the passwords are product specific and CPU specific (one license per product per CPU).

---
**Note**

CPU information is not required for temporary passwords.

---

For each product that you license, use the worksheet in *Table 1 on page 57* 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 1: Product authorization worksheet**

<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>
<tr>
<td>_________</td>
<td>_______</td>
<td>___</td>
<td>________</td>
<td>___</td>
<td>________</td>
</tr>
<tr>
<td>_________</td>
<td>_______</td>
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<td>________</td>
</tr>
<tr>
<td>_________</td>
<td>_______</td>
<td>___</td>
<td>________</td>
<td>___</td>
<td>________</td>
</tr>
</tbody>
</table>

For information about determining your CPU ID, see “To display current processor information” on page 288 or use the LIST option of the batch Product Authorization utility.

If you have a problem or question about your authorization passwords, please open an issue on BMC Support Central (http://www.bmc.com/support).
For more information about CPU authorization, see “Authorizing products” on page 259.

Product-specific requirements for installation

Some products have installation requirements that apply only to the specific product. See the following sections to determine which requirements affect the products you are installing:

- “Installation requirements for APPLICATION RESTART CONTROL” on page 155
- “Installation requirements for BMC products for DB2” on page 157
- “Installation requirements for BMC database products for IMS” on page 161
- “Installation requirements for BMC system administration products for IMS” on page 165
- “Installation requirements for MainView products” on page 168

Product-specific considerations for installation

Some products have installation considerations that apply only to the specific product. Use the following tables to determine which considerations affect the products you are installing:

- BMC products for IMS
  - Considerations listed by product, Table 11 on page 200
  - Considerations listed alphabetically, Table 12 on page 205
- MainView products
  - Considerations listed by product, Table 13 on page 208
  - Considerations listed alphabetically, Table 14 on page 209

Note

Before starting product installation and customization, review the product-specific installation considerations.
Review Installation System and product notices

Before you begin installation, check the BMC Support Central website for the latest information about the Installation System and the products or solutions you are installing.

On the Support Central website (http://www.bmc.com/support), review the notices (flashes, technical bulletins, and release notes) posted on the product page for the product or solution you are going to install. Notices for the Installation System are also posted on each product page.

To reach a product page, select a product or solution from the Supported Product A-Z List on Support Central.
Review installation requirements
Starting an installation

The following figure depicts the flow for starting an installation.

**Figure 4: Flow for starting an installation**

Before you begin an installation

Review the following information before installing any products:

- Ensure you are running the most current version of the Installation System.
  To determine the most current version number, see the most recent Installation System release notes on any product page from the A-Z Supported Product List on Support Central. To determine the version number of your current Installation System, see the title line on the Installation System Main Menu.

- Check for and apply maintenance to the Installation System. For more information, see “Updating the Installation System” on page 46.

- 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 library separation will avoid potential conflicts.
  For example, if you install MainView AutoOPERATOR in the same libraries as IBM products, name conflicts can occur with elements WTO and SUB.

- If you install a MainView product into a library that contains the MainView AutoOPERATOR or BMC Impact Integration for z/OS product, the installation automatically upgrades the MainView AutoOPERATOR and BMC Impact Integration for z/OS FMID BBOIMxx and ZMAOxxM. Therefore, you must always upgrade MainView AutoOPERATOR and BMC Impact Integration for z/
Starting the Installation System

Use the following procedure to start the Installation System:

1. On the ISPF TSO Commands panel, execute the following command:

   ```ex 'HLQ.INSTALL(BMCINSTL)'```

   The variable *HLQ* is the high-level qualifier that was assigned during the set up for the Installation System execution environment.

After starting, the Installation System:

- Connects to the Installation System repository
  - If the repository is not found, you are prompted to activate it as explained in “Preparing the Installation System repository” on page 49.

- Prompts you to read and accept the BMC Software End User License Agreement. Select *(s)* Read the End User License Agreement, read the agreement, and accept or decline the agreement. You are prompted only the first time you start the Installation System.

- Displays the Installation System Main Menu:

```plaintext
BMIPMENU  BMC Software Installation System V3.1.00 - Main Menu
Command ===> __________________________

Select one of the following actions:
   1. Resume Active Project
   2. Manage Projects
   3. Apply SMP/E Maintenance
   4. Maintain Product Passwords
   5. Set Site Wide Default Values
   6. Information on new features in this release
```

Active Project: USER1 - Sandbox
JCL Library: USER1.INSTALL.JCLLIB

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Defining or modifying site-wide default values

The Installation System provides user-defined defaults (known as site-wide defaults) that are used as a starting point for a project. When you create a new project, the Installation System copies your site-wide default values to the project. However, you can override the defaults within each project.

Use the following procedure the first time you use the Installation System. After setting the site-wide defaults, use this procedure only if you need to modify the site-wide defaults.

For more information, view the Quick Course "BMC Installation System - Site Wide Defaults."

---

**Note**

Changes to the site-wide defaults affect all new projects *for all users* of the Installation System. Changes to the following fields also affect *existing projects for all users* if the JCL is regenerated:

- **Directory, BMC User, BMC Password**, and **SYSOUT Class** in the BMC FTP Site & Download Options section
- **Temporary Files HLQ** in the Data Set HLQs section
- **Create FMIDSETs** in the SMP/E Options section

---

**To define or modify site-wide values**

1. Start the Installation System as described in “Starting the Installation System” on page 62.
2. On the Installation System Main Menu, select **Set Site Wide Default Values**.
3. Complete the fields on the Site Wide Default Values panel.

---

**BMPDEFS**

**Command ===> ___________________________**  
**Site Wide Default Values**  
**Scroll ===> CSR**

These values are used as defaults when creating a new project. Most values can be overridden at the project level and are saved with the project. Note that the current value of fields in sections marked with an asterisk (*) are always used when generating installation and configuration jobs.

---

**BMC FTP Site & Download Options**
Consider the following information when completing the panel:
The Site Wide Default Values panel is a multi-page panel as indicated by the **More** field (on the right side of the panel, near the top). To scroll through the pages, use **F8** (down) and **F7** (up).

- You can leave a field blank if you do not want to set a site-wide value for that item.

4 When finished, press **F3** to save your entries.

---

# Creating and selecting a project

Use the following procedures to create and select a project.

Projects are automatically saved at the following points:

- When you make a change to the project and exit the project.
- Before generating the installation JCL.
- Before generating the configuration JCL.
- After selecting a configuration option on the Configure Products or Components panel but not making any changes to the project and exiting the project.

For more information, see:

- “Managing projects” on page 68.
- The Quick Course "BMC Installation System - Installation Projects."

## To create a project

1 On the Installation System Main Menu, select **Manage Projects**.

2 On the **Command** line of the Manage Projects panel, enter **NEW**.

<table>
<thead>
<tr>
<th>Cmd Name</th>
<th>Description / JCL Library</th>
<th>Updated On</th>
<th>Updated By</th>
</tr>
</thead>
<tbody>
<tr>
<td>MYTEST1</td>
<td>* testing</td>
<td>2016/01/23</td>
<td>USER1</td>
</tr>
<tr>
<td></td>
<td>TEST1.INSTALL.JCLLIB</td>
<td>21:12:51</td>
<td></td>
</tr>
<tr>
<td>MYTEST2</td>
<td>IMS products test</td>
<td>2015/01/23</td>
<td>USER1</td>
</tr>
<tr>
<td></td>
<td>TEST2.INSTALL.JCLLIBI</td>
<td>10:22:41</td>
<td></td>
</tr>
<tr>
<td>TESTSYS2</td>
<td>Test Case 11</td>
<td>2015/01/23</td>
<td>USER2</td>
</tr>
<tr>
<td></td>
<td>TEST12.JCL</td>
<td>19:16:42</td>
<td></td>
</tr>
<tr>
<td>DB2ONLY</td>
<td>new DAD install</td>
<td>2015/01/23</td>
<td>USER2</td>
</tr>
<tr>
<td></td>
<td>DB2.INSTALL.JCL</td>
<td>12:12:24</td>
<td></td>
</tr>
</tbody>
</table>
On the Execute Project panel, specify a project name, a project description, and a JCL data set name (the library in which to store generated JCL) for the new project.

**Execute Project**

<table>
<thead>
<tr>
<th>Command ====&gt;</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Project Name</strong></td>
<td>+CHG ME*</td>
</tr>
<tr>
<td><strong>Description</strong></td>
<td></td>
</tr>
<tr>
<td><strong>JCL Data Set</strong></td>
<td></td>
</tr>
</tbody>
</table>

Select one of the following installation actions:
1. Select Products, Solutions, or Infrastructure
2. Set SMP/E Data Set High Level Qualifiers
3. Set SMP/E Data Set Allocation Values
4. Set Installation Job Values and FTP Options
5. Generate and Execute Installation Batch Jobs

Select one of the following configuration actions:
1. Set Runtime Data Set High Level Qualifiers
2. Set Runtime Data Set Allocation Values
3. Set Selected Product or Component Values
4. Set Configuration Job Values
5. Generate and Execute Configuration Batch Jobs
6. Multiple SSID install for DB2 Products only (optional)

Press Enter.

The Installation System creates the project. Available options are highlighted. You can select any available option to continue the project.

To create a project by copying an existing project

1. On the Installation System Main Menu, select **Manage Projects**.

2. In the Cmd field of the Manage Projects panel, enter the C (copy) line command next to the project that you want to copy.

3. Complete the Copy Project panel.

**Copy Project**

<table>
<thead>
<tr>
<th>Command ====&gt;</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Project Name</strong></td>
<td>USER1</td>
</tr>
<tr>
<td><strong>Description</strong></td>
<td>Sandbox</td>
</tr>
<tr>
<td><strong>JCL Data Set</strong></td>
<td>USER1.BMCINST.JCLLIB</td>
</tr>
</tbody>
</table>

Enter "/*" to select an option
- Copy JCL library contents
- Replace existing JCL library (ensure this is not used in another project!)

- Created On . . . : 2014/12/10 - 11:06:12 by USER1
- Updated On . . . : 2016/01/03 - 21:12:51 by USER1

Specify the new project's name, description, and JCL data set name (the library in which to store generated JCL).
Data set names are used exactly as specified. Nothing is prefixed or appended to the name. Do not use single or double quotation marks.

b To copy the content of the JCL library of the copied project in addition to copying the values in the project, select the Copy JCL library contents option.

c If the JCL library you specified for this project already exists and you want to overwrite it with the JCL library of the copied project, select the Replace existing JCL library option.

--- Note ---
Before using this option, ensure that the library is not used by another project.

4 Press Enter.

The Installation System creates the new project, makes it the active project, and displays the Manage Projects panel.

To select a project

1 On the Installation System Main Menu, select Manage Projects.

2 In the Cmd field of the Manage Projects panel, enter the S (select) line command next to the project that you want to use.

The selected project becomes the active project and the Execute Project panel is displayed.

<table>
<thead>
<tr>
<th>BMIPPRJE</th>
<th>Execute Project</th>
</tr>
</thead>
<tbody>
<tr>
<td>Command</td>
<td>USER1.BMCINST.JCLLIB</td>
</tr>
<tr>
<td>Project Name</td>
<td>USER1</td>
</tr>
<tr>
<td>Description</td>
<td>Sandbox</td>
</tr>
</tbody>
</table>

Select one of the following installation actions:
1. Select Products, Solutions, or Infrastructure
2. Set SMP/E Data Set High Level Qualifiers
3. Set SMP/E Data Set Allocation Values
4. Set Installation Job Values and FTP Options
5. Generate and Execute Installation Batch Jobs

Select one of the following configuration actions:
1. Set Runtime Data Set High Level Qualifiers
2. Set Runtime Data Set Allocation Values
3. Set Selected Product or Component Values
4. Set Configuration Job Values
5. Generate and Execute Configuration Batch Jobs
6. Multiple SSID install for DB2 Products only (optional)

Available options are highlighted. You can select any available option to continue the project.

To resume an active project
1 On the Installation System Main Menu, confirm that the Active Project field cites the project that you want.

2 Select Resume Active Project.

The Execute Project panel is displayed. Available options are highlighted. You can select any available option to continue the project.

Managing projects

In addition to starting and selecting projects on the Manage Projects panel, you can use commands to manage projects.

**Figure 5: Manage Projects panel**

<table>
<thead>
<tr>
<th>Cmd Name</th>
<th>Description / JCL Library</th>
<th>Updated On</th>
<th>Updated By</th>
</tr>
</thead>
<tbody>
<tr>
<td>_ MYTEST1</td>
<td>* testing TEST1.INSTALL.JCLLIB</td>
<td>2016/01/23 USER1</td>
<td></td>
</tr>
<tr>
<td>_ MYTEST2</td>
<td>IMS products test TEST2.INSTALL.JCLLIBI</td>
<td>2015/01/23 USER1</td>
<td></td>
</tr>
<tr>
<td>_ TESTSYS2</td>
<td>Test Case 11 TEST12.JCL</td>
<td>2015/01/23 USER2</td>
<td></td>
</tr>
<tr>
<td>_ DB2_ONLY</td>
<td>new DAD install DB2.INSTALL.JCL</td>
<td>2015/01/23 USER2</td>
<td></td>
</tr>
<tr>
<td>_ IMS_ONLY</td>
<td>mix 1 of ims products IMS.INSTALL.JCL</td>
<td>2015/01/23 USER1</td>
<td></td>
</tr>
<tr>
<td>_ MV_ONLY</td>
<td>MainView product mix BMC.MV.INSTALL.JCL</td>
<td>2016/01/23 USER24</td>
<td></td>
</tr>
</tbody>
</table>

Use the following commands to manage projects:

<table>
<thead>
<tr>
<th>Command</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>NEW</td>
<td>This primary command creates a project as described in “Creating and selecting a project” on page 65.</td>
</tr>
<tr>
<td>Command</td>
<td>Description</td>
</tr>
<tr>
<td>---------</td>
<td>-------------</td>
</tr>
</tbody>
</table>
| FILTER | This primary command limits the list of projects displayed. The syntax of the command is:  
\[
\text{FILTER} \ [\text{OFF}|\text{NAME}|\text{UPDate}|\text{ID}],\text{value}
\]  
You can abbreviate the command to FILT. Use one of the following parameters with the command:  
- (default) OFF resets any existing filters. If you enter a value, it is ignored.  
- NAME,value limits the listed projects to those whose name matches the specified value. You can use the * wildcard character at the end of the value to match any characters.  
- UPDate,value limits the listed projects to those updated on or after the specified date. Specify a date in a yyyy/mm/dd format. You can use the * wildcard character at the end of the value to match any characters.  
- ID,value limits the listed projects to those updated by the specified user ID. You can use the * wildcard character at the end of the value to match any characters. |
| Locate | This primary command finds a project by name. The syntax of the command is:  
\[
\text{Locate} \ \text{name}[\ast]
\]  
You can abbreviate the command to L. You can use the * wildcard character at the end of the name to match any characters. |
| SORT   | This primary command sorts the list by the values in a column. The syntax of the command is:  
\[
\text{SORT} \ [\text{NAME}|\text{DESC}|\text{JCL}|\text{UPDate}|\text{ID}]
\]  
- NAME sorts the list by the project name in the Name column.  
- DESC sorts the list by the description in the Description/JCL Library column.  
- JCL sorts the list by the JCL in the Description/JCL Library column.  
- UPD sorts the list by the date in the Updated On column.  
- ID sorts the list by the user ID in the Updated By column.  
Issuing the same SORT command two times in a row reverses the order of the sort, ascending to descending, descending to ascending, and so on.  
You can also position the cursor on a column heading and press Enter to sort the column. |
<p>| Select | This line command selects a project to use as described in “To select a project” on page 67. |</p>
<table>
<thead>
<tr>
<th>Command</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Modify</td>
<td>This line command displays the Modify Project panel on which you can change the project name, description, and JCL library used for the project. When renaming the JCL library, you must enter a / in the <strong>Automatic JCL library rename</strong> to confirm that you want to rename the library. You can also modify the description and JCL library for the active project on the Modify Project panel.</td>
</tr>
<tr>
<td>Info</td>
<td>This line command displays a list of all the products, solutions, families, and components that are included in the selected project.</td>
</tr>
<tr>
<td>Copy</td>
<td>This line command creates a project by copying another project as described in “To create a project by copying an existing project” on page 66.</td>
</tr>
<tr>
<td>Delete</td>
<td>This line command deletes the project from the list of projects and deletes the project from the Installation System repository. A confirmation panel is displayed.</td>
</tr>
<tr>
<td>Edit JCL</td>
<td>This line command displays a member list of the JCL library that is associated with the project. Select a member with the s line command to edit the member.</td>
</tr>
<tr>
<td>View JCL</td>
<td>This line command displays a member list of the JCL library that is associated with the project. Select a member with the s line command to view the member.</td>
</tr>
</tbody>
</table>

For more information, view the Quick Course "BMC Installation System - Installation Projects."
Generating installation jobs

During the installation process, you select the products and solutions that you want to install and provide SMP/E information. The Installation System then uses that information to generate installation jobs. The names of the installation jobs start with $1nn.

The following figure depicts the flow for generating the installation jobs.

Figure 6: Flow for generating installation jobs

Selecting products to install

Use the following procedure to select the products, solutions, families, and components that you want to install:

1. On the Execute Project panel, from the list of installation actions, select **Select Products, Solutions, or Infrastructure** and press Enter.

   BMIPPRJE                        Execute Project
   Command ===> _________________________________________________________________
   Project Name . . . USER1
   Description . . . Sandbox
   JCL Data Set . . . USER1.BMCINST.JCLLIB

   Select one of the following installation actions:
   — 1. **Select Products, Solutions, or Infrastructure**
      2. Set SMP/E Data Set High Level Qualifiers
      3. Set SMP/E Data Set Allocation Values
      4. Set Installation Job Values and FTP Options
      5. Generate and Execute Installation Batch Jobs

   Select one of the following configuration actions:
   — 1. Set Runtime Data Set High Level Qualifiers
      2. Set Runtime Data Set Allocation Values
      3. Set Selected Product or Component Values
      4. Set Configuration Job Values
      5. Generate and Execute Configuration Batch Jobs
      6. Multiple SSID install for DB2 Products only (optional)
2 In the **Cmd** field of the Category Selection panel, enter the S (select) line command next to the type of products that you want to install, and press **Enter**.

```
BMIPCTD                       Category Selection
Command ===> ________________________________
```

Select the categories for the products and solutions to be installed. Press Enter to continue or F12 to go back.

**Line Cmds:** Select

**Cmd** | **Product and Solution Category**
---|---
---|---
_ | BMC Data Management for DB2
_ | BMC Data Management for IMS
_ | BMC Mainframe Cost Optimization
_ | BMC MainView Products
_ | ALL Products

**Tip**

If you are unsure which category to select, select **ALL Products**.

3 In the **Cmd** field of the Product Selection panel, enter the S (select) line command next to each product and solution that you want to install, and press **Enter**.

```
BMIP004           USER1 - All Products
COMMAND ===> _________________________________________________________________
```

Select the products and solutions to be installed. A '+' in the **Sub** column indicates an included subcomponent can be deselected. Press Enter to continue or F12 to backup.

**Line Cmds:** Select, Expand, Info

<table>
<thead>
<tr>
<th><strong>Cmd</strong></th>
<th><strong>Sub</strong></th>
<th><strong>Products and Solutions</strong></th>
<th><strong>Version</strong></th>
<th><strong>PCode</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Administrative Assistant for DB2</td>
<td>11.1.00</td>
<td>AAD</td>
</tr>
<tr>
<td>S</td>
<td></td>
<td>ALTER for DB2</td>
<td>11.1.00</td>
<td>ALU</td>
</tr>
<tr>
<td></td>
<td></td>
<td>APPLICATION RESTART CONTROL DB2/IMS/VSAM</td>
<td>4.0.00</td>
<td>ARX</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Backup and Recovery Solution for IMS</td>
<td>4.6.00</td>
<td>BRI</td>
</tr>
<tr>
<td></td>
<td></td>
<td>BMC Application Accelerator for IMS</td>
<td>1.2.00</td>
<td>T80</td>
</tr>
<tr>
<td></td>
<td></td>
<td>BMC APPTUNE for DB2</td>
<td>11.1.00</td>
<td>ASQ</td>
</tr>
<tr>
<td></td>
<td></td>
<td>BMC Change Mgmt Family for IMS</td>
<td>2.6.00</td>
<td>T85</td>
</tr>
<tr>
<td></td>
<td></td>
<td>BMC Communication Mgmt Family for IMS</td>
<td>2.6.00</td>
<td>T86</td>
</tr>
<tr>
<td></td>
<td></td>
<td>BMC Database Admin Family-DB2 z/OS</td>
<td>11.1.00</td>
<td>T71</td>
</tr>
<tr>
<td></td>
<td></td>
<td>BMC Database Advisor Family for DB2 z/OS</td>
<td>11.1.00</td>
<td>T72</td>
</tr>
<tr>
<td></td>
<td></td>
<td>BMC Database Advisor Family for IMS</td>
<td>2.5.00</td>
<td>T79</td>
</tr>
<tr>
<td></td>
<td></td>
<td>BMC Database Integrity Family for IMS</td>
<td>4.9.00</td>
<td>T82</td>
</tr>
<tr>
<td></td>
<td></td>
<td>BMC Database Manager Family-DB2 z/OS</td>
<td>11.1.00</td>
<td>T70</td>
</tr>
<tr>
<td></td>
<td></td>
<td>BMC Database Perf Family for IMS</td>
<td>4.9.00</td>
<td>T69</td>
</tr>
<tr>
<td></td>
<td></td>
<td>BMC Discovery for z/OS</td>
<td>1.7.00</td>
<td>MDZ</td>
</tr>
<tr>
<td></td>
<td></td>
<td>BMC DB Perf for Fast Path Family for IMS</td>
<td>1.8.00</td>
<td>T80</td>
</tr>
<tr>
<td></td>
<td></td>
<td>BMC High Speed Utilities for DB2</td>
<td>11.1.00</td>
<td>BHU</td>
</tr>
<tr>
<td></td>
<td></td>
<td>BMC Impact Integration for z/OS</td>
<td>1.6.00</td>
<td>BIZ</td>
</tr>
<tr>
<td></td>
<td></td>
<td>BMC Intelligent Capping for zEnterprise</td>
<td>1.1.00</td>
<td>DYC</td>
</tr>
<tr>
<td></td>
<td></td>
<td>BMC Internet Service Retrieval</td>
<td>1.5.00</td>
<td>BMR</td>
</tr>
</tbody>
</table>

**Tip**

To scroll through the list, use **F8** or **Enter** to scroll down, and **F7** to scroll up.

4 When you have finished making selections on the Product Selection panel, scroll to the bottom of the list and press **Enter**.
5 If you are prompted to install additional products or components that are associated with your product selections, indicate your preferences:

- If an additional panel is displayed (such as the example below), enter Y to install the specified product or N to omit it, and press Enter:

  
  | IPTP001 | BMC System Administration for IMS |
  | COMMAND | --- |
  | Y |

  You have chosen to install BMC System Administration for IMS

  Would you also like to install DELTA IMS: Y (Y/N)

  Press Enter to continue or F12 to go back.

- If you are installing a product that requires the Runtime Component System (RTCS), respond as follows when you see the Install System RTCS Deselection pop-up:

  — If you already have RTCS installed and want to continue using it, deselect the component and press Enter.

  — If you do not have RTCS installed or want to reinstall it, enter S or / next to the component and press Enter.

  **Note**

  If deselecting the option, ensure that you have RTCS at the current maintenance level before continuing with the installation. If you are unsure of your current installation, BMC recommends installing RTCS.
6 When the Install System Selected Products and Solutions panel lists your selections, review the list and take one of the following actions:

- To change a product or solution, press F12 to return to the selection panel.
- If the list is correct, press Enter.

**Specifying SMP/E settings**

Use the following procedure to specify information for your SMP/E environment:

1 On the SMP/E Data Sets and Options panel, specify HLQs for an existing SMP/E environment or for a new environment, and press Enter.

If you specify a new environment, the Installation System will allocate the new data sets.

**WARNING**

BMC does not recommend installing into existing target and distribution zones that were created with version 2.3.90 or earlier of the Installation System because of changes to the SMP target data sets.
Change Values...

1. Non SMP/E (runtime) data sets to which the SMP/E Target data sets will be copied (recommended)
2. The SMP/E Target data sets themselves

Tip
The online Help includes examples of how to use the fields and options to create the following SMP/E environments supported by BMC:

- **(default configuration)** New global, target, and DLIB zones; new global, target, and DLIB CSI data sets
- New global, target, and DLIB zones; new global CSI data set
- Existing global zone; new target and DLIB zones; new target and DLIB CSI data sets
- Existing global zone; new target and DLIB zones; existing global CSI data set; new target and DLIB CSI data sets
- Existing global, target, and DLIB zones; existing global, target, and DLIB CSI data sets
- Existing global, target, and DLIB zones; existing global CSI data set

For information about target libraries, see “Library names” on page 367.

2 On the SMP/E Data Set Allocation Values panel, specify allocation information for the SMP/E data sets and press **Enter**.

You can specify SMS information or VOLSER information for the data sets. If you specify both, the SMS information is used.

**Note**
If either of the following statements is true, you do not have to specify allocation information:

- You are using existing data sets.
- You are using SMS ACS routines (as indicated in the site-wide defaults).

You can use the **Increase Allocation by** fields to increase the default size that the Installation System uses to allocate the libraries. If you are using existing libraries, specifying a percentage increase has no effect.
Specifying JCL values for generated installation jobs

Use the following procedure to specify JCL information and FTP options for the Installation System to use when generating the installation jobs.

1. On the Installation Job Values & FTP Options panel, in the **Job Card Template** fields, specify a valid job card statement.

   The Installation System uses this information to create the job card in the generated JCL.

   ```
   BMIPIN40               USER1 - Installation Job Values & FTP Options
   Command ===> ________________________________________________ Scroll ===>
   CSR
   
   Enter the Generated Job options for the installation jobs.
   
   **Job Card Template**
   ```
   //<JOBID>  JOB (9999),INSTALL-&SYSUID,
   //             CLASS=A,MSGCLASS=X,
   //             NOTIFY=&SYSUID
   //*
   ```
   
   **Job Name Options**
   Match generated member names . . . . Y (Y=Yes, N=No) (Both options cannot
   Suffixed with member name number . . . N (Y=Yes, N=No) contain 'Y')
   
   **FTP Options**
   Directory . . . GA (GA or BETA)
   ```
   
   2. In the **Job Name Options** fields, specify how you want the generated job cards to be named.

   The **Match generated member names** and **Suffixed with member name number** fields are mutually exclusive. Specify:

   - **Y** for **Match generated member names** to have the job card name match the generated member name.

   For example, if the member is $103DWNL, the job card name becomes
   ```
   //$/103DWNL.
   ```

   ```
■ Y for Suffix with member name number to have the job card name suffixed with the numeric ID of the member.

For example, if the member is $103DWNL and the job card is //BMCIVPJB, the ID is 103 and the job card name becomes //BMCIV103.

■ Specifying N for both fields to use what you have in Job Card Template.

3 In the FTP Options field, specify GA unless you are Beta testing a product.

4 If the firewall credential fields are displayed, specify a user ID and password for your firewall.

The firewall credential fields are displayed if the symbolics &FRWLUSER and &FRWLPSWD are specified in the site-wide default values for the firewall login credentials. The fields ask for a user ID and password. For security purposes, the credentials are not stored with the project.

5 Press Enter.

Generating the installation JCL

Use the following procedure to generate the JCL that you will run to install the products.

1 On the Installation JCL Generation Options panel, select Generate JCL and press Enter.

2 When the Installation JCL Execution Review panel is displayed, review the information and press Enter.
Several jobs were generated into the following library:
    USER1.INSTALL.JCLLIB

Review and submit those jobs whose names start with $1 in the sequence implied
by the 3rd and 4th characters of the jobname. Execute the jobs one at a time.
Do not skip any of the jobs because they are generally dependent on the jobs
earlier in the sequence. The jobs should complete without abends or return
codes greater than 4 unless documented otherwise in the job's documentation.

The exceptions are the #D9 jobs. If generated, these jobs should
only be submitted when you want to remove the installed product(s)
libraries from your environment.

If any installation steps remain, a $100DOC member is created
containing documentation which describes these remaining steps.

Press Enter to display an Edit member list of the $1 generated jobs.

3 Review the generated list of jobs.

<table>
<thead>
<tr>
<th>Name</th>
<th>Prompt</th>
<th>Size</th>
<th>Created</th>
<th>Changed</th>
<th>ID</th>
</tr>
</thead>
<tbody>
<tr>
<td>$100DOC</td>
<td></td>
<td>236</td>
<td>2014/12/08</td>
<td>14:32:09</td>
<td>USER1</td>
</tr>
<tr>
<td>$103DNL</td>
<td></td>
<td>442</td>
<td>2014/12/08</td>
<td>15:05:05</td>
<td>USER1</td>
</tr>
<tr>
<td>$104DCMP</td>
<td></td>
<td>559</td>
<td>2014/12/08</td>
<td>15:05:06</td>
<td>USER1</td>
</tr>
<tr>
<td>$105SSME</td>
<td></td>
<td>6446</td>
<td>2014/12/08</td>
<td>15:05:06</td>
<td>USER1</td>
</tr>
<tr>
<td>$106SSME</td>
<td></td>
<td>3113</td>
<td>2014/12/08</td>
<td>15:05:06</td>
<td>USER1</td>
</tr>
<tr>
<td>$130RECP</td>
<td></td>
<td>1899</td>
<td>2014/12/08</td>
<td>15:05:06</td>
<td>USER1</td>
</tr>
<tr>
<td>$145RECS</td>
<td></td>
<td>108</td>
<td>2014/12/08</td>
<td>15:05:06</td>
<td>USER1</td>
</tr>
<tr>
<td>$150HOLD</td>
<td></td>
<td>51</td>
<td>2014/12/08</td>
<td>15:05:06</td>
<td>USER1</td>
</tr>
<tr>
<td>$155LST</td>
<td></td>
<td>47</td>
<td>2014/12/08</td>
<td>15:05:07</td>
<td>USER1</td>
</tr>
<tr>
<td>$160OCL</td>
<td></td>
<td>36</td>
<td>2014/12/08</td>
<td>15:05:07</td>
<td>USER1</td>
</tr>
<tr>
<td>$165MNTD</td>
<td></td>
<td>27</td>
<td>2014/12/08</td>
<td>15:05:07</td>
<td>USER1</td>
</tr>
<tr>
<td>$168MHFS</td>
<td></td>
<td>76</td>
<td>2014/12/08</td>
<td>15:05:07</td>
<td>USER1</td>
</tr>
<tr>
<td>$175APCF</td>
<td></td>
<td>282</td>
<td>2014/12/08</td>
<td>15:05:08</td>
<td>USER1</td>
</tr>
<tr>
<td>$176APLF</td>
<td></td>
<td>278</td>
<td>2014/12/08</td>
<td>15:05:08</td>
<td>USER1</td>
</tr>
<tr>
<td>$177ACCF</td>
<td></td>
<td>219</td>
<td>2014/12/08</td>
<td>15:05:08</td>
<td>USER1</td>
</tr>
<tr>
<td>$178ACPF</td>
<td></td>
<td>218</td>
<td>2014/12/08</td>
<td>15:05:09</td>
<td>USER1</td>
</tr>
<tr>
<td>$180APCP</td>
<td></td>
<td>245</td>
<td>2014/12/08</td>
<td>15:05:09</td>
<td>USER1</td>
</tr>
<tr>
<td>$181APLP</td>
<td></td>
<td>242</td>
<td>2014/12/08</td>
<td>15:05:09</td>
<td>USER1</td>
</tr>
<tr>
<td>$182ACCP</td>
<td></td>
<td>211</td>
<td>2014/12/08</td>
<td>15:05:09</td>
<td>USER1</td>
</tr>
<tr>
<td>$183ACPP</td>
<td></td>
<td>210</td>
<td>2014/12/08</td>
<td>15:05:09</td>
<td>USER1</td>
</tr>
</tbody>
</table>

This list shows a subset of the generated jobs. The full list of generated jobs is in
your JCL library, and includes additional jobs that you might want to use to
perform optional tasks. Not all projects generate the same set of jobs. The jobs
generated depend on the products and solutions you are installing and
configuring.

You can run the jobs now or later (see “Running the generated jobs” on page
89).

4 Press F3 to exit the list and return to the Execute Project panel.
Generating configuration jobs

During the configuration process, the Installation System creates a runtime environment from which you run your products. Runtime data sets contain information copied from one or more of the SMP/E target libraries.

The Installation System uses your specifications to generate configuration jobs for the products that you are installing. The names of the configuration jobs begin with $2nn through $9nn.

The following figure depicts the configuration process.

Figure 7: Flow for generating configuration jobs

BMC products for IMS that do not require configuration

The Installation System displays panels that are applicable to the product being installed. The following BMC products for IMS do not have configuration tasks associated with them:

- APPLICATION RESTART CONTROL for DB2, APPLICATION RESTART CONTROL for IMS, and APPLICATION RESTART CONTROL for VSAM
  (Instead, use the AR/CTL Install System (AESIS) as described in the APPLICATION RESTART CONTROL Customization Guide.)
- BMC Log Analyzer for IMS
- BMC Partitioned Database Facility for IMS
  (Instead, see the installation information in the BMC Partitioned Database Facility for IMS release notes.)
- DELTA IMS for DBCTL
■ DELTA IMS VIRTUAL TERMINAL
■ DELTA IMS DB/DC
■ DELTA PLUS
■ DELTA PLUS VIRTUAL TERMINAL
■ EXTENDED TERMINAL ASSIST PLUS
■ LOCAL COPY PLUS
■ Message Advisor for IMS

Note

These products do have required customization tasks. Customization refers to tasks that you perform outside of the Installation System to complete product implementation. For information about those tasks, see the System Administration Products for IMS Customization Guide.

Specifying runtime data set information

Use the following procedure to specify information for the runtime data sets.

For more information, view the Quick Course "BMC Installation System - Runtime Library Options."

To specify runtime data set information

1 On the Execute Project panel, from the list of configuration actions, select Set Runtime Data Set High Level Qualifiers and press Enter.

To specify runtime data set information

2 On the Runtime & Other Data Sets panel, specify the requested information, and press Enter.
Enter the Data Set HLQs for runtime data sets. Press enter after typing a value in the Quick Fill to set the other HLQs. Enter a '/' in the Quick Clear field to clear the HLQs.

Quick Clear. . . . . . . . . . . . _
Quick Fill. . . . . . . . . . . . ______________________________

Runtime Data Set HLQ (SMP/E content)
Product HLQ. . . . . . . . . . . ______________________________

Other Data Set HLQs (non-SMP/E content)
Product non-VSAM . . . . . . ______________________________
Product VSAM . . . . . . . . ______________________________

Low Level Qualifiers
Change Values. . . . . . . . 1. Use BMC* LLQs (recommended)
2. Use BB/DB/IM/XX LLQs
3. Customize the LLQs

Optional APF Load Library
Existing Load Library . . .

a In the Runtime Data Set HLQ and Other Data Set HLQs sections, specify HLQs.

b In the Change Values field in the Low Level Qualifiers section, select one of the following options for the low-level qualifiers (LLQs) for the product data sets:

- Enter 1 to use BMC*.
  *(recommended) All LLQs begin with BMC, followed by the type of library (such as LINK, SAMP, or PLIB). Examples are BMCLINK, BMCSAMP, and BMCPLIB. All products use the same set of libraries.

- Enter 2 to use LLQs that start with product-line designators.
  LLQs begin with one of the following designators, followed by the library type:

  - BB for MainView and some performance products
  - DB for BMC products for IBM DB2
  - IM for BMC products for IBM IMS
  - XX for Infrastructure components

  For example, if you are installing a BMC product for IMS, the names would be IMLIB, IMSAMP, and IMPLIB. All products in the same product line use the same set of libraries.

  If you already have MainView products installed, use this option to continue using the naming conventions of your existing libraries.

- Enter 3 to specify your own LLQs as described in Step 3 on page 82.
**Best practice**

Use this option under the following conditions:

- You need total control over the naming of the runtime data sets.
- You are installing a BMC Next Gen Technology - *DB2 Utilities* product.

---

**Note**

For the APPLICATION RESTART CONTROL products, regardless of which option you select, the LLQs are predetermined and cannot be changed.

For information about target libraries, see “Library names” on page 367.

---

**c** *(optional)* In the **Existing Load Library** field, in the **Optional APF Load Library** section, specify an existing APF load library to use to consolidate all of the load libraries into one.

This library becomes the runtime data set for the load modules only.

---

**Note**

All SMP/E target and user load modules will be copied here. Existing members in this library can be overwritten.

---

**3** *(if you selected option 3 for the LLQs)* On the Product Runtime Data Set Low Level Qualifiers panel, view the data sets that will be created, customize the LLQs according to your preferences, and press **Enter**.

```
BMIPRTGR  Product Runtime Data Set Low Level Qualifiers
Command ===> __________________________________________________________________
```

Verify runtime data set Low Level Qualifiers. Press Enter to continue.

<table>
<thead>
<tr>
<th>Data Set Type</th>
<th>Target Suffix</th>
<th>Default Suffix</th>
<th>New Suffix</th>
</tr>
</thead>
<tbody>
<tr>
<td>CATALOG MGR DBRM LIB</td>
<td>ACTDBRM</td>
<td>BMCDBRM</td>
<td>BMCDDBRM</td>
</tr>
<tr>
<td>EXECUTION DBRM LIB</td>
<td>AEXDBRM</td>
<td>BMCDDBRM</td>
<td>BMCDDBRM</td>
</tr>
<tr>
<td>HIGH SPEED APPLY LINK L</td>
<td>APTLINK</td>
<td>BMCLINK</td>
<td>BMCLINK</td>
</tr>
<tr>
<td>DBC LINK LIB</td>
<td>DBCLINK</td>
<td>BMCLINK</td>
<td>BMCLINK</td>
</tr>
<tr>
<td>XBM LINK LIB</td>
<td>XBMCLINK</td>
<td>BMCLINK</td>
<td>infLINK</td>
</tr>
<tr>
<td>POOL ADVISOR LINK LIBRA</td>
<td>PMLINK</td>
<td>BMCLINK</td>
<td>prfLINK</td>
</tr>
<tr>
<td>DB2 CMN UTILITY LINK L</td>
<td>D2ULINK</td>
<td>BMCLINK</td>
<td>BMCLINK</td>
</tr>
<tr>
<td>APPTUNE LINK LIB</td>
<td>IODLINK</td>
<td>BMCLINK</td>
<td>prfLINK</td>
</tr>
<tr>
<td>WORKBENCH LINK LIB TARG</td>
<td>GDULINK</td>
<td>BMCLINK</td>
<td>BMCLINK</td>
</tr>
<tr>
<td>LGC TARGET LINK LIB</td>
<td>LGCLINK</td>
<td>BMCLINK</td>
<td>infLINK</td>
</tr>
<tr>
<td>SAS 'C' RELATED</td>
<td>DIGB4LB</td>
<td>BMCLINK</td>
<td>BMCLINK</td>
</tr>
<tr>
<td>MRE TARGET LINK LIBS</td>
<td>MRELINK</td>
<td>BMCLINK</td>
<td>BMCLINK</td>
</tr>
<tr>
<td>SAS 'C' RELATED</td>
<td>DIGBLB</td>
<td>BMCLINK</td>
<td>BMCLINK</td>
</tr>
<tr>
<td>COPY PLUS LINK LIB</td>
<td>ACPLINK</td>
<td>BMCLINK</td>
<td>utlLINK</td>
</tr>
<tr>
<td>UNLOAD PLUS LINK LIB</td>
<td>ADULINK</td>
<td>BMCLINK</td>
<td>utlLINK</td>
</tr>
</tbody>
</table>

---

**Note**

You can specify up to four different LLQs per data type.

Use the F8 or Enter key to scroll down the list, and the F7 key to scroll up the list.
4 On the Runtime Data Set Allocation Values panel, specify the allocation information for the runtime data sets and press Enter.

BMIPCF20    USER1 - Runtime Data Set Allocation Values
Command ===>

Enter the Allocation Values for the runtime data sets. SMS values will be used if specified. Press enter after entering a value in the Quick Fill to set the other Allocation Values. Enter a ‘/’ in the Quick Clear fields to clear the values in that column.

Quick Clear . . . . . . . . . . _         _         _         _         _
Quick Fill  . . . . . . . . . . ________  ________  ________  ________  ______

<table>
<thead>
<tr>
<th>Data Set Type</th>
<th>STORCLAS</th>
<th>MGMTCLAS</th>
<th>DATACLAS</th>
<th>UNIT</th>
<th>VOLSER</th>
</tr>
</thead>
<tbody>
<tr>
<td>Product Runtime Data Sets</td>
<td>________</td>
<td>________</td>
<td>________</td>
<td>___</td>
<td></td>
</tr>
<tr>
<td>Product non-VSAM Data Sets</td>
<td>________</td>
<td>________</td>
<td>________</td>
<td>___</td>
<td></td>
</tr>
<tr>
<td>Product VSAM Data Sets</td>
<td>________</td>
<td>________</td>
<td>________</td>
<td>___</td>
<td></td>
</tr>
<tr>
<td>Product PDSE Data Sets</td>
<td>________</td>
<td>________</td>
<td>________</td>
<td>___</td>
<td></td>
</tr>
</tbody>
</table>

You can specify SMS information or VOLSER information for the data sets. If you specify both, the Installation System uses the SMS information.

**Specifying product configuration information**

Complete the following steps to specify configuration information for the products you are installing:

1 On the Configure Products or Components panel, specify product configuration information for the options labeled *(incomplete)* on the right side of the panel:

BMIPCF30    USER1 - Configure Products or Components
Command ===>

Action availability is based on previously selected (or included) Products or Components.

Select one of the following actions:

1. Configure BMC Infrastructure *(incomplete)*
2. Configure DB2 products (not required)
3. Configure IMS products (not required)
4. Configure MainView products *(incomplete)*
5. Configure Mainframe Cost Optimization products (not required)
6. Configure products common to multiple product lines (not required)
7. Apply Product Passwords *(optional)*
8. Proceed to JCL Generation

**Note**

Only the options needed for the products you are configuring are available for selection.

Not all products require configuration. If the products you are installing do not require configuration, a message is displayed.

The APPLICATION RESTART CONTROL products do not use the Installation System for configuration. Instead, use the AR/CTL Install System (AESIS) as described in the APPLICATION RESTART CONTROL Customization Guide.

a Select an option that is labeled *(incomplete)* and press Enter.
b Complete the corresponding panels that are displayed, until you return to the Configure Products or Components panel.

c Continue selecting incomplete options until all required options are labeled \textit{(complete)}.

For additional information, see:

- “Configuring UIM server options” on page 297
- “Configuring BMC products for DB2” on page 299
- “Configuring BMC products for IMS” on page 325
- “Configuring a MainView product” on page 351
- The \textit{BMC Infrastructure Components Administration Guide}
- The following Quick Courses:
  - "BMC Installation System - Infrastructure Configuration"
  - "BMC Installation System - DB2 Configuration"
  - "BMC Installation System - IMS Configuration"
  - "BMC Installation System - MainView Configuration"

2 (optional) Select \textbf{Apply Product Passwords}, press \textbf{Enter}, and provide the requested password information.

If you are reinstalling a product for which you have already provided a password, you do not need to provide the password again.

\textbf{Best practice}
BMC recommends providing passwords during configuration if you are installing a product for the first time. You can, however, provide passwords at any time by selecting \textbf{Maintain Product Passwords} on the Installation System Main Menu.

For more information, see “Applying passwords during configuration” on page 271.
Specifying JCL values for generated configuration jobs

Complete the following steps to specify JCL information that the Installation System will use when generating the configuration jobs.

1 On the Configure Products or Components panel, select Proceed to JCL Generation and press Enter.

<table>
<thead>
<tr>
<th>BMIPCF30</th>
<th>USER1 - Configure Products or Components</th>
</tr>
</thead>
<tbody>
<tr>
<td>Command</td>
<td>===&gt;</td>
</tr>
</tbody>
</table>

Action availability is based on previously selected (or included) Products or Components.

Select one of the following actions:

1. Configure BMC Infrastructure (complete)
2. Configure DB2 products (not required)
3. Configure IMS products (not required)
4. Configure MainView products (complete)
5. Configure Mainframe Cost Optimization products (not required)
6. Configure products common to multiple product lines (not required)
7. Apply Product Passwords (optional)
8. Proceed to JCL Generation

2 On the Generated Job Values panel, in the Job Card Template fields, specify a valid job card statement.

The Installation System uses this information to create the job card in the generated JCL.

<table>
<thead>
<tr>
<th>BMIPCF40</th>
<th>USER1 - Generated Job Values</th>
</tr>
</thead>
<tbody>
<tr>
<td>Command</td>
<td>===&gt;</td>
</tr>
</tbody>
</table>

Enter the Generated Job Values for the configuration jobs.

Job Card Template

```
//<JOBID> JOB (9999),INSTALL-&SYSUID,
//             CLASS=A,MSGCLASS=X,
//             NOTIFY=&SYSUID
//*
```

Job Name Options
- **Match generated member names** . . . . . Y (Y=Yes, N=No) (Both options cannot Suffixed with member name number . . . : . N (Y=Yes, N=No) contain 'Y')

3 In the Job Name Options fields, specify how you want the generated job cards named.

The Match generated member names and Suffixed with member name number fields are mutually exclusive. Specify:

- **Y** for Match generated member names to have the job card name match the generated member name.
  
  For example, if the member is $205ALOC, the job card name becomes

  ```
  //$205ALOC
  ```

  For example, if the member is $205ALOC, the job card name becomes

  ```
  //$205ALOC
  ```
Generating the configuration JCL

Use the following procedure to generate the JCL that you will run to configure the products. The installation jobs do not have to be run before generating the configuration JCL.

1. On the Configuration JCL Generation Options panel, select **Generate JCL** and press **Enter**.

   BMIP080             Configuration JCL Generation Options
   Command ===> _________________________________________________________________________

   Select an option. Press Enter to continue or F12 to go back.
   S Generate JCL into USER1.INSTALL.JCLLIB
   _ Skip generation process and display next panel

<table>
<thead>
<tr>
<th>Member</th>
<th>Status</th>
<th>Function</th>
</tr>
</thead>
<tbody>
<tr>
<td>$200ALOC</td>
<td>Dataset Allocation Description</td>
<td></td>
</tr>
<tr>
<td>$205RTEC</td>
<td>Create Runtime Libraries</td>
<td></td>
</tr>
<tr>
<td>$206RTEC</td>
<td>Update Runtime Libraries</td>
<td></td>
</tr>
<tr>
<td>$225ALOC</td>
<td>Allocate Additional Datasets</td>
<td></td>
</tr>
<tr>
<td>$300SPLX</td>
<td>SYSPLEX Allocation Description</td>
<td></td>
</tr>
<tr>
<td>$310VZMC</td>
<td>Process RTCS VSAM Data Sets</td>
<td></td>
</tr>
<tr>
<td>$325ESEC</td>
<td>Grant External Security Access</td>
<td></td>
</tr>
<tr>
<td>$400LPAR</td>
<td>LPAR Activity Documentation</td>
<td></td>
</tr>
<tr>
<td>$450STRT</td>
<td>Build Start-up Task</td>
<td></td>
</tr>
<tr>
<td>$500COMN</td>
<td>Common Configuration Documenta</td>
<td></td>
</tr>
</tbody>
</table>

2. When the Configuration JCL Execution Review panel is displayed, review the information and press **Enter**.

   BMIP091             Configuration JCL Execution Review
   Command ===> _________________________________________________________________________

   Several jobs were generated into the following library:
   USER1.INSTALL.JCLLIB

   Review and submit jobs whose names start with $2 through $9 in the sequence implied by the 2nd, 3rd and 4th characters of the member name. Base on your particular install, you may not have jobs with all of the numbers from $2 through $9. Do not skip any of the jobs because they are generally dependent on jobs earlier in the sequence. The jobs should complete without abends or return codes greater than 4 unless otherwise documented in the job.

   The exceptions are the #D9 jobs. They are also located in your JCL library. If generated, these jobs should only be submitted when
you want to remove the installed product(s) libraries and structures from your environment.

If any configuration steps remain, a $CJCKLST member is created containing documentation which describes these remaining steps.

Press Enter to display an Edit member list of the $# generated jobs.

3 Review the generated list of jobs.

<table>
<thead>
<tr>
<th>Name</th>
<th>Prompt</th>
<th>Size</th>
<th>Created</th>
<th>Changed</th>
<th>ID</th>
</tr>
</thead>
<tbody>
<tr>
<td>. $$$READ</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>. $$INCDBZ</td>
<td></td>
<td>11</td>
<td>2014/12/17</td>
<td>2014/12/17</td>
<td>USER1</td>
</tr>
<tr>
<td>. $$INCGEN</td>
<td></td>
<td>34</td>
<td>2014/12/17</td>
<td>2014/12/17</td>
<td>USER1</td>
</tr>
<tr>
<td>. $$INCIMS</td>
<td></td>
<td>6</td>
<td>2014/12/17</td>
<td>2014/12/17</td>
<td>USER1</td>
</tr>
<tr>
<td>. $$INCMV</td>
<td></td>
<td>8</td>
<td>2014/12/17</td>
<td>2014/12/17</td>
<td>USER1</td>
</tr>
<tr>
<td>. $$INCUSR</td>
<td></td>
<td>3</td>
<td>2014/12/17</td>
<td>2014/12/17</td>
<td>USER1</td>
</tr>
<tr>
<td>. $$JCLCPY</td>
<td></td>
<td>36</td>
<td>2014/12/17</td>
<td>2014/12/17</td>
<td>USER1</td>
</tr>
<tr>
<td>. $$JCLLIB</td>
<td></td>
<td>6</td>
<td>2014/12/17</td>
<td>2014/12/17</td>
<td>USER1</td>
</tr>
<tr>
<td>. $CJCKLST</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>. $200ALOC</td>
<td></td>
<td>19</td>
<td>2014/12/17</td>
<td>2014/12/17</td>
<td>USER1</td>
</tr>
<tr>
<td>. $205RTEC</td>
<td></td>
<td>279</td>
<td>2014/12/17</td>
<td>2014/12/17</td>
<td>USER1</td>
</tr>
<tr>
<td>. $225ALOC</td>
<td></td>
<td>86</td>
<td>2014/12/17</td>
<td>2014/12/17</td>
<td>USER1</td>
</tr>
<tr>
<td>. $300SPLX</td>
<td></td>
<td>19</td>
<td>2014/12/17</td>
<td>2014/12/17</td>
<td>USER1</td>
</tr>
<tr>
<td>. $310VZMC</td>
<td></td>
<td>120</td>
<td>2014/12/17</td>
<td>2014/12/17</td>
<td>USER1</td>
</tr>
<tr>
<td>. $325ESEC</td>
<td></td>
<td>17</td>
<td>2014/12/17</td>
<td>2014/12/17</td>
<td>USER1</td>
</tr>
<tr>
<td>. $400LPAR</td>
<td></td>
<td>30</td>
<td>2014/12/17</td>
<td>2014/12/17</td>
<td>USER1</td>
</tr>
<tr>
<td>. $450STRT</td>
<td></td>
<td>37</td>
<td>2014/12/17</td>
<td>2014/12/17</td>
<td>USER1</td>
</tr>
<tr>
<td>. $500COMN</td>
<td></td>
<td>30</td>
<td>2014/12/17</td>
<td>2014/12/17</td>
<td>USER1</td>
</tr>
<tr>
<td>. $545COPY</td>
<td></td>
<td>179</td>
<td>2014/12/17</td>
<td>2014/12/17</td>
<td>USER1</td>
</tr>
<tr>
<td>. $910CNFG</td>
<td></td>
<td>58</td>
<td>2014/12/17</td>
<td>2014/12/17</td>
<td>USER1</td>
</tr>
</tbody>
</table>

This list shows a subset of the generated jobs. The full list of generated jobs is in your JCL library, and includes additional jobs that you might want to use to perform optional tasks. Not all projects generate the same set of jobs. The jobs generated depend on the products and solutions you are installing and configuring.

You can run the jobs now or later (see “Running the generated jobs” on page 89).

---

**Best practice**

IBM does not recommend secondary extents for load libraries in LINKLIST. After running the generated configuration jobs, the runtime load libraries might have secondary allocations. If you plan to add the load library to your LINKLIST, BMC recommends manually reallocating the load libraries so that all space is provided in the primary allocation and the secondary allocation is set to 0. This will avoid errors of modules not being found when the library is updated.

4 Press F3 to exit the list and return to the Execute Project panel.
Running the generated jobs

After the Installation System generates the installation and configuration jobs into your installation project’s JCL library, you must run them to complete the installation. In addition to running the generated jobs, some manual tasks might be required.

The following figure depicts the flow for running the jobs.

Figure 8: Flow for running the generated jobs

Reviewing generated documentation members

Use the following procedure to review the documentation members generated by the Installation System:

1 Display a member list of your installation JCL library.

2 Read the $$$READ member in your JCL library.
   This file briefly explains the members that are generated.

3 Read the following documentation members in your JCL library.
   These files contain additional information about the products and solutions you are installing.
   - $100DOC
   - $200ALOC
Only the documentation members needed for the products you are installing are generated.

# To run the generated jobs

After the installation and configuration jobs are created, you must run them. The jobs perform the following actions:

- `$300SPLX`, `$400LPAR`, `$500COMN`, `$700DB2`, `$800IMS`, `$900MV`

To run the generated jobs

1. Run the `$103DWNL` job.
   The product image files are downloaded.

## To run the `$103DWNL` job

1. Run the `$103DWNL` job.
   The product image files are downloaded.

## To run the `$103GET` file

1. Copy the `$103GET` file to your workstation by using the transfer program of your choice, and name it `$103GET.txt`. 

To run the generated jobs

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Installation System Reference Manual
2 Perform the following steps:

a On your workstation, open a command prompt and go to the drive and folder to which you want to download the product image files.

b Execute the following command to download the product image files:

```
ftp -n -s:"myPath\#103GET.txt"
```

Update `myPath` with the path where you saved the #103GET.txt file.

Message 250 Transfer completed successfully. displays at the end of each file transfer, and message 221 Quit command received. Goodbye. displays at the end of the output.

*Note*

This command is case sensitive.

If an error occurs, the following items are common causes:

- The quotation marks are missing.
- If you copied and pasted the command, the dashes in front of `n` and `s` can be misinterpreted. Type the dashes manually.

The product image files are downloaded to your workstation.

**To run #103PUT**

1 Copy the #103PUT file to your workstation by using the transfer program of your choice, and name it #103PUT.txt.

2 Update the following variables in the #103PUT.txt file:

<table>
<thead>
<tr>
<th>Variable</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Your_zOS_SSID</td>
<td>Domain name server (DNS) host name for your mainframe subsystem</td>
</tr>
<tr>
<td>Your_Mainframe_UserID</td>
<td>Your mainframe user ID</td>
</tr>
<tr>
<td>Your_Mainframe_Password</td>
<td>Your mainframe password</td>
</tr>
</tbody>
</table>

3 Execute the following command:

```
ftp -n -s:"myPath\#103PUT.txt"
```

Update `myPath` with the path to where the product image files reside.
This command is case sensitive. If an error occurs, the following items are common causes:

- The quotation marks are missing.
- If you copied and pasted the command, the dashes in front of n and s can be misinterpreted. Type the dashes manually.

The product image files are uploaded to your mainframe.

To run the remaining jobs

1. Read the checklist members in your JCL library.

These members contain instructions for running the generated jobs and for performing manual tasks. The job names shown in the checklist reflect the naming convention you specified on the job options panels.

The following checklists are created:

- $IJCKLST contains instructions for the installation jobs.
- $CJCKLST contains instructions for the configuration jobs.

2. Run the installation jobs by performing each step in the $IJCKLST checklist.

Each job contains comments that explain the function of the job, provide detailed instructions for running the job, and list the acceptable return codes for the job.

Best practice

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.

3. Run the configuration jobs by performing each step in the $CJCKLST checklist.

Each job contains comments that explain the function of the job, provide detailed instructions for running the job, and list the acceptable return codes for the job.

Result of running the jobs

Your products are now installed and configured.
Many products require customization before starting them, such as creating CLISTs. Additionally, many products can be customized to meet your site's needs. For more information, see each product's customization or configuration guide:

- For BMC products for DB2:
  - APPLICATION RESTART CONTROL Customization Guide
  - BMC Products and Solutions for DB2 Customization Guide
  - BMC Runtime Component System Configuration and Administration Guide

- For BMC products for IMS:
  - APPLICATION RESTART CONTROL Customization Guide
  - Database Products for IMS Customization Guide
  - System Administration Products for IMS Customization Guide
  - BMC Runtime Component System Configuration and Administration Guide

- For MainView products:
  - MainView Customization Reference
  - CMF MONITOR Customization Guide
  - MainView AutoOPERATOR Customization Guide
  - MainView for CICS Customization Guide
  - MainView for DB2 Customization Guide
  - MainView for IMS and MainView for DBCTL Customization Guide
  - MainView for IP Customization Guide
  - MainView for Linux - Servers Customization Guide
  - MainView for z/OS Customization Guide
  - MainView SRM Customization Guide
  - BMC Runtime Component System Configuration and Administration Guide

- For cost optimization products:
  - Database Products for IMS Customization Guide
  - MainView Customization Reference
  - BMC Runtime Component System Configuration and Administration Guide

---

**Best practice**

BMC highly recommends applying product maintenance before running your products. For maintenance information, see “Maintaining products” on page 95.
Result of running the jobs
Maintaining products

BMC offers SMP/E maintenance and product fixes to maintain your products.

For more information, view the Quick Course "BMC Installation System - BMC Maintenance Offerings."

Overview of product maintenance

BMC delivers SMP/E-based product maintenance that is:

- Provided on Recommended Service Level (RSL) files
  
  RSL files contain program temporary fixes (PTFs) and HOLDDATA. The PTFs have been certified by BMC against the IBM Recommended Service Update (RSU).

  You can obtain RSL maintenance at any time by using:
  
  — *(quarterly RSL)* BMC Internet Service Retrieval (BMC ISR)
  
  — *(cumulative RSL)* BMC Electronic Software Distribution (BMC ESD) FTP site or from physical media

  **Note**

  Maintenance for the Installation System is not included on RSL files.

  As of April 4, 2016, product update tapes (PUTs) have been replaced by RSL. Existing PUT images remain available for two years after the date on which they became available (in accordance with the BMC two-year rolling maintenance policy). For additional information about this change, see the Recommended Service Level technical bulletin dated March 1, 2016.

- Installed during a product installation or after an installation as needed
Current as of the date of your installation or maintenance media
However, new fixes might have been released since then. After you apply SMP/E-based maintenance, BMC recommends checking the BMC Support Central site (for example, the Knowledge Database) for more recent fixes. Some fixes are announced in technical bulletins or flashes.

Obtained at any time by using BMC Internet Service Retrieval (BMC ISR) (the recommended method), by using the BMC ESD FTP site, or by requesting physical media.

Note
If you order maintenance on physical media, you will receive the Maintenance Media DVD (which contains the RSL images only) and the Product Installation Media DVD (which contains the Installation System images and product images).

Product fixes are:

- Provided on an up-to-the-minute basis
- Installed after a product installation
- Provided through BMC ISR (the recommended method) or eFix PTF Distribution Services (eFix)

**Advantages of BMC ISR over eFix**

BMC ISR simplifies ordering and retrieving service updates, either on demand or through your scheduler. You can use BMC ISR to inventory your target libraries and generate a single request, or schedule a request on a recurring basis to retrieve maintenance updates.

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)
  - Verified PTFs
  - Enhanced HOLDDATA
  - A specific RSL level
  - All fixes
- Automate a service request (through 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 library

In contrast, eFix does not offer scheduling. It accommodates downloading individual corrective maintenance, corequisites, 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.

For more information, view the Quick Course "Using Internet Service Retrieval (ISR)."

**Task summary for applying maintenance**

You perform different tasks to apply product maintenance depending on how you obtained the maintenance and what type of maintenance you obtained.

Table 2 on page 97 list the different tasks to perform based on possible scenarios.

**Table 2: Maintenance scenarios**

<table>
<thead>
<tr>
<th>Scenario</th>
<th>How to complete the task</th>
<th>Reference</th>
</tr>
</thead>
<tbody>
<tr>
<td>Checking for product fixes</td>
<td>Check notices for your product on the A-Z Supported Product List for new fixes or PTFs that BMC released after your installation media was prepared.</td>
<td>A-Z Supported Product List (<a href="http://www.bmc.com/available/support%D0%B5%D0%B4-product-az-list.html">http://www.bmc.com/available/supportед-product-az-list.html</a>)</td>
</tr>
<tr>
<td>Scenario</td>
<td>How to complete the task</td>
<td>Reference</td>
</tr>
<tr>
<td>----------</td>
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</tr>
<tr>
<td>Applying SMP/E maintenance (including quarterly RSL) from a BMC ISR service request</td>
<td>Perform the following steps: 1 Prepare BMC ISR for use. 2 Create and submit a service package request. 3 Retrieve and process the service package. 4 <em>(optional)</em> Remove JCL data sets that previous requests generated.</td>
<td>“Preparing to use BMC ISR” on page 99  “Creating a service package request” on page 106  “Retrieving and processing a service package” on page 116  “Removing JCL data sets generated by previous requests” on page 122</td>
</tr>
<tr>
<td>Applying product fixes by using BMC ISR</td>
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<tr>
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</tr>
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</tr>
</tbody>
</table>
Preparing to use BMC ISR

Before you use BMC ISR to obtain maintenance, whether on demand or through your scheduler, you need to install and supply information to BMC ISR. You need to prepare BMC ISR only once, but you can change the information as needed.

For more information, view the following Quick Courses:

- "Using Internet Service Retrieval (ISR)"
- "Internet Service Retrieval - Getting Started"
- "Using ISR - Maintenance Scenarios"

To prepare BMC ISR

1. Review the BMC ISR requirements discussed in “Requirements for using BMC ISR” on page 99.

2. Install BMC ISR by using the Installation System.

   BMC ISR is automatically installed with any product that you install, or you can install it as a separate product independent of a product installation.

   For information about installing a product, see “Starting an installation” on page 61. BMC ISR is listed as the BMC Internet Service Retrieval product. BMC ISR does not require any customization.

3. Start BMC ISR and set up initial values to accommodate BMC ISR file processing for the following items:
   - Job card
   - Data sets
   - Firewall
   - Hierarchical file system (HFS) or zSeries file system (zFS)

   For more information, see “Setting up initial values for the BMC ISR jobs” on page 102.

Requirements for using BMC ISR

Consider the following requirements before using BMC ISR:
BMC ISR uses a hierarchical file system (HFS) or zSeries file system (zFS)
You must have read, write, and execute authority on the HFS or zFS (also known as superuser authority or root user authority).

The HFS or zFS file system must be mounted before sending or retrieving a BMC ISR request. For more information about the file system, see “About the HFS or zFS file system used by BMC ISR” on page 101.

BMC ISR service packages are in a compressed format
You must have authority for GIMZIP and GIMUNZIP.

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.

BMC ISR does not support the use of DDs for SMP/E zones; DDDEFs must be used.

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.
About the HFS or zFS file system used by BMC ISR

BMC ISR uses a hierarchical file system (HFS) or zSeries file system (zFS), which must be mounted before sending or receiving a BMC ISR request.

The file system is created and mounted when you set up set up the initial values for BMC ISR. For more information about the initial values, including the job created to mount the file system, see “Setting up initial values for the BMC ISR jobs” on page 102.

The file system path name used by BMC ISR is:

```
/rootDirectory/bmc/bmr/version/to/fromBMC
```

- You specify the root directory name (rootDirectory) during the initial set up of BMC ISR.
- `/bmc/bmr/version` is appended to the name by BMC ISR.
- The `version` variable reflects the current version of BMC ISR. For example, v15.
- When the file system is created, the `/tobmc` and `/frombmc` subfolders are also created, which are used for sending and receiving BMC ISR requests.

When you send a request, a request ID subfolder is created in the `/tobmc` folder.

**Example**

```
/file/system/path/bmc/bmr/v15/tobmc/BBB65ACEBD935C52
```

The request ID subfolder contains pertinent information for the SMP/E API as well as information in portable interchange archive (pax) z/OS format that was extracted from the SMP/E target zone.

**Example**

```
GIMPAX.XML
GIMPAX.XSL
S0001.HLQ.ISR.BBB65ACE.BD935C52.TOBMC.pax.Z
```

When you retrieve a request, a request ID folder is created in the `/frombmc` folder.

**Example**

```
/file/system/path/bmc/bmr/v15/frombmc/BBB65ACEBD935C52
```
The request ID subfolder contains pertinent information for the SMP/E API as well as data files with contents of SYSMODs to be applied. Depending upon the amount of data, there will be multiple of these files.

---

Example

GIMPAF.XML
GIMPAF.XSL
2013235075623758583.1of2
2013235075623758583.2of2

---

Setting up initial values for the BMC ISR jobs

Complete this one-time procedure to set up BMC ISR.

For more information, view the Quick Course "Internet Service Retrieval - Getting Started."

---

Before you begin

Ensure that you have met the requirements for BMC ISR. For more information, see “Requirements for using BMC ISR” on page 99.

To access BMC ISR

1. Access BMC ISR by using one of the following methods:
   - From within the Installation System, select Apply SMP/E Maintenance on the Installation System Main Menu, and press Enter.
   - From a CLIST, in ISPF, on the TSO Commands panel, enter the following command:
     ```
     EX 'HLQ.BMRCLIB(BMCISR)'
     ```
     Or execute your runtime CLIST library for BMC ISR.

To set up initial values for the BMC ISR jobs

1. (displayed when accessed through the Installation System) On the SMP/E Maintenance Delivery Media panel, select Retrieve maintenance using BMC Internet Service Retrieval.

   BMIPE37   SMP/E Maintenance Delivery Media
   Command ===>

   Select one of the following actions:
   - 1. Retrieve maintenance using BMC Internet Service Retrieval
   - 2. Receive maintenance downloaded from eFix
3. Get RSL and/or PUT maintenance from the ESD site
4. Receive RSL and/or PUT maintenance from Distributed FTP or from physical media

2 (displayed when accessed through the Installation System) On the Specify BMC Internet Service Retrieval Library panel, specify the library name where BMC ISR is located.

The BMC ISR library is named \textit{HLQ.BMRCLIB} by default.

<table>
<thead>
<tr>
<th>Command</th>
<th>Specify BMC Internet Service Retrieval Library</th>
</tr>
</thead>
<tbody>
<tr>
<td>Location of BMC Internet Service Retrieval</td>
<td></td>
</tr>
<tr>
<td>Data Set Name . . .</td>
<td></td>
</tr>
</tbody>
</table>

Tip
Access the online Help to see the name of the library that was set up for BMC ISR.

3 On the BMC Internet Service Retrieval (ISR) Menu, select \textbf{Specify job card and ISR data set information} and press Enter.

<table>
<thead>
<tr>
<th>Command</th>
<th>BMC Internet Service Retrieval (ISR) Menu - V1.5.00</th>
</tr>
</thead>
<tbody>
<tr>
<td>The option to specify jobcard and ISR values has been pre-selected.</td>
<td></td>
</tr>
<tr>
<td>Initial Setup Values</td>
<td></td>
</tr>
<tr>
<td>- Specify job card and ISR data set information</td>
<td></td>
</tr>
<tr>
<td>- Specify HFS or ZFS information</td>
<td></td>
</tr>
<tr>
<td>Request Options</td>
<td></td>
</tr>
<tr>
<td>- Create and submit a single service request</td>
<td></td>
</tr>
<tr>
<td>- Create JCL for a scheduled service request</td>
<td></td>
</tr>
<tr>
<td>Retrieval Options</td>
<td></td>
</tr>
<tr>
<td>- Retrieve a requested service package</td>
<td></td>
</tr>
<tr>
<td>- Submit SMP/E jobs for a previously retrieved service package</td>
<td></td>
</tr>
<tr>
<td>Post Service Request Option</td>
<td></td>
</tr>
<tr>
<td>- Remove JCL data sets for previous service requests</td>
<td></td>
</tr>
</tbody>
</table>

Press Enter to continue or F3 to exit.

4 On the BMC ISR Job Card and Data Set Information panel, perform the following actions:

a. Modify the JCL information as needed to meet your requirements.

b. Verify the BMC ISR process load library.

This field is populated with the library where ISR was installed.

c. Specify the \textit{HLQ} of the data sets that ISR will generate to store request information.

d. Specify the non-VSAM data set unit name and VOLSER.
e 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.

f Press Enter.

```
BMRPSR01    BMC ISR Job Card and Data Set Information
Command ===> ________________________________

Job Card Information
//<JOBID>  JOB (9999),INSTALL-&SYSUID,
//             CLASS=A,MSGCLASS=X,
//             NOTIFY=&SYSUID
//*

BMC ISR process Load Library. . USER1.BMRLOAD
HLQ for generated Data Sets . . _______________ (17 char. max)
Non-VSAM Unit Name . . . . . SYSCALLDA
Non-VSAM Data Set VOLSER . . . . <-- Not required with SMS
Manage Non-VSAM Data Sets with SMS:  N   (Y/N)
Storage Class . . . . . . . ________
Management Class  . . . . ________
Data Class  . . . . . . . . ________

Press Enter to continue or F12 to go back.
```

The information on this panel is used to create the JCL in the generated files.

5 On the Firewall Free Form Input Template Specifications panel:

- If your site does not have FTP requirements, press Enter.

- If your site has FTP requirements to allow access through a firewall, supply the information, and press Enter.

For creating the extract JCL, you can optionally use <dvinuser> for the userid and <dvinpswd> for the password and values will be substituted when $E05XTRT is generated.

**Example**

```
Host-Site-<dvinuser>@Proxy-User@Host-Site-Name
Host-Site-<dvinpswd>@Proxy-Password
```

For creating the retrieval JCL, you can optionally use <dvoutusr> for the userid and <dvoutpswd> for the password and values will be substituted when $J05RETV is generated.

**Example**

```
Host-Site-<dvoutusr>@Proxy-User@Host-Site-Name
Host-Site-<dvoutpswd>@Proxy-Password
```

```
BMRPSR04    Firewall Free Form Input Template Specifications
Command ===> ________________________________

Enter the foreground FTP requirements to get outside your firewall. The
BMC ISR system will use the entered values to connect to the BMC FTP Site.

//FTPCALL EXEC PGM= FTP REGION=5120K. PARM=filedownload.bmc.com (timeout 720 exit=8

Enter the DD(s) and dataset(s) required for FTP connectivity.

// DD DISP=SHR,DSN= ____________________________________________
// DD DISP=SHR,DSN= ____________________________________________
// DD DISP=SHR,DSN= ____________________________________________
// DD DISP=SHR,DSN= ____________________________________________
// DD DISP=SHR,DSN= ____________________________________________

*Do not enclose in quotes*

In the INPUT section, enter only the login credentials required. The correct syntax is critical for establishing a successful connection.

//INPUT DD *

_____________________________________________________________________________
_____________________________________________________________________________
_____________________________________________________________________________
_____________________________________________________________________________
_____________________________________________________________________________
_____________________________________________________________________________

Note
The information entered on this panel is used as specified. Data entered in mixed case will be used in mixed case.

6 On the BMC Internet Service Retrieval (ISR) Menu, select **Specify HFS or ZFS information** and press **Enter**.

7 On the Application Server UNIX Options panel, identify the file system directories into which all incoming and outgoing BMC ISR request ID files will be compressed and decompressed.

For more information about the file system, see “About the HFS or zFS file system used by BMC ISR” on page 101.

a Specify the numeric UNIX user ID and group ID.

If you are unsure about these values, consult your security administrator.

b Specify a root directory for the location of the BMC ISR file path.

This specification is the path prefix used by all subsequent jobs generated by BMC ISR. The path prefix has `/bmc/bmr/v15` automatically appended to it, which is required and should *not* be modified. The `v15` portion will vary depending on the release number of BMC ISR.

c Specify HFS for a hierarchical file system or zFS for a zSeries file system.

Note
Ensure that you have superuser (root user) authority on the HFS or zFS, and write authority on GIMZIP. Ask your system security administrator for the proper permissions.

d Specify the file system information.
Creating a service package request

To retrieve maintenance by using BMC ISR, the first step is to create and submit a service package request. You can create and submit requests as follows:

- “To create a service request by using BMC ISR” on page 107
- “To send a service request manually” on page 111
- “To create a scheduled service request” on page 112

Note
Each BMC ISR request that you submit must use a unique request ID, which BMC ISR generates. The BMC ISR server will not process duplicate request IDs.

You can retrieve information up to two years old.

The HFS or zFS file system must be mounted before sending or retrieving a BMC ISR request. For more information about the file system, see “About the HFS or zFS file system used by BMC ISR” on page 101.

BMC ISR creates a job to allocate and mount the HFS or zFS file system.

8 Submit the job to mount the file system.

Note
Before sending or receiving a request, always mount the file system.
To create a service request by using BMC ISR

Use this procedure to create a single service request by using BMC ISR:

1. Access BMC ISR (see “To access BMC ISR” on page 102).

2. On the BMC Internet Service Retrieval (ISR) Menu, select Create and submit a single service request.

   **BMRPSRO0**  BMC Internet Service Retrieval (ISR) Menu - V1.5.00
   Command ===> _________________________________________________________________
   The option to specify jobcard and ISR values has been pre-selected.

   **Initial Setup Values**
   - Specify job card and ISR data set information
   - Specify HFS or ZFS information

   **Request Options**
   - Create and submit a single service request
   - Create JCL for a scheduled service request

   **Retrieval Options**
   - Retrieve a requested service package
   - Submit SMP/E jobs for a previously retrieved service package

   **Post Service Request Option**
   - Remove JCL data sets for previous service requests

   Press Enter to continue or F3 to exit.

3. On the Create New Request pop-up, indicate whether to use an existing parameter data set or create a new parameter data set.

   - To use an existing parameter data set, proceed to Step 4 on page 108.
   - To create a new parameter data set, proceed to Step 5 on page 108.

   **BMRPOP10**  Create New Request
   COMMAND ===> _________________________________________________________________
   You can create a new request by retrieving parms data from an existing ISR parms data set. Specify Y and enter the ISR request ID and the HLQ of the existing parms data set to be searched. Specify ? in the BMC ISR request ID field to see a list of available data sets.

   Retrieve existing Parm data . . N  (Y/N)
4 *(using an existing parameter data set)* Perform the following tasks:

a  In the **Retrieve existing Parm data** field, specify **Y**.

b  In the **BMC ISR request ID** field, specify a request ID.

   If you do not know the request ID, specify the HLQ of the parameter data set, specify a question mark (?), and press **Enter**. From the resulting list of request IDs, select the request ID that you want to retrieve (you can browse the data sets) and press **Enter**.

c  In the **HLQ for existing Parm Data Set** field, specify the *HLQ* of the JCL data set that contains the request job.

d  Press **Enter** to continue.

e  Review the parameters from the BMC ISR Request panel and provide the user ID and password of the BMC Electronic Software Distribution (BMC ESD) FTP site.

f  Press **Enter** to generate the request JCL.

g  Proceed to **Step 6 on page 110**.

5 *(creating a new parameter data set)* Perform the following tasks:

a  In the **Retrieve existing Parm data** field, specify **N** and press **Enter**.

b  On the BMC ISR Request panel, specify the user ID and password of the BMC ISR server.

   To view the current user ID and password, go to [http://www.bmc.com/support/reg/esd-password.html](http://www.bmc.com/support/reg/esd-password.html). 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](http://www.bmc.com/support).

c  Make a note of the request ID.

   When the request is processed, an e-mail is sent to you with the job status. If you submit multiple requests, however, noting the request ID might be helpful to keep track of your requests.
Additionally, if a request is not processed and you need to contact BMC Customer Support regarding it, you will need the request ID.

d In the **ISR request Global CSI name** field, specify the data set name containing the Global CSI to be processed.

e Specify the request target libraries and zone definitions for the software inventory.

BMC ISR uses resulting target libraries to create the software inventory on which the resulting service package will be based.

The request target libraries correspond to and perform the same function as **FORTGTZONES**, as documented in the IBM SMP/E commands manual.

f In the **ISR request Content Type** field, specify a number to indicate the type of request:

---

**WARNING**

The ALL option can return a large volume of information, including PTFs that are in candidate status. BMC recommends using the ALL option only when instructed to by BMC Customer Support.

<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 the current RSL level PTFs and all PTFs that are resolved or that resolve HIPER or PE conditions.</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=RSL</td>
<td>Include a specific RSL.</td>
</tr>
<tr>
<td>7=ALL</td>
<td>Include all SYSMODs (PTFs and APARs), including those in candidate status.</td>
</tr>
<tr>
<td>8=VERIFIED</td>
<td>Include all PTFs that are in verified status. Verified confirms that the PTF, including any applicable co-req and pre-req PTFs, has been fully tested and certified and ready to be applied to customer systems.</td>
</tr>
<tr>
<td>9=PUT</td>
<td>Include a specific PUT (restricted to no more than two years).</td>
</tr>
</tbody>
</table>

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 libraries for which the inventory is created.

g Specify your e-mail address twice (to verify) and press Enter.

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.

h Press Enter.

i If you specified PTF, APAR, RSL, or PUT-level values, provide additional information about these values as prompted.

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 122.

j Press Enter to generate the request JCL.

6 Review the $E05XTRT job, and make any necessary changes.

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.

7 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 sends an e-mail message to the address that you provided during setup, indicating that your request is ready to retrieve.

The BMC ISR server processes most requests within an hour of receiving them, but you can check the progress of a request at any time. For more information, see “Checking the progress of a service package request” on page 116.

To ensure that this message does not go to your unsolicited (junk) folder, add BMCISR to your safe senders list. If you do not receive notification within the stated time frames, check your junk folder. If the notification is not in your junk folder, contact BMC Customer Support.

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.

8 Proceed to “Retrieving and processing a service package” on page 116.

To send a service request manually

Use this procedure to create a service request and manually send the request to BMC:

1 Create a directory on your PC’s desktop, using the request ID as the name of the directory.

2 Create the request JCL as described in “To create a service request by using BMC ISR” on page 107, but do not submit the JCL.

3 In the generated $E05XTRT job, bypass the FTP (SEND2BMC) and clean up steps, and submit the job.

   If you should run the $E05XTRT job with these steps, they will generate errors, but the request will still be created.

4 Send the request from your mainframe to the PC’s desktop:
   a At a Windows command prompt, enter `ftp` and press Enter.
   b At the prompt, specify `hostname portnumber` and press Enter.
      The `hostname` and `portnumber` identify the host on which your request resides. `portnumber` is optional.
   c At the User and Password prompts, specify your host user ID and password, pressing Enter after each specification.
   d Change the directory to the path where the request ID files reside.
      The command is `cd /pathPrefix/bmc/bmr/v15/tobmc/ReqID`. The `pathPrefix` is your UNIX directory, and `ReqID` is the request ID.
      Tip The exact path is included in the $E05XTRT file.
   e Enter `binary` to set the file transfer type.
f Enter the following command to get the data:

```
mget *
```

g When prompted, enter `Y` to get each file.

h When you have all of the files, enter `Quit`.

5 Send your files to the incoming directory on the BMC ISR server:

a At a Windows command prompt, enter `ftp filedownload.bmc.com` and press `Enter`.

b At the User and Password prompts, enter the BMC ISR user ID and password for sending files to BMC. Press `Enter` after each specification.

To view the current user ID and 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**. 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](http://www.bmc.com/support).

c At the `ftp` prompt, enter the following commands to send your request and all associated files:

```
mkdir requestID
cd requestID mput *
```

d Enter `bin` to set the file transfer type.

e When prompted, enter `Y` to send each file.

6 Proceed to “Retrieving and processing a service package” on page 116.

---

**To create a scheduled service request**

A scheduled service request is run from a scheduler to query your target libraries regularly and to send requests to the BMC ISR server for service updates. Use this procedure to create a scheduled service request:

1 Access BMC ISR (see “To access BMC ISR” on page 102).
2 On the BMC Internet Service Retrieval (ISR) Menu, select **Create JCL for a scheduled service request**.

BMRPSRO0     BMC Internet Service Retrieval (ISR) Menu - V1.5.00
Command ===> _________________________________________________________________

The option to specify jobcard and ISR values has been pre-selected.

Initial Setup Values
- Specify job card and ISR data set information
- Specify HFS or ZFS information

Request Options
- Create and submit a single service request
- Create JCL for a scheduled service request

Retrieval Options
- Retrieve a requested service package
- Submit SMP/E jobs for a previously retrieved service package

Post Service Request Option
- Remove JCL data sets for previous service requests

Press Enter to continue or F3 to exit.

3 On the Create New Request pop-up, indicate whether to use an existing parameter data set or create a new parameter data set:

- To use an existing parameter data set, proceed to Step 4 on page 113.
- To create a new parameter data set, proceed to Step 5 on page 114.

4 **(using an existing parameter data set)** Perform the following tasks:

a In the **Retrieve existing Parm data** field, specify Y.

b In the **BMC ISR request ID** field, specify a request ID.

   If you do not know the request ID, specify the HLQ of the parameter data set, specify a question mark (?), and press **Enter**. From the resulting list of request...
IDs, select the request ID that you want to retrieve (you can browse the data sets) and press Enter.

c In the HLQ for existing Parm Data Set field, specify the HLQ of the JCL data set that contains the request job.

d Press Enter to continue.

e Review the parameters from the BMC ISR Request panel and provide the user ID and password of the BMC Electronic Software Distribution (BMC ESD) FTP site.

f Press Enter to generate the request JCL.

g Proceed to Step 6 on page 116.

5 (creating a new parameter data set) Perform the following tasks:

a In the Retrieve existing Parm data field, specify N and press Enter.

b On the BMC ISR Request panel, specify the user ID and password of the BMC ISR server.

To view the current user ID and password, go to http://www.bmc.com/support/reg/esd-password.html. 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.

c Make a note of the request ID.

When the request is processed, an e-mail is sent to you with the job status. If you submit multiple requests, however, noting the request ID might be helpful to keep track of your requests.

Additionally, if a request is not processed and you need to contact BMC Customer Support regarding it, you will need the request ID.

d In the ISR request Global CSI name field, specify the data set name containing the Global CSI to be processed.

e Specify the request target libraries and zone definitions for the software inventory.

BMC ISR uses resulting target libraries to create the software inventory on which the resulting service package will be based.

The request target libraries correspond to and perform the same function as FORTGTZONES, as documented in the IBM SMP/E commands manual.
f In the **ISR request Content Type** field, specify a number to indicate the type of request:

---

**WARNING**

The ALL option can return a large volume of information, including PTFs that are in candidate status. BMC recommends using the ALL option only when instructed to by BMC Customer Support.

<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 the current RSL level PTFs and all PTFs that are resolved or that resolve HIPER or PE conditions.</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=RSL</td>
<td>Include a specific RSL.</td>
</tr>
<tr>
<td>7=ALL</td>
<td>Include all SYSMODs (PTFs and APARs), including those in candidate status.</td>
</tr>
<tr>
<td>8=VERIFIED</td>
<td>Include all PTFs that are in verified status. Verified confirms that the PTF, including any applicable co-req and pre-req PTFs, has been fully tested and certified and ready to be applied to customer systems.</td>
</tr>
<tr>
<td>9=PUT</td>
<td>Include a specific PUT (restricted to no more than two years).</td>
</tr>
</tbody>
</table>

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 libraries for which the inventory is created.

g Specify your e-mail address twice (to verify) and press Enter.

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.

h Press Enter.

i If you specified PTF, APAR, RSL, or PUT-level values, provide additional information about these values as prompted.

j Press Enter to generate the request JCL.
6 Use your scheduler to schedule the request JCL.

**Note**

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 122.

---

**Checking the progress of a service package request**

The BMC ISR server processes most requests within an hour of receiving them, but you can check the progress of a request at any time.

1 Using a web browser, enter the following address:

   ftp://filedownload.bmc.com/bmc/esd/ozi/bmcisr/outgoing/

2 Enter the user ID and password of the BMC ISR server.

3 Select your request ID from the list.

4 View the following files:

     
     If processing has started, this file contains the request’s current status (PROCESSING, REJECTED, or AVAILABLE).

     
     If the request was rejected or processing is completed, this file contains 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 117
To retrieve and process a service package by using BMC ISR

Use this procedure to retrieve and process a service package by using BMC ISR:

1. Ensure that you have allocated adequate space on your z/OS UNIX file system for the service package.

   For details, see “Requirements for using BMC ISR” on page 99.

2. Access BMC ISR (see “To access BMC ISR” on page 102).

3. On the BMC Internet Service Retrieval (ISR) Menu, select Retrieve a requested service package.

   BMRPSR00     BMC Internet Service Retrieval (ISR) Menu - V1.5.00
   Command ===> _________________________________________________________________

   The option to specify jobcard and ISR values has been pre-selected.

   Initial Setup Values
   _ Specify job card and ISR data set information
   _ Specify HFS or ZFS information

   Request Options
   _ Create and submit a single service request
   _ Create JCL for a scheduled service request

   Retrieval Options
   _ Retrieve a requested service package
   _ Submit SMP/E jobs for a previously retrieved service package

   Post Service Request Option
   _ Remove JCL data sets for previous service requests

   Press Enter to continue or F3 to exit.

4. On the Retrieve a Processed Request panel:

   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 and press Enter. From the resulting list of request IDs, select the request ID that you want to retrieve (you can browse the data sets) and press Enter. The Retrieve existing Parm data field is populated.

b Specify the BMC ISR server credentials by entering the outgoing directory and user ID, and press Enter.

Enter the ISR request ID and the HLQ used for the existing request you wish to process. Specify ? in the BMC ISR request ID field to view a list of available data sets.

BMC ISR request ID . . . . . . . . . . BDF01950B59F9A4B
HLQ used for the existing request . . USER1

Enter the BMC ISR Server Credentials.
   Outgoing Directory Userid . . _____________ Contact Support for Assistance.
   Outgoing Directory Password . Will not be displayed.

Press Enter to continue or F12 to go back.

5 On the BMC ISR Retrieve Menu, select Retrieve Service Package and press Enter.

Select from the following options:
   _ Retrieve Service Package
   _ Generate and submit SMP/E jobs for this Service Package

BMC ISR generates the retrieval JCL.

6 Review the $J05RETV job, and make any necessary changes.

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.

7 Submit the $J05RETV job.

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.

8 After the job completes successfully, press F3 to return to the BMC ISR Retrieve Menu.

9 On the BMC ISR Retrieve Menu, select Generate and submit SMP/E jobs for this Service Package and press Enter.

10 From the list of jobs, select each one, review its content, and submit it.

<table>
<thead>
<tr>
<th>Name</th>
<th>Prompt</th>
<th>Size</th>
<th>Created</th>
<th>Changed</th>
<th>ID</th>
</tr>
</thead>
<tbody>
<tr>
<td>$M42DWNL</td>
<td></td>
<td>61</td>
<td>2014/10/20</td>
<td>2014/10/20</td>
<td>USER1</td>
</tr>
<tr>
<td>$M43DCMP</td>
<td></td>
<td>64</td>
<td>2014/10/20</td>
<td>2014/10/20</td>
<td>USER1</td>
</tr>
<tr>
<td>$M45RECV</td>
<td></td>
<td>87</td>
<td>2014/10/20</td>
<td>2014/10/20</td>
<td>USER1</td>
</tr>
<tr>
<td>$M50HOLD</td>
<td></td>
<td>51</td>
<td>2014/10/20</td>
<td>2014/10/20</td>
<td>USER1</td>
</tr>
<tr>
<td>$M55LIST</td>
<td></td>
<td>45</td>
<td>2014/10/20</td>
<td>2014/10/20</td>
<td>USER1</td>
</tr>
<tr>
<td>$M60DOCL</td>
<td></td>
<td>43</td>
<td>2014/10/20</td>
<td>2014/10/20</td>
<td>USER1</td>
</tr>
<tr>
<td>$M65CLNU</td>
<td></td>
<td>41</td>
<td>2014/10/20</td>
<td>2014/10/20</td>
<td>USER1</td>
</tr>
<tr>
<td>$M75APCK</td>
<td></td>
<td>59</td>
<td>2014/10/20</td>
<td>2014/10/20</td>
<td>USER1</td>
</tr>
<tr>
<td>$M76APLY</td>
<td></td>
<td>58</td>
<td>2014/10/20</td>
<td>2014/10/20</td>
<td>USER1</td>
</tr>
<tr>
<td>$M80ACCK</td>
<td></td>
<td>31</td>
<td>2014/10/20</td>
<td>2014/10/20</td>
<td>USER1</td>
</tr>
<tr>
<td>$M81ACPT</td>
<td></td>
<td>30</td>
<td>2014/10/20</td>
<td>2014/10/20</td>
<td>USER1</td>
</tr>
</tbody>
</table>

To retrieve and process a service package manually

Use this procedure to manually retrieve a service package and process it:

1 Ensure that you have allocated adequate space on your z/OS UNIX file system for the service package.

   For details, see “Requirements for using BMC ISR” on page 99.

2 Create a directory on your PC’s desktop, using the request ID as the name of the directory.

3 Retrieve your files from the outgoing directory on the BMC ISR server:
a. From the command prompt, enter `ftp filedownload.bmc.com`.

b. At the User and Password prompts, enter the BMC ISR user ID and password for retrieving files from BMC. Press Enter after each specification.

To view the current user ID and 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**. 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](http://www.bmc.com/support).

c. At the ftp prompt, enter the following commands to retrieve your service package and all associated files:

```
cd requestID

bin

mget *
```

d. When prompted, enter Y for each file.

4. Send the service package files from your PC’s desktop to the mainframe:

a. At a Windows command prompt, enter `ftp` and press Enter.

b. At the prompt, specify `hostname portnumber` and press Enter.

The `hostname` and `portnumber` identify the host on which your request resides. `portnumber` is optional.

c. At the User and Password prompts, specify your host user ID and password, pressing Enter after each specification.

d. Enter binary to set the file transfer type.

e. Change the directory to the path where the request ID files reside.

The command is `cd /pathPrefix/bmc/bmr/v15/frombmc/ReqID`. The `pathPrefix` is your UNIX directory, and `ReqID` is the request ID.

---

**Tip**

The exact path is included in the $J05RETV file.

---

f. Enter the following command to get the data:
mput *

When prompted, enter Y to get each file.

When you have all of the files, enter Quit.

5 Create the retrieval JCL as described in “To retrieve and process a service package by using BMC ISR” on page 117, but do not submit the JCL.

6 In the generated SJ05RETV job, bypass the FTP (GETDATA) step and submit the job.

7 From the list of jobs in the retrieved service package, submit each one to apply maintenance.

To process a previously retrieved service package

If you did not process a service package after retrieving it, use the following procedure to process the service package:

1 Ensure that you have allocated adequate space on your z/OS UNIX file system for the service package.

For details, see “Requirements for using BMC ISR” on page 99.

2 Access BMC ISR (see “To access BMC ISR” on page 102).

3 On the BMC Internet Service Retrieval (ISR) Menu, select Retrieve a requested service package.

Press Enter to continue or F3 to exit.
4 On the Submit SMP/E Jobs panel, specify the BMC ISR request ID and the *HLQ* of the JCL data set that contains the request job, and press **Enter**.

```
BMRPSR25                        Submit SMP/E Jobs
COMMAND ===> __________________________
```

Enter the ISR request ID and the HLQ of the existing JCL data set containing the SMP/E jobs you wish to submit. Specify ? in the BMC ISR request ID field to view a list of available data sets.

```
BMC ISR request ID . . . . . . . . . . . . BDF01950B59F9A4B
HLQ used for the existing request . . USER1
```

Press Enter to continue or F12 to go back.

**Note**

If you do not know the request ID, specify a question mark (?) in the **BMC ISR request ID** field and press **Enter**. From the resulting list of request IDs, select the request ID that you want to retrieve (you can browse the data sets) and press **Enter**. The **BMC ISR request ID** field is populated.

5 From the list of jobs, select each one, review its content, and submit it.

---

### 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.

**To remove JCL data sets generated by previous requests**

1 Access BMC ISR (see “To access BMC ISR” on page 102).

2 On the BMC Internet Service Retrieval (ISR) Menu, select **Remove JCL data sets for previous service requests**.

```
BMRPSR00            BMC Internet Service Retrieval (ISR) Menu - V1.5.00
Command ==> __________________________
```

The option to specify jobcard and ISR values has been pre-selected.

**Initial Setup Values**

- Specify job card and ISR data set information
- Specify HFS or ZFS information

**Request Options**
Obtaining product maintenance by using eFix

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 library.

Note
eFix is designed to get a single or a small group of PTFs. To obtain a large number of fixes, such as for periodic maintenance, it is more efficient to use the RSL maintenance media or BMC ISR.

To download and apply new maintenance from eFix

1 Go to eFix PTF Distribution Services at http://efix.bmc.com.

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 downloaded files to your mainframe.

The mainframe data sets should use 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.

5 Create JCL to process the PTF.

- To create JCL by using the Installation System, proceed to Step 6 on page 124.
- To manually edit the SMP/E RECEIVE job, proceed to Step 7 on page 125.

6 (creating JCL by using the Installation System to process the PTF) Perform the following tasks:

a From within the Installation System, select Apply SMP/E Maintenance on the Installation System Main Menu, and press Enter.

b On the SMP/E Maintenance Delivery Media panel, select Receive maintenance downloaded from eFix.

c On the DASD Maintenance Data Set Information panel, specify the name of the data set that contains the downloaded PTFs.

d On the Maintenance SOURCEID Information panel, verify the SOURCEID for the maintenance.

e On the Generated Job Options panel, in the Job Card Template fields, specify a valid job card statement.

f In the Job Name Options fields, specify how you want the generated job cards named and press Enter.

The Match generated member names and Suffixed with member name number fields are mutually exclusive. Specify:
- **Y** for **Match generated member names** to have the job card name match the generated member name.

  For example, if the member is $103DWNL, the job card name becomes //$/103DWNL.

- **Y** for **Suffixed with member name number** to have the job card name suffixed with the numeric ID of the member.

  For example, if the member is $103DWNL and the job card is //BMCIVPJB, the ID is 103 and the job card name becomes //BMCIV103.

- Specifying **N** for both fields to use what you have in **Job Card Template**.

  On the JCL Generation Options panel, select **Generate JCL** and press **Enter**.

  When the Installation JCL Execution Review panel is displayed, review the information, and press **Enter**.

  The list of generated maintenance jobs is displayed.

7. (manually editing the SMP/E RECEIVE job) In the SMP/E RECEIVE job, edit the DD cards for the data sets for the PTF and HLD files

   Use the following guidelines:

   - 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:

   ```
   //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.
   */
   ```

8. Repeat Step 2 on page 123 through Step 5 on page 124 for each product or component.

9. Complete RECEIVE and APPLY processing.
Generating jobs to perform SMP/E maintenance from an image

Use this procedure to produce SMP/E batch jobs for SMP/E maintenance.

**Note**
Do not use this procedure if you are using BMC ISR or eFix:

- If using BMC ISR (including for quarterly RSL), see Retrieving and processing a service package on page 116.
- If using eFix, see “Obtaining product maintenance by using eFix” on page 123.

**To generate SMP/E maintenance jobs**

1. On the Installation System Main Menu, select **Apply SMP/E Maintenance** and press **Enter**.

   BMIPMENU     BMC Software Installation System V3.1.00 - Main Menu
   Command ===> _________________________________________________________________
   Select one of the following actions:
   1. Resume Active Project
   2. Manage Projects
   3. Apply SMP/E Maintenance
   4. Maintain Product Passwords
   5. Set Site Wide Default Values
   6. Information on new features in this release

   Active Project: USER1 - Sandbox
   JCL Library: USER1.INSTALL.JCLLIB

   CICS, DB2, IBM, IMS and MVS are trademarks or registered trademarks of International Business Machines Corporation in the United States, other countries, or both.

2. On the SMP/E Maintenance Delivery Media panel, select how you want to receive PUT maintenance, and press **Enter**:

   - Get RSL and/or PUT Maintenance from the ESD Site
   - Receive rsl and/or PUT maintenance from Distributed FTP or physical media

   BMIP37              SMP/E Maintenance Delivery Media
   Command ===> _________________________________________________________________
   Select one of the following actions:
   1. Retrieve maintenance using BMC Internet Service Retrieval
   2. Receive maintenance downloaded from eFix
   3. Get RSL and/or PUT maintenance from the ESD site
   4. Receive RSL and/or PUT maintenance from Distributed FTP or from physical media
3 *(ESD only)* On the BMC PUT Image Files panel, select the PUT image or images that you want to apply to your system, and press Enter.

<table>
<thead>
<tr>
<th>RSL or PUT</th>
<th>RSL or PUT image file</th>
<th>Year</th>
<th>Quarter</th>
</tr>
</thead>
<tbody>
<tr>
<td>Act Version</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>---</td>
<td>---------------------------------------</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1402b</td>
<td>bmcp0t-v1402b-smp-image.bin</td>
<td>2014</td>
<td>4</td>
</tr>
<tr>
<td>1501b</td>
<td>bmcp0t-v1501b-smp-image.bin</td>
<td>2015</td>
<td>2</td>
</tr>
<tr>
<td>1502b</td>
<td>bmcp0t-v1502b-smp-image.bin</td>
<td>2015</td>
<td>4</td>
</tr>
<tr>
<td>1607c</td>
<td>bmcrsl-v1607c-smp-image.bin</td>
<td>2016</td>
<td>7</td>
</tr>
</tbody>
</table>

******************************* Bottom of data ********************************

4 On the Generated Job Options panel, in the *Job Card Template* fields, specify a valid job card statement.

The Installation System uses this information to create the job card in the generated JCL.

<table>
<thead>
<tr>
<th>BMIPFTPB</th>
<th>USER1 - Generated Job Options</th>
</tr>
</thead>
</table>

**Job Card Template**

//<JOBID> JOB (9999),INSTALL-&SYSUID,
//       CLASS=A,MSGCLASS=X,
//       NOTIFY=&SYSUID
//*

**Job Name Options**

Match generated member names . . . . . Y (Y/N - These options are mutually exclusive)
Suffixed with member name number . . . N

5 In the *Job Name Options* fields, specify how you want the generated job cards named and press Enter.

The *Match generated member names* and *Suffixed with member name number* fields are mutually exclusive. Specify:

- **Y** for *Match generated member names* to have the job card name match the generated member name.
  
  For example, if the member is $M45RECV, the job card name becomes //M45RECV.

- **Y** for *Suffixed with member name number* to have the job card name suffixed with the numeric ID of the member.
  
  For example, if the member is $M45RECV and the job card is //BMCIVPJB, the ID is 45 and the job card name becomes //BMCIVP45.

- Specifying **N** for both fields to use whatever you have in *Job Card Template*. 
6. On the JCL Generation Options panel, select Generate JCL and press Enter.

```
BMIP080  JCL Generation Options
Command ===> _________________________________________________________________

Select an option. Press Enter to continue or F12 to go back.

S  Generate JCL into USER1.JCLLIB
_  Skip generation process and display next panel
```

<table>
<thead>
<tr>
<th>Member</th>
<th>Status</th>
<th>Function</th>
</tr>
</thead>
<tbody>
<tr>
<td>$M42DWNL</td>
<td>Download</td>
<td>PUT Maintenance Files</td>
</tr>
<tr>
<td>$M43DCMP</td>
<td>JES3 - Decompress Maint Files</td>
<td></td>
</tr>
<tr>
<td>$M45RECV</td>
<td>Receive</td>
<td>Maintenance</td>
</tr>
<tr>
<td>$M50HOLD</td>
<td>Receive</td>
<td>BMC HOLD Data</td>
</tr>
<tr>
<td>$M55LIST</td>
<td>List</td>
<td>Hold Data</td>
</tr>
<tr>
<td>$M60DOCL</td>
<td>Print</td>
<td>PTF Doc from Maint Tape</td>
</tr>
<tr>
<td>$M65CLNU</td>
<td>Clean Up</td>
<td>Maint Input Files</td>
</tr>
<tr>
<td>$M75APCK</td>
<td>Apply</td>
<td>Check Job</td>
</tr>
<tr>
<td>$M76APLY</td>
<td>Apply</td>
<td>JOB</td>
</tr>
<tr>
<td>$M80ACCK</td>
<td>Accept</td>
<td>Check Job</td>
</tr>
</tbody>
</table>

7. When the Installation JCL Execution Review panel is displayed, review the information, and press Enter.

```
BMIP090  JCL Execution Review
Command ===> _________________________________________________________________

Several jobs were generated into the following library:
USER1.JCLLIB

Review and submit those jobs whose names start with $M in the sequence implied by the 3rd and 4th characters of the jobname. Execute the jobs one at a time. Do not skip any of the jobs because they are generally dependent on the jobs earlier in the sequence. The jobs should complete without abends or return codes greater than 4 unless documented otherwise in the job's documentation.

The exceptions are the #D9 jobs. If generated, these jobs should only be submitted when you want to remove the installed product(s) libraries from your environment.

If any installation steps remain, a $M00DOC member is created containing documentation which describes these remaining steps.

Press Enter to display an Edit member list of the $M generated jobs.

The list of generated maintenance jobs is displayed.
```
8 Press F3 to exit the list of generated jobs.

9 Proceed to “Running jobs to apply SMP/E maintenance from an image” on page 129.

Running jobs to apply SMP/E maintenance from an image

After you generate the maintenance jobs in your JCL library, running the jobs applies maintenance to your products.

Note
Do not use this procedure if you are using BMC ISR or eFix:

- If using BMC ISR, use the procedures in “Retrieving and processing a service package” on page 116.
- If using eFix, use the procedures in “Obtaining product maintenance by using eFix” on page 123.

Run the maintenance jobs or files in the following order. Review the JCL before submitting the jobs. You do not have to submit the generated jobs from within the Installation System. You can submit them from your JCL library at any convenient time.

<table>
<thead>
<tr>
<th>Job or file</th>
<th>Description</th>
<th>See</th>
</tr>
</thead>
<tbody>
<tr>
<td>$M42DWNL</td>
<td>Download the RSL or PUT image file to your mainframe</td>
<td>“To obtain an RSL or PUT image when using direct FTP” on page 130</td>
</tr>
<tr>
<td></td>
<td>Use for direct FTP only.</td>
<td></td>
</tr>
<tr>
<td>#M42GET</td>
<td>Download the RSL or PUT image file to your PC</td>
<td>“To obtain an RSL or PUT image when using distributed FTP or physical media” on page 130</td>
</tr>
<tr>
<td></td>
<td>Use for distributed FTP only.</td>
<td></td>
</tr>
<tr>
<td>#M42PUT</td>
<td>Upload the RSL or PUT image file to your mainframe</td>
<td>“To obtain an RSL or PUT image when using distributed FTP or physical media” on page 130</td>
</tr>
<tr>
<td></td>
<td>Use for distributed FTP or physical media only.</td>
<td></td>
</tr>
<tr>
<td>$M43DCMP</td>
<td>Decompress the downloaded RSL or PUT image file</td>
<td>“To decompress the RSL or PUT image file when using direct FTP” on page 132</td>
</tr>
<tr>
<td></td>
<td>Use for direct FTP only.</td>
<td></td>
</tr>
</tbody>
</table>
To obtain an RSL or PUT image when using direct FTP

1 In the $M42DWNL member in your Installation System JCL library, perform the following tasks:
   - Review the instructions in the member for additional modifications you might need to make.
   - Optionally modify the JOB card to comply with your site’s requirements.

2 Run the $M42DWNL job.

To obtain an RSL or PUT image when using distributed FTP or physical media

If you are using distributed FTP or physical media to obtain maintenance, you must obtain the RSL or PUT images before running any of the generated maintenance JCL.

1 Obtain the files indicated in Table 3 on page 131 from your mainframe JCL library.

   You can transfer the files to your personal computer (PC), or you can copy the content of the files and paste them into text files on your PC.
### Table 3: #Mnnxxx files

<table>
<thead>
<tr>
<th>Installation media you are using</th>
<th>Obtain these files</th>
<th>PC file name</th>
</tr>
</thead>
<tbody>
<tr>
<td>Distributed FTP</td>
<td>#M42GET</td>
<td>downloadfiles.txt</td>
</tr>
<tr>
<td></td>
<td>#M42PUT</td>
<td>uploadfiles.txt</td>
</tr>
<tr>
<td>Physical media</td>
<td>#M42PUT</td>
<td>uploadfiles.txt</td>
</tr>
</tbody>
</table>

2. Verify the information in the `downloadfiles.txt` file.

3. Modify the `uploadfiles.txt` file as follows:

<table>
<thead>
<tr>
<th>Variable to replace</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Your_zOSSSID</td>
<td>Enter the domain name server (DNS) host name for your mainframe subsystem.</td>
</tr>
<tr>
<td>Your_Mainframe_UserID</td>
<td>Enter your mainframe user ID.</td>
</tr>
<tr>
<td>Your_Mainframe_Password</td>
<td>Your mainframe password.</td>
</tr>
<tr>
<td>######</td>
<td>Enter the RSL or PUT version you want to apply.</td>
</tr>
<tr>
<td><strong>Note:</strong></td>
<td>There are two occurrences of this variable. They should be the same in both places.</td>
</tr>
</tbody>
</table>

*Note*

Remove the angle brackets from the variables in the file.
You can modify the file on the mainframe, but ensure that the content remains in mixed case.

4. *(Distributed FTP only)* Open a command prompt, go to the drive and folder to which you want to download files, and execute the following command:

```
ftp -n -s:"myPath\downloadfiles.txt"
```

*Note*

This command is case sensitive. Update `myPath` with the path where you saved the `downloadfiles.txt` file.

The command downloads the PUT image files to your personal computer.

5. Open a command prompt and go to the appropriate folder or directory:

- For Distributed FTP, go to the drive and folder that contains the downloaded product image libraries.
For DVD, go to the drive that contains the DVD, and change to the ga directory.

6 Execute the following command:

    ftp -n -s:"myPath\uploadfiles.txt"

--- Note ---

This command is case sensitive. Update myPath with the path where you saved the uploadfiles.txt file.

The command transfers the PUT image files to your mainframe.

To decompress the RSL or PUT image file when using direct FTP

1 In the $M43DCMP member in your Installation System JCL library, perform the following tasks:

   ■ Review the instructions in the member for additional modifications you might need to make.

   ■ Optionally modify the JOB card to comply with your site’s requirements. Usually this is not needed if you use direct FTP.

2 Run the $M43DCMP job.

To decompress the RSL or PUT image when using distributed FTP or physical media

1 In the $M42DWNL member in your Installation System JCL library, perform the following tasks:

   ■ Review the instructions in the member for additional modifications you might need to make.

   ■ In the INFILE DD statement, replace the ##### variable with the PUT level number.

   ■ Optionally modify the JOB card to comply with your site’s requirements.

2 Run the $M42DWNL job.

To receive maintenance data

1 In the $M45RECV member in your Installation System JCL library, perform the following tasks:
Optionally modify the JOB card to comply with your site’s requirements. Usually this is not needed if you use direct FTP.

Review the instructions in the member for additional modifications you might need to make.

(for distributed FTP or physical media) In the INFILE DD statement, replace the ###### variable with the PUT level number.

2 Run the $M45RECV job to receive SMP/E eFix or RSL or PUT maintenance data.  

---

**Note**
The maintenance media 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 SYSMOD HOLDDATA during maintenance**

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:

- $M75APCK
- $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 the documentation in the PTF.
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:

   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 media 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 reduces the required effort if you need to restore future PTFs.
- The prerequisite chains become long and complex if you defer ACCEPT processing.
- After doing an ACCEPT you *cannot* restore a PTF that goes PE. You will have to wait for a correcting PTF.

---

6 Copy the updated data sets from your SMP/E target libraries to your runtime data sets.

You can make a copy of the $206RTEC job that created the runtime data sets to help you copy the data sets from your SMP/E target libraries to your runtime data sets.

---

**Deploying maintenance to BMC product runtime data sets**

After deploying products, you might need to apply maintenance to keep your products current. Use the following procedure to apply maintenance:

1 Create a backup of the BMC SMP/E environment and BMC product runtime data sets.

2 Apply BMC maintenance.

3 *(non-shared DASD only)* Transfer the BMC SMP/E target data sets to the system on which the runtime data sets reside.
Best practice

To ensure data consistency and to maintain PDS member alias relationships, BMC recommends copying complete SMP/E target data sets rather than individual members.

4 Copy the SMP/E target data sets to the BMC product runtime data sets.

Backing up and reassembling option modules for system administration products 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.

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.

The products are:

- 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

What to back up

See the following tables for information about what to back up:

- **Table 4 on page 137** 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 might not be present.

- **Table 5 on page 138** 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 IMS for DBCTL might not be present.
- **Table 6 on page 140** lists the members that you should back up before applying maintenance to ETA.

- **Table 7 on page 140** lists the members that you should back up before applying maintenance to Message Advisor for IMS.

- **Table 8 on page 141** lists the members that you should back up before applying maintenance to the Message Advisor QPF component.

### Table 4: DELTA IMS libraries affected by maintenance

<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#iii</td>
<td>IMSID basic options</td>
<td></td>
</tr>
<tr>
<td></td>
<td>DLA@iii</td>
<td>IMSID extended options</td>
<td></td>
</tr>
<tr>
<td></td>
<td>VTFEXITx</td>
<td>VIRTUAL TERMINAL exits module</td>
<td></td>
</tr>
<tr>
<td></td>
<td>DLAS$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>DDCKWTnn</td>
<td>DELTA IMS for DBCTL keyword tables</td>
<td></td>
</tr>
<tr>
<td></td>
<td>DDCKWTUC</td>
<td>DELTA IMS for DBCTL keyword tables (DBCS)</td>
<td></td>
</tr>
<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>Library</td>
<td>Member</td>
<td>Description</td>
<td>Copy from</td>
</tr>
<tr>
<td>---------</td>
<td>----------</td>
<td>--------------------------------------------------</td>
<td>-----------------------</td>
</tr>
<tr>
<td>PLIB</td>
<td>DLAPI@00</td>
<td>ISPF Profile Defaults panel</td>
<td>Your PLIB library</td>
</tr>
</tbody>
</table>

### Table 5: DELTA PLUS and DELTA PLUS VIRTUAL TERMINAL libraries affected by maintenance

<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 <em>for IMS</em> permanent password</td>
<td>Your APF-authorized library</td>
</tr>
<tr>
<td></td>
<td>IPTTBL3T</td>
<td>BMC System Administration <em>for IMS</em> 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 IMS for DBCTL permanent password</td>
<td></td>
</tr>
<tr>
<td></td>
<td>DTDTBL3T</td>
<td>DELTA IMS 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>DLPZgggg</td>
<td>Group options</td>
<td></td>
</tr>
<tr>
<td></td>
<td>VTFEXITx</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>

Backing up and reassembling option modules for system administration products for IMS.
<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>DLPCI@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>DTDCI@00</td>
<td>DELTA IMS 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 (or for users of UPF with DELTA PLUS)</td>
<td>Default DELTA IMS for DBCTL View Profile</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 IMS 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 IMS for DBCTL View Profiles (former keyword tables that have been converted to View Profiles)</td>
<td></td>
</tr>
</tbody>
</table>
### Table 6: 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 <em>for IMS</em> permanent password</td>
</tr>
<tr>
<td></td>
<td>IPTTBL3T</td>
<td>BMC System Administration <em>for IMS</em> 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>ETMUID0</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 7: 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 <em>for IMS</em> permanent password</td>
</tr>
<tr>
<td></td>
<td>IPTTBL3T</td>
<td>BMC System Administration <em>for IMS</em> temporary password</td>
</tr>
<tr>
<td></td>
<td>CSUTBL3P</td>
<td>BMC System Communication <em>for IMS</em> permanent password</td>
</tr>
<tr>
<td></td>
<td>CSUTBL3T</td>
<td>BMC System Communication <em>for IMS</em> 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>QMRXSMA0</td>
<td>Security module source for internally coded list</td>
</tr>
<tr>
<td></td>
<td>QMRXSMA1</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>
### Reassembling the options module

After you apply maintenance, BMC recommends that you reassemble the global options module (DLIGSET0) for the system administration products for IMS.

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.

### Maintenance issue for BMC database products for IMS

This information describes how to handle a maintenance issue that might affect BMC database products for IMS.

**Note**

This information *does not* apply if you are using System Modification Program Extended (SMP/E) to maintain the BMC database products for IMS product libraries.

### Overview of handling modified modules

BMC uses a single library to distribute the load modules for all of the BMC products for IMS. When you reinstall any database product for IMS, you automatically reinstall the other products 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 (*v.r.mm*) of one or more products from the most recent product image files.
You have applied special maintenance (in the form of zaps and replacement load modules) for a product, and this product has the same \textit{v.r.m.m} for the most recent product image files as the \textit{v.r.m.m} 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 distributes the DBUCOPY utility in the load library of the installation media.

### Sample DBUCOPY job

The following is a sample job for using the DBUCOPY utility:

```plaintext
// standard JOB statement
/*
//DELETE1  EXEC PGM=IEFBRI4
//DD1      DD   DSN=TSOID.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*)
SELECT  MEMBER=(IRM*)
SELECT  MEMBER=(RVP*)
/*
```
### 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 \textit{CAP}\(^*\) value.

—For RECOVERY PLUS \textit{for IMS}, retain the statement with the \textit{RVP}\(^*\) value.

—For RECOVERY MANAGER \textit{for IMS}, retain the statement with the \textit{IRM}\(^*\) value.

\section*{Installation procedures}

Typically, you would execute a job that is similar to the sample before starting the first-time or maintenance installation procedure. Then, after completing the installation procedure, you copy all modules from the IEBCOPY output data set to the new load library.

\section*{Non-disruptive maintenance for MAXM Reorg Online products}

In a continuing effort to maximize IMS database availability, BMC offers non-disruptive maintenance (NDM) for MAXM Reorg Online products.

\subsection*{Overview of NDM}

NDM provides a means to install maintenance or an emergency fix without an IMS system outage.

NDM is available for the following MAXM Reorg Online products:

- MAXM Reorg/Online \textit{for IMS}
- MAXM Reorg/EP \textit{for IMS} with Online/Defrag Feature
- MAXM Reorg \textit{for IMS} with Online/Defrag Feature

NDM is modeled after the IMS Online Change Utility. \textit{Figure 9 on page 144} shows sample JCL for the IMS Online Change Utility.

\textit{Figure 9: Sample IMS Online Change Utility JCL}

```
//*
// IMSACBA DD DSN=IMS.&SYS2.ACBLIBA,DISP=SHR
// IMSACBB DD DSN=IMS.&SYS2.ACBLIBB,DISP=SHR
```
Because NDM is modeled after the IMS Online Change Utility, the library requirements are similar. Figure 10 on page 145 compares the IMS Online Change Utility and NDM data sets.

**Figure 10: 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>MODSTAT</td>
<td>BMCSTAT</td>
</tr>
</tbody>
</table>

To use NDM, you must create the following libraries:

- BMCLOADLIB
- BMCLIBA
- BMCLIBB

Table 9 on page 145 describes the NDM data sets.

**Table 9: NDM data sets**

<table>
<thead>
<tr>
<th>Data set</th>
<th>Description</th>
<th>Attributes</th>
<th>Values</th>
</tr>
</thead>
<tbody>
<tr>
<td>BMCLOADLIB</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. BMCLOADLIB, BMCLIBA, and BMCLIBB should have the same BLKSIZE.</td>
<td>DSORG</td>
<td>Partitioned</td>
</tr>
<tr>
<td></td>
<td></td>
<td>DSNTYPE</td>
<td>PDS</td>
</tr>
<tr>
<td></td>
<td></td>
<td>RECFM</td>
<td>U</td>
</tr>
<tr>
<td></td>
<td></td>
<td>LRECL</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td></td>
<td>BLKSIZE</td>
<td>&gt; or = 18432 default 18432</td>
</tr>
<tr>
<td>BMCLIBA/B</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. Prior to running online, you should APF authorize these data sets to the MVS system. BMCLOADLIB, BMCLIBA, and BMCLIBB should have the same BLKSIZE.</td>
<td>DSORG</td>
<td>Partitioned</td>
</tr>
<tr>
<td></td>
<td></td>
<td>DSNTYPE</td>
<td>PDS</td>
</tr>
<tr>
<td></td>
<td></td>
<td>RECFM</td>
<td>U</td>
</tr>
<tr>
<td></td>
<td></td>
<td>LRECL</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td></td>
<td>BLKSIZE</td>
<td>&gt; = 18432 default 18432</td>
</tr>
</tbody>
</table>
### Figure 11 on page 146 illustrates NDM library usage.

**Figure 11: NDM library usage**

#### Updating MAXM Online products using NDM

To update MAXM Online products using NDM, perform the following steps:

1. Unload the maintenance image file.

---

<table>
<thead>
<tr>
<th>Data set</th>
<th>Description</th>
<th>Attributes</th>
<th>Values</th>
</tr>
</thead>
<tbody>
<tr>
<td>BMCSTAT</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</td>
<td>PS</td>
</tr>
<tr>
<td></td>
<td></td>
<td>DSNTYPE</td>
<td>Sequential</td>
</tr>
<tr>
<td></td>
<td></td>
<td>RECFM</td>
<td>FB</td>
</tr>
<tr>
<td></td>
<td></td>
<td>LRECL</td>
<td>80</td>
</tr>
<tr>
<td></td>
<td></td>
<td>BLKSIZE</td>
<td>Any multiple of 80</td>
</tr>
</tbody>
</table>
2 Install the MAXM Online products into a set of staging libraries.

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 media.

4 Allocate a file that contains the CRF startup module.

This file will be concatenated first in the STEPLIB 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.

   Whichever library name is included in the data set (BMCLIBA or BMCLIBB) indicates the active library.

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
- DLIOSTUB
- LCLPPUE0

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 occur only in the IMS control region JCL. You must concatenate the full BMC load library in the DBRC region JCL. This requirement 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 12 on page 148 shows the IMS control region JCL NDM DD statement requirements.

**Figure 12: 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 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 13 on page 148 shows a sample of the switch JCL.

**Figure 13: Switch JCL sample**

```
//SWITCHB EXEC PGM=DLIGENTR
//STEPLIB DD DISP=SHR,DSN=your.BMCDBU.LOADLIB
//       DD DISP=SHR,DSN=your.IMS.RESLIB
//SYSUDUMP DD SYSOUT=*
//BMCMSG   DD SYSOUT=*
//BMCTRACE DD SYSOUT=*
//IMS     DD DISP=SHR,DSN=your.DBDLIB
//PLUSIN   DD *
/*
```

11 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.
Deploying products to other subsystems, LPARs, and sysplexes

The Installation System does not directly deploy products to other environments; it does, however, create deployment-ready JCL which makes it easy to deploy installations to additional subsystems, LPARs, and sysplexes.

The generated installation and configuration JCL contains INCLUDE members that you modify to deploy products to another environment. You do not need to go through the user interface or set configuration options again.

**Note**
For information about deploying infrastructure components, see the *BMC Infrastructure Components Administration Guide* document.

The following figure depicts the flow for deploying products.

**Figure 14: Flow for deploying products**

**Best practice**
BMC strongly recommends creating a new JCL data set for deployment. Doing so ensures that you have the full set of JCL used to perform the configuration of the BMC products for the subsystem, LPAR, or sysplex in question.

For more information, view the Quick Course "BMC Installation System - Product Deployment."
Copying your JCL library

Your JCL library contains a $$JCLCPY sample member that you can use to copy your JCL library to a new library. While you can use other methods to copy the library, the $$JCLCPY job performs the following functions to lessen the changes you need to make in the copy:

- Allocates the new data set if it does not already exist.
- Copies all members from the original JCL data set to the new one.
- Changes the JCL in the copied members to reference the new JCL data set name instead of the original JCL data set name.

Use the following procedure to make a copy of your JCL library.

To make a copy

1. *(optionally)* Edit the $$JCLCPY member to specify the name of a new JCL data set.

   The output data set name is specified as &DVOLIB..BKUP in the sample. Change the output data set name to a valid name for the new JCL library.

   ```
   //IN  DD *
   BMRXCL '&DVOLIB' +
   '&DVOLIB..BKUP'
   ```

   If you do not change the name, the JCL library will be named the same as your original library with the BKUP low-level qualifier added to it. For example, if the original data set name is MY.INSTALL.JCL, the copy would be named MY.INSTALL.JCL.BKUP.

   **Note**
   Do not change the input data set name (&DVOLIB) or the copy will not work properly.

2. Run the $$JCLCPY job.

   The new library is created.

Modifying INCLUDE members

Your JCL library contains a number of INCLUDE members that define variables for the items most commonly changed for deployment. The variables are defined by the
information you specified on the configuration panels. Use the following procedure to modify the INCLUDE members:

1. Modify the following INCLUDE members as needed:

<table>
<thead>
<tr>
<th>Member name</th>
<th>Contents</th>
</tr>
</thead>
</table>
| $$INC{	ext{GEN}}$$ | Variables that are used for all products:  
- Runtime high-level qualifier  
- Non-VSAM user library high-level qualifier  
- VSAM high-level qualifier  
- System data set names (ISPF MLIB and PROC LIB)  
- Existing product password data sets (if requested by the dialogs) |
| $$INC{	ext{DB2}}$$ | Variables that are used for the BMC products for DB2:  
- Subsystem name, DSNEXIT, DSNLOAD, and default storage group  
- Data-sharing group definition  
- DOPTs carryover  
- Product table migration variables  
- Administration product-specific variables  
- Product-specific variables |
| $$INC{	ext{IM}}$$ | Variables that are used for the BMC products for IMS:  
- IMS system variables  
- z/OS system variables needed for IMS installation  
- Product-specific variables |
| $$INC{	ext{MV}}$$ | Product-specific variables used by the MainView products. |
| $$INC{	ext{INF}}$$ | Variables that are used for the following BMC infrastructure components:  
- System and SQL Performance products (DOM)  
- EXTENDED BUFFER MANAGER (XBM)  
- Next Generation Logger (NGL)  
- DB2 Product Configuration (LGC)  
- DB2 Component Services (DBC)  
- Runtime Component System (RTCS) |
| $$INC{	ext{USR}}$$ | This INCLUDE member can be used to override any of the settings in the other $$INC{	ext{xxx}}$$ members.  
The advantage of using this member instead of modifying the other $$INC{	ext{xxx}}$$ members is that the $$INC{	ext{USR}}$$ member is not replaced when you regenerate JCL. |
| $$JOBLIB$$ | This member is the JOBLIB statement that is used by all of the $2nn$ through $9nn$ jobs. In most cases, the $2nn$ through $9nn$ jobs will not have a STEPLIB defined for job steps, but will instead use the load libraries defined in the $JOBLIB$ member. |
Running the deployment jobs

Your deployment scenario determines which jobs you need to run. Use the following procedure to run the appropriate jobs:

1. Run the following jobs in numeric order as needed:

<table>
<thead>
<tr>
<th>Jobs</th>
<th>When to run</th>
</tr>
</thead>
<tbody>
<tr>
<td>$1nn</td>
<td>You want to replicate your SMP/E environments.</td>
</tr>
<tr>
<td>$2nn</td>
<td>You are creating new runtime data sets, new user data sets, or you are not using shared DASD.</td>
</tr>
<tr>
<td>$3nn</td>
<td>You are deploying to a different sysplex.</td>
</tr>
<tr>
<td>$4nn</td>
<td>You are deploying to a different LPAR in the same sysplex.</td>
</tr>
<tr>
<td>$5nn</td>
<td>Always run this job.</td>
</tr>
<tr>
<td>$7nn</td>
<td>You are deploying BMC products for DB2.</td>
</tr>
<tr>
<td>$8nn</td>
<td>You are deploying BMC products for IMS.</td>
</tr>
<tr>
<td>$9nn</td>
<td>You are deploying MainView products.</td>
</tr>
</tbody>
</table>

*Note*
There are no $6nn jobs.
Product-specific installation requirements

Some products have installation requirements that apply only to the specific product. See the following sections to determine which requirements affect the products you are installing:

- “Installation requirements for APPLICATION RESTART CONTROL” on page 155
- “Installation requirements for BMC products for DB2” on page 157
- “Installation requirements for BMC database products for IMS” on page 161
- “Installation requirements for BMC system administration products for IMS” on page 165
- “Installation requirements for MainView products” on page 168

Installation requirements for APPLICATION RESTART CONTROL

The APPLICATION RESTART CONTROL (AR/CTL) products for IMS, DB2, and VSAM have multiple requirements that you must meet before installing or using them.

--- Note ---
For operating system, database, and space requirements, see “Review installation requirements” on page 54.

The following table lists the requirements for the AR/CTL products:
<table>
<thead>
<tr>
<th>Requirement type</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Storage usage in the private region</td>
<td>The amount of storage that AR/CTL uses in the private region varies during the execution of the job step and also varies depending on the application program environment and the services provided by AR/CTL. During initialization, AR/CTL uses about 2 MB of space in the private region; AR/CTL subsequently deletes most of the modules that were loaded during initialization. After initialization, AR/CTL uses approximately 627 KB of below-the-line storage when the application program begins to execute. More storage is required if the job step restarts or uses sequential files.</td>
</tr>
</tbody>
</table>

| CSA/ECSA usage by the BMC Primary Subsystem (BMCP) and the BMC Consolidated Subsystem (BCSS) | ■ The BMCP and the BCSS use less than 64 KB in nonextended common storage and use 1.5 MB in extended common storage. Most BMCP and BCSS private storage requirements (non-CSA) are obtained from extended private storage.  
■ The BMCP and the BCSS place work areas above the 16-MB line when possible. These subsystems are compatible with DFSMS and are not sensitive to Data Facility Product (DFP) levels.  
■ BMCP requires 22 KB of above-the-line storage on each z/OS system on which it runs.  
■ BCSS requires 1771 KB of above-the-line storage on each z/OS system on which it runs. |

| IMS | ■ Your site must have a licensed copy of the IMS Database Manager product in either of the following cases:  
— If you want to use the BCF component of AR/CTL  
— If you plan to use AR/CTL with IMS  
■ AR/CTL and the BCF component are supported for use with all IBM-supported versions and releases of IMS.  
Note: If you plan to use AR/CTL in IMS-compatible mode (where IMS is not present during application program execution), no IMS license is required. When you migrate to a new release of IMS, IMS requires that all application programs complete normally under the old release before executing under the new release. When restarting a program on a new release, IMS cannot use a log data set that was created under the previous IMS release. Before you migrate to a new release of AR/CTL, ensure that all work completes normally under the old AR/CTL release. After migration, you cannot restart a job that terminated abnormally under the previous release. |
Installation requirements for BMC products for DB2

The BMC products for DB2 have various installation requirements.

Note
For operating system, database, and space requirements, see “Review installation requirements” on page 54.

The following table lists the requirements for the BMC products for DB2:

<table>
<thead>
<tr>
<th>Solution or product</th>
<th>Requirements</th>
</tr>
</thead>
</table>
| ALTER for DB2       | “Installation authorization requirements for BMC products for DB2” on page 187  
                     “ALTER requirements” on page 178  
                     “Common SQL (ACS) component requirements” on page 183 |
| APPTUNE for DB2     | “Installation authorization requirements for BMC products for DB2” on page 187  
                     “System and SQL Performance products and solutions requirements” on page 193 |
<table>
<thead>
<tr>
<th>Solution or product</th>
<th>Requirements</th>
</tr>
</thead>
<tbody>
<tr>
<td>BMC Administrative Assistant for DB2</td>
<td>“Installation authorization requirements for BMC products for DB2” on page 187</td>
</tr>
<tr>
<td></td>
<td>“ALTER requirements” on page 178</td>
</tr>
<tr>
<td></td>
<td>“CATALOG MANAGER requirements” on page 181</td>
</tr>
<tr>
<td></td>
<td>“Common SQL (ACS) component requirements” on page 183</td>
</tr>
<tr>
<td></td>
<td>“NGT Recover requirements” on page 192</td>
</tr>
<tr>
<td></td>
<td>“UNLOAD PLUS for DB2 system and software requirements” on page 197</td>
</tr>
<tr>
<td>BMC Workbench for DB2</td>
<td>“Installation authorization requirements for BMC products for DB2” on page 187</td>
</tr>
<tr>
<td></td>
<td>“BMC Workbench for DB2 requirements” on page 179</td>
</tr>
<tr>
<td>CATALOG MANAGER for DB2</td>
<td>“Installation authorization requirements for BMC products for DB2” on page 187</td>
</tr>
<tr>
<td></td>
<td>“CATALOG MANAGER requirements” on page 181</td>
</tr>
<tr>
<td></td>
<td>“Common SQL (ACS) component requirements” on page 183</td>
</tr>
<tr>
<td>CHANGE MANAGER for DB2</td>
<td>“Installation authorization requirements for BMC products for DB2” on page 187</td>
</tr>
<tr>
<td></td>
<td>“CHANGE MANAGER requirements” on page 182</td>
</tr>
<tr>
<td></td>
<td>“Common SQL (ACS) component requirements” on page 183</td>
</tr>
<tr>
<td>CHECK PLUS for DB2</td>
<td>“Installation authorization requirements for BMC products for DB2” on page 187</td>
</tr>
<tr>
<td></td>
<td>“CHECK PLUS for DB2 system and software requirements” on page 182</td>
</tr>
<tr>
<td>DASD MANAGER PLUS for DB2</td>
<td>“Installation authorization requirements for BMC products for DB2” on page 187</td>
</tr>
<tr>
<td></td>
<td>“DASD MANAGER PLUS requirements” on page 185</td>
</tr>
<tr>
<td></td>
<td>“Common SQL (ACS) component requirements” on page 183</td>
</tr>
<tr>
<td>BMC Database Administration for DB2 solution</td>
<td>“Installation authorization requirements for BMC products for DB2” on page 187</td>
</tr>
<tr>
<td></td>
<td>“Common SQL (ACS) component requirements” on page 183</td>
</tr>
<tr>
<td></td>
<td>“CATALOG MANAGER requirements” on page 181</td>
</tr>
<tr>
<td></td>
<td>“CHANGE MANAGER requirements” on page 182</td>
</tr>
<tr>
<td></td>
<td>“COPY PLUS requirements” on page 184</td>
</tr>
<tr>
<td></td>
<td>“LOADPLUS system and software requirements” on page 187</td>
</tr>
<tr>
<td></td>
<td>“NGT Recover requirements” on page 192</td>
</tr>
<tr>
<td></td>
<td>“EXTENDED BUFFER MANAGER (XBM) and SNAPSHOT UPGRADE FEATURE (SUF) requirements” on page 186</td>
</tr>
<tr>
<td></td>
<td>“UNLOAD PLUS for DB2 system and software requirements” on page 197</td>
</tr>
<tr>
<td></td>
<td>“Cross-System Image Manager (XIM) requirements” on page 184</td>
</tr>
<tr>
<td>Solution or product</td>
<td>Requirements</td>
</tr>
<tr>
<td>---------------------</td>
<td>--------------</td>
</tr>
</tbody>
</table>
| Database Performance for DB2 solution | “Installation authorization requirements for BMC products for DB2” on page 187  
“Database Performance for DB2 requirements” on page 185  
“UIM server requirements” on page 197  
“DASD MANAGER PLUS requirements” on page 185  
“REORG PLUS for DB2 system and software requirements” on page 192  
“EXTENDED BUFFER MANAGER (XBM) and SNAPSHOT UPGRADE FEATURE (SUF) requirements” on page 186  
“Common SQL (ACS) component requirements” on page 183 |
| EXTENDED BUFFER MANAGER (XBM) and SNAPSHOT UPGRADE FEATURE (SUF) products | “Installation authorization requirements for BMC products for DB2” on page 187  
“EXTENDED BUFFER MANAGER (XBM) and SNAPSHOT UPGRADE FEATURE (SUF) requirements” on page 186 |
| High-speed Apply Engine | “Installation authorization requirements for BMC products for DB2” on page 187  
“High-speed Apply Engine requirements” on page 186 |
| LOADPLUS for DB2 | “Installation authorization requirements for BMC products for DB2” on page 187  
“LOADPLUS system and software requirements” on page 187 |
| Log Master for DB2 | “Installation authorization requirements for BMC products for DB2” on page 187  
“Log Master requirements” on page 189  
“High-speed Apply Engine requirements” on page 186 |
| BMC Next Generation Technology Check for DB2 for z/OS (NGT Check) | “Installation authorization requirements for BMC products for DB2” on page 187  
“Prerequisites” on page 189  
“NGT Check software requirements” on page 189 |
| BMC Next Generation Technology Copy for DB2 for z/OS | “Installation authorization requirements for BMC products for DB2” on page 187  
“Prerequisites” on page 189  
“COPY PLUS requirements” on page 184 |
| BMC Next Generation Technology Load for DB2 for z/OS (NGT Load) | “Installation authorization requirements for BMC products for DB2” on page 187  
“Prerequisites” on page 189  
“NGT Load software requirements” on page 189 |
| BMC Next Generation Technology LOBMaster for DB2 for z/OS (NGT LOBMaster) | “Installation authorization requirements for BMC products for DB2” on page 187  
“Prerequisites” on page 189  
“NGT LOBMaster software requirements” on page 190 |
<table>
<thead>
<tr>
<th>Solution or product</th>
<th>Requirements</th>
</tr>
</thead>
<tbody>
<tr>
<td>BMC Next Generation Technology Reorg for DB2 for z/OS (NGT Reorg)</td>
<td>“Installation authorization requirements for BMC products for DB2” on page 187</td>
</tr>
<tr>
<td></td>
<td>“Prerequisites” on page 189</td>
</tr>
<tr>
<td></td>
<td>“NGT Reorg software requirements” on page 190</td>
</tr>
<tr>
<td>BMC Next Generation Technology Stats for DB2 for z/OS (NGT Stats)</td>
<td>“Installation authorization requirements for BMC products for DB2” on page 187</td>
</tr>
<tr>
<td></td>
<td>“Prerequisites” on page 189</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td>BMC Next Generation Technology Utility Manager for DB2 for z/OS (NGT Utility Manager)</td>
<td>“Installation authorization requirements for BMC products for DB2” on page 187</td>
</tr>
<tr>
<td></td>
<td>“Prerequisites” on page 189</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td>OPERTUNE for DB2</td>
<td>“Installation authorization requirements for BMC products for DB2” on page 187</td>
</tr>
<tr>
<td></td>
<td>“System and SQL Performance products and solutions requirements” on page 193</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td>PACLOG for DB2</td>
<td>“Installation authorization requirements for BMC products for DB2” on page 187</td>
</tr>
<tr>
<td></td>
<td>“PACLOG requirements” on page 190</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td>Pool Advisor for DB2</td>
<td>“Installation authorization requirements for BMC products for DB2” on page 187</td>
</tr>
<tr>
<td></td>
<td>“System and SQL Performance products and solutions requirements” on page 193</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td>BMC Next Generation Technology Recover for DB2 for z/OS</td>
<td>“Installation authorization requirements for BMC products for DB2” on page 187</td>
</tr>
<tr>
<td></td>
<td>“NGT Recover requirements” on page 192</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td>BMC Recovery Management for DB2</td>
<td>“Installation authorization requirements for BMC products for DB2” on page 187</td>
</tr>
<tr>
<td></td>
<td>“COPY PLUS requirements” on page 184</td>
</tr>
<tr>
<td></td>
<td>“BMC DB2 Components Services (DBC) requirements” on page 179</td>
</tr>
<tr>
<td></td>
<td>“EXTENDED BUFFER MANAGER (XBM) and SNAPSHOT UPGRADE FEATURE (SUF) requirements” on page 186</td>
</tr>
<tr>
<td></td>
<td>“High-speed Apply Engine requirements” on page 186</td>
</tr>
<tr>
<td></td>
<td>“Log Master requirements” on page 189</td>
</tr>
<tr>
<td></td>
<td>“NGT Recover requirements” on page 192</td>
</tr>
<tr>
<td></td>
<td>“RECOVERY MANAGER requirements” on page 192</td>
</tr>
<tr>
<td></td>
<td>“R+/CHANGE ACCUM requirements” on page 191</td>
</tr>
</tbody>
</table>
The BMC database products for IMS have requirements that you must meet before installing the products.

**Note**
For operating system, database, and space requirements, see “Review installation requirements” on page 54.

The following table lists the requirements for the BMC database products for IMS:

<table>
<thead>
<tr>
<th>Product</th>
<th>Requirements</th>
</tr>
</thead>
<tbody>
<tr>
<td>All BMC database products for IMS except DATA PACKER/IMS, the Fast Path/EP products, Fast Path Recovery Utility, and Fast Path Restart Control Facility</td>
<td></td>
</tr>
</tbody>
</table>
- ISPF 2.3 or later  
- TSO session  
- License for IBM IMS/ESA Database Manager product |
<table>
<thead>
<tr>
<th>Product</th>
<th>Requirements</th>
</tr>
</thead>
</table>
| **Backup and Recovery Solution for IMS**    | ■ Authority to perform APF authorization tasks  
■ For the Recovery Advisor, minimum workstation hardware and operating system requirements (see “UIM server and console requirements” on page 196) |
| **BMC Application Accelerator for IMS**      | ■ Authority to perform APF authorization tasks  
■ 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 Java enabled) or Netscape 6.2 or 7.0  
■ Minimum workstation hardware and operating system requirements (see “UIM server and console requirements” on page 196) |
| **CHANGE ACCUMULATION PLUS**                 | Authority to perform APF authorization tasks                                                      |
| **CHANGE RECORDING FACILITY**                | ■ 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 |
| **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 (see “UIM server and console requirements” on page 196) |
| **EXTENDED BUFFER MANAGER and SNAPSHOT UPGRADE FEATURE** | See “EXTENDED BUFFER MANAGER (XBM) and SNAPSHOT UPGRADE FEATURE (SUF) requirements” on page 186 |
| **Fast Path Analyzer/EP**                    | ■ DBRC feature of IMS  
■ Authority to perform APF authorization tasks                                                      |
<table>
<thead>
<tr>
<th>Product</th>
<th>Requirements</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fast Path Indexer/EP</td>
<td>- Authority to perform APF authorization tasks</td>
</tr>
<tr>
<td></td>
<td>- PFXLIBA and PFXLIBB data sets to hold DBD and PSB control blocks</td>
</tr>
<tr>
<td>Fast Path Online Analyzer/EP</td>
<td>- DBRC feature of IMS</td>
</tr>
<tr>
<td></td>
<td>- Authority to perform APF authorization tasks</td>
</tr>
<tr>
<td>Fast Path Online Image Copy/EP</td>
<td>- DBRC feature of IMS</td>
</tr>
<tr>
<td></td>
<td>- Authority to perform APF authorization tasks</td>
</tr>
<tr>
<td>Fast Path Online Reorg/EP</td>
<td>- DBRC feature of IMS</td>
</tr>
<tr>
<td></td>
<td>- Authority to perform APF authorization tasks</td>
</tr>
<tr>
<td>Fast Path Recovery Utility</td>
<td>- DBRC feature of IMS</td>
</tr>
<tr>
<td></td>
<td>- Authority to perform APF authorization tasks</td>
</tr>
<tr>
<td>Fast Path Reorg/EP</td>
<td>- DBRC feature of IMS</td>
</tr>
<tr>
<td></td>
<td>- Authority to perform APF authorization tasks</td>
</tr>
<tr>
<td>Fast Path Restart Control Facility</td>
<td>- Authority to perform APF authorization tasks</td>
</tr>
<tr>
<td></td>
<td>- MVS Message Processing Facility and MGCR SVC</td>
</tr>
<tr>
<td>Fast Path Online Restructure/EP</td>
<td>- DBRC feature of IMS</td>
</tr>
<tr>
<td></td>
<td>- DB/CTL feature of IMS if you use CICS</td>
</tr>
<tr>
<td></td>
<td>- Authority to perform APF authorization tasks</td>
</tr>
<tr>
<td></td>
<td>- 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</td>
</tr>
<tr>
<td></td>
<td>- 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</td>
</tr>
<tr>
<td></td>
<td>- A user ID with the authority that is associated with the BCSS/CPC server started task</td>
</tr>
<tr>
<td></td>
<td>- Fast Path/EP load library</td>
</tr>
<tr>
<td></td>
<td>- Microsoft Internet Explorer 5.0, 5.5, or 6.0 (must be Java enabled) or Netscape 6.2 or 7.0</td>
</tr>
<tr>
<td></td>
<td>- Minimum workstation hardware and operating system requirements (see “UIM server and console requirements” on page 196)</td>
</tr>
<tr>
<td>Product</td>
<td>Requirements</td>
</tr>
<tr>
<td>---------</td>
<td>--------------</td>
</tr>
<tr>
<td>MAXM Reorg <em>for IMS</em></td>
<td>Authority to perform APF authorization tasks</td>
</tr>
</tbody>
</table>
| MAXM Reorg *for IMS* with Online/Defrag Feature | ■ DBRC feature of IMS  
■ Authority to perform APF authorization tasks |
| MAXM Reorg/EP *for IMS* | ■ Authority to perform APF authorization tasks  
■ Authority to include the operating system SYS1.CSSLIB library in the STEPLIB or LNKLST |
| MAXM Reorg/EP *for IMS* with Online/Defrag Feature | ■ DBRC feature of IMS  
■ Authority to perform APF authorization tasks  
■ Authority to include the operating system SYS1.CSSLIB library in the STEPLIB or LNKLST |
| MAXM Reorg/EP Express *for IMS* | ■ Authority to perform APF authorization tasks  
■ Authority to include the operating system SYS1.CSSLIB library in the STEPLIB or LNKLST |
| MAXM Reorg/Online *for IMS* | ■ DBRC feature of IMS  
■ Authority to perform APF authorization tasks  
■ DB/CTL feature of IMS if you use CICS for the Online Reorg function  
■ Authority to include the operating system SYS1.CSSLIB library in the STEPLIB or LNKLST |
| PREFIX RESOLUTION PLUS | No additional requirements apply |
| POINTER CHECKER PLUS | No additional requirements apply |
| RECOVERY MANAGER *for IMS* | ■ DBRC feature of IMS  
■ Authority to perform APF authorization tasks  
■ A user ID with the authority that is associated with the started task |
| RECOVERY PLUS *for IMS* | Authority to perform APF authorization tasks |
| SECONDARY INDEX UTILITY | No additional requirements apply |
| SECONDARY INDEX UTILITY/EP | Authority to perform APF authorization tasks |
| UNLOAD PLUS *for IMS* | No additional requirements apply |
| UNLOAD PLUS/EP *for IMS* | Authority to perform APF authorization tasks |
# Installation requirements for BMC system administration products for IMS

The BMC system administration products for IMS have requirements that you must meet before installing the products.

**Note**

For operating system, database, and space requirements, see “Review installation requirements” on page 54.

The following table lists the requirements for the BMC system administration products for IMS:

<table>
<thead>
<tr>
<th>Product</th>
<th>Requirements</th>
</tr>
</thead>
<tbody>
<tr>
<td>All BMC system administration products for IMS</td>
<td>All products have the following requirements:</td>
</tr>
<tr>
<td></td>
<td>■ ISPF 3.5 or later</td>
</tr>
<tr>
<td></td>
<td>■ IBM VTAM</td>
</tr>
<tr>
<td></td>
<td>■ DASD storage</td>
</tr>
<tr>
<td></td>
<td>■ APF-authorized library concatenated before IMS RESLIB</td>
</tr>
<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 apply (see “UIM server and console requirements” on page 196).</td>
</tr>
<tr>
<td>BMC System Communication for IMS</td>
<td>Minimum workstation hardware and operating system requirements apply (see “UIM server and console requirements” on page 196).</td>
</tr>
</tbody>
</table>
### Product Requirements

| 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.  
  
  Because 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.  
  
  Because 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>
<thead>
<tr>
<th>Product</th>
<th>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.  
   ■ Because 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.  
   ■ 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 sign-ons for a single user ID, the IMS control region SGN parameter value must be G, M, or Z. |
| DELTA PLUS                      | No additional requirements apply.                                                                                                          |
| DELTA PLUS for DBCTL            | No additional requirements apply.                                                                                                          |
| DELTA PLUS VIRTUAL TERMINAL    | ■ 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 sign-ons for a single user ID, the IMS control region SGN parameter value must be G, M, or Z. |
| Energizer for IMS Connect       | Energizer requires:  
   ■ IMS Connect version 11.1 or later  
   ■ Minimum workstation hardware and operating system requirements (see “UIM server and console requirements” on page 196) |
| EXTENDED TERMINAL ASSIST PLUS   | IMS module DFSBC000 cannot reside in any LPA library. |
### Installation requirements for MainView products

The MainView products have numerous requirements. Some requirements are common to many products, while other requirements are specific to individual products.

**Note**

For operating system, database, and space requirements, see “Review installation requirements” on page 54.

The following table lists the requirements for the MainView products:

<table>
<thead>
<tr>
<th>Product</th>
<th>Requirements</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>All MainView products</strong></td>
<td>All products have the following requirements:</td>
</tr>
<tr>
<td></td>
<td>■ MainView Infrastructure version 6.1 or later</td>
</tr>
<tr>
<td></td>
<td>■ Runtime Component System (RTCS), which is part of the MainView Infrastructure</td>
</tr>
<tr>
<td><strong>3270 SUPEROPTIMIZER/CICS</strong></td>
<td>This product requires the following facilities from CICS:</td>
</tr>
<tr>
<td></td>
<td>■ Command-level support</td>
</tr>
<tr>
<td></td>
<td>■ CICS user exit interface</td>
</tr>
<tr>
<td></td>
<td>■ 120 KB of virtual storage for the Optimizer code</td>
</tr>
<tr>
<td></td>
<td>■ 18 KB to 2 GB for work areas (dependent on options)</td>
</tr>
<tr>
<td></td>
<td>In addition, BMC recommends the following facilities:</td>
</tr>
<tr>
<td></td>
<td>■ VSAM support in the file control program for the COPOPT options file and for the COPRINT file</td>
</tr>
<tr>
<td></td>
<td>■ Inquire/set support for CICS. (Without this support, dynamic terminal areas are used for all terminals.)</td>
</tr>
<tr>
<td></td>
<td>■ Transient data program for message handling and optional printing</td>
</tr>
<tr>
<td>Product</td>
<td>Requirements</td>
</tr>
<tr>
<td>----------------------------------------------</td>
<td>-----------------------------------------------------------------------------</td>
</tr>
<tr>
<td><strong>BMC Discovery for z/OS</strong></td>
<td>This product has the following requirements:</td>
</tr>
<tr>
<td>■ BMC Atrium Discovery and Dependency Mapping version 8.2.03 or later</td>
<td></td>
</tr>
<tr>
<td>■ MainView Infrastructure version 6.0 with the following PTFs applied:</td>
<td></td>
</tr>
<tr>
<td>— BPY8846</td>
<td></td>
</tr>
<tr>
<td>— BPY8561</td>
<td></td>
</tr>
<tr>
<td>■ BBX Subsystem Services version 1.6 with PTF BPB1324 applied</td>
<td></td>
</tr>
<tr>
<td><strong>BMC Impact Integration for z/OS</strong></td>
<td>No additional requirements apply.</td>
</tr>
<tr>
<td><strong>BMC Intelligent Capping for z/Enterprise</strong></td>
<td>This product has the following requirements:</td>
</tr>
<tr>
<td>■ The master PAS requires Version 1.13 or later of the IBM z/OS system.</td>
<td></td>
</tr>
<tr>
<td>■ The agent PAS requires z/OS 1.12 or later.</td>
<td></td>
</tr>
<tr>
<td>■ The IBM z/OS BCPii component--- Version 1.13 (HWIBCPIISTC) or later---must be running on the system where the master PAS runs.</td>
<td>Note: You should not run Version 2.1 of the IBM Capacity Provisioning (CPM) component for z/OS in parallel with iCap. Also, iCap does not support IBM z/VM guests.</td>
</tr>
<tr>
<td><strong>BMC System Performance for DB2</strong></td>
<td>See the requirements for:</td>
</tr>
<tr>
<td>■ MainView for DB2 in this table</td>
<td></td>
</tr>
<tr>
<td>■ SQL and System Performance for DB2 solutions and products in</td>
<td></td>
</tr>
<tr>
<td>“Installation requirements for BMC products for DB2” on page 157</td>
<td></td>
</tr>
<tr>
<td><strong>CMF MONITOR</strong></td>
<td>IBM System z9 or later</td>
</tr>
<tr>
<td><strong>DATA ACCELERATOR Compression</strong></td>
<td>This product has the following requirements:</td>
</tr>
<tr>
<td>■ ISPF Version 4.1 or later (for the optional Data Set and Program Registration panels, and the Implementation Assist panel)</td>
<td></td>
</tr>
<tr>
<td>■ TSO/E Version 2.3 or later (for the optional Implementation Assist panel)</td>
<td></td>
</tr>
<tr>
<td>■ DFSMS/MVS 1.2 or later if using SMS Component</td>
<td></td>
</tr>
<tr>
<td>Product</td>
<td>Requirements</td>
</tr>
<tr>
<td>--------------------------</td>
<td>--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td><strong>Energizer for CICS</strong></td>
<td>The Reporting Address Space has the following virtual storage requirements:</td>
</tr>
<tr>
<td></td>
<td>■ 9500 bytes of ECSA for the Base Area</td>
</tr>
<tr>
<td></td>
<td>■ 9250 bytes of ECSA for each CICS system defined with the NUMCICS parameter. (The default is 10 CICS systems.)</td>
</tr>
<tr>
<td><strong>MainView AutoOPERATOR</strong></td>
<td>The product address space (PAS) has the following virtual storage requirements:</td>
</tr>
<tr>
<td></td>
<td>■ Per NetView target systems:</td>
</tr>
<tr>
<td></td>
<td>— 320 KB plus an additional 10 KB for every user logged on through a TS or active thread</td>
</tr>
<tr>
<td></td>
<td>— An OST that can run in as little as 16 KB</td>
</tr>
<tr>
<td></td>
<td>■ Per BBI-SS PAS (with MAO, IAO, CAO, and Access NV):</td>
</tr>
<tr>
<td></td>
<td>— 30 KB CSA (subpool 231 and subpool 241)</td>
</tr>
<tr>
<td></td>
<td>— 190 KB ECSA</td>
</tr>
<tr>
<td></td>
<td>— 2500 KB private area storage</td>
</tr>
<tr>
<td></td>
<td>■ Per TS:</td>
</tr>
<tr>
<td></td>
<td>— 4 KB CSA (subpool 238 and 241) per active TS</td>
</tr>
<tr>
<td></td>
<td>— 8 KB ECSA (subpool 241) per group of 12 active TSs or a fraction thereof</td>
</tr>
<tr>
<td></td>
<td>— 0 KB CSA per CICS target systems</td>
</tr>
<tr>
<td></td>
<td>— 2500 KB private area storage</td>
</tr>
<tr>
<td></td>
<td>■ Per IMS target systems:</td>
</tr>
<tr>
<td></td>
<td>— 45 KB IMS control region private storage</td>
</tr>
<tr>
<td></td>
<td>— 2.5 KB CSA (subpool 241)</td>
</tr>
<tr>
<td><strong>MainView FOCAL POINT</strong></td>
<td>Virtual storage requirements are 25 KB of ECSA storage per MVS system for Job Optimizer modules, with 1031 KB of it above the 16-MB line:</td>
</tr>
<tr>
<td></td>
<td>■ For each BBI-SS PAS, 70 KB in the BBI-SS PAS</td>
</tr>
<tr>
<td></td>
<td>■ For each TS, 20 KB + (ntgt) * (nmon) * 5 bytes (+ 80) bytes (+ 23 ) bytes (* nmonov)</td>
</tr>
<tr>
<td></td>
<td>The variables are as follows:                                                                                                       (ntgt) is the number of defined targets. (nmon) Is the number of global monitors. (nmonov) Is the number of monitor overrides.</td>
</tr>
</tbody>
</table>
## MainView for CICS

A UNIX file system (HFS or zFS) is required for installing and maintaining MainView for CICS. This file system contains code that monitors the CICS Transaction Gateway (CTG). The file system is required even if you do not use MainView for CICS to monitor CTG.

Virtual storage requirements are as follows:

- For each active BBI-SS PAS:
  - 30 KB CSA plus 22 KB per active SRB
  - 280 KB ECSA

- Additional in BBI-SS PAS for each CICS target system:
  - 320 bytes CSA
  - 14 KB ECSA

- For each CAS:
  - 3 KB CSA
  - 2770 KB ECSA

- For the BBI-SS PAS private area storage:
  - Storage requirement is not constant, it depends on what is active; BMC recommends using REGION=0M for best performance
  - If REGION=0M is not used, set MEMLIMIT to a minimum of 100 GB for MainView Infrastructure to store data records above the bar; BMC recommends a higher MEMLIMIT (such as 500 GB) because 31-bit storage is used if above the bar storage is exhausted

<table>
<thead>
<tr>
<th>Product</th>
<th>Requirements</th>
</tr>
</thead>
</table>
| MainView for CICS | A UNIX file system (HFS or zFS) is required for installing and maintaining MainView for CICS. This file system contains code that monitors the CICS Transaction Gateway (CTG). The file system is required even if you do not use MainView for CICS to monitor CTG. Virtual storage requirements are as follows: For each active BBI-SS PAS:  
  - 30 KB CSA plus 22 KB per active SRB  
  - 280 KB ECSA
  
  Additional in BBI-SS PAS for each CICS target system:  
  - 320 bytes CSA  
  - 14 KB ECSA

  For each CAS:  
  - 3 KB CSA  
  - 2770 KB ECSA

  For the BBI-SS PAS private area storage:
  - Storage requirement is not constant, it depends on what is active; BMC recommends using REGION=0M for best performance
  - If REGION=0M is not used, set MEMLIMIT to a minimum of 100 GB for MainView Infrastructure to store data records above the bar; BMC recommends a higher MEMLIMIT (such as 500 GB) because 31-bit storage is used if above the bar storage is exhausted |
<table>
<thead>
<tr>
<th>Product</th>
<th>Requirements</th>
</tr>
</thead>
<tbody>
<tr>
<td>MainView for DB2</td>
<td>This product has the following requirements:</td>
</tr>
<tr>
<td></td>
<td>■ DB2 Solution Common Code (SCC) version 1.6.00 with current maintenance is required.</td>
</tr>
<tr>
<td></td>
<td>■ To enable a BBI-SS PAS to connect to DB2 subsystems at two release levels, the DB2 load library that is used in the BBI-SS PAS must contain a compatible level of the Call Attach Facility (CAF). Additionally, the DB2 ERLY code in SYS1.LINKLST must be at a compatible level.</td>
</tr>
<tr>
<td></td>
<td>■ For virtual storage requirements, some functionality requires storage above the 2 GB bar. This functionality includes the TRLTRAC view, current locks views (LS*), and page set statistics views (PS*) as well as background monitor DBIO. To calculate how much above the bar storage your environment requires, perform the following steps:</td>
</tr>
<tr>
<td></td>
<td>1 If page set statistics are enabled (enabled is the default), complete the following equation:</td>
</tr>
<tr>
<td></td>
<td>[ 2 + \left( \frac{ZPARM\text{ DSMAX}}{5242} + 1 \right) = pppp\text{ MB} ]</td>
</tr>
<tr>
<td></td>
<td>2 Complete the following equation:</td>
</tr>
<tr>
<td></td>
<td>[(10\text{ MB} \times x) + (1\text{ GB} \times y) = nnnn\text{ MB}]</td>
</tr>
<tr>
<td></td>
<td>(x) is the likely number of concurrent users of the current locks views (LS*).</td>
</tr>
<tr>
<td></td>
<td>(y) is the likely number of concurrent users of the TRLTRAC view.</td>
</tr>
<tr>
<td></td>
<td>(nnnn) is the minimum value for the IBM z/OS MEMLIMIT parameter.</td>
</tr>
<tr>
<td></td>
<td><strong>Example:</strong> To support two locks view users and three TRLTRAC view users concurrently, the equation would be: ((10\text{ MB} \times 2) + (1\text{ GB} \times 3) = 3092\text{ MB})</td>
</tr>
<tr>
<td></td>
<td>3 Increase the MEMLIMIT parameter to at least the (nnnn + pppp) value calculated in steps 1 and 2 by performing one of the following actions:</td>
</tr>
<tr>
<td></td>
<td>— In the BBI-SS PAS procedure, add the MEMLIMIT=nnnn MB parameter to the EXEC statement.</td>
</tr>
<tr>
<td></td>
<td>— In the SYS1.PARMLIB member SMFPRMxx, verify that the MEMLIMIT parameter is set to nnnn MB.</td>
</tr>
</tbody>
</table>
This product has the following requirements:

- An additional virtual storage consideration when choosing your REGION size is the impact of the page set statistics below the 2 GB bar. Below the bar requirements for page set statistics are as follows:
  
  200 bytes * currently open data sets (see DSMAX) * (number of users of PS* views and 1 for DBIO background monitor) calculated for each DB2 subsystem being monitored
  
  Alarms on pages set statistics views should be considered in the number of users count.
  
  To control the use of page set statistic views and the impact that they can have on your virtual storage resource requirements, use one of the following techniques:

- Add the following keyword to your DMRBEXO0 for a specific DB2 subsystem, PAGESET=YES | NO

- Issue one of the following global commands from a MainView COMMAND line:
  
  - STOPPS—Stop page set statistics and free resources, erasing session level statistics
  
  - STARTPS—Start page set statistics acquiring memory resources to gather session level statistics
  
  - SHOWPS—Show the status of page set statistics
<table>
<thead>
<tr>
<th>Product</th>
<th>Requirements</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>MainView for DBCTL</strong></td>
<td>This product has the following requirements:</td>
</tr>
<tr>
<td><strong>MainView for IMS Online</strong></td>
<td>■ Virtual storage requirements:</td>
</tr>
<tr>
<td></td>
<td>— MainView AOI exit and Event Collector</td>
</tr>
<tr>
<td></td>
<td>— 10 KB of IMS control region private storage</td>
</tr>
<tr>
<td></td>
<td>18 KB of CSA (subpool 241)</td>
</tr>
<tr>
<td></td>
<td>— 850 KB of ECSA (subpool 241)</td>
</tr>
<tr>
<td></td>
<td>— 301 KB of ECSA (subpool 241) for Fast Path support</td>
</tr>
<tr>
<td></td>
<td>— 5.2 KB CSA (subpool 241) for each active MWAIT monitor</td>
</tr>
<tr>
<td></td>
<td>— For any active detail trace (MTRAC), the requirement of TRBUFF * TRSIZE dataspace, which is specified in BBPARM member IMFBEX00</td>
</tr>
<tr>
<td></td>
<td>— For each CAS:</td>
</tr>
<tr>
<td></td>
<td>— 16 KB CSA</td>
</tr>
<tr>
<td></td>
<td>2770 KB ECSA</td>
</tr>
<tr>
<td></td>
<td>— For each BBI-SS PAS:</td>
</tr>
<tr>
<td></td>
<td>— 2500 KB private area storage</td>
</tr>
<tr>
<td></td>
<td>— 10 KB CSA (subpool 241) per active BBI-SS PAS</td>
</tr>
<tr>
<td></td>
<td>— 25 KB ECSA (subpool 241) per active BBI-SS PAS</td>
</tr>
<tr>
<td></td>
<td>— For each TS:</td>
</tr>
<tr>
<td></td>
<td>— 1000 KB private area storage</td>
</tr>
<tr>
<td></td>
<td>— 8 KB ECSA (subpool 241) per active TS</td>
</tr>
<tr>
<td></td>
<td>— 4 KB CSA (subpool 241) per group of 12 active TSs or fraction thereof</td>
</tr>
<tr>
<td><strong>MainView for IMS Offline</strong></td>
<td>Virtual storage requirements are as follows:</td>
</tr>
<tr>
<td></td>
<td>■ MainView AOI exit and Event Collector</td>
</tr>
<tr>
<td></td>
<td>— 10 KB of IMS control region private storage</td>
</tr>
<tr>
<td></td>
<td>18 KB of CSA (subpool 241)</td>
</tr>
<tr>
<td></td>
<td>— 850 KB of ECSA (subpool 241)</td>
</tr>
<tr>
<td></td>
<td>— 301 KB of ECSA (subpool 241) for Fast Path support</td>
</tr>
<tr>
<td></td>
<td>■ Each active MWAIT monitor requires 5.2 KB CSA (subpool 241)</td>
</tr>
<tr>
<td><strong>MainView for IP</strong></td>
<td>IBM TCP/IP stack is required.</td>
</tr>
<tr>
<td>Product</td>
<td>Requirements</td>
</tr>
<tr>
<td>-------------------------------</td>
<td>---------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td><strong>MainView for Java Environments</strong></td>
<td>This product has the following requirements:</td>
</tr>
<tr>
<td></td>
<td>■ IBM z/OS Version 2.1 or later (for the PAS)</td>
</tr>
<tr>
<td></td>
<td>■ A 64-bit version of Oracle Java Version 7 or later (for the JVMs)</td>
</tr>
<tr>
<td></td>
<td>■ Java Batch Toolkit for z/OS (JZOS) Version 7.2.1 or later</td>
</tr>
<tr>
<td></td>
<td>■ A local TCP/IP port on the PAS (to receive unsolicited information from the MainView for Java Environments JVM)</td>
</tr>
<tr>
<td></td>
<td>■ A local, unsecured, JMX-only port</td>
</tr>
<tr>
<td></td>
<td>■ The following IBM PTFs are required:</td>
</tr>
<tr>
<td></td>
<td>z/OS version 2.1:</td>
</tr>
<tr>
<td></td>
<td>— UA76726</td>
</tr>
<tr>
<td></td>
<td>— UA80398</td>
</tr>
<tr>
<td></td>
<td>z/OS version 2.2:</td>
</tr>
<tr>
<td></td>
<td>— UA80399</td>
</tr>
</tbody>
</table>

<p>| <strong>MainView for Linux - Servers</strong> | This product has the following requirements:                                                                                                               |
|                                | ■ Requirements for viewing z/VM data with MainView for Linux - Servers are as follows:                                                                      |
|                                | — z/VM 5.4 or later                                                                                                                                     |
|                                | — VMARC utility                                                                                                                                       |
|                                | — PIPE utility                                                                                                                                      |
|                                | ■ Approximately 250 MB of disk space is required in the /opt directory.                                                                              |
|                                | This space is required to install the bmcmml.S390.rpm (25 MB) and bmcbgs.S390.tar.gz (200 MB) packages onto a Linux system.                              |</p>
<table>
<thead>
<tr>
<th>Product</th>
<th>Requirements</th>
</tr>
</thead>
</table>
| **MainView for UNIX System Services** | Virtual storage requirements are as follows:  
  ■ For each CAS:  
    — 16 KB of CSA  
    — 2770 KB of ECSA  
  ■ For each MVS PAS:  
    — 12 KB+ of CSA  
    — 2050 KB+ of ECSA  
  ■ For each MainView Alarm Manager PAS:  
    — 0 KB of CSA  
    — 23 KB of ECSA  
  ■ For each BBX:  
    — 20 KB of CSA  
    — 200 KB+ of ECSA, plus 32 bytes times the number of UCBs  
  ■ For each UAS:  
    — 0 KB of CSA  
    — Total of all of the ECSA values listed for MainView Alternate Access (instead of the values for the TSO session) if you use MainView Alternate Access instead of a TSO session to access the product  

Private storage is obtained from high-end private subpools for CAS, PAS, and UAS; it is not restricted by the region size of the address space. |

| **MainView for VTAM** | This product has the following requirements:  
  ■ ULTRAOPT/CICS 4.2 or later  
  ■ VTAM 4.3 or later  
  ■ A security product such as the IBM Resource Access Control Facility (RACF) for the z/OS eNetwork Communications Server Version 2.5 (or later) Internet Protocol (IP) environment.  

Each unit of work in the system that requires Unix System Services must be associated with a Unix System Services identity. A valid identity refers to the presence of a valid Unix user ID (UID), a valid Unix group ID (GID), and a valid HOME directory for the user. The UID and the GID are defined through the OMVS segment, in the RACF profile, and in the RACF group profile.  

For more information about RACF, see the IBM *IP Planning and Migration Guide*.  

**Note:** If the started task is not defined to a user ID that has a defined OMVS segment, error messages might be issued. If the HOME directory is not specified for the user ID, the socket call might fail. |
<table>
<thead>
<tr>
<th>Product</th>
<th>Requirements</th>
</tr>
</thead>
</table>
| **MainView for WebSphere Application Server** | This product has the following requirements:  
  ■ IBM HTTP Server 5.3 or later is required.  
  ■ The installer needs read, write, and execute authority (also known as superuser authority or root user authority) and administrator privileges for WebSphere Application Server |
| **MainView for MQ**              | This product has the following requirements:  
  ■ Level 2-compliant distributed IBM MQ  
  ■ 16 KB of CSA for the CAS  
  ■ 2770 KB of ECSA for the CAS  
  ■ 42 KB of ECSA for the PAS  
  ■ 180 KB of ECSA for each MVS Queue Manager |
| **MainView for z/OS**            | This product has the following requirements:  
  ■ IBM System z9 or later  
  ■ 570 cylinders of DASD storage. |
| **MainView Infrastructure**      | No additional requirements apply.                                                                                                                                                                                                                                                                                                           |
| **MainView Storage Resource Manager (SRM) products** | This product has the following requirements:  
  ■ This product has the following virtual storage requirements:  
    — Approximately 38 KB of CSA if SVOS has ever been started  
    — Approximately 400 KB if SVOS is currently active  
    — Approximately 5 KB for each time SVOS has been started and stopped since the last IPL  
  ■ To use the tape reporting facility, you need one of the following tape library systems:  
    — CONTROL-T  
    — CA1  
    — RMM  
  ■ MainView SRM Reporting requires Extended Buffer Manager (XBM) 5.4 or later (see “EXTENDED BUFFER MANAGER (XBM) and SNAPSHOT UPGRADE FEATURE (SUF) requirements” on page 186) |
### MainView SYSPROG Services
IBM System z9 or later is required.

### MainView Transaction Analyzer
This product has the following requirements:
- MainView for CICS 6.2 or later
  *(recommended)* Version 6.2 or later for IBM CICS Transaction Gateway for z/OS (CTG) correlation support
- MainView for DB2 9.1.00 or later
  IBM DB2 Version 9 support requires version 9.2 or later of the MainView for DB2 product, and version 5.4 or later of the MainView for DB2 - Data Collector.
- MainView for IMS Online, version 4.3 or later, or MainView for DBCTL, version 4.3 or later
  In addition, BMC recommends the Energizer for IMS Connect product for IBM IMS Open Transaction Manager Access (OTMA) information support.
- MainView for MQ, version 4.3 or later, and BMC Software Extensions for IBM MQ (MQE) version 4.3
  BMC recommends MainView for MQ, version 4.3.03 or later, and MQE version 4.4.
- MainView Logger secondary log spaces allocated
- Virtual storage requirements:
  - 4 KB of CSA
  - 290 KB of ECSA

### MainView VistaPoint
No additional requirements apply.

### RxD2/FlexTools
**RxD2/LINK**
Virtual storage requires 50 KB of private area storage.

### ULTRAOPT/CICS
**ULTRAOPT/IMS**
No additional requirements apply.

---

# ALTER requirements

ALTER has the following requirements:
- The BMCSORT component of ALTER provides full sort support for RECOVER PLUS and UNLOAD PLUS. BMCSORT is installed with ALTER and requires no additional license or password for use.

- If your users generate large worklists for creating or modifying PeopleSoft environments, you might need to modify the values for space allocation for dynamically allocated data sets. To do so, increase the appropriate operating system defaults in the ALLOC.xx member of SYS1.PARMLIB.

- ALTER uses structured query language (SQL) to access the DB2 catalog. Before installing ALTER, BMC recommends that you run the IBM RUNSTATS utility against the DB2 catalog. Running RUNSTATS gives the DB2 Optimizer access to up-to-date statistics when determining access paths that could improve performance.

---

**BMC DB2 Components Services (DBC) requirements**

BMC DB2 Component Services (DBC) requires, in a DB2 data sharing environment, that an active DBC subsystem be available on each LPAR.

**BMC Workbench for DB2 requirements**

BMC Workbench for DB2 has the following requirements:

- BMC Workbench version 12.1 requires that you install CATALOG MANAGER version 12.1.

- Configure a TSO region size of 32 MB or greater for each user who signs on.

- The default value of the z/OS Workload Manager (WLM) environment name must match the name of the WLM address space (with a maximum of eight characters).

- To successfully execute the DB2 commands (BIND, REBIND, FREE, START, STOP, DISPLAY), you must have the IBM supplied stored procedure, SYSPROC.ADMIN_COMMAND_DSN, installed and the Workload Manager (WLM) defined.

  In addition, ensure that the following dd statement is defined in your WLM startup JCL:

  ```
  //SYSEXEC DD DISP=SHR,DSN=db2ClistDataset
  ```
Each started task requires a user-selected subsystem ID. These subsystem IDs must not be predefined to the operating system (for example, they should not be defined in IEFSSNxx members in SYS1.PARMLIB, nor by the SETSSI ADD command). If you redefine the subsystem ID, an IPL might be required to upgrade to a new release or maintenance level.

If you are using a security package such as IBM RACF or CA Technologies CA-ACF2 or CA-Top Secret, the System Authorization Facility (SAF) must be enabled.

The dispatching priority of the BMC DB2 Component Services (DBC) technology should be higher than that of the DB2MSTR and DB2DBM1 regions.

You can run the DBC as a batch job or as a started task. The job or started task must have a user ID (also referred to as a LOGON ID or ACID) associated with it. If you run the DBC as a started task, assigning a user ID might involve system updates or security table updates.

BMC does not recommend running the DBC in batch mode unless you are testing the initial installation. Stopping products that are running in batch mode terminates the initiators in which the products are running.

Define at least one superuser for your BMC Workbench installation.

DB2 Component Services (DBC)

BMC Workbench uses GUD agents that require the DB2 DSNLOAD library. Unless that library is already included in your LINKLIST, you must add the DB2 DSNLOAD library to the <LOADLIB> tags in the GUDINIT step of the $480INIT job.

For more information, see Knowledge Article 000103857 on BMC Support Central.

If there are multiple BMC Workbench installations sharing a single repository:

— There must be only one UIM HFS dataset per repository. If multiple UIMs share a repository, then they must also share the UIM HFS dataset.

— All BMC Workbench installations must have the same maintenance level (same PTFs).

**Installing SYSPROC.ADMIN_COMMAND_DSN**

If you have not yet installed SYSPROC.ADMIN_COMMAND_DSN complete these steps:

1. Create a JCL startup procedure for the IBM z/OS Workload Manager (WLM) environment.

2. Create the SYSPROC.ADMIN_COMMAND_DSN stored procedure in the DB2 catalog, and specify the WLM environment.
3 Activate the WLM environment.

---

**Note**
For more information, see the *IBM DB2 for z/OS Installation Guide*.

---

### Creating the superuser SAF resource

Each BMC Workbench installation must have at least one superuser. Complete the following procedure only if you want to use the user-access feature and did not previously use `ACT.WBSU.%HOST%.%PORT%` to define a superuser.

---

**Note**

*Information for ACF2 users*

To create a superuser or to manage user-access to BMC Workbench functions, define the resource as `TYPE(XFC)` where the documentation refers to the RACF XFACILIT class.

---

1 Verify that the User Interface Middleware Server (UIM) PTF BPJ0835 has been installed.

2 For each UIM installation, create the following SAF resource as a XFCALIT class:

   `BMCGUD.WBSU.%SYSNAME%.%PORT%`.

   Replace the variables `%SYSNAME%` and `%PORT%` with the MVS system name and port number on the UIM server.

---

**Note**

The MVS system name is the value of the SYSTYPE system symbol and can be obtained using the MVS system command `D SYMBOLS`.

---

3 Assign ALTER authority to the superuser resource for the user requiring superuser authorization on that UIM.

---

### CATALOG MANAGER requirements

CATALOG MANAGER has the following requirements:

- Remote DB2 subsystems must be defined in the `SYSIBM.LOCATIONS` table of the local DB2 subsystem and be connected by using the distributed data facility (DDF) of DB2. For information about defining a location name with `SYSIBM.LOCATIONS`, see the IBM documentation.

- CATALOG MANAGER uses structured query language (SQL) to access the DB2 catalog. Before installing CATALOG MANAGER, BMC recommends that you run
the IBM RUNSTATS utility against the DB2 catalog. Running RUNSTATS gives the DB2 Optimizer access to up-to-date statistics when determining access paths that could improve performance.

**CHANGE MANAGER requirements**

**CHANGE MANAGER for DB2** has the following requirements:

- If your users generate large worklists for creating or modifying PeopleSoft environments, you might need to modify the values for space allocation for dynamically allocated data sets. To do so, increase the appropriate operating system defaults in the ALLOC xx member of SYS1.PARMLIB.

- The Compare function of CHANGE MANAGER requires the following conditions in order to perform a catalog-to-catalog comparison:
  
  — The catalogs that are used as input sources must be located on DB2 subsystems that are installed with Version 8.1 or later.
  
  — Remote locations must be defined in the SYSIBM.LOCATIONS table of the local DB2 subsystem and be connected by using the DDF of DB2. For information about defining a location name with SYSIBM.LOCATIONS, see the IBM documentation.
  
  — You must completely install CHANGE MANAGER on the local and remote DB2 subsystems.
  
  — CHANGE MANAGER must be at the same version, release, and maintenance level on both DB2 subsystems.
  
  — The same naming conventions for the collection IDs and plan names must be used on the local and remote DB2 subsystems.

- CHANGE MANAGER uses structured query language (SQL) to access the DB2 catalog. Before installing CHANGE MANAGER, BMC recommends that you run the IBM RUNSTATS utility against the DB2 catalog. Running RUNSTATS gives the DB2 Optimizer access to up-to-date statistics when determining access paths that could improve performance.

**CHECK PLUS for DB2 system and software requirements**

The CHECK PLUS product has the following requirements:
This version of CHECK PLUS has the following system requirements:
— IBM System z10 processor or a later 64-bit z/Architecture processor
— z/OS Version 1.10 or later

CHECK PLUS requires a minimum of the following versions of BMC common components:
— Version 2.4.01 of BMCSORT
— Version 11.2.00 of the DB2 Utilities Common Code (D2U)
— Version 11.1.00 with PTF BPJ0944 of the DB2 Solution Common Code (SCC)

To enable read/write access to your data during check processing, CHECK PLUS requires version 6.1.00 or later of either the BMC EXTENDED BUFFER MANAGER (XBM) product or its SNAPSHOT UPGRADE FEATURE (SUF).

If you use the XBMID option to specify a particular XBM subsystem, that subsystem must be at this maintenance level. If you do not specify a particular XBM subsystem and snapshot processing is required, CHECK PLUS searches for an XBM subsystem at this level.

To offload eligible processing to a zIIP, CHECK PLUS requires version 6.1.00 or later of either XBM or SUF.

If you use the XBMID option to specify a particular XBM subsystem, that subsystem must be at this maintenance level. If you do not specify an XBM subsystem but ZIIP ENABLED is in effect, CHECK PLUS searches for an XBM subsystem at this level.

Common SQL (ACS) component requirements

The Common SQL (ACS) component of ALTER, CATALOG MANAGER, CHANGE MANAGER, and DASD MANAGER PLUS requires the use of the SYSIBM.SYSPRINT global temporary table. If this table does not exist, a -204 SQLCODE is generated for the ACSNDDL DBRM.

To create the global temporary table, use the following data definition language (DDL) statements:

```
CREATE GLOBAL TEMPORARY TABLE SYSIBM.SYSPRINT
  (SEQNO INTEGER NOT NULL,
   TEXT VARCHAR(254) FOR SBCS DATA,
   CCSID EBCDIC)
```
COPY PLUS requirements

To use snapshot copies or Instant Snapshots, COPY PLUS for DB2 requires the EXTENDED BUFFER MANAGER (XBM) product or the SNAPSHOT UPGRADE FEATURE component of XBM.

Cross-System Image Manager (XIM) requirements

The following requirements apply to the XIM technology.

- You must be using the job entry subsystem 2 (JES2) or job entry subsystem 3 (JES3) component of the IBM z/OS system.
- On a JES3 component, you must start XIM on the global processor.
- You must install the load modules for XIM into an APF library.
- If version 1.3.00 or earlier of XIM for DB2 or for IMS is already installed on your DB2 subsystem in an authorized library or in a LINKLIST data set, you must upgrade to version 1.3.02 of XIM. Version 3.2.00 and later of the Database Administration solution requires version 1.3.02 of XIM.
- Only one XIM started task procedure can be active on each image with the same group name for XIM.
- You must start XIM on every image on which you want to execute a worklist in parallel.
- The dispatch priority for the XIM started task procedure must be set to a higher level than the dispatch priority for the product using XIM (for example, a CHANGE MANAGER for DB2 batch job or the MAXM Reorg/EP for IMS product).
- You must have sufficient system linkage indexes (LXs) for your IBM z/OS subsystems. One LX is required for each XIM address space.
- An available entry must exist in the IBM cross-system coupling facility (XCF) for XIM to define the group, and XCF services must be running in a multi-system environment.
DASD MANAGER PLUS requirements

DASD MANAGER PLUS has the following requirements:

■ You must install the load modules for BMCTRIG into an Authorized Program Facility (APF) library.

■ To use the ISPF Export utility from DASD MANAGER PLUS, you must enable TCP/IP access. Also, the UIM server must be running.

■ DASD MANAGER PLUS requires a zSeries machine in 64-bit mode.

■ DASD MANAGER PLUS requires a minimum of the following versions of BMC common components:
  — Version 2.3.01 of BMCSORT
  — Version 10.1.00 of the DB2 Utilities Common Code (D2U)
  — Version 10.1.00 of the DB2 Solution Common Code (SCC)

■ DASD MANAGER PLUS uses structured query language (SQL) to access the DB2 catalog. Before installing DASD MANAGER PLUS, BMC recommends that you run the IBM RUNSTATS utility against the DB2 catalog. Running RUNSTATS gives the DB2 Optimizer access to up-to-date statistics when determining access paths that could improve performance.

Database Performance for DB2 requirements

Database Performance for DB2 has the following additional requirements:

■ The System Authorization Facility (SAF) must be enabled if you are using a security package such as CA-ACF2.

■ The installation process creates two started tasks and a subsystem that the solution uses. If you plan to use Database Performance in a data sharing environment, additional started tasks might be needed. Ensure that your system is configured to enable these requirements.

■ To use the ISPF interface for applicable components of the solution, you must have ISPF Version 3.1 or later and TSO/E Version 1.4 or later.
EXTENDED BUFFER MANAGER (XBM) and SNAPSHOT UPGRADE FEATURE (SUF) requirements

XBM and SUF have the following requirements for their installation and configuration:

- Any IBM-supported version of ISPF
- IBM-supported version of DB2 or IMS, as appropriate

**Note**
Because SUF is a subcomponent of XBM, the process for installing and customizing the products is the same. Password authorization determines which features are enabled.
To use XBM for snapshot processing, you must also have a supported BMC utility and storage devices installed, if applicable.

High-speed Apply Engine requirements

The High-speed Apply Engine component of the Log Master for DB2 product has the following installation requirements:

- You must install the High-speed Apply Engine on the same operating system as the target DB2 subsystem.
- The target DB2 subsystem must have enough threads available to process the apply request. Ensure that at least two threads are available, or at least one thread more than the maximum number of agents for the request.
- The restart table for an apply request must reside on the same DB2 subsystem as the target table.

**Note**
High-speed Apply does not migrate restart tables from previous versions. If you have an earlier version of High-speed Apply Engine installed, any restarts must be completed on the original version before switching to a new version.

High-speed Apply Engine is automatically installed when you install the following solutions and products from BMC:

- Log Master for DB2
The High-speed Apply Engine honors passwords for these products and solutions.

For data migration, Log Master for DB2 includes versions of the High-speed Apply Engine that run on distributed systems (UNIX or Windows) against target databases under either IBM’s DB2 Universal Database (UDB) or Oracle. To install these versions, use the CD-ROM that is distributed with Log Master. For more information, see the High-speed Apply Engine Reference Manual.

### Installation authorization requirements for BMC products for DB2

All BMC products for DB2 have the following installation authorization requirements:

- You must have DB2 authorization of SYSADM to run the batch jobs that the Installation System generates. You do not, however, need DB2 authorization to run the Installation System or to generate the batch jobs.

- You must APF authorize the HLQ.BMCLINK data set.
  
  The Installation System copies the HLQ.BMCPswd and HLQ.UBMCLINK data sets to either the HLQ.BMCLINK data set or to the existing user-specified APF-authorized LINK library.

- If your site uses the IBM Resource Access Control Facility (RACF), CA-Top Secret, or CA-ACF2 security product, one of the following TSO logon IDs must have the proper authority to create DB2 stored procedures in an IBM Workload Manager (WLM) environment:
  
  — The TSO logon ID that is specified as the primary installation authorization ID (AUTHID)

  — The TSO logon ID of the person who runs the installation job that is used to create stored procedures, if a secondary AUTHID is used

### LOADPLUS system and software requirements

The LOADPLUS product has the following requirements:
This version of LOADPLUS has the following system requirements:

— IBM System z10 processor or a later 64-bit z/Architecture processor

— z/OS Version 1.10 or later

For all types of load jobs, you must have a minimum of the following versions of BMC common components:

— Version 2.4.01 of BMCSORT
— Version 11.2.00 of the DB2 Utilities Common Code (D2U)
— Version 11.1.00 with PTF BPJ0944 of the DB2 Solution Common Code (SCC)

To update DB2 catalog statistics or the DASD MANAGER PLUS database statistics tables, you must have installed a minimum of version 11.2.00 of the BMC Common Statistics component.

To perform a LOAD RESUME YES SHRLEVEL CHANGE SQLAPPLY load, you must have installed a minimum of version 11.1.00 of the BMC High-speed Apply Engine product.

For the following features, LOADPLUS requires version 6.1.00 or later of either the BMC EXTENDED BUFFER MANAGER (XBM) product or its SNAPSHOT UPGRADE FEATURE (SUF) technology.

— When checking referential constraints during your load job

— When you specify LOAD RESUME YES SHRLEVEL REFERENCE

If you use the XBMID option to specify a particular XBM subsystem, that subsystem must be at this maintenance level. If you do not specify a particular XBM subsystem and snapshot processing is required, LOADPLUS searches for an XBM subsystem at this level.

To offload eligible processing to a zIIP, LOADPLUS requires version 6.1.00 or later of either XBM or SUF.

If you use the XBMID option to specify a particular XBM subsystem, that subsystem must be at this maintenance level. If you do not specify a particular XBM subsystem and ZIIP ENABLED is in effect, LOADPLUS searches for an XBM subsystem at this level.

To use any features that invoke DSNUTILB, you must be licensed to use the IBM DB2 LOAD utility.

Note

For information about the features that invoke DSNUTILB, see the LOADPLUS for DB2 Reference Manual.
Log Master requirements

Log Master for DB2 requires ISPF version 3.3 or later for the online interface.

Prerequisites

BMC Next Generation Technology (NGT) utility products require the following versions:

<table>
<thead>
<tr>
<th>Element</th>
<th>Supported</th>
</tr>
</thead>
<tbody>
<tr>
<td>Operating system</td>
<td>Currently supported versions of z/OS</td>
</tr>
<tr>
<td>Shared DASD</td>
<td>On all systems that share DASD, the high level qualifier CDB must be added to the GRSRNLXX member on all the systems in the complex using the System Inclusion Resource Name List (RNL).</td>
</tr>
<tr>
<td>DB2</td>
<td>DB2 Version 10, 11, or 12.</td>
</tr>
<tr>
<td>CPU Hardware</td>
<td>Version 12.1 BMC Next Generation Technology (NGT) utility products have the same requirements as DB2 V10. z990, z890, z9, z10, and subsequent 64-bit z/Architecture processors</td>
</tr>
</tbody>
</table>

If you have questions about something in your environment not listed here, contact BMC Customer Support.

Note

NGT utility products do not support Enabled New Function Mode (ENFM mode) on any version of DB2.

NGT Check software requirements

The NGT Check product requires a minimum of version 12.1.00 of the BMC DB2 Solution Common Code (SCC).

NGT Load software requirements

The NGT Load product requires a minimum of version 12.1.00 of the BMC DB2 Solution Common Code (SCC).
NGT LOBMaster software requirements

The NGT LOBMaster product has the following requirements for supporting software:

- NGT LOBMaster requires a minimum of version 12.1.00 of the BMC DB2 Solution Common Code (SCC).
- To use any features that invoke DSNUTILB, you must be licensed to use the IBM DB2 REORG utility.

NGT Reorg software requirements

The NGT Reorg product has the following requirements for supporting software:

- NGT Reorg requires a minimum of version 12.1.00 of the BMC DB2 Solution Common Code (SCC).
- To use any features that invoke DSNUTILB, you must be licensed to use the IBM DB2 REORG utility.

NGT Unload software requirements

The NGT Unload product requires a minimum of version 12.1.00 of the BMC DB2 Solution Common Code (SCC).

PACLOG requirements

PACLOG for DB2 requires ISPF Version 3.1 or later.

After the PACLOG compression services are installed on a z/OS system, you can activate PACLOG on all DB2 subsystems for that system. You do so by adding the new DB2 subsystems to the PACLOG options set and creating the HISTORY data set.

If RECOVERY MANAGER is installed, enable interaction between PACLOG and RECOVERY MANAGER as described in the BMC Products and Solutions for DB2 Customization Guide. Otherwise, edit the data set referred to by the ALM$OPTS DD statement to add the new control variables HIST, TSTAMP, BSDS1, and PROD.DSNLOAD.
You must have z/OS data set READ and WRITE authority to edit the control information member. Then, create a new HISTORY file by using the PACLOG DBCNTL data set member ALMHIST as a sample job.

**R+/CHANGE ACCUM requirements**

R+/CHANGE ACCUM for DB2 requires ISPF Version 3.3 or later.

R+/CHANGE ACCUM must be installed when BMC Next Generation Technology Recover for DB2 for z/OS is installed.

Because R+/CHANGE ACCUM requires the use of NGT Recover, R+/CHANGE ACCUM is installed automatically when you install NGT Recover. R+/CHANGE ACCUM uses the same authorization ID and load libraries.

However, you must have an R+/CHANGE ACCUM password or a Recovery Management password to use R+/CHANGE ACCUM. You cannot use R+/CHANGE ACCUM with a NGT Recover password.

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**Note**

R+/CHANGE ACCUM is a component of the Recovery Management solution. Because NGT Recover is a component of the Recovery Management solution and R+/CHANGE ACCUM is installed automatically with NGT Recover, R+/CHANGE ACCUM is also installed if you install the Recovery Management solution.

Because the products are installed using the same authorization ID, you cannot uninstall R+/CHANGE ACCUM without invalidating the NGT Recover plan. If you invalidate the plan, you must reinstall NGT Recover.

If NGT Recover or the Recovery Management solution is currently installed, you must use a different authorization ID and load libraries to prevent overwriting the previous installation.

The R+/CHANGE ACCUM repository and the change accumulation files can be used only by the version of NGT Recover that was installed at the same time with R+/CHANGE ACCUM. Also, when you migrate R+/CHANGE ACCUM to production, you must overlay the existing version of NGT Recover with the version that was installed with R+/CHANGE ACCUM.
NGT Recover requirements

BMC Next Generation Technology Recover for DB2 for z/OS has the following requirements:

- To use snapshot copies or Instant Snapshots, you need the EXTENDED BUFFER MANAGER product or the SNAPSHOT UPGRADE FEATURE component of XBM.
- BMCSORT must be installed and available through STEPLIB, JOBLIB, or LNKLIST at execution time.

RECOVERY MANAGER requirements

RECOVERY MANAGER for DB2 requires ISPF Version 3.1 or later.

For more information about RECOVERY MANAGER for DB2 requirements, see the BMC Products and Solutions for DB2 Configuration Guide.

REORG PLUS for DB2 system and software requirements

The REORG PLUS product has the following requirements:

- This version of REORG PLUS has the following system requirements:
  - IBM System z10 processor or a later 64-bit z/Architecture processor
  - z/OS Version 1.10 or later

- REORG PLUS requires a minimum of the following versions of BMC common components:
  - Version 2.4.01 of BMCSORT
  - Version 11.2.00 of the DB2 Utilities Common Code (D2U)
  - Version 11.1.00 with PTF BPJ0944 of the DB2 Solution Common Code (SCC)

- To update DB2 catalog statistics or the DASD MANAGER PLUS for DB2 database statistics tables, REORG PLUS requires a minimum of version 11.2.00 of the BMC Common Statistics component.
To use the Instant Snapshot technology, REORG PLUS requires version 6.1.00 or later of either the BMC EXTENDED BUFFER MANAGER (XBM) product or its SNAPSHOT UPGRADE FEATURE (SUF) technology.

If you use the XBMID option to specify a particular XBM subsystem, that subsystem must be at this maintenance level. If you do not specify a particular XBM subsystem and snapshot processing is required, REORG PLUS searches for an XBM subsystem at this level.

To offload eligible processing to an IBM z Integrated Information Processor (zIIP), REORG PLUS requires version 6.1.00 or later of XBM or SUF.

If you use the XBMID option to specify a particular XBM subsystem, that subsystem must be at this maintenance level. If you do not specify a particular XBM subsystem and ZIIP ENABLED is in effect, REORG PLUS searches for an XBM subsystem at this level.

To use any features that invoke DSNUTILB, you must be licensed to use the IBM DB2 REORG utility.

System and SQL Performance products and solutions requirements

The System and SQL Performance products and solutions have specific installation requirements.

All products

All products must be run from an APF-authorized load library.

All SQL and System performance products except OPERTUNE

These products have the following requirements:

- If you are using a security package such as CA-ACF2, the System Authorization Facility (SAF) must be enabled.

- If you plan to use multiple products, their releases must be compatible. For further details, see “Compatible release levels for System and SQL Performance products” on page 196. If any product has a lower level of maintenance than another product, you must perform the appropriate product-specific installation procedure to enable the products to work together.
Note
If multiple products are installed with different levels of maintenance, the Report Manager for one product cannot communicate with the Data Collector for the other.

- You can run the DBC as a batch job or as a started task. The job or started task must have a user ID (also referred to as a LOGON ID or ACID) associated with it. If you run the DBC as a started task, assigning a user ID might involve system updates or security table updates.

Note
BMC recommends running the System and SQL Performance products in batch mode only when testing the initial installation. If you stop these products while they are running in batch, the initiators in which the products are running will be terminated.

- The dispatching priority of the DBC should be higher than that of the DB2MSTR and DB2DBM1 regions.

- The Report Manager uses the DYNALLOC option for SORT utility processing. If your installation parameters for the SORT utility do not allow dynamic allocation of sort work files, include sort work DD statements in the DOMCLIST. For more information about coding sort work DD statements, see your system sort utility documentation.

All SQL and System performance products except OPERTUNE and SQL Explorer

These products require a user-selected subsystem ID for each started task. These subsystem IDs must not be predefined to the operating system (for example, they should not be defined in IEFSSN.xx members in SYS1.PARMLIB, and they should not be defined by the SETSSI ADD command). If you predefine the subsystem ID, an IPL might be required to upgrade to a new release or maintenance level.

APPTUNE and SQL Performance only

The following trace classes need to be started for APPTUNE and SQL Performance. These traces use very little overhead.

- Monitor classes 1 and 30
- Accounting classes 1, 2, 3, and 5

OPERTUNE and System Performance only

OPERTUNE and System Performance have the following requirements:
You must have an entry in the AUTHPGM section of the IKJTSOxx member for the DDTAUTH program.

Users need UPDATE authority to the VSAM profile and TLIB data sets, and READ authority for the other OPERTUNE data sets.

**OPERTUNE only**

OPERTUNE has several environmental issues that you should consider when installing multiple OPERTUNE systems or applying a maintenance upgrade to your OPERTUNE systems.

**Table 10: OPERTUNE environmental considerations**

<table>
<thead>
<tr>
<th>Component</th>
<th>Environmental considerations</th>
</tr>
</thead>
</table>
| Profile data set| One per z/OS  
This data set can be shared in a multiple-CPU, multiple-JES, shared-DASD environment. |
| PROC/started task| One per z/OS or multiple-CPU, shared-DASD environment for each maintenance level of OPERTUNE |
| CLIST           | One per z/OS or multiple-CPU, shared-DASD environment for each maintenance level of OPERTUNE |

---

**Note**

If DB2 is upgraded to a supported release, OPERTUNE requires no changes.

**System Performance**

To install all of the components of the System Performance solution together at one time, select the following individual components:

- MainView for DB2
- System Performance for DB2 solution
  - CATALOG MANAGER for DB2 Browse
  - MainView for DB2 - Data Collector
  - OPERTUNE for DB2
  - Pool Advisor for DB2
If you own the full CATALOG MANAGER product, you can use your installed version or choose the separate product entry for CATALOG MANAGER for DB2. Although CATALOG MANAGER for DB2 (Browse only) and MainView for DB2 - Data Collector are components of MainView for DB2, you should select them at the same time that you install the OPERTUNE and Pool Advisor components, because they share libraries.

**Compatible release levels for System and SQL Performance products**

When you install one or more System and SQL Performance products into a DOMPLEX, all of the products in that DOMPLEX must be at compatible release levels.

Upgrading one product in the DOMPLEX will also upgrade the common Data Collector code, which can cause the earlier versions of products to fail if they are in the same DOMPLEX. If you specify a previously installed release during the installation, your previous DOMPLEX configuration will be migrated to the new release.

You cannot use the latest release of the products with trace data from unsupported releases or releases where the underlying IFCID formats changed. If you run the current release of the product with trace data sets that contain such records, the unsupported records will be skipped and an error message will be issued. To use trace data sets in this situation, you must archive the data sets and run batch reports, using the product load libraries for the earlier version.

**Note**

For more information, see the information about installing and upgrading a DOM agent for System and SQL Performance products in the *BMC Infrastructure Components Administration Guide* document.

**UIM server and console requirements**

The UIM server and the console have requirements that you must meet before installing or using them.
UIM server requirements

The UIM server resides on the mainframe and handles communication between the console and BMC console-enabled mainframe products and features. It has the following requirements:

- A free TCP/IP port must be available.
  Your TCP/IP administrator assigns a TCP/IP port. A port number is the address of a TCP/IP application on an IBM 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.

- If you use the CA TCPaccess TCP/IP stack, the TCPaccess LOAD library must be listed first in the UIM server STEPLIB concatenation.

- A user ID with an OMVS segment must be assigned to the UIM server address space started task procedure name.
  Your security administrator assigns this user ID. An OMVS segment is required for the UIM server started task so that a BMC product can access The Open Group UNIX System Services.

Console requirements

The Database Management Console (the GUI) runs on a client workstation under the Microsoft Windows operating system and communicates with the User Interface Middleware (UIM) server through TCP/IP technology. The Console requires a personal computer that meets the following requirements:

- Oracle Java SE 6 or later
- Microsoft Windows XP or later
- 105 MB of disk space
- 256 MB of RAM
- SVGA or higher video resolution (800 x 600 256 color)
- A web browser

UNLOAD PLUS for DB2 system and software requirements

The UNLOAD PLUS product has the following requirements:

- This version of UNLOAD PLUS has the following system requirements:
— IBM System z10 processor or a later 64-bit z/Architecture processor
— z/OS Version 1.10 or later

For all types of unload jobs, you must have a minimum of the following versions of BMC common components:
— Version 2.4.01 of BMCSORT
— Version 11.2.00 of the DB2 Utilities Common Code (D2U)
— Version 11.1.00 with PTF BPJ0944 of the DB2 Solution Common Code (SCC)

To use SHRLEVEL CHANGE CONSISTENT YES when unloading data, UNLOAD PLUS requires version 6.1.00 or later of either the BMC EXTENDED BUFFER MANAGER (XBM) product or its SNAPSHOT UPGRADE FEATURE (SUF).

If you use the XBMID option to specify a particular XBM subsystem, that subsystem must be at this maintenance level. If you do not specify a particular XBM subsystem and SHRLEVEL CHANGE CONSISTENT YES is in effect, UNLOAD PLUS searches for an XBM subsystem at this level.

To offload eligible processing to a zIIP, UNLOAD PLUS requires version 6.1.00 or later of either XBM or SUF.

If you use the XBMID option to specify a particular XBM subsystem, that subsystem must be at this maintenance level. If you do not specify a particular XBM subsystem and ZIIP ENABLED is in effect, UNLOAD PLUS searches for an XBM subsystem at this level.
Product-specific considerations for installation

Some products have installation considerations that apply only to the specific product. Use the following tables to determine which considerations affect the products you are installing:

- **BMC products for IMS**
  - Considerations listed by product, Table 11 on page 200
  - Considerations listed alphabetically, Table 12 on page 205

- **MainView products**
  - Considerations listed by product, Table 13 on page 208
  - Considerations listed alphabetically, Table 14 on page 209

**Note**
Before starting product installation and customization, review the product-specific installation considerations.

Installation considerations for BMC products for IMS

The BMC products for IMS have numerous considerations you should be aware of before starting your installation. Some considerations are common to many products, while other considerations are specific to individual products.

Table 11 on page 200 lists the products and indicates which considerations apply. Table 12 on page 205 lists the considerations and indicates to which products the consideration applies.
### Table 11: Considerations listed by product

<table>
<thead>
<tr>
<th>Product</th>
<th>Considerations</th>
</tr>
</thead>
<tbody>
<tr>
<td>APPLICATION RESTART CONTROL</td>
<td>“Installation and configuration options for the APPLICATION RESTART CONTROL products” on page 222&lt;br&gt;“Shared DASD environment for BMC products for IMS” on page 250&lt;br&gt;“Shared REGISET for APPLICATION RESTART CONTROL” on page 251&lt;br&gt;“Subsystems and address spaces” on page 254</td>
</tr>
<tr>
<td>Backup and Recovery Solution for IMS</td>
<td>“Common modules for BMC products for IMS” on page 213&lt;br&gt;“CPC initialization failure” on page 214&lt;br&gt;“EXTENDED BUFFER MANAGER and SNAPSHOT UPGRADE FEATURE” on page 219&lt;br&gt;“Image Copy utility” on page 221&lt;br&gt;“Product configuration methods for BMC products for IMS” on page 238&lt;br&gt;“Recovery Advisor” on page 245&lt;br&gt;“RECOVERY MANAGER for IMS functions and utilities” on page 246</td>
</tr>
<tr>
<td>BMC Application Accelerator for IMS</td>
<td>“Inter-product considerations” on page 222</td>
</tr>
<tr>
<td>BMC Log Analyzer for IMS</td>
<td>“Common modules for BMC products for IMS” on page 213&lt;br&gt;“Product configuration methods for BMC products for IMS” on page 238</td>
</tr>
<tr>
<td>BMC System Administration for IMS</td>
<td>“Common modules for BMC products for IMS” on page 213&lt;br&gt;“CPC initialization failure” on page 214&lt;br&gt;“Product configuration methods for BMC products for IMS” on page 238</td>
</tr>
<tr>
<td>BMC System Communication for IMS</td>
<td>“Common modules for BMC products for IMS” on page 213&lt;br&gt;“CPC initialization failure” on page 214&lt;br&gt;“Product configuration methods for BMC products for IMS” on page 238</td>
</tr>
<tr>
<td>CHANGE ACCUMULATION PLUS</td>
<td>“Common modules for BMC products for IMS” on page 213&lt;br&gt;“Product configuration methods for BMC products for IMS” on page 238</td>
</tr>
<tr>
<td>CHANGE RECORDING FACILITY</td>
<td>“Common modules for BMC products for IMS” on page 213&lt;br&gt;“Online Reorg function” on page 236&lt;br&gt;“Product configuration methods for BMC products for IMS” on page 238</td>
</tr>
<tr>
<td>DATA PACKER/IMS</td>
<td>“Common modules for BMC products for IMS” on page 213&lt;br&gt;“DATA PACKER/IMS supported database types and organizations” on page 215&lt;br&gt;“Product configuration methods for BMC products for IMS” on page 238</td>
</tr>
<tr>
<td>DATABASE INTEGRITY PLUS</td>
<td>“Common modules for BMC products for IMS” on page 213&lt;br&gt;“Database Integrity functions” on page 216&lt;br&gt;“Product configuration methods for BMC products for IMS” on page 238</td>
</tr>
<tr>
<td>Product</td>
<td>Considerations</td>
</tr>
<tr>
<td>----------------------------------------------</td>
<td>-------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>DELTA IMS DB/DC</td>
<td>“BMCLINK” on page 211</td>
</tr>
<tr>
<td>DELTA IMS for DBCTL</td>
<td>“Common modules for BMC products for IMS” on page 213</td>
</tr>
<tr>
<td>DELTA IMS VIRTUAL TERMINAL</td>
<td>“DELTA PLUS VIRTUAL TERMINAL and DELTA IMS” on page 217</td>
</tr>
<tr>
<td></td>
<td>“Product configuration methods for BMC products for IMS” on page 238</td>
</tr>
<tr>
<td></td>
<td>“Sample usermods for system administration products for IMS” on page 248</td>
</tr>
<tr>
<td>DELTA PLUS</td>
<td>“BMCXLINK” on page 212</td>
</tr>
<tr>
<td>DELTA PLUS for DBCTL</td>
<td>“Common modules for BMC products for IMS” on page 213</td>
</tr>
<tr>
<td></td>
<td>“DELTA PLUS and DELTA PLUS VIRTUAL TERMINAL internal security” on page 217</td>
</tr>
<tr>
<td></td>
<td>“Product configuration methods for BMC products for IMS” on page 238</td>
</tr>
<tr>
<td></td>
<td>“Sample usermods for system administration products for IMS” on page 248</td>
</tr>
<tr>
<td>DELTA PLUS VIRTUAL TERMINAL</td>
<td>“BMCXLINK” on page 212</td>
</tr>
<tr>
<td></td>
<td>“Common modules for BMC products for IMS” on page 213</td>
</tr>
<tr>
<td></td>
<td>“DELTA PLUS VIRTUAL TERMINAL and DELTA IMS” on page 217</td>
</tr>
<tr>
<td></td>
<td>“DELTA PLUS and DELTA PLUS VIRTUAL TERMINAL internal security” on page 217</td>
</tr>
<tr>
<td></td>
<td>“Product configuration methods for BMC products for IMS” on page 238</td>
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<td></td>
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“Product configuration methods for BMC products for IMS” on page 238  
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<td>EXTENDED TERMINAL ASSIST PLUS</td>
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<td>“Common modules for BMC products for IMS” on page 213</td>
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<td>BMC System Administration for IMS</td>
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<td>BMC System Communication for IMS</td>
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<td>Fast Path Enhanced Online Suite</td>
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<td>Fast Path Offline Suite</td>
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<td>Fast Path Online Suite</td>
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<td>MAXM Database Advisor for IMS</td>
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<td>MAXM Reorg for IMS</td>
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<td>MAXM Reorg for IMS with Online/Defrag Feature</td>
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<td>Fast Path Reorg/EP</td>
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<tr>
<td>Consideration</td>
<td>Products</td>
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DELTA PLUS for DBCTL  
DELTA PLUS VIRTUAL TERMINAL                                               |
| “DELTA PLUS VIRTUAL TERMINAL and DELTA IMS” on page 217                      | DELTA IMS DB/DC  
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DELTA IMS VIRTUAL TERMINAL  
DELTA PLUS VIRTUAL TERMINAL                                                |
| “EXTENDED BUFFER MANAGER and SNAPSHOT UPGRADE FEATURE” on page 219          | Backup and Recovery Solution for IMS  
IMAGE COPY PLUS  
MAXM Reorg/EP for IMS  
MAXM Reorg/EP for IMS with Online/Defrag Feature  
MAXM Reorg/Online for IMS                                                   |
| “Image Copy utility” on page 221                                              | Backup and Recovery Solution for IMS  
IMAGE COPY PLUS                                                             |
| “Installation and configuration options for the APPLICATION RESTART CONTROL products” on page 222 | APPLICATION RESTART CONTROL                                               |
| “Inter-product considerations” on page 222                                   | BMC Application Accelerator for IMS                                      |
| “Internal security for EXTENDED TERMINAL ASSIST PLUS (ETA)” on page 223     | EXTENDED TERMINAL ASSIST PLUS                                             |
| “LOCAL COPY PLUS” on page 223                                                 | LOCAL COPY PLUS                                                          |
| “Message Advisor” on page 230                                                 | Message Advisor for IMS                                                  |
| “Online Reorg function” on page 236                                            | CHANGE RECORDING FACILITY  
MAXM Reorg/Online for IMS                                                   |
| “Password considerations for Fast Path products” on page 237                 | Fast Path Analyzer/EP  
Fast Path Online Analyzer/EP  
Fast Path Online Reorg/EP  
Fast Path Reorg/EP                                                           |
| “Pointer Checker function” on page 237                                         | POINTER CHECKER PLUS                                                     |
| “Product configuration methods for BMC products for IMS” on page 238         | all products except APPLICATION RESTART CONTROL                           |
| “Recovery Advisor” on page 245                                                | Backup and Recovery Solution for IMS                                     |
| “RECOVERY MANAGER for IMS functions and utilities” on page 246               | Backup and Recovery Solution for IMS  
RECOVERY MANAGER for IMS                                                   |
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DELTA IMS VIRTUAL TERMINAL
DELTA PLUS
DELTA PLUS for DBCTL
DELTA PLUS VIRTUAL TERMINAL
EXTENDED TERMINAL ASSIST PLUS
LOCAL COPY PLUS
Message Advisor for IMS

“Shared DASD environment for BMC products for IMS” on page 250 | APPLICATION RESTART CONTROL

“Shared REGISET for APPLICATION RESTART CONTROL” on page 251 | APPLICATION RESTART CONTROL

“Subsystems and address spaces” on page 254 | APPLICATION RESTART CONTROL

“TSS unload and load functions for EXTENDED TERMINAL ASSIST PLUS” on page 255 | EXTENDED TERMINAL ASSIST PLUS

“Unload extended performance function for some MAXM Reorg products” on page 256 | MAXM Reorg/EP for IMS
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MAXM Reorg/EP Express for IMS
MAXM Reorg/Online for IMS

“Variable resource name qualifiers for EXTENDED TERMINAL ASSIST PLUS” on page 256 | EXTENDED TERMINAL ASSIST PLUS

### Installation considerations for MainView products

Some MainView products have considerations you should be aware of before starting your installation.

Considerations are listed in Table 13 on page 208 and Table 14 on page 209 for those MainView products that have installation considerations.

The following products do *not* have installation considerations:

- BMC Discovery for z/OS
- BMC Impact Integration for z/OS
- CMF MONITOR
- Energizer for CICS
- MainView for IMS Offline
- MainView for IP
- MainView for Linux - Servers
- MainView for UNIX System Services
- MainView for VTAM
- MainView for z/OS
- MainView Storage Resource Manager (SRM) products
- MainView SYSPROG Services
- MainView Transaction Analyzer
- RxD2/FlexTools
- RxD2/LINK
- ULTRAOPT/CICS
- ULTRAOPT/IMS

**Table 13: Considerations listed by product**

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<td>“Products that run in the BBI-SS PAS” on page 244</td>
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<td>MainView for CICS</td>
<td>Refer to the following items:</td>
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<td>■ Migration information in the MainView for CICS Customization Guide</td>
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<tr>
<td></td>
<td>You should set up MainView for WebSphere Application Server with</td>
</tr>
<tr>
<td></td>
<td>the same dispatching priority as the application server and as other</td>
</tr>
<tr>
<td></td>
<td>system monitoring tools.</td>
</tr>
<tr>
<td></td>
<td>You cannot upgrade to MainView for WebSphere Application Server version 3.1.00 from any version earlier than 2.5.01. Instead, you must install version 3.1.00 as a new product installation.</td>
</tr>
<tr>
<td>MainView Infrastructure (for MainView Alert and MainView Alarm Manager 2.1 only)</td>
<td>“Products that run in the BBI-SS PAS” on page 244</td>
</tr>
<tr>
<td>MainView VistaPoint</td>
<td>“Products that run in the BBI-SS PAS” on page 244</td>
</tr>
</tbody>
</table>

Table 14: Considerations listed alphabetically

<table>
<thead>
<tr>
<th>Considerations</th>
<th>Product</th>
</tr>
</thead>
<tbody>
<tr>
<td>“BMC Software Consolidated Subsystem considerations for MainView Batch Optimizer” on page 211</td>
<td>MainView Batch Optimizer</td>
</tr>
<tr>
<td>Considerations</td>
<td>Product</td>
</tr>
<tr>
<td>-------------------------------------------------------------------------------</td>
<td>-------------------------------------------------------------------------</td>
</tr>
<tr>
<td>“Calculating storage requirements” on page 229</td>
<td>MainView for DB2</td>
</tr>
<tr>
<td>“CATALOG MANAGER for DB2 (Browse only) considerations” on page 228</td>
<td>MainView for DB2</td>
</tr>
<tr>
<td>“CICS Autoinstall feature” on page 213</td>
<td>3270 SUPEROPTIMIZER/CICS</td>
</tr>
<tr>
<td>“CICS” on page 213</td>
<td>3270 SUPEROPTIMIZER/CICS</td>
</tr>
<tr>
<td>“Data classes and IFCIDs used by MainView for DB2 - Data Collector” on page 225</td>
<td>MainView for DB2</td>
</tr>
<tr>
<td>“Dispatching priorities for the BMC address space” on page 218</td>
<td>DATA ACCELERATOR Compression MainView Batch Optimizer</td>
</tr>
<tr>
<td>“LPA ELPA and SVA” on page 223</td>
<td>3270 SUPEROPTIMIZER/CICS</td>
</tr>
<tr>
<td>“MainView for DB2 considerations” on page 224</td>
<td>MainView for DB2</td>
</tr>
<tr>
<td>“MainView for DB2 - Data Collector considerations” on page 225</td>
<td>MainView for DB2</td>
</tr>
<tr>
<td>“MainView for WebSphere Application Server security requirements” on page 229</td>
<td>MainView for WebSphere Application Server</td>
</tr>
<tr>
<td>“Migration considerations for DATA ACCELERATOR Compression” on page 233</td>
<td>DATA ACCELERATOR Compression</td>
</tr>
<tr>
<td>“MRO environments” on page 234</td>
<td>3270 SUPEROPTIMIZER/CICS</td>
</tr>
<tr>
<td>“Multiple subsystem consideration for Data Optimizer” on page 235</td>
<td>MainView Batch Optimizer</td>
</tr>
<tr>
<td>“z/OS” on page 235</td>
<td>3270 SUPEROPTIMIZER/CICS</td>
</tr>
<tr>
<td>“Non-VSAM component for DATA ACCELERATOR Compression” on page 236</td>
<td>DATA ACCELERATOR Compression</td>
</tr>
<tr>
<td>“Product compatibility between DATA ACCELERATOR Compression and other products” on page 238</td>
<td>DATA ACCELERATOR Compression</td>
</tr>
<tr>
<td>“Products that run in the BBI-SS PAS” on page 244</td>
<td>BMC Performance Manager for WebSphere Business Integration (previously MainView for WebSphere Application Server) MainView AutoOPERATOR MainView FOCAL POINT MainView for DB2 MainView for DBCTL MainView for CICS MainView for IMS Online MainView Infrastructure (for MainView Alert and MainView Alarm Manager 2.1 only) MainView VistaPoint</td>
</tr>
</tbody>
</table>
BMC Software Consolidated Subsystem considerations for MainView Batch Optimizer

For existing BMC Software Consolidated Subsystem (BCSS) customers, MainView Batch Optimizer uses a private copy of the BCSS.

Do not change any of your existing products to use the MainView Batch Optimizer BCSS. Do not attempt to initialize the MainView Batch Optimizer under an existing copy of the BCSS. The MainView Batch Optimizer BCSS will coexist with other instances of the BCSS.

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 to issue at least 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 16 KB, but you can expand it 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 (or regions). Communications between ISPF, batch, and BMCXLINK use VTAM communications. Communications between BMCXLINK and the IMS control region use the cross-system coupling facility (XCF).

Therefore, ISPF and BMCXLINK do not have to reside on the same MVS image. This flexibility allows a single point of control for systems in an IMSPLEX and facilitates coordinating 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, can be printed on demand, and appears in SVC dumps. The minimum size of the trace table is 16 KB, but you can expand it if necessary.

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 following sequence of events occurs:

1. The PLU notifies BMCXLINK.
2. BMCXLINK retrieves the data and uses XCF to send the request to the appropriate IMS control region (or regions).
3. The IMS control region processes the request and sends the output back to BMCXLINK through XCF.
4. After processing the output, BMCXLINK sends it back to the ISPF or batch user through VTAM communications.
CICS Autoinstall feature

SUPEROPT functions correctly with the Autoinstall (automatic installation of terminals) feature of CICS/VS 1.7 or later.

The Optimizer saves information about each terminal in a DTA. Using the Dynamic Terminal Areas feature, the Optimizer builds as many of these areas as you specify.

For information about the default number of DTAs for all operating systems, see the SUPEROPTIMIZER/CICS Customization Guide.

CICS

If you are running CICS, COPINIT must run after the entry for DFHDELIM in the PLT startup.

If you use the CMDSEC=EXTERNAL option or PCT entries, COPSHUT must run before the entry for DFHDELIM in the PLT shutdown.

Common modules for BMC products for IMS

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

A separate SMP/E function (YICOxxx) is provided to install common modules BMCXMRC0 (with alias DFSMVRC0) and BMCXRA0. The function is included with many BMC 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.
Choosing the common library installs the common modules in IMLIB with the IMS products.

Choosing product-specific libraries installs the common modules 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 libraries, 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 might not function. If you install all IMS products into one SMP/E target library and apply all maintenance to that library, 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 libraries, 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 libraries.
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.

## 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.

DATA PACKER/IMS supported database types and organizations

DATA PACKER/IMS supports several types of databases and database organizations.

Table 15 on page 215 summarizes the database organizations and access methods that DATAPACKER/IMS supports.

Table 15: IMS databases and access methods that DATA PACKER/IMS supports

<table>
<thead>
<tr>
<th>Database organization</th>
<th>Access method</th>
</tr>
</thead>
<tbody>
<tr>
<td>Full-function</td>
<td>VSAM or OSAM</td>
</tr>
<tr>
<td>■ Hierarchic indexed sequential access method (HISAM)</td>
<td></td>
</tr>
<tr>
<td>■ Hierarchic direct access method (HDAM)</td>
<td></td>
</tr>
<tr>
<td>■ Hierarchic indexed direct access method (HIDAM)</td>
<td></td>
</tr>
<tr>
<td>High-availability large data bases (HALDBs)</td>
<td></td>
</tr>
<tr>
<td>■ Partitioned hierarchic direct access method (PHDAM)</td>
<td>VSAM or OSAM</td>
</tr>
<tr>
<td>■ Partitioned hierarchic indexed direct access method (PHIDAM)</td>
<td></td>
</tr>
<tr>
<td>Fast Path</td>
<td></td>
</tr>
<tr>
<td>■ Data entry database (DEDB)</td>
<td>VSAM</td>
</tr>
</tbody>
</table>

Consider the following points regarding database compression:

- Typically, HISAM database segments are not good candidates for compression. If you compress a HISAM database record that completely fits in the same logical record, actual DASD savings are minimal: 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. Never compress 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

Database Advisor has several installation considerations.

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

Implementing Database Advisor in a single z/OS environment enables you to manage all IMS databases on that z/OS from one workstation. Implementing Database Advisor in a single z/OS environment requires one Advisor server address space and one UIM server.

Enterprise environment

Implementing Database Advisor in an enterprise environment enables you to manage all IMS databases across the enterprise from one workstation. Implementing Database Advisor in an enterprise environment requires one Advisor server address space for each z/OS instance, and one UIM server for each sysplex.

Database Integrity functions

If you want to use the library utilities of Database Integrity functions without verifying database labels, you must set the DBIPARMS module with the label data set name BYPASS.DBI.LABEL.PROCESS. This setting suspends database label verification.
**DEDB support in the MAXM Database Advisor for IMS**

Installing any of the Fast Path/EP products automatically activates support for data entry databases (DEDBs) in MAXM Database Advisor.

In contrast, if you are installing only MAXM Database Advisor, you must have a MAXM Database Advisor *for IMS* license and password in order to activate DEDB support.

**DELETA PLUS and DELTA PLUS VIRTUAL TERMINAL internal security**

You can secure DELTA PLUS and DELTA PLUS product features through a System Authorization Facility (SAF) interface to IBM 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 in the *System Administration Products for IMS Customization Guide*.

**DELETA PLUS VIRTUAL TERMINAL and DELTA IMS**

You should consider compatibility issues when installing DELTA PLUS VIRTUAL TERMINAL and DELTA IMS.

**DELETA 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 coexist, you should not use the existing BMCLINK VTAM definitions for BMCXLINK.

**Conversion information**

For more information, see the conversion appendixes in the *DELTA PLUS User Guide*.

**Dispatching priorities for the BMC address space**

When you are installing the JCL for the BMC subsystems—BMCP, BMCBCSS, BMCCAS, MBOS, and MBOXJS—you must consider the dispatching priorities at your location. The BMCP, BMCBCSS, BMCCAS, MBOS, and MBOXJS address spaces should execute at a level that will allow timely initialization and operation.

BMC recommends that these address spaces use the same dispatching priority as other system tasks, monitors, and subsystems. You should use a fixed dispatching priority. BMC recommends using a service class level that is equivalent to the JES service class.

---

**Note**

Compression and expansion activities occur at the dispatching priority of the user, not at the dispatching priority of these BMC subsystem address spaces.
EXTENDED BUFFER MANAGER and SNAPSHOT UPGRADE FEATURE

The SNAPSHOT UPGRADE FEATURE (SUF), a feature of the BMC EXTENDED BUFFER MANAGER (XBM) product, is included as a component in multiple BMC products.

SUF allows the supported BMC utilities to use XBM snapshot technology when processing snapshots.

For configuration information, see the configuration guide that for the product that you are installing, or the EXTENDED BUFFER MANAGER and SNAPSHOT UPGRADE FEATURE User Guide.

System-level considerations for XBM

The following considerations describes system-level information that applies to XBM.

Dispatching priority for XBM

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 has the higher priority).

WARNING
Not setting XBM to a sufficiently high dispatching priority can negatively affect 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.

**SYSTEMS-wide XBM ENQ demotion (PSS component only)**

For the PSS component, XBM uses SYSTEMS-wide ENQs to control shared repository access.

At some sites, demoting SYSTEMS-wide ENQs to SYSTEM-wide ENQs to enhance system performance is common practice. However, BMC does not recommend demoting XBM ENQs (major name BMCXBM).

**Repository considerations when upgrading XBM**

When upgrading XBM, you might need to back up or migrate your repository. The following considerations provide additional information.

**Backing up your repository when upgrading 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; however, 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.

**Migrating your repository when upgrading XBM**

You will likely reuse the information stored in your repository when you upgrade to a new version of XBM. The repository information includes configurations, management sets, groups, and option settings.

The Installation System generates the $230VSAM job to migrate your old repository information to your new XBM repository:

- Migrating repositories for a regular installation
  
  The $230VSAM 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 $230VSAM job and this VSAM data set already exists, the job will fail; if this problem occurs, complete one of the following actions:

- 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 $230VSAM 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.

**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, DFSDLOC0, and DFSDLR00.

If the modules are in LPA storage, move the modules before installing XBM for IMS. Otherwise, XBM might fail with an S0C4 abend.

**Image Copy utility**

The following installation considerations apply to the Image Copy utility.
SNAPSHOT UPGRADE FEATURE (SUF)

The Image Copy utility works with the SUF for IMSSUF 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 219.

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 Customization Guide.

Installation and configuration options for the APPLICATION RESTART CONTROL products

The APPLICATION RESTART CONTROL (AR/CTL) products have the following restrictions when selecting installation and configuration options:

- Runtime enablement
  For the AR/CTL products, runtime enablement (RTE) creates the LLQ data sets with the same name as the SMP/E target data sets.

- Product-specific data sets
  AR/CTL requires the LLQ be the same as the SMP/E target data sets for processing the AR/CTL customization CLIST.
  Using product-specific data sets also:
  - Ensures smaller execution libraries for better AR/CTL processing performance
  - Prevents module conflicts for common distributed module (for example, DSNHLI)

Inter-product considerations

When BMC Application Accelerator for IMS integrates with certain other products, the other products must be installed at a certain version.
The following versions are required for the indicated products:

- For APPLICATION RESTART CONTROL for IMS, version 3.9.00 or later is required.
- For MainView Batch Optimizer, version 2.6.00 or later is required. Additionally, PTF BPB1359 must be applied.

### Internal security for EXTENDED TERMINAL ASSIST PLUS (ETA)

You can secure ETA features through a System Authorization Facility (SAF) interface to IBM 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 Customization Guide*.

### 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 approach 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.

### LPA ELPA and SVA

If you are running several CICS systems, they can share the following modules:

- COPOPT
- COPOPT23
- COPOPT41
- COPOPT51
- COPOPT52
- COPOPT53
- COPOPTXA

The modules can also be placed in your link pack area (LPA) if you have MVS, or in your shared virtual area (SVA) if you have VSE/ESA.

All except the COPOPT module can be placed in the extended link pack area (ELPA).

**MainView for DB2 considerations**

The MainView for DB2 product consists of the following base functions and components, which are installed and maintained by using SMP/E:

- MainView for DB2 base functions
- MainView for DB2 - Data Collector component
- CATALOG MANAGER for DB2 (Browse only) component

The base functions are required. The components are optional but recommended because they provide valuable cross-product functionality. For more information about the features provided by the components, see the integration with components and other DB2 products section in the *MainView for DB2 User Guide*.

The components are installed by default. However, in the Installation System product list, you can expand the entry for MainView for DB2 to show the base functions and components, and then deselect the components that you do not want to install (or that you want to install later).

You can install the base functions and components together or separately. You might want to install them separately if you have other licensed BMC products for DB2 and a separate group might be responsible for installing and maintaining them in your company. In this case, the installation of the components might need to be managed by a group different from the group responsible for MainView. The installation of the components should be coordinated with that of other related products, such as:

- The BMC System Performance for DB2 solution and its other component products, Pool Advisor for DB2 and OPERTUNE for DB2
- The SQL Performance for DB2 solution and its component products, APPTUNE for DB2 and SQL Explorer for DB2
CATALOG MANAGER for DB2

MainView for DB2 - Data Collector considerations

The MainView for DB2 - Data Collector is shared with the following DB2 Performance products:
- APPTUNE for DB2
- Pool Advisor for DB2
- SQL Performance for DB2 solution
- BMC System Performance for DB2 solution

The MainView for DB2 - Data Collector and the products listed above run in a separate address space called the DBC. The password that you have included in the MainView BMCPSEWD data set (BDSTBL3x for MainView for DB2, or SPDTBL3x for the BMC System Performance for DB2 solution) must also be included in the Data Collector HLQBMCPSEWD data set.

Data classes and IFCIDs used by MainView for DB2 - Data Collector

MainView for DB2 - Data Collector provides additional trace data collection options for both online and batch functions.

This trace data can also be used as input to batch reporting, so that DB2 SMF recording becomes optional. In addition, the shared Explain function in the Data Collector provides expanded SQL analysis through direct hyperlink and menu access from MainView for DB2 views.

Table 16 on page 225 describes the trace records that are defined for collection in the MainView for DB2 - Data Collector.

Table 16: Data classes

<table>
<thead>
<tr>
<th>Data class</th>
<th>IFCIDs</th>
</tr>
</thead>
<tbody>
<tr>
<td>DB2ACCT</td>
<td>DB2 accounting records</td>
</tr>
<tr>
<td></td>
<td>DB2 IFCIDs:</td>
</tr>
<tr>
<td></td>
<td>- 3–Accounting</td>
</tr>
<tr>
<td></td>
<td>- 239–Accounting DBRM/Package Overflow</td>
</tr>
<tr>
<td>Data class</td>
<td>IFCIDs</td>
</tr>
<tr>
<td>------------</td>
<td>--------</td>
</tr>
</tbody>
</table>
| DB2AUDIT   | DB2 audit records  
|            | DB2 IFCIDs:  
|            | ■ 140–Audit Authorization Failures  
|            | ■ *141–Audit GRANTs and REVOKEs  
|            | ■ *142–Audited Object DDL  
|            | ■ *143–Audited Object First Write Attempt  
|            | ■ *144–Audited Object First Read Attempt  
|            | ■ *145–Audited Object DML at BIND  
|            | ■ 146–User-Defined Audit Trace  
|            | ■ 312–Audit Trail for DCE Security Processing  
| DB2PERF    | DB2 performance records (all other DB2 IFCIDs)  
|            | MainView for DB2 - Data Collector IFCIDs:  
|            | ■ *022 and *063–Dynamic SQL Tracing  
|            | ■ *023–025–Utility Processing  
|            | ■ 090–Text of DB2 Command  
|            | ■ 125–RID List Processing  
|            | ■ 173–ASUTIME Exceeded  
|            | ■ *225–Storage Summary  

MainView for DB2 considerations
<table>
<thead>
<tr>
<th>Data class</th>
<th>IFCIDs</th>
</tr>
</thead>
<tbody>
<tr>
<td>DB2SYS</td>
<td>DB2 system records</td>
</tr>
<tr>
<td></td>
<td>DB2 IFCIDs:</td>
</tr>
<tr>
<td></td>
<td>■ 31–EDM POOL IS FULL EVENTS</td>
</tr>
<tr>
<td></td>
<td>■ 001–System Statistics</td>
</tr>
<tr>
<td></td>
<td>■ 002–Database Statistics</td>
</tr>
<tr>
<td></td>
<td>■ 102–SHORT ON STORAGE EVENTS</td>
</tr>
<tr>
<td></td>
<td>■ 103–SHORT ON STORAGE RELIEVED EVENTS</td>
</tr>
<tr>
<td></td>
<td>■ 104–LOG DATASET MAPPING</td>
</tr>
<tr>
<td></td>
<td>■ 105–MAPS FOR DATABASE, TABLESPACE, INDEXSPACE</td>
</tr>
<tr>
<td></td>
<td>■ 106–SYSPARMS IN EFFECT WHEN TRACE STARTED</td>
</tr>
<tr>
<td></td>
<td>■ 107–Page Set OPEN/CLOSE</td>
</tr>
<tr>
<td></td>
<td>■ 172–DEADLOCK EVENTS</td>
</tr>
<tr>
<td></td>
<td>■ 196–TIMEOUT EVENTS</td>
</tr>
<tr>
<td></td>
<td>■ 199–DATASET STATISTICS</td>
</tr>
<tr>
<td></td>
<td>■ 202–SYSPARM ATTRIBUTES</td>
</tr>
<tr>
<td></td>
<td>■ 203–FORCED COMMIT/ROLLBACK FOR DIST INDOUBT THREADS</td>
</tr>
<tr>
<td></td>
<td>■ 204–RECONNECT TO REMOTE SYSTEM REQUIRING COLD START</td>
</tr>
<tr>
<td></td>
<td>■ 205–SNA PROTOCOL WARM START EVENTS</td>
</tr>
<tr>
<td></td>
<td>■ 206–SNA PROTOCOL ERROR EVENTS</td>
</tr>
<tr>
<td></td>
<td>■ 207–HEURISTIC DAMAGE DURING RESYNC EVENTS</td>
</tr>
<tr>
<td></td>
<td>■ 208–SNA PROTOCOL ERROR EVENTS</td>
</tr>
<tr>
<td></td>
<td>■ 209–SNA PROTOCOL PHASE 1 COMMIT COMM ERROR</td>
</tr>
<tr>
<td></td>
<td>■ 210–REMOTE WARMSTART WITH RECOVERY LOG NAME CHANGE</td>
</tr>
<tr>
<td></td>
<td>■ 230–GLOBAL DATA SHARING STATS (QBGB)</td>
</tr>
<tr>
<td></td>
<td>■ 330–ACTIVE LOG SPACE SHORTAGE EVENTS</td>
</tr>
<tr>
<td>DB2SYS (continued)</td>
<td>■ 209–SNA PROTOCOL PHASE 1 COMMIT COMM ERROR</td>
</tr>
<tr>
<td></td>
<td>■ 210–REMOTE WARMSTART WITH RECOVERY LOG NAME CHANGE</td>
</tr>
<tr>
<td></td>
<td>■ 230–GLOBAL DATA SHARING STATS (QBGB)</td>
</tr>
<tr>
<td></td>
<td>■ 330–ACTIVE LOG SPACE SHORTAGE EVENTS</td>
</tr>
<tr>
<td>MVDBACC</td>
<td>MainView for DB2 - Data Collector Accounting Summary Records.</td>
</tr>
<tr>
<td></td>
<td>(BMC IFCIDs 350-352)</td>
</tr>
</tbody>
</table>

**Note:** IFCIDs that are preceded by an asterisk (*) are disabled by default. See the *MainView for DB2 Performance Reporter User Guide* for instructions on how to activate additional IFCIDs when you want to produce a report that requires them.

IFCIDs that are not preceded by an asterisk (*) are started for collection automatically, but administration options in the Data Collector allow you to specify that they should be discarded and not written to trace data sets. The data classes can be defined to output groups for logging to different trace data sets. For more information, see the section about working with DOMPLEX option sets in the *MainView for DB2 Customization Guide*. 
Note
In general, these data classes should be assigned to the same output group (this option is the default). If changes are made, DB2ACCT and MVDBACC should be kept in the same output group.

The IFCIDs are used as follows:

- IFCIDs 90, 107, 173, 125 and 140 provide data for system event trace views in MainView for DB2.

- IFCIDs 1, 2, 3, 239 and optionally the audit IFCIDs 140-145, the utility IFCIDs 23-25, and the storage IFCID 225 can be used to provide input to batch reporting instead of SMF.

- IFCIDs 3, 239, 350-352 are used to provide thread interval history views in MainView for DB2. Because the Data Collector trace data sets are compressed, you can usually access a longer time period than from the MainView for DB2 THRDHIST trace logs.

For information about using the batch reporting program, DOMBRPT1, see the Data Collector reporting facilities section in the MainView for DB2 Performance Reporter User Guide.

CATALOG MANAGER for DB2 (Browse only) considerations

The CATALOG MANAGER for DB2 (Browse only) component enables browse access from MainView for DB2, with no CATALOG MANAGER for DB2 password required.

The component provides browse access to DB2 catalog tables from a MainView user session. This access is provided through hyperlinks, either from easy menus to lists of objects, or from data views that provide direct access to an object on that view. All catalog tables are supported.

If you own CATALOG MANAGER for DB2, you can connect MainView for DB2 to your installed copy. For access to remote DB2s, you must enable DDF connections during the CATALOG MANAGER for DB2 installation.

For more information, see the section about defining the connection to CATALOG MANAGER for DB2 in the MainView for DB2 Customization Guide.
Calculating storage requirements

Some views (TRLTRAC and current locks views (LS*)) require storage above the 2-GB bar. Use the following procedure to calculate how much storage your MVDB2 environment requires.

1 Use the following equation to calculate your storage requirements:

\[(10\text{M} \times x) + (1\text{G} \times y) = nnnn\text{M}\]

<table>
<thead>
<tr>
<th>Variable</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>x</td>
<td>The likely number of concurrent users of the current locks views (LS*)</td>
</tr>
<tr>
<td>y</td>
<td>The likely number of concurrent users of the TRLTRAC view</td>
</tr>
<tr>
<td>nnnn</td>
<td>The minimum value for the IBM z/OS MEMLIMIT parameter.</td>
</tr>
</tbody>
</table>

**Example**

To support two locks view users and three TRLTRAC view users concurrently, the equation would be:

\[(10\text{M} \times 2) + (1\text{G} \times 3) = 3092\text{M}\]

2 Increase the MEMLIMIT parameter to at least the *nnnn* value calculated in Step 1 on page 229 by performing one of the following actions:

- In the BBI-SS PAS procedure, add the MEMLIMIT=nnnnM parameter to the EXEC statement.

  or

- In the SYS1.PARMLIB member SMFPRMxx, verify that the MEMLIMIT parameter is set to nnnn megabytes.

MainView for WebSphere Application Server security requirements

Before starting installation, consider the following security requirements for MainView for WebSphere Application Server:

- The IBM HTTP server requires an external security manager (ESM) such as the IBM Resource Access Control Facility (RACF).
The user ID for the MainView for WebSphere Application Server product address space (PAS) must have

— The same permissions as the WebSphere Application Server
  The user ID can be the same ID as that of the server.

— OMVS segment authority
  You can define this authority in the same way that it was defined for the server. Without OMVS segment authority, numerous socket calls that are made by the PAS will fail.

For more information, see the discussion of creating a PAS startup procedure in the MainView for WebSphere Application Server User Guide.

The user ID that is running customization must have OMVS segment authority and have the administrator EJBRLE defined.

Message Advisor

Different product features can affect how you install Message Advisor. Various considerations and restrictions apply to installing and using Message Advisor.

Note
To serialize access to the RECON, Message Advisor now issues 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 4096 KB (the optimum size that BMC recommends). A larger value reduces the EPVT storage that is available for Message Advisor, which might affect performance. The default value of 4096 KB for SORTCORE is sufficient to process approximately 100,000 records in core.
IMS

Although Message Advisor does not specifically prohibit requeuing 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 might occur. For example, if one IMS system has a transaction defined that does not exist on the other IMS system, Message Advisor might, depending on command options, create a dynamic logical terminal (LTERM) of the same name and either requeue the messages there or discard them.

- IMS prefixes usually vary from one level of IMS to another. Sometimes fields are in different locations, and new functions usually require adding new fields.

Message Advisor uses the IMS counter to tally the messages that are dequeued from a destination. Because 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 might require that Message Advisor not be initialized in the IMS control region, even if the product is licensed, installed, and customized. In these situations, 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

Message Advisor uses significant amounts of memory.

If restricted from using extensive EPVT, Message Advisor 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 might 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. In preliminary internal
benchmark tests at BMC, Message Advisor appeared to run more slowly. This slowing occurs because Message Advisor requeues a significant number of ISC, MSC, and conversational messages that other products do not requeue. To avoid a slowdown, 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. Otherwise, DELTA IMS VIRTUAL TERMINAL will spend more time reading the TSS tables during the requeue process. BMC 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:

  \[ I + T = B \]

  For more information about displaying the number of index and table blocks, see the discussion of the Table Select panel in the *DELTA IMS VIRTUAL TERMINAL User Guide*.

- **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, which degrades performance. 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 for 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 details about allocating Message Advisor data sets, see the information about configuring Message Advisor in the *System Administration Products for IMS Customization 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 can share SPILL, EXTRACT, and UNLOAD data sets but are not required to do so. For more information about the data sets, see the chapter about configuring Message Advisor in the *System Administration Products for IMS Customization Guide*.

**Migration considerations for DATA ACCELERATOR Compression**

To ensure that DATA ACCELERATOR Compression functions properly and can coexist with other products at your site, review the migration considerations in this section.

**Engine Level Mask migration**

With each new release, the Engine Level Mask (ELM) value is likely to change. The ELM represents the level of the compression engines and is specified in the Commands data set.

Because the ELM is backwards compatible, the latest value supports all previous engine levels. This compatibility facilitates easy migration from one release to the next. However, data sets that are compressed with one ELM value might not be able to be expanded by a product that uses an earlier value. This consideration is important if it is necessary to fallback to an earlier release.

BMC recommends that you not change the ELM value when migrating to the current release. This practice helps ensure compatibility with compressed data sets if you decide to revert to an earlier release. When you have determined that you will always run the latest release, change the ELM value to the highest value available.

For changes in the default ELM of this release, see the applicable release notes.

**REGISET sharing**

DATA ACCELERATOR Compression 1.2.02 changed the way in which serialization is handled for the REGISET. Consequently, DATA ACCELERATOR Compression 1.2.02 and later cannot share the REGISET with earlier releases.

For REGISET sharing compatibility, ensure that all releases of DATA ACCELERATOR Compression that share a REGISET are at a compatible level (all releases at version 1.2.02 and later, or all releases at a version earlier than 1.2.02).
REGISET migration

The REGISET data sets are compatible from one release to the next. If DATA ACCELERATOR Compression attempts access to a REGISET that has an obsolete format, the product updates the REGISET format.

If you need to make a copy of the REGISET for a stand-alone system, BMC recommends using the BMC EXTRACT utility to create a copy of the REGISET; then, use IDCAMS REPRO to copy this extracted data into the new REGISET.

Implementation of a new release

For most new releases of DATA ACCELERATOR Compression, implementing the release requires following the installation procedures, refreshing the MVS linklist libraries, and starting the subsystems. No IPL is required.

However, some changes to DATA ACCELERATOR Compression or subsystem modules can require an IPL. For more information about required IPLs, see the applicable release notes.

Fallback considerations

Review the material about the Engine Level Mask (ELM) before you decide to start an earlier version of DATA ACCELERATOR Compression on your system. Do not revert to an earlier version of DATA ACCELERATOR Compression if the ELM values would create an incompatibility.

For more information, see “Engine Level Mask migration” on page 233.

MRO environments

If your site is using MRO, install SUPEROPT in each terminal-owning region.

To optimize any terminals or printers that an application region owns, install the product in this region as well. The Optimizer optimizes data streams when the data streams are being sent to or from the terminal. Optimization does not occur when the data streams are sent between regions.
WARNING

If the COPRINT print or the COPOPT options VSAM files are used, they must be local if you start the Optimizer by using a PLTPI parameter for program system initialization. If the files are remote, a U601 abend results. This requirement is a CICS restriction. If a PLTPI is not used, both files can be remote.

Multiple subsystem consideration for Data Optimizer

Data Optimizer uses a SYSTEMS-level ENQ with a QNAME of DAPOPEN to ensure that data is not being written to and read from a data set simultaneously.

For this feature to work correctly when you are using products such as GRS from IBM or CA MIM from CA Technologies to manage your systems, ensure that the DAPOPEN ENQ is propagated to all of your systems that will execute Data Optimizer.

Note

For more information, see the MainView Batch Optimizer Data Optimizer Reference Manual.

z/OS

No modifications are needed for IBM z/OS environments. If you are using the extended architecture (XA) option of CICS, the product performs the following activities:

- Detects these environments dynamically and exploits them
- Automatically places all programs and work areas above the 16-MB line, except for a control program of 266 bytes
- Obtains storage from EDSA if you are using CICS/ESA

BMC recommends the storage that is listed in Table 17 on page 236. These recommendations are based on an z/OS environment (with the XA option of CICS being used) in which all storage that is used by SUPEROPT is obtained from above the 16-MB line. CICS storage is allocated from the EDSA.
### Table 17: Storage Recommendations for MVS

<table>
<thead>
<tr>
<th>Product panel</th>
<th>Option</th>
<th>Recommendation</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.6.1</td>
<td>Set Imaging and SCS Storage Allocation size</td>
<td>2048 KB</td>
</tr>
<tr>
<td>1.6.1</td>
<td>To reduce Storage Compression Percentage</td>
<td>0%</td>
</tr>
<tr>
<td>1.6.2</td>
<td>Set data stream storage size</td>
<td>31 KB</td>
</tr>
<tr>
<td>2.0.0</td>
<td>Set the 3270 Buffer storage size</td>
<td>31 KB</td>
</tr>
</tbody>
</table>

### Non-VSAM component for DATA ACCELERATOR Compression

Partitioned data sets (PDSs) allocated on a VIO unit (UNIT=VIO) might encounter a problem where you erroneously receive message BMC32173E. This message indicates insufficient space in the directory for the members of the PDS. To alleviate this problem, apply APAR OW10129.

### Online Reorg function

Several installation considerations apply to the Online Reorg function.

#### SNAPSHOT UPGRADE FEATURE (SUF)

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 219.

#### 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 library and RESLIB in the STEPLIB concatenation for the IMS control region.

If any other vendor products use a DFSPPUE0 module, the BMC 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, you can delete the BMC alias LCPPUE0, rename the BMC DFSPPUE0 to LCLPPUE0, and copy in the WLR DFSSPUE0.

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.

Password considerations for Fast Path products

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 select only the products for which you have a password. When you install Fast Path Online Analyzer/EP, Fast Path Analyzer/EP is activated; when you install Fast Path Online Reorg/EP, Fast Path Reorg/EP is activated.

Pointer Checker function

If you install BMC 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 FABRRELD and FABRUNLD.
If you use FABRRELD or FABRUNLD, contact BMC before installing the database products for IMS.

**Product configuration methods for BMC products for IMS**

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 about link-editing modules for Database Integrity functions, see the chapter about configuring database integrity products in the *Database Products for IMS Customization Guide*.

---

**Usermod product configuration method**

BMC recommends the usermod method, which 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 SMP/E-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.

**Product compatibility between DATA ACCELERATOR Compression and other products**

You must ensure the compatibility between DATA ACCELERATOR Compression and other products before installation.
If you use any of the products listed in Table 18 on page 239, follow the recommendations in the table to ensure compatibility with DATA ACCELERATOR Compression.

Table 18: Product compatibility

<table>
<thead>
<tr>
<th>Product</th>
<th>Compatibility with</th>
<th>BMC recommendation</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACCUCHECK</td>
<td>Non-VSAM component</td>
<td>ACCUCHECK uses EXCP processing to compare data sets. Because of the EXCP processing, DATA ACCELERATOR Compression treats ACCUCHECK as an exempted program. Compressed data sets are not expanded when accessed by ACCUCHECK.</td>
</tr>
<tr>
<td>Product</td>
<td>Compatibility with</td>
<td>BMC recommendation</td>
</tr>
<tr>
<td>----------------------------------------------</td>
<td>-----------------------------</td>
<td>-------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>BMC IMS Database Utilities Products</td>
<td>Non-VSAM component</td>
<td>The following products in the BMC Database Utilities series for IMS family use the String Search utility:</td>
</tr>
<tr>
<td></td>
<td></td>
<td>■ DATABASE INTEGRITY PLUS</td>
</tr>
<tr>
<td></td>
<td></td>
<td>■ LOADPLUS for IMS</td>
</tr>
<tr>
<td></td>
<td></td>
<td>■ POINTER CHECKER PLUS</td>
</tr>
<tr>
<td></td>
<td></td>
<td>■ PREFIX RESOLUTION PLUS</td>
</tr>
<tr>
<td></td>
<td></td>
<td>■ SECONDARY INDEX UTILITY</td>
</tr>
<tr>
<td></td>
<td></td>
<td>■ UNLOAD PLUS for IMS</td>
</tr>
<tr>
<td>If you use the String Search utility at your site, perform these steps:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1 Modify the JCL in member DACDBUILD of data set BMC.DAC.JCL.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2 Replace the volume serial number of the distribution tape and the site-dependent information (tape unit name and your DBULIB data set name).</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3 Submit the edited job.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4 Check the output to ensure successful completion.</td>
<td></td>
<td>The following modules should have been loaded:</td>
</tr>
<tr>
<td></td>
<td></td>
<td>DBU$1100, DBU$1200, and DBU$1300.</td>
</tr>
<tr>
<td>5 Refresh LLA if your current DBULIB resides in the LNKLST.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Product</td>
<td>Compatibility with</td>
<td>BMC recommendation</td>
</tr>
<tr>
<td>----------------------------------------------</td>
<td>--------------------</td>
<td>----------------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>CA-Dynam/TLMS by Computer Associates</td>
<td>Non-VSAM component</td>
<td>■ If you are using CA-Dynam/TLMS as your tape management system, it must be at version 5.2 or later.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>■ When creating the BCSS data set during installation, uncomment the <code>DAC NONVSAM TLMSVMF command and replace </code>VOLUME.MASTER.FILE? with the name of your TLMS volume master file.</td>
</tr>
<tr>
<td>CICS by IBM</td>
<td>VSAM component</td>
<td>If you are using CICS 1.6.1, add the following data definition (DD) statement to your CICS region JCL before simulating or compressing CICS files with the VSAM component: <code>DAC$NABO DD dummy</code>.</td>
</tr>
<tr>
<td>Control-T by BMC</td>
<td>Non-VSAM component</td>
<td>Include Control-T load module CTTPARM in the linklist or the STEPLIB of the BMCBCSS procedure.</td>
</tr>
<tr>
<td>DFP by IBM</td>
<td>VSAM component</td>
<td>If you are using DFP, the BCSS might terminate with an 50C4 abend. Apply PTF UY11863 or a superseding PTF before using the VSAM component to compress data.</td>
</tr>
<tr>
<td>ENDEVOR/MVS by Computer Associates</td>
<td>Non-VSAM component</td>
<td>Do not compress ENDEVOR data sets.</td>
</tr>
<tr>
<td>HYPERBUF by Computer Associates</td>
<td>VSAM component</td>
<td>If you are using HYPERBUF, start the BCSS before HYPERBUF after each system IPL. You can shut them down in any order. Use <code>bcssid DAC VSAM ABO OFF</code> in the BMCBCSS commands data set.</td>
</tr>
<tr>
<td>HYPER-CACHE by BMC</td>
<td>VSAM component</td>
<td>Use <code>bcssid DAC VSAM ABO OFF</code> in the BMCBCSS commands data set.</td>
</tr>
<tr>
<td>HyperLoad by SOFTWORKS</td>
<td>VSAM component</td>
<td>If you are using HyperLoad to load VSAM data sets that are compressed because of generic registration entries, ensure that these entries indicate that compression should occur at the next OPEN. The Installation System will not create discrete entries when HyperLoad is used to load VSAM data sets because HyperLoad uses EXCP-based processing. Using <strong>Compress at OPEN</strong> generic registration entries ensures that the BMC Software Enterprise Server Installation System intercepts subsequent accesses to newly loaded compressed files and creates discrete entries.</td>
</tr>
<tr>
<td>IEHMOVE by IBM</td>
<td>Non-VSAM component</td>
<td>Do not use IEHMOVE to move compressed data sets. Consider using IEBGENER by IBM.</td>
</tr>
<tr>
<td>Product</td>
<td>Compatibility with</td>
<td>BMC recommendation</td>
</tr>
<tr>
<td>--------------------------------------------------</td>
<td>--------------------</td>
<td>-------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>INFOPAC (all versions) by Mobius Management Systems, Inc.</td>
<td>VSAM component</td>
<td>Do not register program INFOPACR. This program records the largest LRECL encountered when reading the VSAM file. When INFOPAC needs to redefine this VSAM file, it uses the largest LRECL encountered to determine the length of the file. If INFOPACR is given compressed records, the VSAM definition will be wrong and application errors will occur.</td>
</tr>
<tr>
<td>INFOPAC 5.2 and later by Mobius Management Systems, Inc.</td>
<td>VSAM component</td>
<td>Add <code>DAC$ERA DUMMY DD</code> in the step that requires compression support. Ensure that the data set is registered for compression. As specified in the Mobius Infopac installation guide, ensure that the maximum record size for the ESDS Report Archive cluster is eight less than the control interval size. Do not use INFOPAC 5.2 or later with INFOPAC 5.1 compressed archives.</td>
</tr>
<tr>
<td>Mainframe Software Manager (MSM) by Computer Associates</td>
<td>VSAM component</td>
<td>If you are using MSM with PTF SM8005, an S0C4 abend might occur in MSMENTRY during DATA ACCELERATOR Compression initialization. Computer Associates has informed BMC that removal of zap SM8005D corrects this problem. This zap was included in a Computer Associates maintenance letter dated December 8, 1987. Remove zap SM8005D before using the VSAM component to compress data.</td>
</tr>
<tr>
<td>PDSFAST by Software Engineering of America</td>
<td>Non-VSAM component</td>
<td>PDSFAST provides an early warning flash EWF1442 that allows DATA ACCELERATOR Compression to initialize properly. A 013-20 abend occurs when PDSFAST attempts to open the SYSPRINT data set. Apply EWF1494 at PDSFAST maintenance level 4.3.H.</td>
</tr>
<tr>
<td>PDSMAN by Computer Associates</td>
<td>Non-VSAM component</td>
<td>Apply fix 631-54.</td>
</tr>
<tr>
<td>RMS Online by Mantissa</td>
<td>VSAM component</td>
<td>RMS online must have PTM 45.</td>
</tr>
<tr>
<td>SAR EXPRESS by Computer Associates</td>
<td>All components</td>
<td>If you are using the Computer Associates product SAR EXPRESS, you must apply maintenance RP051209 and RP161139 to SAR EXPRESS. This maintenance applies to SAR EXPRESS 5.1. Contact Computer Associates if you need maintenance for other levels of SAR EXPRESS.</td>
</tr>
<tr>
<td>Product</td>
<td>Compatibility with</td>
<td>BMC recommendation</td>
</tr>
<tr>
<td>---------------------------------</td>
<td>--------------------</td>
<td>-----------------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>SAS by SAS Institute</td>
<td>Non-VSAM component</td>
<td>When using the SAS INCLUDE option on a compressed non-VSAM data set, you must include the following DCB information on the INFILE and INCLUDE DD statement: DCB=(BUFNO=1) Failure to do so can result in U0999 and S0C4 abends.</td>
</tr>
</tbody>
</table>
| ShareOption/5 by Computer     | VSAM component     | You must start DATA ACCELERATOR Compression before starting ShareOption/5. ShareOption/5 must be the ACBINRTN after the OPEN of a ShareOption/5 intercepted data set. The following actions occur for the intercepted data set:  
  ■ ShareOption/5 will *dummy* the actual VSAM OPEN.  
  ■ Control will not shift to *real* OPEN.  
  DATA ACCELERATOR Compression does not see the OPEN of the SHROPTS5 USER ACB. The last ACBINRTN must be SHROPT5. The product started last is the product that sees the OPEN first. |
| STROBE by Compuware            | Non-VSAM component | You can start STROBECV only after you receive the following BMC message: BMC100000I BMC Software Enterprise Server Installation System initialization completed.  
  **bcssid** |
| SYNCSORT by Syncsort, Inc.     | Non-VSAM component | SYNCSORT might receive message WER99A UNSUCCESSFUL SORT 363 W. Use fix 3303-1, which is included in version 3.4, TPF4+ level. SYNCSORT 3.5 provides an early warning notice (EW4208-0) so that the BSAM parameter can be honored for OUTFIL data sets. |
| TeraSAM by SOFTWORKS           | VSAM component     | You should compress the logical cluster name. You must not use the LMO feature of the Installation System on job steps that use TeraSAM files. Use **bcssid** DAC VSAM ABO OFF in the BMCBCSS commands data set. |
| ULTIMIZER by UltiMIS           | VSAM component     | You must not use the LMO feature of Installation System on job steps that are intercepted by ULTIMIZER. Use **bcssid** DAC VSAM ABO OFF in the BMCBCSS commands data set. |
| VIOPLUS by SOFTWORKS           | VSAM component     | Use **bcssid** DAC VSAM ABO OFF in the BMCBCSS commands data set. |
### Products that run in the BBI-SS PAS

The following products run in the BBI-SS PAS:
- MainView Alert and Alarm Manager 2.1
- MainView AutoOPERATOR
- MainView FOCAL POINT
- MainView for CICS
- MainView for DB2
- MainView for DBCTL
- MainView for IMS Online
- MainView for MQ
- MainView VistaPoint (for CICS, DB2, DBCTL, and IMS workloads)

Consider the following information when customizing products that run in the BBI-SS PAS:

<table>
<thead>
<tr>
<th>Product</th>
<th>Compatibility with</th>
<th>BMC recommendation</th>
</tr>
</thead>
<tbody>
<tr>
<td>VSAM ASSIST by SOFTWORKS</td>
<td>VSAM component</td>
<td>The HOTLOAD (reload) and FPDISK (unload) options use EXCP processing to back up and restore VSAM data sets. Because of the EXCP processing, DATA ACCELERATOR Compression treats VSAM ASSIST as an exempted program when the HOTLOAD and FPDISK options are used. Compressed data sets are unloaded or reloaded in compressed format only. Expanded data sets are unloaded or reloaded in expanded format only. The NOHOTLOAD (reload) and NOFPDISK (unload) option should be used for logical mode reloads and unloads. Compressed data sets can be unloaded or reloaded in compressed format or expanded format. Use the following DD statement on job steps that use VSAM ASSIST://DAC$NABO DD dummy.</td>
</tr>
</tbody>
</table>
| VSAMTUNE by Macro 4                          | VSAM component     | Complete the following steps:  
1. Use `bssid DAC VSAM ABO OFF` in the BMCBCSS commands data set.  
2. Exclude BMCBCSS REGISETs from VSAMTUNE.  
3. Register VSAMTUNE’s program, M4VSMRPT, as exempt from Installation System as follows: `DACUBREG ADD ‘M4VSMRPT’ BYPASS(Y)` |
BMC recommends that BBI-SS PAS SSIDs be unique across the entire enterprise, which provides VTAM connectivity to all PASs in full screen mode. SSIDs must be unique within an LPAR.

Suffixes are shareable between multiple BBI-SSs. When you share a suffixed BBPARM member in multiple PASs, you are sharing all of the parameters in that member and that may not be desirable. For example, here are a few parameters that you might or might not want to share:

— PRODUCT set (BBISSP)
— CASID (BBISSP)
— AOOPTION (AAOPRM)

If any of these values differ between BBI-SS PASs, you must use a different suffix.

PROCs can be shared under the same name, and you can distinguish the PROCs for each BBI-SS PAS by using the JOBNAME parameter on the START command.

If all of the items listed for the MainView for DB2 components (Data Collector and Catalog Manager Browse function) are not identical across all LPARs in the sysplex, you must use LPAR-level sharing.

### Recovery Advisor

Recovery Advisor has the following installation considerations:

**Single z/OS environment**

You can implement Recovery Advisor in a single z/OS environment to manage all IMS databases on a single z/OS 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 to manage all IMS databases across the enterprise from one workstation. Implementing Recovery Advisor in an enterprise environment requires one Advisor server address space for each z/OS instance, but only one UIM server for each sysplex.
RECOVERY MANAGER for IMS functions and utilities

Several installation considerations 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 for IMS.

Cross-System Coupling Facility limit

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

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, review and adjust (if necessary) the operating system definitions for XCF. 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:

```bash
SYSPLEX COUPLE DATA SETS
PRIMARY DSN: SYS1.XCF.CDSP1
  VOLSER: XCFP01 DEVN: A94C
  FORMAT TOD MAXSYSTEM MAXGROUP(MAXMEMBER(MAXMEMBER))
  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).

DBRC

All databases to be manipulated by RECOVERY MANAGER *for IMS* must be registered to DBRC.

RECOVERY MANAGER *for IMS* does not support:
- DEDBs that are designated as USERRECV in the RECON data sets
  You should not include those areas in elemental groups. All image copies, logs, and change accumulations must also be included in the MVS ICF catalog.
- 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.

Sample usermods for system administration products for IMS

When you customize system administration products for IMS, you can install and customize sample user exits that BMC provides.

Table 19 on page 248 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 19: System administration products for IMS sample usermods

<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—DLAXGNI0</td>
</tr>
<tr>
<td>DLPY001</td>
<td>Sample DELTA PLUS list build—DLPYLIST</td>
</tr>
<tr>
<td>DLPY002</td>
<td>Sample user History File input—DLPYRPI0</td>
</tr>
<tr>
<td>DLPY003</td>
<td>Sample user History File report—DLPYRPO0</td>
</tr>
<tr>
<td>DLPY004</td>
<td>Sample that activates IBM RACF authorization—DLPYRCN0</td>
</tr>
<tr>
<td>DLPY005</td>
<td>Sample that changes the default SAF class—DLPYSAF</td>
</tr>
<tr>
<td>Member</td>
<td>Description</td>
</tr>
<tr>
<td>------------</td>
<td>-----------------------------------------------------------------------------</td>
</tr>
<tr>
<td>DLPU006</td>
<td>Sample userid security list—DLPYUID0</td>
</tr>
<tr>
<td>ETAU001</td>
<td>Sample ETA autosignon exit—ETAEAS1@</td>
</tr>
<tr>
<td>ETAU002</td>
<td>Sample ETA greeting message exit—ETAEGM1@</td>
</tr>
<tr>
<td>ETAU003</td>
<td>Sample unsolicited output exit—ETAEIN1@</td>
</tr>
<tr>
<td>ETAU004</td>
<td>Sample ETA logoff exit—ETAEFL1@</td>
</tr>
<tr>
<td>ETAU005</td>
<td>Sample ETA logon exit—ETAEIN1@</td>
</tr>
<tr>
<td>ETAU006</td>
<td>Sample ETA non-discardable exit—ETAEEND1@</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>Sample that activates RACF authorization—ETAXRCN0</td>
</tr>
<tr>
<td>ETAU011</td>
<td>Sample that changes 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—ETMTSAMP</td>
</tr>
<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—CA-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>
</tbody>
</table>
### Member Description

<table>
<thead>
<tr>
<th>Member</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<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>Sample of VIRTUAL TERMINAL extended options</td>
</tr>
<tr>
<td>VTFU010</td>
<td>Sample of VIRTUAL TERMINAL message replacement</td>
</tr>
<tr>
<td>VTFU011</td>
<td>Sample logon exit 3</td>
</tr>
</tbody>
</table>

The SAMP members in Table 19 on page 248 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>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>

**Shared DASD environment for BMC products for IMS**

Use the following guidelines for the placement of registration data sets in a shared DASD environment:

- Do not place a registration data set on the same volume as a catalog, an IMS RECON data set, or another registration data set (primary or duplex).

- Do not place a primary registration data set on a volume that has frequent or long-term ENQ/RESERVEs.

- Use the least-allocated, lowest-use volume you can find.
Shared DASD environment for MainView products

Use the following guidelines for the placement of registration data sets in a shared DASD environment:

- Do not place the registration data sets on:
  - The same volume as system data sets (such as catalogs, the JES checkpoint, and page data sets)
  - A volume that has frequent or long-term ENQ/RESERVEs
  - A high-activity volume

- Do not place other registration data sets on the same volume.

**Note**
The placement of the REGISET (registration data sets) is important. For more information, see “REGISET sharing” on page 233.

Shared REGISET for APPLICATION RESTART CONTROL

You can restart a job step on a different z/OS system than the system where the job step executed previously; however, both systems must use the same REGISET.

You can use a different REGISET (and subsystem) on different z/OS systems; using a different REGISET ensures that active job steps executing in one system are not confused with active job steps executing in another system. If two or more z/OS systems are sharing a REGISET, ensure that one or more execution qualifiers distinguish job steps executing in a system from those executing in all other systems that share the REGISET.
SMS considerations for DATA ACCELERATOR Compression

Beginning with version 1.4.00 of DATA ACCELERATOR Compression (DAC), the product supports compressing SMS-managed data sets. To compress a data set by using the SMS component on DAC, your site must meet the following criteria:

- Your system must be running DF/SMS 1.2 or later on MVS/SP 4.3 or later.
- The SMS component of DAC must be enabled.
- DF/SMS Dataclasses that support compression and a compression technique must be assigned to DAC.
  An SMS Dataclass can support compression if it has been defined with DSNTYPE=EXT and COMPACTION=Y.
- Data sets requiring compression must be assigned to these Dataclasses by a system ACS routine, or explicitly in a job’s JCL.

Before compressing SMS data sets with DAC, make a list of the SMS Dataclasses that you intend to use and the compression techniques that they will support.

---

**Note**

No REGISET entries are required for DATA ACCELERATOR Compression/SMS compression.

---

Standard CICS user exits for 3270 SUPEROPTIMIZER/CICS

3270 SUPEROPTIMIZER/CICS uses only standard user exits that CICS provides:

- XKCREQ
- XPCFTCH
- XTCIN
- XTCOUT
- XTCTIN
- XTCTOUT
- XZCIN
- XZCOUT
- XZCOUT1
- XXMATT
Other programs in your CICS system might use one or more of these CICS exits. CICS passes control to the programs in "first enabled, first called" order. If you need the programs to run in a specific order, BMC recommends using a PLT at CICS startup to specify the order in which the programs will be enabled.

**Sysplex environment requirements for Job Optimizer**

Job Optimizer incorporates the BMC Software Cross-System Image Manager (XIM) technology. XIM enables Job Optimizer to distribute and manage job steps across one or more MVS systems.

XIM functions transparently within Job Optimizer. However, Job Optimizer requires the following items before it can distribute job steps across a sysplex environment:

- Cross-System Coupling Facility (XCF)
- Cross-System Extended Services (XES)
- Sufficient system linkage indexes (LXs) for your MVS subsystems
  
  You can increase the number of available system LXs by increasing the NSYSLX value in the IEASYSxx member of PARMLIB and reissuing the initial program load or IPL procedure for your site.
  
  For more information about system LXs, see the IBM *MVS Programming: Extended Addressability Guide*.

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

**SYSTEMS-wide XBM ENQ demotion (PSS component only)**

For the PSS component, XBM uses SYSTEMS-wide ENQs to control shared repository access.

At some sites, demoting SYSTEMS-wide ENQs to SYSTEM-wide ENQs to enhance system performance is common practice. However, BMC does *not* recommend demoting XBM ENQs (major name BMCXBM).
Subsystems and address spaces

When you are installing the JCL for the BMC subsystems—the BMCP and the BCSS—you must consider the dispatching priorities at your location.

BMCP and BCSS address spaces should execute at a level that will allow timely initialization and operation. BMC recommends that these address spaces use the same dispatching priority as other system tasks, monitors, and subsystems. Preferably, you should use a fixed dispatching priority.

Note
AR/CTL product activities occur at the dispatching priority of the user, not at the dispatching priority of these BMC subsystem address spaces.

Tape GDG for DATA ACCELERATOR Compression

When copying compressed data sets to a tape generation data group (GDG) by using a program that is registered to bypass compression (such as BMCGENER), you must refer the tape DD to a model data set control block (DSCB) with the following attributes:

RECFM=VBA,LRECL=0,BKSIZE=0,DSORG=PS

Transids routed by the CRTE for 3270 SUPEROPTIMIZER/CICS

The Optimizer identifies all of your transactions that are routed by the CRTE as TRANSID=CRTE.

Transactions that are routed by using the program control table (PCT) SYSIDNT parameter to specify the remote system name are identified in the normal manner.

Note
The Monitor transaction cannot be remote.
TSS unload and load functions for EXTENDED TERMINAL ASSIST PLUS

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 the following 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 might be required to secure these functions.

If you want to secure the TSS unload and load functions, BMC recommends that you deny all users authority to perform unload and load functions; 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 statement is the only one that SAF will recognize if a user issues an unload or a load request with * as the table name.
Unload extended performance function for some MAXM Reorg products

TheUnload 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 SNAPSHOT UPGRADE FEATURE for IMS component.

For installation considerations that apply to SUF, see “EXTENDED BUFFER MANAGER and SNAPSHOT UPGRADE FEATURE” on page 219.

Variable resource name qualifiers for EXTENDED TERMINAL ASSIST PLUS

The following variables are used in EXTENDED TERMINAL ASSIST PLUS (ETA) SAF resource names:

- iiiii 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 specific characters (* and %) for one or more characters in a qualifier. For information about using generic parameters, see the IBM publication RACF Command Language Reference.

VSAM component for DATA ACCELERATOR Compression

The following considerations relate to the VSAM component:
- AIX systems—A problem with the IBM Data Facility Product (DFP) can cause an S0C1 abend. For the PTF that is correct for your installation, see APAR OY19066. You can circumvent this situation without the PTF by making sure that all paths for the data set are opened at the same time.

- ESDSs—A problem with the IBM DFP can cause an S0C4 abend unless you have PTF UY15539 (FMID HDP2210), PTF UY15538 (FMID HDP2230), or a superseding PTF.
Authorizing products

Most mainframe BMC products require a CPU authorization password. This information explains how to use the BMC Product Authorization utility to apply passwords.

Overview of licensing and passwords

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 enter passwords and to change your CPU configuration. You can enter passwords in the following ways:

- As part of an online procedure
- In a batch interface that uses a job that is supplied on the installation image files

Products that use the BMC Product Authorization utility

Most BMC mainframe products require a CPU authorization password. The Product Authorization utility uses codes for products and components when processing passwords. The following table lists the codes.

---

**Note**

*BMC* at the beginning of a product name is ignored for alphabetization in the list.
### Table 20: Codes used by the BMC Product Authorization utility

<table>
<thead>
<tr>
<th>Product, solution, or component name</th>
<th>Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>3270 SUPEROPTIMIZER/CICS</td>
<td>CSO</td>
</tr>
<tr>
<td>BMC Administrative Assistant for DB2</td>
<td>AAD</td>
</tr>
<tr>
<td>ALTER for DB2</td>
<td>ALU</td>
</tr>
<tr>
<td>BMC Application Accelerator for IMS</td>
<td>IBO</td>
</tr>
<tr>
<td>APPLICATION RESTART CONTROL for DB2</td>
<td>ARD or BRY</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>APPTUNE for DB2</td>
<td>ASQ</td>
</tr>
<tr>
<td>Backup and Recovery Solution for IMS</td>
<td>BRI</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</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>BMC Next Generation Technology Copy for DB2 for z/OS</td>
<td>ACP</td>
</tr>
<tr>
<td>DASD MANAGER PLUS for DB2</td>
<td>ASU</td>
</tr>
<tr>
<td>DATA PACKER/IMS</td>
<td>DPK</td>
</tr>
<tr>
<td>BMC BMC 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>BMC Discovery for z/OS</td>
<td>MDZ</td>
</tr>
<tr>
<td>Energizer for CICS</td>
<td>ECS</td>
</tr>
<tr>
<td>Product, solution, or component name</td>
<td>Code</td>
</tr>
<tr>
<td>---------------------------------------------------------------</td>
<td>-----------------------------</td>
</tr>
<tr>
<td>Energizer for IMS Connect</td>
<td>IPR, CSU, or IPT</td>
</tr>
<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 or PFO</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 or PFL</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>BMC High Speed Utilities for DB2</td>
<td>BHU</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>BMC Impact Integration for z/OS</td>
<td>BIZ</td>
</tr>
<tr>
<td>Intelligent Capping for zEnterprise</td>
<td>DYC</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>BMC Log Analyzer for IMS</td>
<td>LUI, CSU, or IPT</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 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>Product, solution, or component name</td>
<td>Code</td>
</tr>
<tr>
<td>--------------------------------------------------------------------------</td>
<td>------------</td>
</tr>
<tr>
<td>MainView Batch Optimizer</td>
<td>BSS</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</td>
<td>BDS or SPD</td>
</tr>
<tr>
<td>MainView for DB2 - Data Collector</td>
<td></td>
</tr>
<tr>
<td><strong>Note:</strong> If you have a license to use BMC System Performance for DB2, use code SPD. Otherwise, use BDS.</td>
<td></td>
</tr>
<tr>
<td>MainView for DBCTL</td>
<td>DBC</td>
</tr>
<tr>
<td>MainView for IMS Offline</td>
<td>IOF</td>
</tr>
<tr>
<td>MainView for IMS Online</td>
<td>ION</td>
</tr>
<tr>
<td>MainView for IP</td>
<td>BFX</td>
</tr>
<tr>
<td>MainView for Java Environments</td>
<td>MVJE</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 MQ</td>
<td>BCL</td>
</tr>
<tr>
<td>MainView for 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 IMS</td>
<td>MXA</td>
</tr>
<tr>
<td>MAXM Reorg for IMS</td>
<td>MXC</td>
</tr>
<tr>
<td>MAXM Reorg for IMS with Online/Defrag Feature</td>
<td>MXB</td>
</tr>
<tr>
<td>MAXM Reorg/EP Express for IMS</td>
<td>MXP</td>
</tr>
<tr>
<td>MAXM Reorg/EP for IMS</td>
<td>MXE</td>
</tr>
<tr>
<td>MAXM Reorg/EP for IMS with Online/Defrag Feature</td>
<td>MXH</td>
</tr>
<tr>
<td>MAXM Reorg/Online for IMS</td>
<td>MXO</td>
</tr>
<tr>
<td>Product, solution, or component name</td>
<td>Code</td>
</tr>
<tr>
<td>----------------------------------------------------------------------</td>
<td>---------------</td>
</tr>
<tr>
<td>Message Advisor for IMS</td>
<td>MAQ, IPT, or CSU</td>
</tr>
<tr>
<td>BMC Next Generation Technology Check for DB2 for z/OS</td>
<td>UKA</td>
</tr>
<tr>
<td>BMC Next Generation Technology Load for DB2 for z/OS</td>
<td>UGA</td>
</tr>
<tr>
<td>BMC Next Generation Technology LOBMaster for DB2 for z/OS</td>
<td>UXA</td>
</tr>
<tr>
<td>BMC Next Generation Technology Reorg for DB2 for z/OS</td>
<td>UFA</td>
</tr>
<tr>
<td>BMC Next Generation Technology Stats for DB2 for z/OS</td>
<td>USA</td>
</tr>
<tr>
<td>BMC Next Generation Technology Unload for DB2 for z/OS</td>
<td>UEA</td>
</tr>
<tr>
<td>BMC Next Generation Technology Utility Manager for DB2 for z/OS</td>
<td>UUA</td>
</tr>
<tr>
<td>BMC Large Object Management for DB2</td>
<td>UOA</td>
</tr>
<tr>
<td>BMC Utility Management for DB2</td>
<td>UNA</td>
</tr>
<tr>
<td>BMC Next Generation Technology Database Administration for DB2</td>
<td>UIA</td>
</tr>
<tr>
<td>BMC Next Generation Technology Database Performance for DB2</td>
<td>UWA</td>
</tr>
<tr>
<td>BMC Next Generation Technology Utility Suite Accelerator for DB2</td>
<td>UVA</td>
</tr>
<tr>
<td>BMC Object Administration for DB2</td>
<td>BDL</td>
</tr>
<tr>
<td>OPERTUNE for DB2</td>
<td>DDT</td>
</tr>
<tr>
<td>PACLOG for DB2</td>
<td>ALM</td>
</tr>
<tr>
<td>BMC Partitioned Database Facility for IMS</td>
<td>BNB</td>
</tr>
<tr>
<td>BMC Performance for DB2Databases</td>
<td>BEB</td>
</tr>
<tr>
<td>BMC Performance for DB2SQL</td>
<td>BQL</td>
</tr>
<tr>
<td>BMC Performance Manager for IBM 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>BMC Next Generation Technology Recover for DB2 for z/OS</td>
<td>AFR</td>
</tr>
<tr>
<td>BMC Recovery for DB2</td>
<td>RMD</td>
</tr>
<tr>
<td>BMC Recovery Management for DB2</td>
<td>ARM</td>
</tr>
<tr>
<td>RECOVERY MANAGER for DB2</td>
<td></td>
</tr>
<tr>
<td>RECOVERY MANAGER for IMS</td>
<td>RVP or BRI</td>
</tr>
<tr>
<td>RECOVERY PLUS for IMS</td>
<td>RVP or BRI</td>
</tr>
<tr>
<td>Product, solution, or component name</td>
<td>Code</td>
</tr>
<tr>
<td>--------------------------------------</td>
<td>------</td>
</tr>
<tr>
<td>REORG PLUS for DB2</td>
<td>ARU</td>
</tr>
<tr>
<td>RxD2/FlexTools</td>
<td>BEY</td>
</tr>
<tr>
<td>RxD2/LINK</td>
<td>BEX</td>
</tr>
<tr>
<td>SECONDARY INDEX UTILITY</td>
<td>SIU, MXB, or MXC</td>
</tr>
<tr>
<td>SECONDARY INDEX UTILITY/EP</td>
<td>HIU, MXE, MXH, MXO, or MXP</td>
</tr>
<tr>
<td>SNAPSHOT UPGRADE FEATURE for DB2</td>
<td>XBS</td>
</tr>
<tr>
<td>SNAPSHOT UPGRADE FEATURE for IMS</td>
<td>XBU, BRI, CRF, HUL, ICP, MXE, MXH, MXO, or MXP</td>
</tr>
<tr>
<td>SNAPSHOT UPGRADE FEATURE for VSAM</td>
<td>XBA</td>
</tr>
<tr>
<td>SQL Explorer for DB2</td>
<td>PSS</td>
</tr>
<tr>
<td>SQL Performance for DB2</td>
<td>AFD</td>
</tr>
<tr>
<td>BMC Subsystem Optimizer for zEnterprise</td>
<td>BRD</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>ULTRAOPT/CICS</td>
<td>ULC</td>
</tr>
<tr>
<td>ULTRAOPT/IMS</td>
<td>ULI</td>
</tr>
<tr>
<td>UNLOAD PLUS for DB2</td>
<td>ADU</td>
</tr>
<tr>
<td>UNLOAD PLUS for IMS</td>
<td>ULP, MXB, or MXC</td>
</tr>
<tr>
<td>UNLOAD PLUS/EP for IMS</td>
<td>HUL, MXE, MXH, MXO, or MXP</td>
</tr>
<tr>
<td>BMC Workbench for DB2</td>
<td>GUD</td>
</tr>
</tbody>
</table>

**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.
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 270.

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### Scenarios for password types

Depending on your situation, you might need a temporary or permanent password.

For different scenarios, Table 21 on page 266 indicates which type of password you need and what the password does.

---

**Note**

For information about obtaining passwords or assistance with passwords, see “Obtain your CPU authorization password” on page 57.

### Table 21: Password scenarios

<table>
<thead>
<tr>
<th>Scenario</th>
<th>Password type</th>
<th>Password function</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>
</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>
</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>
</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>
</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>
</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>
</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 270.

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 264.

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 22 on page 268. When you apply a permanent password, the Product Authorization utility automatically recognizes the password's function and prompts you accordingly.

Table 22: Permanent password functions

<table>
<thead>
<tr>
<th>Function</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Add</td>
<td>Authorizes one new CPU to run the product</td>
</tr>
<tr>
<td>Delete</td>
<td>Removes one CPU from the product authorization table, preventing that CPU from running the product</td>
</tr>
<tr>
<td>Replace</td>
<td>Replaces one CPU in the table with another CPU, allowing the new CPU to run the product in place of the old CPU</td>
</tr>
<tr>
<td>Modify</td>
<td>Modifies one or more properties of one CPU that exists in the product authorization table</td>
</tr>
<tr>
<td>Reset</td>
<td>Modifies the global properties of the product authorization tables</td>
</tr>
</tbody>
</table>

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 product's authorization table 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 allows the product to 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.
Updates to the 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.

Run 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 prdTBL3n IDENTIFIED BY DDNAME ISPddname IS NOT MARKED AS LOAD MODULE.
IEW2522E 470E MEMBER prdTBL3n IDENTIFIED BY DDNAME ISPddname... IS NOT A LOAD MODULE- (INVALID RECORD TYPE).
IEW2307S 1032 CURRENT INPUT MODULE NOT INCLUDED BECAUSE OF INVALID DATA.
COPY FAILED FOR MEMBER prdTBL3n. FAILURE IN IEWBIND INCLUDE, RETURN CODE 8 REASON CODE 83000507

In these messages, the variable prd is the three-character product code and n is P (permanent) or T (temporary). For more information, see “How licensing works” on page 264.

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.

Product authorization worksheet

When you request a product license from BMC, 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 1 on page 57 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 23: Product authorization worksheet

<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 “To display current processor information” on page 288 or use the LIST option of the batch Product Authorization utility.

Applying and managing passwords with the online interface

The online interface of the Product Authorization utility is accessed by using the Installation System. Product Authorization is displayed automatically during configuration to add product passwords. If a product does not require configuration or you need to manage your passwords, access the utility by selecting Maintain Product Passwords from the Installation System Main Menu.

To use the batch interface to manage passwords, see “Applying and managing passwords with the batch interface” on page 290.

Applying passwords during configuration

During configuration, the Product Authorization utility is accessible to add or copy passwords.

To add permanent passwords during configuration

1 On the Configure Products or Components panel, select Apply Product Passwords and press Enter.
2 On the Product Authorization panel, enter 3 in the Sel column for one or more products and press Enter.

3 On the Install System Permanent Password Authorization panel, specify the CPU ID for each product by using one of the following methods:

- To use the same CPU ID for all the listed products, type Y in the Select a single CPUID-TYPE for all products selected field, specify the CPU ID in the CPUID-TYPE field below the Select a single CPUID-TYPE for all products selected field, and press Enter.

- To use different CPU IDs for each listed product, specify the CPU ID in the CPUID-TYPE field to the right of each listed product.

4 Enter a password three digits at a time for each listed product.

Each row represents one product on one processor. You can:

- Change a CPU ID by typing over the displayed information.

- Deselect a product by blanking out the Sel column.

5 Press Enter to validate and accept your changes.

To add trial passwords during configuration

1 On the Configure Products or Components panel, select Apply Product Passwords and press Enter.

2 On the Product Authorization panel, enter 2 in the Sel column for one or more products and press Enter.

3 On the Product Trial Authorization panel, enter your password, three digits at a time, for each listed product.

You can deselect a product by blanking out the Sel column.

4 Press Enter to validate and accept your changes.

To copy passwords during configuration

1 On the Configure Products or Components panel, select Apply Product Passwords and press Enter.

2 On the Product Authorization panel, enter 1 in the Sel column for one or more products and press Enter.
3 On the Retain Product Authorization panel, specify the load library or password library that contain the product authorization modules by using one of the following methods:

- If the product authorization modules are in one library, type **Y** in the **Are the product authorization modules in one load/password library** field, specify a library name in the **Enter load/password library name** field, and press **Enter**.

- If the product authorization modules are in multiple libraries, type **N** in the **Are the product authorization modules in one load/password library** field, specify a library name for each listed product in the **Load/Password Library Name** field, and press **Enter**.

4 Press **Enter** to validate and accept your changes.

Applying and managing passwords from the main menu

You can apply and manage product passwords at any time from the Installation System Main Menu. To access the Product Authorization Utility, select **Maintain Product Passwords** on the Installation System Main Menu.

To start the online Product Authorization utility

Use the following procedure to start the Product Authorization utility from the Installation System Main Menu.

1 On the Installation System Main Menu, select **Maintain Product Passwords**.

2 On the Product Authorization panel, select a product you want to work with.

```
BMIPSF1  Product Authorization
COMMAND ==>
Select product for authorization . . . ___ . Press Enter to continue.
1 Administrative Assistant for DB2
2 ALTER for DB2
3 APPLICATION RESTART CONTROL for DB2
4 APPLICATION RESTART CONTROL for IMS
5 APPLICATION RESTART CONTROL for VSAM
6 Backup and Recovery Solution for IMS
7 BMC Application Accelerator for IMS
8 BMC APPTUNE for DB2
9 BMC Discovery for z/OS
10 BMC High Speed Utilities for DB2
11 BMC Impact Integration for z/OS
12 BMC Intelligent Capping for zEnterprise
13 BMC Log Analyzer for IMS
14 BMC Object Administration for DB2
15 BMC Performance for DB2 Databases
16 BMC Performance for DB2 SQL
17 BMC Performance Manager for WMQ for z/OS
18 BMC Recovery for DB2
19 BMC Subsys Optlmz zEntpr - DB2
20 BMC Subsys Optlmz zEntpr - IMS
```
The Product Authorization Primary Menu is displayed.

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 . . . . USER1.SMP.BMCPSWD
Authorization password . . ___  ___  ___  ___

--- Note ---
If you are processing a new password for an existing CPU, this panel is the only one that you use. 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.

The following table describes the options on the Product Authorization Primary Menu:

<table>
<thead>
<tr>
<th>Option</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>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>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>
<tr>
<td>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>Option</td>
<td>Description</td>
</tr>
<tr>
<td>------------</td>
<td>-----------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Help about</td>
<td>Displays version, copyright, and licensing information about the Product Authorization utility</td>
</tr>
<tr>
<td>Exit</td>
<td>Exits the Product Authorization utility and returns to the previous menu or panel</td>
</tr>
</tbody>
</table>

To process a permanent password for an existing processor

Use this procedure to permanently authorizes an existing processor (a CPU that is already listed in your product authorization tables) to run the selected product.

1. On the Installation System Main Menu, select **Maintain Product Passwords**.

2. On the Product Authorization panel, select a product you want to work with.

   BMIPSF1 -----------  Product Authorization  ---------------------
   COMMAND ===>  
   Select product for authorization . . . ____ . Press Enter to continue.

   1  Administrative Assistant for DB2
   2  ALTER for DB2
   3  APPLICATION RESTART CONTROL for DB2
   4  APPLICATION RESTART CONTROL for IMS
   5  APPLICATION RESTART CONTROL for VSAM
   6  Backup and Recovery Solution for IMS
   7  BMC Application Accelerator for IMS
   8  BMC APPTUNE for DB2
   9  BMC Discovery for z/OS
   10  BMC High Speed Utilities for DB2
   11  BMC Impact Integration for z/OS
   12  BMC Intelligent Capping for zEnterprise
   13  BMC Log Analyzer for IMS
   14  BMC Object Administration for DB2
   15  BMC Performance for DB2 Databases
   16  BMC Performance for DB2 SQL
   17  BMC Performance Manager for WMQ for z/OS
   18  BMC Recovery for DB2
   19  BMC Subsys Optimz zEntpr - DB2
   20  BMC Subsys Optimz zEntpr - IMS
   21  BMC System Administration for IMS
   22  BMC System Communication for IMS
   23  BMC System Performance for DB2
   24  BMC SQL Explorer for DB2
   25  BMC SQL Performance for DB2
   26  Change Recording Facility
   27  CATALOG MANAGER for DB2

3. On the Product Authorization Primary Menu, specify the following information:
   - In the **Options** field, type 1, (Process password).
   - In the **Password library** field, type a fully qualified data set name.

   The utility saves the library name in your ISPF profile and uses that name as the default library.
In the **Authorization password** field, type your permanent password.

<table>
<thead>
<tr>
<th>SECEPPRI</th>
<th>productName</th>
<th>Product Authorization Primary Menu</th>
</tr>
</thead>
<tbody>
<tr>
<td>COMMAND</td>
<td>===&gt;</td>
<td>Select an option. Type additional information if applicable. Then press Enter.</td>
</tr>
</tbody>
</table>

**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 . . . . USER1.SMP.BMCPSWD

Authorization password . . ___ ___ ___ ___

4 Press **Enter**.

A pop-up message explains that the product authorization table was updated successfully.

5 To exit the Product Authorization utility, press **F3**.

**To add authorization for a new processor**

Use this procedure to add a new processor to your product authorization table. Ensure that you have received a new ADD password from BMC.

1 On the **Installation System Main Menu**, select **Maintain Product Passwords**.

2 On the **Product Authorization panel**, select a product you want to work with.

<table>
<thead>
<tr>
<th>BMIPSF1</th>
<th>Product Authorization</th>
</tr>
</thead>
<tbody>
<tr>
<td>COMMAND</td>
<td>===&gt;</td>
</tr>
</tbody>
</table>

Select product for authorization . . . ___ . Press Enter to continue.

1 Administrative Assistant for DB2
2 ALTER for DB2
3 APPLICATION RESTART CONTROL for DB2
4 APPLICATION RESTART CONTROL for IMS
5 APPLICATION RESTART CONTROL for VSAM
6 Backup and Recovery Solution for IMS
7 BMC Application Accelerator for IMS
8 BMC APPTUNE for DB2
9 BMC Discovery for z/OS
10 BMC High Speed Utilities for DB2
11 BMC Impact Integration for z/OS
12 BMC Intelligent Capping for zEnterprise
13 BMC Log Analyzer for IMS
14 BMC Object Administration for DB2
15 BMC Performance for DB2 Databases
16 BMC Performance for DB2 SQL
17 BMC Performance Manager for WMQ for z/OS
18 BMC Recovery for DB2
19 BMC Subsys Optimz zEntpr - DB2
20 BMC Subsys Optimz zEntpr - IMS
21 BMC System Administration for IMS
22 BMC System Communication for IMS
3 On the Product Authorization Primary Menu, specify the following information and press Enter:

- In the Options field, type 1, (Process password).
- In the Password library field, type a fully qualified data set name. The utility saves the library name in your ISPF profile and uses that name as the default library.
- In the Authorization password field, type your ADD password.

```
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 . . . . USER1.SMP.BMCPSWD
Authorization password . . ___  ___  ___  ___

4 On the ADD Authorization for a Processor panel, specify the following information:

- In the New serial number field, type the serial number of the processor for which you are adding authorization.
- In the New model number field, type the model number of the processor for which you are adding authorization.

```
SECEPADD ADD Authorization for a Processor
Command ===> _________________________________________________________________
```

Supply information for all input fields. Then press Enter.

Authorization password . . : X04  UH9  KNG  JKE
New serial number . . . 10293
New model number . . . 9672 (for example, 9021, 9121, 3090)
5 Press Enter.

A pop-up message on the Product Authorization Primary Menu explains that the product authorization table was updated successfully.

6 To exit the Product Authorization utility, press F3.

To delete authorization for a processor

Use this procedure to remove a processor from your product authorization table. Ensure that you have received a new DELETE password from BMC.

1 On the Installation System Main Menu, select Maintain Product Passwords.

2 On the Product Authorization panel, select a product you want to work with.

3 On the Product Authorization Primary Menu, specify the following information and press Enter:

- In the Options field, type 1, (Process password).
In the **Password library** field, type a fully qualified data set name. The utility saves the library name in your ISPF profile and uses that name as the default library.

In the **Authorization password** field, type your DELETE password.

```
SECEPPRI
COMMAND ===> productName Product Authorization Primary Menu
```

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 . . . . . USER1.SMP.BMCPSWD
Authorization password . . ___  ___  ___  ___

4 On the DELETE Authorization for a Processor panel, specify the following information:

- In the **Old serial number** field, type the serial number of the processor for which you are deleting authorization.

- In the **Old model number** field, type the model number of the processor for which you are deleting authorization.

```
SECEPDEL
Command ===> DELETE Authorization for a Processor
```

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)

```
F1=Help    F2=Split   F3=Exit    F7=Bkwd    F8=Fwd     F9=Swap   F12=Cancel
```

5 Press **Enter**.

A pop-up message on the Product Authorization Primary Menu explains that the product authorization table was updated successfully.
To exit the Product Authorization utility, press F3.

To replace authorization for a processor

Use this procedure to replace 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. Ensure that you have received a new REPLACE password from BMC.


2. On the Product Authorization panel, select a product you want to work with.

   BMIPSF1 ------------ Product Authorization ---------------------
   COMMAND ===> 
   Select product for authorization . . . ____ . Press Enter to continue.
   1      Administrative Assistant for DB2
   2      ALTER for DB2
   3      APPLICATION RESTART CONTROL for DB2
   4      APPLICATION RESTART CONTROL for IMS
   5      APPLICATION RESTART CONTROL for VSAM
   6      Backup and Recovery Solution for IMS
   7      BMC Application Accelerator for IMS
   8      BMC APPTUNE for DB2
   9      BMC Discovery for z/OS
  10     BMC High Speed Utilities for DB2
  11     BMC Impact Integration for z/OS
  12     BMC Intelligent Capping for zEnterprise
  13     BMC Log Analyzer for IMS
  14     BMC Object Administration for DB2
  15     BMC Performance for DB2 Databases
  16     BMC Performance for DB2 SQL
  17     BMC Performance Manager for WMQ for z/OS
  18     BMC Recovery for DB2
  19     BMC Subsys Optimz zEntpr - DB2
  20     BMC Subsys Optimz zEntpr - IMS
  21     BMC System Administration for IMS
  22     BMC System Communication for IMS
  23     BMC System Performance for DB2
  24     BMC SQL Explorer for DB2
  25     BMC SQL Performance for DB2
  26     Change Recording Facility
  27     CATALOG MANAGER for DB2

3. On the Product Authorization Primary Menu, specify the following information and press Enter:
   - In the Options field, type 1, (Process password).
   - In the Password library field, type a fully qualified data set name. The utility saves the library name in your ISPF profile and uses that name as the default library.
   - In the Authorization password field, type your REPLACE password.

   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 . . . . USER1.SMP.BMCPSWD
Authorization password . . ___ ___ ___ ___

4 On the REPLACE Authorization for a Processor panel, specify the following information:

- In the **Old serial number** field, type the serial number of the processor to be replaced.
- In the **Old model number** field, type the model number of the processor to be replaced.
- In the **New serial number** field, type the serial number of the processor that will replace the old processor.
- In the **New model number** field, type the model number of the processor that will replace the old processor.

```
SECEPREP  REPLACE Authorization for a Processor
Command ===> _________________________________________________________________
```

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)
```

F1=Help    F2=Split   F3=Exit    F7=Bkwd    F8=Fwd     F9=Swap   F12=Cancel

5 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.
To modify authorization for an existing processor

Use this procedure to change the properties of a processor in the product authorization table. Ensure that you have received a new MODIFY password from BMC.


2. On the Product Authorization panel, select a product you want to work with.

<table>
<thead>
<tr>
<th>BMIPSF1</th>
<th>Product Authorization</th>
<th>COMMAND ===&gt;</th>
</tr>
</thead>
<tbody>
<tr>
<td>Select product for authorization . . . ___ . Press Enter to continue.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>Administrative Assistant for DB2</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>ALTER for DB2</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>APPLICATION RESTART CONTROL for DB2</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>APPLICATION RESTART CONTROL for IMS</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>APPLICATION RESTART CONTROL for VSAM</td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>Backup and Recovery Solution for IMS</td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>BMC Application Accelerator for IMS</td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>BMC APPTUNE for DB2</td>
<td></td>
</tr>
<tr>
<td>9</td>
<td>BMC Discovery for z/OS</td>
<td></td>
</tr>
<tr>
<td>10</td>
<td>BMC High Speed Utilities for DB2</td>
<td></td>
</tr>
<tr>
<td>11</td>
<td>BMC Impact Integration for z/OS</td>
<td></td>
</tr>
<tr>
<td>12</td>
<td>BMC Intelligent Capping for zEnterprise</td>
<td></td>
</tr>
<tr>
<td>13</td>
<td>BMC Log Analyzer for IMS</td>
<td></td>
</tr>
<tr>
<td>14</td>
<td>BMC Object Administration for DB2</td>
<td></td>
</tr>
<tr>
<td>15</td>
<td>BMC Performance for DB2 Databases</td>
<td></td>
</tr>
<tr>
<td>16</td>
<td>BMC Performance for DB2 SQL</td>
<td></td>
</tr>
<tr>
<td>17</td>
<td>BMC Performance Manager for WMQ for z/OS</td>
<td></td>
</tr>
<tr>
<td>18</td>
<td>BMC Recovery for DB2</td>
<td></td>
</tr>
<tr>
<td>19</td>
<td>BMC Subsys Optimz zEntpr - DB2</td>
<td></td>
</tr>
<tr>
<td>20</td>
<td>BMC Subsys Optimz zEntpr - IMS</td>
<td></td>
</tr>
<tr>
<td>21</td>
<td>BMC System Administration for IMS</td>
<td></td>
</tr>
<tr>
<td>22</td>
<td>BMC System Communication for IMS</td>
<td></td>
</tr>
<tr>
<td>23</td>
<td>BMC System Performance for DB2</td>
<td></td>
</tr>
<tr>
<td>24</td>
<td>BMC SQL Explorer for DB2</td>
<td></td>
</tr>
<tr>
<td>25</td>
<td>BMC SQL Performance for DB2</td>
<td></td>
</tr>
<tr>
<td>26</td>
<td>Change Recording Facility</td>
<td></td>
</tr>
<tr>
<td>27</td>
<td>CATALOG MANAGER for DB2</td>
<td></td>
</tr>
</tbody>
</table>

3. On the Product Authorization Primary Menu, specify the following information and press Enter:

- In the Options field, type 1, (Process password).
- In the Password library field, type a fully qualified data set name.
  The utility saves the library name in your ISPF profile and uses that name as the default library.
- In the Authorization password field, type your MODIFY password.

<table>
<thead>
<tr>
<th>SECEPPRI</th>
<th>productName Product Authorization Primary Menu</th>
</tr>
</thead>
<tbody>
<tr>
<td>COMMAND ===&gt; ___________________________________________</td>
<td></td>
</tr>
<tr>
<td>Select an option. Type additional information if applicable. Then press Enter.</td>
<td></td>
</tr>
<tr>
<td>Options</td>
<td></td>
</tr>
<tr>
<td>1. Process password (Requires password library and password)</td>
<td></td>
</tr>
<tr>
<td>2. Display product authorization (Requires password library only)</td>
<td></td>
</tr>
</tbody>
</table>
4 On the MODIFY Authorization for an Existing Processor panel, specify the following information:

- In the **Serial number** field, type the serial number of the processor for which you want to modify the authorization.

- In the **Model number** field, type the model number of the processor for which you want to modify the authorization.

```
SECEPUPD          MODIFY Authorization for an Existing Processor
Command ===> _________________________________________________________________
Supply information for all input fields. Then press Enter.
Authorization password . . : X3Y  Q67  QQ6  5U1
Serial number . . . 10293
Model number . . . 9672   (for example, 9021, 9121, 3090)
```

5 Press **Enter**.

A pop-up message on the Product Authorization Primary Menu explains that the product authorization table was updated successfully.

6 To exit the Product Authorization utility, press **F3**.

**To reset authorization for all processors**

Use this procedure to reset a global property (one that applies to all CPU IDs) of the authorization table. Ensure that you have received a new RESET password from BMC.

1 On the Installation System Main Menu, select **Maintain Product Passwords**.
2 On the Product Authorization panel, select a product you want to work with.

```
BMIPSF1 --------- Product Authorization ---------------------
COMMAND ===> 
Select product for authorization . . . . . . . Press Enter to continue.

1  Administrative Assistant for DB2
2  ALTER for DB2
3  APPLICATION RESTART CONTROL for DB2
4  APPLICATION RESTART CONTROL for IMS
5  APPLICATION RESTART CONTROL for VSAM
6  Backup and Recovery Solution for IMS
7  BMC Application Accelerator for IMS
8  BMC APPTUNE for DB2
9  BMC Discovery for z/OS
10 BMC High Speed Utilities for DB2
11 BMC Impact Integration for z/OS
12 BMC Intelligent Capping for zEnterprise
13 BMC Log Analyzer for IMS
14 BMC Object Administration for DB2
15 BMC Performance for DB2 Databases
16 BMC Performance for DB2 SQL
17 BMC Performance Manager for WMQ for z/OS
18 BMC Recovery for DB2
19 BMC Subsys Optimz zEntpr - DB2
20 BMC Subsys Optimz zEntpr - IMS
21 BMC System Administration for IMS
22 BMC System Communication for IMS
23 BMC System Performance for DB2
24 BMC SQL Explorer for DB2
25 BMC SQL Performance for DB2
26 Change Recording Facility
27 CATALOG MANAGER for DB2
```

3 On the Product Authorization Primary Menu, specify the following information:

- In the **Options** field, type **1**, (Process password).
- In the **Password library** field, type a fully qualified data set name.
  The utility saves the library name in your ISPF profile and uses that name as the default library.
- In the **Authorization password** field, type your MODIFY password.

```
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 . . . . USER1.SMP.BMCPSSW
  Authorization password . . ___ ___ ___ ___
```

4 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 “To process a permanent password for an existing processor” on page 275.

To process a temporary password

1 Start the Product Authorization utility as instructed in “To start the online Product Authorization utility” on page 273.

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.

To display product authorization

Use this procedure to display the current authorization information for a product.

1 On the Installation System Main Menu, select Maintain Product Passwords.

2 On the Product Authorization panel, select a product you want to work with.

| BMIPSF1 ----------- Product Authorization --------------------- |
| COMMAND ===> |
| Select product for authorization . . . . . . Press Enter to continue. |
| 1 | Administrative Assistant for DB2 |
| 2 | ALTER for DB2 |
| 3 | APPLICATION RESTART CONTROL for DB2 |
| 4 | APPLICATION RESTART CONTROL for IMS |
| 5 | APPLICATION RESTART CONTROL for VSAM |
| 6 | Backup and Recovery Solution for IMS |
| 7 | BMC Application Accelerator for IMS |
| 8 | BMC APPTUNE for DB2 |
| 9 | BMC Discovery for z/OS |
3 On the Product Authorization Primary Menu, specify the following information:

- In the **Options** field, type **2**, (Display product authorization).

- In the **Password library** field, type a fully qualified data set name.

  The utility saves the library name in your ISPF profile and uses that name as the default library.

```
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 . . . . USER1.SMP.BMCPSWD
Authorization password . . ___  ___  ___  ___
```

4 Press **Enter**.

The **Product Authorization Display panel** is displayed.

```
SECEPTBL          Product Authorization Display
Command           ===> __________________________

Press Enter to continue.

Password library . . . . . . . . . . .'HLQ.BMCPSWD'
Product code . . . . . . . . . . . . : DOM
Last changed (mm/dd/yy-Hh:mm) . . . . : 11/19/14-10:11
Last changed by . . . . . . . . . . : RDHDXJ3
Grace period ends (mm/dd/yyyy) . . . . : 04/29/2017
Temporary expiration date (mm/dd/yyyy) . : 05/10/2017

Licensed Processors                   Maximum    Product
Serial  Model     Version  Significant        Number of    Expiration
Number  Number   Code     Digits    Tier  Processors   Date

Applying and managing passwords with the online interface
The following table describes the fields on this panel:

<table>
<thead>
<tr>
<th>Field</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Password library</strong></td>
<td>Name of the password library</td>
</tr>
<tr>
<td><strong>Product code</strong></td>
<td>Code that BMC assigns to the product</td>
</tr>
<tr>
<td><strong>Last changed</strong></td>
<td>Date and time that the product authorization tables were last modified</td>
</tr>
<tr>
<td>(mm/dd/yy-hh:mm)</td>
<td>The variables are as follows:</td>
</tr>
<tr>
<td></td>
<td>■ mm represents the month (in the range 01-12).</td>
</tr>
<tr>
<td></td>
<td>■ dd represents the day (in the range 01-31).</td>
</tr>
<tr>
<td></td>
<td>■ yy represents the year (in the range 00-99).</td>
</tr>
<tr>
<td></td>
<td>■ hh represents the hour (in the range 00-23).</td>
</tr>
<tr>
<td></td>
<td>■ mm represents minutes (in the range 00-59).</td>
</tr>
<tr>
<td><strong>Last changed by</strong></td>
<td>User ID or job that requested the modification</td>
</tr>
<tr>
<td><strong>Grace period ends</strong></td>
<td>Date when the grace period (if triggered) will end</td>
</tr>
<tr>
<td>(mm/dd/yyyy)</td>
<td>The variables are as follows:</td>
</tr>
<tr>
<td></td>
<td>■ mm represents the month (in the range 01-12).</td>
</tr>
<tr>
<td></td>
<td>■ dd represents the day (in the range 01-31).</td>
</tr>
<tr>
<td></td>
<td>■ yyyy represents the year (in the range 0001-9999).</td>
</tr>
<tr>
<td><strong>Note:</strong></td>
<td>This line appears only if the failure mode is phased and the grace period</td>
</tr>
<tr>
<td></td>
<td>has been triggered. The grace period can be triggered when you run a</td>
</tr>
<tr>
<td></td>
<td>permanently licensed product on an unlicensed processor. You should apply a</td>
</tr>
<tr>
<td></td>
<td>RESET password to reset the grace period. For assistance, contact your BMC</td>
</tr>
<tr>
<td></td>
<td>sales representative.</td>
</tr>
<tr>
<td><strong>Temporary expiration date</strong></td>
<td>Date on which you will no longer be allowed to bypass the CPU ID check or</td>
</tr>
<tr>
<td>(mm/dd/yyyy)</td>
<td>the product</td>
</tr>
<tr>
<td></td>
<td>The variables are as follows:</td>
</tr>
<tr>
<td></td>
<td>■ mm represents the month (in the range 01-12)</td>
</tr>
<tr>
<td></td>
<td>■ dd represents the day (in the range 01-31)</td>
</tr>
<tr>
<td></td>
<td>■ yyyy represents the year (in the range 0001-9999)</td>
</tr>
<tr>
<td><strong>Note:</strong></td>
<td>If this expiration date has not yet been reached, you can run this</td>
</tr>
<tr>
<td></td>
<td>product on any processor. On the date shown, your trial period will end or</td>
</tr>
<tr>
<td></td>
<td>(if you have licensed the product) you will be able to run the product</td>
</tr>
<tr>
<td></td>
<td>only on authorized processors.</td>
</tr>
<tr>
<td>Field</td>
<td>Description</td>
</tr>
<tr>
<td>-----------------</td>
<td>-------------</td>
</tr>
<tr>
<td>Licensed Processors</td>
<td>List of properties for each licensed CPU. The <strong>Version Code</strong> column reflects the hardware representation of the submodel. <strong>Significant Digits</strong> refers to the number of significant digits for the serial number. The expiration date indicates the month and year through which you are licensed for the specific processor. In most cases, this value is NONE. Most of the remaining processor information is provided for reference in case you need to contact BMC Customer Support.</td>
</tr>
</tbody>
</table>

5 To exit the Product Authorization utility, press F3.

**To display current processor information**

Use this procedure to display the current authorization for a processor. If you experience problems, BMC Customer Support might require this information.

1 On the Installation System Main Menu, select **Maintain Product Passwords**.

2 On the Product Authorization panel, select a product you want to work with.

   BMIPSF1 ----------- Product Authorization ------------------------
   COMMAND ===> ____________________________

   Select product for authorization . . . . . Press Enter to continue.

   1      Administrative Assistant for DB2
   2      ALTER for DB2
   3      APPLICATION RESTART CONTROL for DB2
   4      APPLICATION RESTART CONTROL for IMS
   5      APPLICATION RESTART CONTROL for VSAM
   6      Backup and Recovery Solution for IMS
   7      BMC Application Accelerator for IMS
   8      BMC APPTUNE for DB2
   9      BMC Discovery for z/OS
   10     BMC High Speed Utilities for DB2
   11     BMC Impact Integration for z/OS
   12     BMC Intelligent Capping for zEnterprise
   13     BMC Log Analyzer for IMS
   14     BMC Object Administration for DB2
   15     BMC Performance for DB2 Databases
   16     BMC Performance for DB2 SQL
   17     BMC Performance Manager for WMQ for z/OS
   18     BMC Recovery for DB2
   19     BMC Subsys Optizm zEntpr - DB2
   20     BMC Subsys Optizm zEntpr - IMS
   21     BMC System Administration for IMS
   22     BMC System Communication for IMS
   23     BMC System Performance for DB2
   24     BMC SQL Explorer for DB2
   25     BMC SQL Performance for DB2
   26     Change Recording Facility
   27     CATALOG MANAGER for DB2

3 On the Product Authorization Primary Menu, select 3, (Display current processor information).

   SECEPPRI ===> _______________ 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 . . . . . USER1.SMP.BMCPSWD
Authorization password . . ___  ___  ___  ___

The Current Processor Information panel is displayed.

<table>
<thead>
<tr>
<th>Command ====&gt;</th>
<th>Current Processor Information</th>
</tr>
</thead>
</table>

For the MVS system on which this application is currently executing:

- Serial number . . . : 10293
- Model number . . . : 9672
- Version code . . . : 06
- Number of available processors . . : 05

Press Enter to continue.

F1=Help   F2=Split   F3=Exit   F7=Bkwd   F8=Fwd   F9=Swap   F12=Cancel

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).

**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 “Control statements and keywords” on page 294.

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.
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.

4 To exit the Product Authorization utility, press F3.

Applying and managing passwords with the batch interface

This section describes the batch interface that you can use for product authorization outside of the Installation System. You can use the batch interface to:

- Process (add, delete, and modify) passwords for single product
- Process passwords for multiple products at one time
- Obtain current product authorization and processor information

To use the online interface, see “Applying and managing passwords with the online interface” on page 271.

Running the batch Product Authorization utility

You can find product-specific JCL samples in your JCL library or the Installation System library.

Note

The passwords that are created with the PGM=BLFSEC3B program are compatible with the passwords that are created with the SECSEC3B program.

To apply passwords to a single product

1 Create the JCL.

You can use one of the following sources as a template:

- ###CPUID (in your JCL library)
- BMISPSWD (in the Installation System library)
- “Sample JCL for product authorization” on page 292
Follow the instructions in the JCL comments to customize the JCL.

Insert one or more password control statements for the indicated product.

Save the JCL and submit the job.

**To apply passwords to multiple products at one time**

1. Create the JCL.

You can use one of the following sources as a template:

- ###CPUID (in your JCL library)
- BMISPSWD (in the base installation library)
- “Sample JCL for product authorization” on page 292

2. Follow the instructions in the JCL comments to customize the JCL.

3. Create an APPLYPW step for each product for which you want to process passwords.

4. Insert one or more password control statements for each product.

   **Figure 15 on page 291** is an example of specifying passwords for multiple products.

   **Figure 15: Example of specifying passwords for multiple products**

   ```bash
   //APPLYPW EXEC PGM=BLFSEC3B,PARM='SPD'
   //SYSLIB DD DSN=BMC.V2400.BMCPSWD,DISP=SHR
   //SYSPRINT DD SYSOUT=*,DCB=RECFM=FBA
   //SYSIN DD *
   PSWD=123,456,789,ABC      NEWCPUID=98765-4321
   /*
   //APPLYPW EXEC PGM=BLFSEC3B,PARM='AFD'
   //SYSLIB DD DSN=BMC.V2360.BMCPSWD,DISP=SHR
   //SYSPRINT DD SYSOUT=*,DCB=RECFM=FBA
   //SYSIN DD *
   PSWD=456,789,ABC,123      NEWCPUID=87659-4213
   /*
   //APPLYPW EXEC PGM=BLFSEC3B,PARM='DFD'
   //SYSLIB DD DSN=BMC.V2360.BMCPSWD,DISP=SHR
   //SYSPRINT DD SYSOUT=*,DCB=RECFM=FBA
   //SYSIN DD *
   PSWD=123,789,ABC,456      NEWCPUID=97658-4312
   /*
   ```

5. Save the JCL and submit the job.

Appendix C Authorizing products 291
Sample JCL for product authorization

The following figure is a sample of the JCL used to run the product authorization batch utility.

**Figure 16: Sample JCL for running batch product authorization**

```plaintext
// *    MODIFY JOB STATEMENT BELOW AS APPROPRIATE              *
// *    CPUAUTH  JOB  (ACCT),'CPUID AUTHORIZATION',MSGCLASS=X,CLASS=A
// *
// ******************************************************************************
// **                  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 SSSSS 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, 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 CAN NOT BE CONTINUED.    **
// **       MULTIPLE SYSIN CONTROL STATEMENTS CAN BE PROCESSED IN A        **
// **       SINGLE JOB STEP.                                               **
// ******************************************************************************
// ** KEYWORD SYNTAX FOR LIST:                                           **
// **       THE LIST KEYWORD CAN NOT 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:                               **
// **       MODIFY THE LINE CONTAINING PARM='PPP', WHERE 'PPP' IS THE       **
// **       THREE LETTER PRODUCT CODE.                                    **
// **       FOR MULTIPLE PRODUCTS, REPPLICATE STEP APPLYPW CHANGING THE    **
```
Applying and managing passwords with the batch interface

Table 24 on page 293 lists information that is required for the JCL.

Table 24: JCL statements

<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. Replace PPP with the three-character product code.</td>
</tr>
<tr>
<td>STEPLIB DD</td>
<td>Identifies the load library in which BLFSEC3B resides. 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. 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. For a description of these control statements, see “Control statements and keywords” on page 294.</td>
</tr>
</tbody>
</table>
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 “Running the batch Product Authorization utility” on page 290 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 25 on page 294 describes the control statement keywords.

Table 25: 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></td>
</tr>
<tr>
<td></td>
<td>See the sample JCL.</td>
<td>Valid characters are alphanumeric (excluding letters I and O). Valid special</td>
</tr>
<tr>
<td></td>
<td>Twelve continuous characters are also acceptable.</td>
<td>characters are =, +, and @. You can substitute the asterisk (*) for the</td>
</tr>
<tr>
<td></td>
<td></td>
<td>&quot;at&quot; sign (@) when @ is not available on the keyboard.</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</td>
</tr>
<tr>
<td></td>
<td></td>
<td>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</td>
</tr>
<tr>
<td></td>
<td></td>
<td>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</td>
</tr>
<tr>
<td></td>
<td></td>
<td>tables and information about the processor on which the job ran.</td>
</tr>
</tbody>
</table>
Check 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 26 on page 295 lists the return codes that the batch Production Authorization utility generates.

Table 26: Return codes from the batch Product Authorization utility

<table>
<thead>
<tr>
<th>Code</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>
Applying and managing passwords with the batch interface
Configuring UIM server options

The UIM server resides on the mainframe and handles communication between the console and console-enabled mainframe products and features. After the UIM server is installed, you must configure the UIM server.

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.

For information about customizing the UIM server and the console for your environment, see the configuration or customization guide for your products.

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.

Use the following information to complete the UIM Server Middleware Options panel:

<table>
<thead>
<tr>
<th>Field</th>
<th>Description</th>
</tr>
</thead>
</table>
| Name                | A name for the UIM server started task procedure  
The default name is UIMx. The procedure contains the required parameter and statements for the UIM server address space. The installation process configures the procedure. The UIM started task name must be defined to your security package with an OMVS segment (TCP/IP requirements). |
| Execution Account Number | The account number under which the UIM application server will run  
The account number must comply with your site standards. |
| UIM Port Number     | A port number  
A port number is the address of a TCP/IP application on an IBM 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. |
<table>
<thead>
<tr>
<th>Field</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Encryption Level</strong></td>
<td>The encryption level that UIM uses for user credentials</td>
</tr>
<tr>
<td></td>
<td>Specify one of the following options:</td>
</tr>
<tr>
<td></td>
<td>■ 1=NO</td>
</tr>
<tr>
<td></td>
<td>This value indicates that there should <em>not</em> be any encryption of the</td>
</tr>
<tr>
<td></td>
<td>credentials between UIM and the client.</td>
</tr>
<tr>
<td></td>
<td>■ 2=CREDENTIALS-IF</td>
</tr>
<tr>
<td></td>
<td>This value indicates that if the z/Series processor and the client support</td>
</tr>
<tr>
<td></td>
<td>encrypted credentials, encryption should be used.</td>
</tr>
<tr>
<td></td>
<td>■ 3=CREDENTIALS-REQUIRED</td>
</tr>
<tr>
<td></td>
<td>This value indicates that encrypted credentials are required and connection</td>
</tr>
<tr>
<td></td>
<td>attempts using non-encrypted credentials will be rejected.</td>
</tr>
<tr>
<td></td>
<td>■ 4=SSL-IF</td>
</tr>
<tr>
<td></td>
<td>This value indicates that if the z/Series processor and the client support</td>
</tr>
<tr>
<td></td>
<td>SSL, encryption should be used. If support does not exist, CREDENTIALS-</td>
</tr>
<tr>
<td></td>
<td>IF will be attempted. If that is not supported, the connection will be</td>
</tr>
<tr>
<td></td>
<td>rejected.</td>
</tr>
<tr>
<td></td>
<td>■ 5=SSL-REQUIRED</td>
</tr>
<tr>
<td></td>
<td>This value indicates that SSL encryption must be used on any connection,</td>
</tr>
<tr>
<td></td>
<td>and non-SSL connection attempts will be rejected. Caution is advised, as</td>
</tr>
<tr>
<td></td>
<td>older clients may not support the SSL standard, and be unable to connect</td>
</tr>
<tr>
<td></td>
<td>to the server.</td>
</tr>
<tr>
<td><strong>USS HFS Root</strong></td>
<td>The path for the web services definition files</td>
</tr>
<tr>
<td></td>
<td>UIM must have read/write access to this path. The default setting is `/var/</td>
</tr>
<tr>
<td></td>
<td>bmcuim`.</td>
</tr>
</tbody>
</table>
Configuring BMC products for DB2

Use this information to configure BMC products for DB2. Only products having unique configuration tasks are included.

Note

Some tasks are performed outside of the Installation System.

For more information, view the Quick Course "BMC Installation System - DB2 Configuration."

Product and component identifiers for variables and options

During installation, you can specify names for alias qualifiers, collection IDs, database names, and creator names.

Many of the installation variables and options include a two- or three-character product code (pp or prd) as part of the value. The following table lists the codes for the BMC products for DB2:

Table 27: Product and component codes

<table>
<thead>
<tr>
<th>Product</th>
<th>Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>ALTER for DB2</td>
<td>ALU</td>
</tr>
<tr>
<td>BMC Common Statistics</td>
<td>ATS</td>
</tr>
<tr>
<td>BMC Space Estimation Common Code</td>
<td>ASH</td>
</tr>
<tr>
<td>BMC Workbench for DB2</td>
<td>GUD</td>
</tr>
<tr>
<td>BMCSORT</td>
<td>AUP</td>
</tr>
<tr>
<td>CATALOG MANAGER for DB2</td>
<td>ACT</td>
</tr>
<tr>
<td>CHANGE MANAGER for DB2</td>
<td>ACM</td>
</tr>
<tr>
<td>Product</td>
<td>Code</td>
</tr>
<tr>
<td>------------------------------------------------------------------------</td>
<td>------</td>
</tr>
<tr>
<td>CHECK PLUS for DB2</td>
<td>ACK</td>
</tr>
<tr>
<td>BMC Next Generation Technology Check for DB2 for z/OS</td>
<td>UKA</td>
</tr>
<tr>
<td>Common Explain</td>
<td>DAA</td>
</tr>
<tr>
<td>Common SQL</td>
<td>ACS</td>
</tr>
<tr>
<td>BMC Next Generation Technology Copy for DB2 for z/OS</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>DB2 Solution Common Code</td>
<td>SCC</td>
</tr>
<tr>
<td>Execution component</td>
<td>AEX</td>
</tr>
<tr>
<td>High-speed Apply Engine</td>
<td>APT</td>
</tr>
<tr>
<td>LOADPLUS for DB2</td>
<td>AMU</td>
</tr>
<tr>
<td>BMC Next Generation Technology Load for DB2 for z/OS</td>
<td>UGA</td>
</tr>
<tr>
<td>BMC Next Generation Technology LOBMaster for DB2 for z/OS</td>
<td>UXA</td>
</tr>
<tr>
<td>Log Master for DB2</td>
<td>ALP</td>
</tr>
<tr>
<td>R+/CHANGE ACCUM for DB2</td>
<td>ACA</td>
</tr>
<tr>
<td>BMC Next Generation Technology Recover for DB2 for z/OS</td>
<td>AFR</td>
</tr>
<tr>
<td>RECOVERY MANAGER for DB2</td>
<td>ARM</td>
</tr>
<tr>
<td>BMC Next Generation Technology Reorg for DB2 for z/OS</td>
<td>UFA</td>
</tr>
<tr>
<td>REORG PLUS for DB2</td>
<td>ARU</td>
</tr>
<tr>
<td>SNAPSHOT UPGRADE FEATURE for DB2 (SUF)</td>
<td>XBM</td>
</tr>
<tr>
<td>SQL Explorer for DB2</td>
<td>DAA</td>
</tr>
<tr>
<td>BMC Next Generation Technology Stats for DB2 for z/OS</td>
<td>USA</td>
</tr>
<tr>
<td>UNLOAD PLUS for DB2</td>
<td>ADU</td>
</tr>
<tr>
<td>BMC Next Generation Technology Unload for DB2 for z/OS</td>
<td>UEA</td>
</tr>
<tr>
<td>BMC Next Generation Technology Utility Manager for DB2 for z/OS</td>
<td>UUA</td>
</tr>
<tr>
<td>Utilities Common Code</td>
<td>D2</td>
</tr>
</tbody>
</table>

**Specify alias qualifiers**

When you install a product or component, you can specify an alias qualifier to own all of the product’s or component’s aliases. Each BMC product or component that
accesses DB2 tables uses its own set of alias names to access its own DB2 tables and the DB2 catalog tables. These aliases are created by the Installation System.

*Note*
CHECK PLUS, LOADPLUS, REORG PLUS, and UNLOAD PLUS (available only as version 11.2) use synonyms instead of aliases.

When the products or components run, the owner of the aliases is obtained from the QUALIFIER value of the processing plan. The following table lists the default values for the alias qualifier:

**Table 28: Alias qualifier defaults**

<table>
<thead>
<tr>
<th>Product or component</th>
<th>Default</th>
</tr>
</thead>
<tbody>
<tr>
<td>ALTER for DB2</td>
<td>ACMvrD</td>
</tr>
<tr>
<td>APPTUNE for DB2</td>
<td>DAAvrD</td>
</tr>
<tr>
<td>BMC Common Statistics</td>
<td>ATSvrD</td>
</tr>
<tr>
<td>CATALOG MANAGER for DB2</td>
<td>ACTvrD</td>
</tr>
<tr>
<td>CHANGE MANAGER for DB2</td>
<td>ACMvrD</td>
</tr>
<tr>
<td>CHECK PLUS for DB2</td>
<td>ACKvr</td>
</tr>
<tr>
<td>BMC Next Generation Technology Check for DB2 for z/OS</td>
<td>UKAvrmD</td>
</tr>
<tr>
<td>Common Explain</td>
<td>DAAvrD</td>
</tr>
<tr>
<td>Common SQL</td>
<td>ACSvrD</td>
</tr>
<tr>
<td>BMC Next Generation Technology Copy for DB2 for z/OS</td>
<td>ACPvrm</td>
</tr>
<tr>
<td>DASD MANAGER PLUS for DB2</td>
<td>ASUvrD</td>
</tr>
<tr>
<td>High-speed Apply Engine</td>
<td>APTvrD</td>
</tr>
<tr>
<td>LOADPLUS for DB2</td>
<td>AMUvrmD</td>
</tr>
</tbody>
</table>

*Note:* To enable the MainView for DB2 product to access CATALOG MANAGER functionality on multiple DB2 subsystems, ensure that the collection ID for CATALOG MANAGER is the same on each DB2 subsystem.

*Note:* The access type for DASD MANAGER PLUS must be direct (D).
<table>
<thead>
<tr>
<th>Product or component</th>
<th>Default</th>
</tr>
</thead>
<tbody>
<tr>
<td>BMC Next Generation Technology Load for DB2 for z/OS</td>
<td>UGA vrmD</td>
</tr>
<tr>
<td>BMC Next Generation Technology LOBMaster for DB2 for z/OS</td>
<td>UXA vrmD</td>
</tr>
<tr>
<td>MainView for DB2 - Data Collector</td>
<td>DAA vD</td>
</tr>
<tr>
<td>BMC Next Generation Technology Recover for DB2 for z/OS</td>
<td>AFR vrmD</td>
</tr>
<tr>
<td>REORG PLUS for DB2</td>
<td>ARU vD</td>
</tr>
<tr>
<td>BMC Next Generation Technology Reorg for DB2 for z/OS</td>
<td>UFA vrmD</td>
</tr>
<tr>
<td>SQL Explorer for DB2</td>
<td>DAA vD</td>
</tr>
<tr>
<td>BMC Next Generation Technology Stats for DB2 for z/OS</td>
<td>USA vrmD</td>
</tr>
<tr>
<td>SQL Performance for DB2</td>
<td>DAA vD</td>
</tr>
<tr>
<td>UNLOAD PLUS for DB2</td>
<td>ADU vrmD</td>
</tr>
<tr>
<td>BMC Next Generation TechnologyUnload for DB2 for z/OS</td>
<td>UEA vrmD</td>
</tr>
<tr>
<td>BMC Next Generation Technology Utility Manager for DB2 for z/OS</td>
<td>UUA vrmD</td>
</tr>
</tbody>
</table>

The following table describes the variables for the alias qualifier:

Table 29: Alias qualifier variables

<table>
<thead>
<tr>
<th>Variable</th>
<th>Represents</th>
</tr>
</thead>
<tbody>
<tr>
<td>prd</td>
<td>Product code</td>
</tr>
<tr>
<td>v</td>
<td>Version level</td>
</tr>
<tr>
<td>r</td>
<td>Release level</td>
</tr>
<tr>
<td>m</td>
<td>Maintenance level</td>
</tr>
</tbody>
</table>
| y        | Access type (D=direct, I=indirect)  
The default is D. |

Specify collection IDs

During installation of some of the products and components, you can specify names for collection IDs.
Table 30 on page 303 lists the default values for the collection IDs.

### Table 30: Collection ID defaults

<table>
<thead>
<tr>
<th>Product or component</th>
<th>Default</th>
</tr>
</thead>
<tbody>
<tr>
<td>ALTER for DB2</td>
<td>ACMvr_y_MAIN</td>
</tr>
<tr>
<td>APPTUNE for DB2</td>
<td>DAAvr_D MAIN</td>
</tr>
<tr>
<td>BMC Common Statistics</td>
<td>ATSvr_D MAIN</td>
</tr>
<tr>
<td>CATALOG MANAGER for DB2</td>
<td>ACTvr_y_MAIN</td>
</tr>
<tr>
<td></td>
<td><strong>Note:</strong> To enable the MainView for DB2 product to access CATALOG MANAGER functionality on multiple DB2 subsystems, ensure that the collection ID for CATALOG MANAGER is the same on each DB2 subsystem.</td>
</tr>
<tr>
<td>CHANGE MANAGER for DB2</td>
<td>ACMvr_Dy_MAIN</td>
</tr>
<tr>
<td>Common Explain</td>
<td>DAAvr_D MAIN</td>
</tr>
<tr>
<td>Common SQL</td>
<td>ACSvr_D MAIN</td>
</tr>
<tr>
<td>DASD MANAGER PLUS for DB2</td>
<td>ASUvr_D MAIN</td>
</tr>
<tr>
<td>MainView for DB2 - Data Collector</td>
<td>DAAvr_D MAIN</td>
</tr>
<tr>
<td>SQL Explorer for DB2</td>
<td>DAAvr_D MAIN</td>
</tr>
<tr>
<td>SQL Performance for DB2</td>
<td>DAAvr_D MAIN</td>
</tr>
</tbody>
</table>

Table 31 on page 303 describes the variables for the collection IDs.

### Table 31: Collection ID variables

<table>
<thead>
<tr>
<th>Variable</th>
<th>Represents</th>
</tr>
</thead>
<tbody>
<tr>
<td>prd</td>
<td>Product code</td>
</tr>
<tr>
<td>v</td>
<td>Version level</td>
</tr>
<tr>
<td>r</td>
<td>Release level</td>
</tr>
<tr>
<td>m</td>
<td>Maintenance level</td>
</tr>
<tr>
<td>y</td>
<td>Access type (D=direct, I=indirect)</td>
</tr>
<tr>
<td></td>
<td>The default is $D$.</td>
</tr>
</tbody>
</table>
Specify database and creator names

Because the components are DB2 applications, they use DB2 objects and data structures.

Table 32 on page 304 lists the default values for the database and creator names.

Table 32: Database and creator name defaults

<table>
<thead>
<tr>
<th>Component</th>
<th>Database default</th>
<th>Creator default</th>
</tr>
</thead>
<tbody>
<tr>
<td>ALTER for DB2</td>
<td>BMCACMvr</td>
<td>BMCACMvr</td>
</tr>
<tr>
<td>APPTUNE for DB2</td>
<td>BMCDAAvr</td>
<td>BMCDAAvr</td>
</tr>
<tr>
<td>BMC Common Statistics</td>
<td>BMCATSvr</td>
<td>BMCATSvr</td>
</tr>
<tr>
<td>BMC Workbench for DB2</td>
<td>BMCGUD</td>
<td>BMCGUD</td>
</tr>
<tr>
<td>CATALOG MANAGER for DB2</td>
<td>BMCACTvr</td>
<td>BMCACTvr</td>
</tr>
<tr>
<td>CHANGE MANAGER for DB2</td>
<td>BMCACMvr</td>
<td>BMCACMvr</td>
</tr>
<tr>
<td>Common Explain</td>
<td>BMCDAAvr</td>
<td>BMCDAAvr</td>
</tr>
<tr>
<td>Common utilities</td>
<td>BMCUUTIL</td>
<td>BMCUUTIL</td>
</tr>
<tr>
<td>DASD MANAGER PLUS for DB2</td>
<td>BMCASUvr</td>
<td>BMCASUvr</td>
</tr>
<tr>
<td>High-speed Apply Engine</td>
<td>APTvrm</td>
<td>APTvrm</td>
</tr>
<tr>
<td>MainView for DB2 - Data Collector</td>
<td>BMCDAAvr</td>
<td>BMCDAAvr</td>
</tr>
<tr>
<td>BMC Next Generation Technology</td>
<td>BMCAFRv</td>
<td>BMCAFR</td>
</tr>
<tr>
<td>Recover for DB2 for z/OS</td>
<td>BMCDAAvr</td>
<td>BMCDAAvr</td>
</tr>
<tr>
<td>SQL Explorer for DB2</td>
<td>BMCDAAvr</td>
<td>BMCDAAvr</td>
</tr>
<tr>
<td>SQL Performance for DB2</td>
<td>BMCDAAvr</td>
<td>BMCDAAvr</td>
</tr>
</tbody>
</table>

Table 33 on page 304 lists the variables for the database and creator names.

Table 33: Database and creator name variables

<table>
<thead>
<tr>
<th>Variable</th>
<th>Represents</th>
</tr>
</thead>
<tbody>
<tr>
<td>prd</td>
<td>Product code</td>
</tr>
<tr>
<td>v</td>
<td>Version level</td>
</tr>
<tr>
<td>r</td>
<td>Release level</td>
</tr>
</tbody>
</table>
Collection nicknames in CATALOG MANAGER

With CATALOG MANAGER, you can have more than one indirect catalog. Each indirect catalog requires a unique collection ID. You can assign a meaningful nickname to the collection ID. This nickname provides CATALOG MANAGER users with easy-to-remember names of collections.

Table 34 on page 305 shows examples of collection IDs and potential nicknames. Assume that the IDs are on test system DB2T and access indirect copies of production systems DB2P1 AND DB2P2.

Table 34: Examples of collection nicknames

<table>
<thead>
<tr>
<th>Collection ID</th>
<th>Collection nickname</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACT111_I1_MAIN</td>
<td>DB2P1I</td>
</tr>
<tr>
<td>ACT111_I2_MAIN</td>
<td>DB2P2I</td>
</tr>
</tbody>
</table>

The nickname can be up to 13 characters long and cannot contain any blanks.

Installation options jobs and modules

Most of the BMC products for DB2 use an assembled installation options module. The module contains the products' processing options and the values for those options that are shipped with the products. The NGT products (with the exception of NGT Copy and NGT Recover) use global and utility parameters (+ parameters) to define behavior. These are contained in data sets, which are used by the $730DOP2 job as part of the installation process. For details of the parameters, see BMC Next Generation Technology General User Guide.

The HLQ.JCL installation data set contains customized jobs that install your products into your DB2 environment. The $729DOP1 and $730DOP2 jobs (and $532SOPT job, if BMCSORT was installed) assemble the installation options modules. Submitting the generated configuration batch jobs links the installation options modules in the APF-authorized library that you designate during installation.

If you change any values for these options after configuration, you must rerun $729DOP1 and $730DOP2 (or $532SOPT) for the changes to take effect.

You can also modify the options for a specific product or component by editing and running its stand-alone options job in the HLQ.UBMCCNTL product library. Table 35 on page 306 lists (alphabetically by product or component name) the default names of the options jobs.
### Table 35: Names of stand-alone options jobs

<table>
<thead>
<tr>
<th>Product or component</th>
<th>Stand-alone options job or data set name</th>
</tr>
</thead>
<tbody>
<tr>
<td>ALTER</td>
<td>ACMDOPD1</td>
</tr>
<tr>
<td>BMCSORT</td>
<td>AUP$OPTS</td>
</tr>
<tr>
<td>CATALOG MANAGER</td>
<td>ACTDOPD1</td>
</tr>
<tr>
<td>CHANGE MANAGER</td>
<td>ACMDOPD1</td>
</tr>
<tr>
<td>CHECK PLUS</td>
<td>ACK$OPTS</td>
</tr>
<tr>
<td>BMC Next Generation Technology Copy for DB2 for z/OS</td>
<td>ACP$OPTS NGTZIOCP</td>
</tr>
<tr>
<td>DASD MANAGER PLUS</td>
<td>ASUDOPD1</td>
</tr>
<tr>
<td>High-speed Apply Engine</td>
<td>APT$OPTS</td>
</tr>
<tr>
<td>LOADPLUS</td>
<td>AMU$OPTS</td>
</tr>
<tr>
<td>BMC Next Generation Technology Load for DB2 for z/OS</td>
<td>NGTZIOLD</td>
</tr>
<tr>
<td>Log Master</td>
<td>ALP$OPTS</td>
</tr>
<tr>
<td>R+/CHANGE ACCUM</td>
<td>ACA$OPTS</td>
</tr>
<tr>
<td>BMC Next Generation Technology Recover for DB2 for z/OS</td>
<td>AFR$OPTS</td>
</tr>
<tr>
<td>RECOVERY MANAGER</td>
<td>ARM$OPTS</td>
</tr>
<tr>
<td>Note: This job is used for compatibility with previous releases only and contains no data.</td>
<td></td>
</tr>
<tr>
<td>REORG PLUS</td>
<td>ARU$OPTS</td>
</tr>
<tr>
<td>BMC Next Generation Technology Reorg for DB2 for z/OS</td>
<td>NGTZIORS contains utility parameters that affect the reorganization of table spaces NGTZIORX contains utility parameters that affect the reorganization of indexes</td>
</tr>
<tr>
<td>SNAPSHOT UPGRADE FEATURE</td>
<td>XBM$OPTS</td>
</tr>
<tr>
<td>Note: The Installation System generates a default options module for the SNAPSHOT UPGRADE FEATURE (SUF) component. However, this module is a text file rather than an assembled module. You can edit this file after installation without having to rerun any installation jobs.</td>
<td></td>
</tr>
<tr>
<td>BMC Next Generation Technology Stats for DB2 for z/OS</td>
<td>NGTZIOST</td>
</tr>
<tr>
<td>UNLOAD PLUS</td>
<td>ADU$OPTS</td>
</tr>
<tr>
<td>BMC Next Generation Technology Unload for DB2 for z/OS</td>
<td>NGTZIOUN</td>
</tr>
</tbody>
</table>

Installation options jobs and modules
## Use a single options module for multiple DB2 subsystems

You can install a product into multiple DB2 subsystems that use the same product load library. The subsystems can share the same installation options module in that library.

For most BMC products for DB2, if you generate only one options module for the load library, you can specify corresponding product command options to override many of the installation options.

These parameters are saved in the user’s profile and are preserved across ISPF sessions. To use a single installation options module, follow these guidelines:

- Reuse the plan names.
- Use the same product options files (POF).
- In the JCL Generation POF, use the &SSID variable in the value for the DB2 DSNEXIT and DB2 DSNLOAD STEPLIB options.

## Use multiple options modules

Except for BMCSORT, you can create additional options modules for the BMC products for DB2. These additional modules allow you to use different option values for different executions of the product. For example, you might use the default installation options module for most jobs but create another options module with customized values to accommodate special situations.
You can specify separate **prd$OPOD**1 modules for each SSID by using a unique name for each module. To create a unique name for each module, you must change the name in the **prd$OPTS** member of your installation library. Table 35 on page 306 lists the default **prd$OPTS** member names. The Installation System prompts you for the names. You can assign names that identify the SSIDs on which you are installing the product.

To use a particular options module, you can specify the name of the options module in the EXEC statement of your batch job. For more information, see the documentation for a specific product.

You do not need to specify different plan names or object names for subsequent products or SSID systems. When you start the product through the Installation System’s ISPF interface, the unique name of the installation options module for each SSID is passed to the product. Unlike the other installation options parameters, the plan names are used directly by the product. If you must specify different plan-name values for each DB2 subsystem, you need multiple installation options modules.

---

**Migrate DB2 table data**

The Installation System migrates existing table data from previous releases of the components when you specify an existing version and release of the components and, when prompted, select to migrate your data.

If a product or component requires a utility to migrate the data, the Installation System enables you to chose BMC utilities or IBM utilities. If you specify BMC utilities, you must provide the location of the utility load modules so that they will be properly referenced in generated jobs.

**WARNING**

Before attempting to migrate component data, evaluate your current DB2 object data set sizes. You might need to modify the default table space and index sizes for object creation, and the data set sizes for unloading and loading the data.

---

**Linking an existing version of the BMC Common Statistics component to LOADPLUS or REORG PLUS**

When installing LOADPLUS or REORG PLUS, you can link an existing version of the BMC Common Statistics component to the new version of the product.
Note
The panels that are displayed during this process indicate that you are performing a maintenance installation of this component. However, you are not actually applying maintenance to the component; you are only indicating that you want to use an existing version.

Linking to an existing version of the Common Statistics component

1. When prompted, specify the existing version of the Common Statistics component that you want to use.

2. On the Options Specification panel, specify the same values that were specified during the original installation of the existing version of the component for the following items:
   - Qualifier of product aliases
   - Collection ID
   - Database and creator names

Common utility and repository tables

The Installation System enables the following BMC components and products to share information that is stored in the BMC tables:

- CHECK PLUS for DB2
- DASD MANAGER PLUS for DB2
- LOADPLUS for DB2
- Log Master for DB2
- BMC Next Generation Technology Check for DB2 for z/OS
- BMC Next Generation Technology Copy for DB2 for z/OS
- BMC Next Generation Technology Load for DB2 for z/OS
- BMC Next Generation Technology LOBMaster for DB2 for z/OS
- BMC Next Generation Technology Recover for DB2 for z/OS
- BMC Next Generation Technology Reorg for DB2 for z/OS
- BMC Next Generation Technology Unload for DB2 for z/OS
- PACLOG for DB2
- RECOVERY MANAGER for DB2
- REORG PLUS for DB2
- UNLOAD PLUS for DB2

For more information about table contents, see the BMC Products and Solutions for DB2 Configuration Guide.
Installation of common utility and repository tables for the first time

Although you can provide your own table names, BMC recommends that you accept the default table names. Using the default names makes it easier to reuse the tables in subsequent installations.

The default table names are the same for all products and solutions that use the tables.

Table 36: Default table names

<table>
<thead>
<tr>
<th>BMC table space name</th>
<th>Default table name</th>
</tr>
</thead>
<tbody>
<tr>
<td>BMCDICT</td>
<td>CMN_BMCDICT</td>
</tr>
<tr>
<td>BMCHIST</td>
<td>CMN_BMCHIST</td>
</tr>
<tr>
<td>BMCLGRNX</td>
<td>CMN_BMCLGRNX</td>
</tr>
<tr>
<td>BMCSYNC</td>
<td>CMN_BMCSYNC</td>
</tr>
<tr>
<td>BMCTRANS</td>
<td>CMN_BMCTRANS</td>
</tr>
<tr>
<td>BMCUTIL</td>
<td>CMN_BMCUTIL</td>
</tr>
<tr>
<td>BMCXCOPY</td>
<td>CMN_BMCXCOPY</td>
</tr>
<tr>
<td>GROUPAUTH</td>
<td>CMN_OS_GAUTH</td>
</tr>
<tr>
<td>GRPOPTS</td>
<td>CMN_OS_OPTS</td>
</tr>
<tr>
<td>OBJSET_DEF</td>
<td>CMN_OS_DEF</td>
</tr>
<tr>
<td>OBJSET_SQL</td>
<td>CMN_OS_SQL</td>
</tr>
<tr>
<td>OBJSETS</td>
<td>CMN_OS</td>
</tr>
<tr>
<td>PRODREG</td>
<td>CMN_OS_PREG</td>
</tr>
</tbody>
</table>

Share common tables

Products that are initially installed during the same installation session automatically use the same utility and repository tables. If you install products at different times and you want to enable the products to share the same tables, you must specify the existing table names.
Use of the JCL Generation File Information dialog

The JCL Generation product options file (POF) contains values for the options that control processing for the solution and products. During the installation process, you either create a new POF or specify an existing one.

The following products use the POF:

- ALTER for DB2
- CATALOG MANAGER for DB2
- CHANGE MANAGER for DB2
- DASD MANAGER PLUS for DB2

If you are using the Installation System for the first time, or if you are installing the solution or any of the products for the first time, you can simplify the installation process by not using an existing JCL Generation POF. By not specifying an existing POF, you instruct the Installation System to populate the POF with default values.

The POFDS option in the installation options module specifies the JCL Generation POF. The JCL Generation POF can only be a PDS member (not a sequential data set), and it is located in the HLQ.UBMCCNTL data set. The POF does not require assembly and linkage, and does not need to reside in an APF-authorized data set; it is a sequential flat file.

When you install the solution or any of the products, only one JCL Generation POF is created. This POF, referred to as the initial POF, is initialized and populated with default ISPF variables and values from the configuration panels. Products that are installed at the same time share the initial POF. With the JCL Generation POF, the Installation System configures the products to use the same application ID (or profile).

With this single application ID, the solution and products can share the JCL Generation options. Thus, when you specify an option for generating JCL in one product, your selection applies to all of the products. Although BMC recommends that you use a single shared application ID for each DB2 subsystem, you can use the BMCDB2PR panel to choose individual product application IDs.

JCL Generation uses the variables in the ISPF profile when generating JCL. When you start the solution, JCL Generation determines whether to reset the variables in the ISPF profile:

- The first time that the solution is invoked, all of the values that are in the ISPF profile are set to the values that are in the initial POF. If a POF is not specified, default values are assigned to the variables in the profile.
If the POFDATE keyword in the initial POF is greater than the value of the POF date that is stored in the ISPF profile, the values in the POF that are marked with refresh, (R) are used to reset the ISPF variables.

If you specify a new initial POF in the POFDS installation option, the values in the POF that are marked with refresh, (R) are used to reset the ISPF variables. The value of the POFDATE keyword in the new initial POF is saved in the ISPF profile.

For more information about the POF, see the *BMC Products and Solutions for DB2 Configuration Guide*.

## Implementing catalog indirection for ALTER, CATALOG MANAGER, and CHANGE MANAGER

Catalog indirection is an *optional* method of implementing and maintaining the ALTER for DB2, CHANGE MANAGER for DB2, and CATALOG MANAGER for DB2 products.

### Before you begin

Install ALTER, CATALOG MANAGER, or CHANGE MANAGER.

### To implement catalog indirection

1. Submit the $729DOP1 and $730DOP2 jobs.

2. Submit the ADMIND00 job.

   This job creates an indirect JCL library, *HLQ.INDssid*.

3. Review the *HLQ.INDssid($$INCIND)* member and make any needed changes.

   This member contains the input values that the Installation System needs to create an indirect installation.

4. Run the $Znnxxxx jobs from *HLQ.INDssid* in the following order:

   1. $Z30DOPT

   2. $Z35COPY

      This job uses the following worklists to copy the DB2 catalog:

      - DB2 version 10—INDCOPY0
Implementing catalog indirection for ALTER, CATALOG MANAGER, and CHANGE MANAGER

- DB2 version 11—INDCOPY1

3 $Z38LOAD

This job uses the following worklists to unload and load the real DB2 catalog:

- DB2 version 10—INDLOAD0
- DB2 version 11—INDLOAD1

**Note**

INDLOAD0 and INDLOAD1 define the table spaces with a DSSIZE of 64 GB. Extended-addressability table spaces are required.

If the $Z38LOAD job fails because of space issues, perform the procedure in “To correct a failed $Z38LOAD job” on page 313.

4 $Z40INST

5 Modify and validate the DB2 catalog access option on the BMCDB2PR panel in the *HLQ.UBMCPLIB* library.

For instructions, see the *BMC Products and Solutions for DB2 Customization Guide*.

6 To invoke the products, run *HLQ.UBMCCLIB(BMCDB2)*.

7 In the **DB2 Catalog Access** field, specify Indirect.

**To correct a failed $Z38LOAD job**

Use the following procedure to restart the $Z38LOAD job if it fails because of space issues:

1 Terminate the load utility that was running the worklist.

2 In the $Z38LOAD job, correct the space problem.

3 In the appropriate worklist, change the *GOTO command to -GOTO, and replace the worklist sequence number with the number of the UNLOAD statement that failed or that precedes the LOAD statement that failed.

   The LOAD statements use the REPLACE option.

4 Rerun the $Z38LOAD job.
Installation on multiple DB2 subsystems

You can install many BMC products for DB2 on multiple DB2 subsystems in the following ways:

- Use product deployment
  For more information, see “Deploying products to other subsystems, LPARs, and sysplexes” on page 151.

- Perform a full installation on each subsystem.
  Perform a full installation on each DB2 subsystem if you want to change information that the installation and configuration options do not allow you to change. For each product on each DB2 subsystem, you will need a separate set of tables. However, you can use the same DB2 table names on each subsystem. For more information, see “Common utility and repository tables” on page 309.

- Perform a multiple subsystem (MSSID) installation.
  Installation jobs for installing the product on subsequent DB2 subsystems are similar to those generated for the first subsystem. However, the subsequent jobs do not access the distribution media again. Instead, the information used to generate the first subsystem is used. The MSSID process involves creating tables and aliases, and binding plans on the additional DB2 subsystems.
  If the DB2 subsystems differ in characteristics that are outside the scope of the MSSID installation process, you must use deployment or a full installation for each subsystem, using a new installation project.
  For more information, see “Requirements for a MSSID installation” on page 314 and “Performing a MSSID installation” on page 315.

Requirements for a MSSID installation

To perform a multiple subsystem (MSSID) installation for DB2 subsystems, you must meet the following requirements:

- The DB2 subsystem that you choose during an MSSID installation must use the same version of DB2 as the DB2 subsystem on which you performed the full installation of the product.

- The products or components that you installed must be able to share BMC product libraries.

- The MSSID options are not available for the following BMC products and components:
Product or component | Notes
--- | ---
BMC DB2 Component Services (DBC) | DBC does not require deployment. A single installation allows for the required unique SSIDs for each started task. Creating a unique DBC $PARM member for each LPAR enables running multiple DBC started tasks in the sysplex.
BMCSORT | None
PACLOG | None
UIM server | You typically use one UIM server for each z/OS system. The UIM server is a part of the following solutions:
  — BMC Database Performance for DB2
  — BMC System Performance for DB2
  — BMC Object Administration for DB2
  — BMC Performance for DB2SQL

- DB2 subsystem characteristics must be similar for all DB2 subsystems in the MSSID model. Installation parameters for subsequent subsystems cannot differ significantly from the initial installation process, with the following exceptions (as applicable to the products that you selected):
  — Job card information
  — Library name for the generated batch jobs
  — DB2 LOAD and EXIT library names
  — Storage group (STOGROUP) names
  — VSAM catalog (VCAT) names
  — APF-authorized library name
  — Installation option names
  — POF

Performing a MSSID installation

Use the following procedure to perform a MSSID installation.

For more information, view the Quick Course "BMC Installation System - Multiple Subsystem ID (MSSID) Installs."
To perform an MSSID installation

1. Generate the installation and configuration JCL for the products you are installing.

2. In the same project, on the Execute Project panel, select **Multiple SSID install for DB2 Products only** (optional).

   BMIPPRJE                        Execute Project
   Command ===> _________________________________________________________________
   Project Name . . . USER1
   Description . . . Sandbox
   JCL Data Set . . . USER1.BMCINST.JCLLIB

   Select one of the following installation actions:
   __   1. Select Products, Solutions, or Infrastructure
   __   2. Set SMP/E Data Set High Level Qualifiers
   __   3. Set SMP/E Data Set Allocation Values
   __   4. Set Installation Job Values and FTP Options
   __   5. Generate and Execute Installation Batch Jobs

   Select one of the following configuration actions:
   __   1. Set Runtime Data Set High Level Qualifiers
   __   2. Set Runtime Data Set Allocation Values
   __   3. Set Selected Product or Component Values
   __   4. Set Configuration Job Values
   __   5. Generate and Execute Configuration Batch Jobs
   __   6. Multiple SSID install for DB2 Products only (optional)

3. On the Multiple SSID Install - Product Verification panel, verify the list of products that will be installed into additional DB2 subsystems and press Enter.

   BMIPS1A USER1 - Multiple SSID Install - Product Verification
   COMMAND ===> _________________________________________________________________

   Listed below are the products that will be installed into the additional DB2 systems you select during this process. The base DB2 system used as a model is DB2B at version 11 of DB2.

   If these are incorrect, check the Configuration Install for this DB2 system. If correct, press Enter to continue.

<table>
<thead>
<tr>
<th>Product</th>
<th>Version</th>
</tr>
</thead>
<tbody>
<tr>
<td>ALTER for DB2</td>
<td>11.1.00</td>
</tr>
</tbody>
</table>

4. On the Multiple SSID Install panel, specify the following processing options and press Enter:

   - In the **SSID Table Library Name** field, specify the name of a repository for the information used in the MSSID installation.

   - In the **Reset All Options for Displayed DB2 Model** field, choose one of the following options:
     - **Y** to change the values that were used in the current installation
     - **N** to retain the values that were used in the current installation

   BMIP100 USER1 - Multiple SSID Install
   Command ===> _________________________________________________________________

   Select the processing options for Multiple Subsystem installation. The current project models DB2 system DB2B at version 11 of DB2.
5 On the Multiple SSID Install panel, specify the SSID of the subsystems on which you want to install and press Enter.

BMIP101 USER1 - Multiple SSID Install
Command ===> _________________________________________________________________

Specify SSIDs for generation of SSID Install JCL. To modify existing SSID options, place cursor on the SSID you wish to change. Blank out any SSIDs you do not want included in the generated JCL. Press Enter to continue.

SSID Input (50 per screen):
____          ____          ____          ____          ____
____          ____          ____          ____          ____
____          ____          ____          ____          ____
____          ____          ____          ____          ____
____          ____          ____          ____          ____
____          ____          ____          ____          ____
____          ____          ____          ____          ____
____          ____          ____          ____          ____
____          ____          ____          ____          ____

6 On the Multiple SSID Install panel, specify the libraries and catalog alias for each subsystem on which you want to install and press Enter.

BMIP102 USER1 - Multiple SSID Install
Command ===> _________________________________________________________________

The following information is required for each set of SUBSYSTEM JCL. You may change or accept the default information shown. To change, type over the defaults shown for SSID DD. Press Enter to continue.

SSID JCL Library . . . . . USER1.JCLLIB.DD
DB2 Load Library . . . . . USER1
DB2 Exit Library . . . . . USER1
DB2 Catalog Alias . . . . . DB2CAT

DB2 STOGROUP SYSDEFLT

7 On the Multiple SSID Install JCL Generation Options panel, select Generate JCL and press Enter.

BMIP080 USER1 - Multiple SSID Install JCL Generation Options
Command ===> _________________________________________________________________

Select an option. Press Enter to continue or F12 to go back.

S Generate JCL into USER1.JCLLIB
_ Skip generation process and display next panel
As each member is generated, the status changes.

**Note**

If you already have generated jobs and want to review your installation information, you can skip this step and continue to the next panel.

The Installation System generates a $S00JCL job to install the additional subsystems. The generated jobs vary based on the selected product options. These jobs overwrite any jobs that already exist in the specified data set.

8 Submit the $S00JCL job.

9 Press F3 until you exit the Installation System and complete the configuration of your DB2 subsystems as explained in the *BMC Products and Solutions for DB2 Customization Guide*.

## Installation of multiple product releases on a single DB2 subsystem

You might need to perform acceptance testing on a new release before you can upgrade it to production. To facilitate this requirement, you can run multiple releases of most BMC products within a single DB2 subsystem. An exception is Cross-System Image Manager (XIM).

The following guidelines apply to the new release:

- Use a unique high-level qualifier (HLQ). The Installation System creates a new set of BMC product libraries to support the new release.
Do not copy the load modules to the APF-authorized library that is currently in use for the previous release.

Use a DB2 alias qualifier that is different from the qualifier that is currently in use.

For plans and collection IDs, use naming conventions that are different from the conventions that are currently in use. For information about the naming conventions for alias qualifiers, plans, and collection IDs, see “Product and component identifiers for variables and options” on page 299.

If you do not want to share existing DB2 objects with the new release, use DBNAME and CREATOR names that are different from other BMC objects.

The Installation System generates a new ISPF interface to access the newly installed release. You can continue to use the old ISPF interface to access the older set of products.

Specify the commands module for CATALOG MANAGER

The commands that CATALOG MANAGER for DB2 lists in the Commands List panel are defined in the primary commands table in the ACTCOMND member of the HLQ.BMCCNTL library. This member contains all of the correct values for your installation. The contents vary among versions of CATALOG MANAGER.

You cannot modify ACTCOMND. However, you can modify the ACTCOMNU user commands table that BMC provides in HLQ.BMCCNTL. The user commands table might contain commands for invoking the IBM DB2 data editor, modifications to existing commands, and any new commands. Your user commands table overrides ACTCOMND. When you start CATALOG MANAGER, the product merges the primary commands table with the user commands table that you specify in the UCOMD installation option. For more information about creating a user commands module, see the CATALOG MANAGER for DB2 User Guide.

If you install CATALOG MANAGER on multiple DB2 subsystems, and if you want to have commands that are unique to the DB2 subsystem, you must specify a user commands module.
Adding the UIM started task to your procedure library

The Installation System created a started task for the User Interface Middleware (UIM) server. You must add this started task to your system procedure library for the Database Performance for DB2, BMC Object Administration for DB2, and BMC Performance for DB2SQL solutions before starting the UIM server.

1. Locate the member of your HLQ.UBMCPARM library that is named with the started task name that you specified for the UIM server during installation.

2. Copy this member to your system procedure library.

Applying changes to the $729DOP1 and $730DOP2 jobs

If you modify any of the values in the $729DOP1 or $730DOP2 job after configuration, use the following procedure to apply the changes.

1. After making the changes, rerun the $729DOP1 and $730DOP2 jobs.

2. For products listed in Table 37 on page 321, if you changed the plan name, edit the bind job and bind the plan:
   a. In the bind job listed for your product in Table 37 on page 321, change the plan name to the plan name in $729DOP1 and $730DOP2.

   You must perform this action for each product for which you changed the plan name.

   b. If needed, change the product collection ID in the PKLIST statement (the first parameter of this statement) to match the plan name.

   c. (ALTER, CATALOG MANAGER, CHANGE MANAGER, and DASD MANAGER only) Edit the control table in the BMCDB2 CLIST by changing the name of the plan to match the plan name that you changed in $729DOP1 and $730DOP2.

   d. Rerun the bind job.
Note
If you are using data sharing and plan to use mixed versions of DB2 in the same data sharing group, complete the following steps:

- Ensure that the DSNZPARM ABIND is set to COEXIST.
- Use the earliest version of DB2 in the data sharing group to perform the bind.

Table 37: Bind jobs

<table>
<thead>
<tr>
<th>Product</th>
<th>Bind job (^a)</th>
</tr>
</thead>
<tbody>
<tr>
<td>ALTER</td>
<td>ACMssidB</td>
</tr>
<tr>
<td>CATALOG MANAGER</td>
<td>ACTssidB</td>
</tr>
<tr>
<td>CHANGE MANAGER</td>
<td>ACMssidB</td>
</tr>
<tr>
<td>CHECK PLUS</td>
<td>ACKssidB</td>
</tr>
<tr>
<td>DASD MANAGER PLUS</td>
<td>ASUssidB</td>
</tr>
<tr>
<td>LOADPLUS</td>
<td>AMUssidB</td>
</tr>
<tr>
<td>REORG PLUS</td>
<td>ARUssidB</td>
</tr>
<tr>
<td>UNLOAD PLUS</td>
<td>ADUssidB</td>
</tr>
<tr>
<td>Any NGT utility</td>
<td>NGTssidB</td>
</tr>
</tbody>
</table>

\(^a\) The ssid variable represents the ID of the DB2 subsystem where you will run the job.

3. If one is available, run the IVP job to verify that the changes took effect.

For more information, see the IVP information in the *BMC Products and Solutions for DB2 Configuration Guide.*

Upgrade ALTER to CHANGE MANAGER

If you already have ALTER installed, you can upgrade to CHANGE MANAGER.

Use one of the following procedures:
Upgrade from | Upgrade to | Instructions
--- | --- | ---
ALTER version 10.1.00 or later | CHANGE MANAGER version 10.1.00 or later | “Upgrading from ALTER version 10.1.00 or later to CHANGE MANAGER version 10.1.00 or later” on page 322
ALTER version 9.3 | CHANGE MANAGER version 10.1.00 or later | “Upgrading from ALTER version 9.3 to CHANGE MANAGER version 10.1.00 or later” on page 323

**Upgrading from ALTER version 10.1.00 or later to CHANGE MANAGER version 10.1.00 or later**

Use the following procedure to perform the upgrade:

1. Obtain a CHANGE MANAGER password from your BMC sales representative.
2. Copy the ACMDOPD1 stand-alone options job in the $HLQUBMCCNTL product library and rename the job.
3. In the named job, change the values for the following installation options:
   - Change **PRODUCT** to **CHANGE MANAGER**.
   - Change **PC** to **ACM**.
4. Rerun the $729DOP1 and $730DOP2 jobs in the $HLQJCL installation data set.
5. Change the product on the BMCDB2PR panel.
   
   For information about changing ALTER to CHANGE MANAGER on the BMCDB2PR panel, see the *BMC Products and Solutions for DB2 Customization Guide*.
6. Modify the control table and add CHANGE MANAGER to the table.
   
   For information about modifying the control table, see the *BMC Products and Solutions for DB2 Customization Guide*.
7. Apply the CHANGE MANAGER password.
   
   For information, see “Authorizing products” on page 259.
Upgrading from ALTER version 9.3 to CHANGE MANAGER version 10.1.00 or later

Use the following procedure to perform the upgrade:

1. Install ALTER version 10.1.00.

2. Obtain a CHANGE MANAGER password from your BMC sales representative.

3. Copy the ALUDOPD1 stand-alone options job in the \( HLQ:UBMCCNTL \) product library and rename the job to ACMDOPD1.

4. Complete Step 3 on page 322 through Step 7 on page 322 in “Upgrading from ALTER version 10.1.00 or later to CHANGE MANAGER version 10.1.00 or later” on page 322.
Configuring BMC products for IMS

Some of the configuration options that you specify for BMC products for IMS are divided into categories within a product or product group. You specify these options on the Configuration Parameters panels.

The Installation System displays only the panels that are applicable to the product being configured.

When you complete the information for one category within a product or product group, you move to the next category. When all categories within that product or product group are complete, you move to the next product or product group and repeat the process.

Complete each configuration task for each product. When you reach the end of the configuration dialog, you have the opportunity to review the values that you specified during the configuration process.

For more information, view the Quick Course "BMC Installation System - IMS Configuration."

BMC products for IMS that do not require configuration

The Installation System displays panels that are applicable to the product being installed. The following BMC products for IMS do not have configuration tasks associated with them:

- APPLICATION RESTART CONTROL for DB2, APPLICATION RESTART CONTROL for IMS, and APPLICATION RESTART CONTROL for VSAM
  (Instead, use the AR/CTL Install System (AESIS) as described in the APPLICATION RESTART CONTROL Customization Guide.)
- BMC Log Analyzer for IMS
- BMC Partitioned Database Facility for IMS
  (Instead, see the installation information in the BMC Partitioned Database Facility for IMS release notes.)
- DELTA IMS for DBCTL
- DELTA IMS VIRTUAL TERMINAL
- DELTA IMS DB/DC
- DELTA PLUS
- DELTA PLUS VIRTUAL TERMINAL
- EXTENDED TERMINAL ASSIST PLUS
- LOCAL COPY PLUS
- Message Advisor for IMS

**Note**
These products do have required customization tasks. Customization refers to tasks that you perform outside of the Installation System to complete product implementation. For information about those tasks, see the System Administration Products for IMS Customization Guide.

---

**Product group and category example for the IMS Common Utilities**

For this 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. After providing the required information for the last category within that product group, you move to the next product or product group. Figure 17 on page 326 shows a panel that uses this format.

**Figure 17: Product group and category example**

<table>
<thead>
<tr>
<th>Command</th>
<th>File</th>
<th>Lists</th>
<th>Help</th>
<th>Configuration Parameters</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>IMS Common Utilities</td>
<td>Category IMS_UTILITIES_OPTIONS</td>
<td></td>
<td></td>
</tr>
<tr>
<td>PDX Data Set Information:</td>
<td>Use a PDX Data Set</td>
<td>Y</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Use PDX Data Set Name</td>
<td>BMC.OZIV2040.BMC.PDX</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PDX VOLSER</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PDX Allocation (CYLS)</td>
<td>015</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PDX Unit Name</td>
<td>SYSALLDA</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Use DBRC</td>
<td>Y</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Use/Copy Existing Global Option</td>
<td>N</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>DBUSS Data Set Information:</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

---

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The online Help for the Configuration Parameters panel 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 is displayed. 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 is displayed 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 dialog, press **F3**.

When you reach the end of the dialog, you have the opportunity to review the values that you specified during the configuration process.

**IMS system library specification**

On the Install System IMS System Library Specification panel, you specify information about IMS system data sets.

You must specify the information for any BMC product for IMS that has configuration tasks associated with its installation.

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.

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.
Specify EXTENDED BUFFER MANAGER (XBM) options for some database products for IMS

Some database products for IMS provide the snapshot technology of the SNAPSHOT UPGRADE FEATURE (SUF) at no additional cost.

This technology enables use of the snapshot feature in the Unload function API, and the Snapshot Copy and Instant Snapshot Copy functions of the Image Copy utility.

SUF is a subset of the functions and features of the EXTENDED BUFFER MANAGER 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 configuring the SNAPSHOT UPGRADE FEATURE component, you must gather the information that is described in Table 38 on page 328. You can then enter this information on the Install System EXTENDED BUFFER MANAGER Options Verification panel.

For more information about the XBM subsystem, see the chapter about configuring XBM in the Database Products for IMS Customization Guide. For information about implementing SUF, see the EXTENDED BUFFER MANAGER and SNAPSHOT UPGRADE FEATURE User Guide.

Table 38: Installation information for XBM

<table>
<thead>
<tr>
<th>Field</th>
<th>Input</th>
<th>Your value</th>
</tr>
</thead>
<tbody>
<tr>
<td>XBM version information</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>APF authorization information</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.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Also, if the installation task unloads</td>
<td></td>
</tr>
<tr>
<td></td>
<td>the physical media, the install dialog</td>
<td></td>
</tr>
<tr>
<td></td>
<td>will generate a job to copy all load</td>
<td></td>
</tr>
<tr>
<td></td>
<td>modules unloaded from the physical media</td>
<td></td>
</tr>
<tr>
<td></td>
<td>to the specified data set.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>The APF data set will be used as the</td>
<td></td>
</tr>
<tr>
<td></td>
<td>target load library or STEPLIB in all</td>
<td></td>
</tr>
<tr>
<td></td>
<td>other installation jobs, and be used in</td>
<td></td>
</tr>
<tr>
<td></td>
<td>place of the load library that was created</td>
<td></td>
</tr>
<tr>
<td></td>
<td>when the physical media was unloaded.</td>
<td></td>
</tr>
<tr>
<td>Field</td>
<td>Input</td>
<td>Your value</td>
</tr>
<tr>
<td>----------------------------</td>
<td>-----------------------------------------------------------------------</td>
<td>------------</td>
</tr>
<tr>
<td>APF Data Set Block Size</td>
<td>Block size of the APF-authorized data set</td>
<td></td>
</tr>
<tr>
<td></td>
<td>If an APF-authorized library is specified and the install dialog will</td>
<td></td>
</tr>
<tr>
<td></td>
<td>unload the physical media, specify the APF-authorized block size. The</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Installation System will generate an IEBCOPY job with a COPYMOD</td>
<td></td>
</tr>
<tr>
<td></td>
<td>statement. The unloaded load modules are blocked at 23476. The</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Installation System will relock to the specified APF data set block</td>
<td></td>
</tr>
<tr>
<td></td>
<td>size.</td>
<td></td>
</tr>
</tbody>
</table>

**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></td>
<td>This field is used as the XBM subsystem ID and as an identifier for</td>
<td></td>
</tr>
<tr>
<td></td>
<td>your XBM started task.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>If you are installing XBM for use on multiple LPARs or in a sysplex</td>
<td></td>
</tr>
<tr>
<td></td>
<td>environment, use a generic XBM subsystem ID and then tailor your</td>
<td></td>
</tr>
<tr>
<td></td>
<td>XBM subsystem so that they have a unique subsystem identifier.</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Field</th>
<th>Input</th>
<th>Your value</th>
</tr>
</thead>
<tbody>
<tr>
<td>VOLSER for VSAM data sets</td>
<td>Volume serial number where you want all generated VSAM data sets to</td>
<td></td>
</tr>
<tr>
<td></td>
<td>reside</td>
<td></td>
</tr>
<tr>
<td></td>
<td>You can edit this value before submitting the $230VSAM JCL if you want</td>
<td></td>
</tr>
<tr>
<td></td>
<td>the VSAM data sets to reside on different volumes.</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Field</th>
<th>Input</th>
<th>Your value</th>
</tr>
</thead>
<tbody>
<tr>
<td>For SMS -- VSAM Storage</td>
<td>For an SMS-managed data set, the class to use for obtaining storage-</td>
<td></td>
</tr>
<tr>
<td>Class</td>
<td>related information (such as record length, block size, and space</td>
<td></td>
</tr>
<tr>
<td></td>
<td>units)</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Field</th>
<th>Input</th>
<th>Your value</th>
</tr>
</thead>
<tbody>
<tr>
<td>For SMS -- VSAM Management</td>
<td>For an SMS-managed data set, the class to use for obtaining</td>
<td></td>
</tr>
<tr>
<td>Class</td>
<td>information related to data management (such as migration, and</td>
<td></td>
</tr>
<tr>
<td></td>
<td>backup criteria)</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Field</th>
<th>Input</th>
<th>Your value</th>
</tr>
</thead>
<tbody>
<tr>
<td>For SMS -- VSAM Data Class</td>
<td>For an SMS-managed data set, the class to use for obtaining data-</td>
<td></td>
</tr>
<tr>
<td></td>
<td>related information (such as SPACE, LRECL, BLKSIZE, and BUFNO)</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Field</th>
<th>Input</th>
<th>Your value</th>
</tr>
</thead>
<tbody>
<tr>
<td>XBM for Storage Systems</td>
<td>Whether you will use SIBBATCH</td>
<td></td>
</tr>
<tr>
<td>Integration</td>
<td>If SIBBATCH is to be used by XBM, select this option to enter the</td>
<td></td>
</tr>
<tr>
<td></td>
<td>SIBBATCH program location.</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-</td>
<td>High-level qualifier (25 characters or fewer) for the XBM</td>
<td></td>
</tr>
<tr>
<td>level Qualifier</td>
<td>repository data sets</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Field</th>
<th>Input</th>
<th>Your value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Size of VSAM Repository</td>
<td>Size of each repository data set in cylinders</td>
<td></td>
</tr>
<tr>
<td>data sets (in CYLS)</td>
<td>A default of 1 cylinder is normally sufficient to hold the XBM object</td>
<td></td>
</tr>
<tr>
<td></td>
<td>definitions.</td>
<td></td>
</tr>
</tbody>
</table>
Specifying PDX DBRC global options modules and DBUSS options

Use the Configuration Parameters panel for the IMS_UTILITIES_OPTIONS category to specify PDX, Database Recovery Control (DBRC), global options, and DBUSS information for applicable database products for IMS.

The Installation System displays this panel (Figure 18 on page 330) if it is applicable for the product you are configuring. For general usage information about the Configuration Parameters panels, see “Configuring BMC products for IMS” on page 325.

Figure 18: Configuration Parameters panel for IMS_UTILITIES_OPTIONS category

<table>
<thead>
<tr>
<th>Field</th>
<th>Input</th>
<th>Your value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of VSAM</td>
<td>Number of repository data sets that will be generated when the $230VSAM job is executed.</td>
<td>Number of repository data sets that will be generated when the $230VSAM job is executed. BMC recommends that you specify at least two data repositories on different volumes.</td>
</tr>
<tr>
<td>Repository VOLSER information</td>
<td>Information about repository 1 (required)</td>
<td>Information about repository 1 (required)</td>
</tr>
<tr>
<td></td>
<td>Repository 2 through 9 information is required only if the number of VSAM repository data sets is greater than 1. Repository 2 through 9 information must be entered, in ascending order, with no gaps up through the number of repositories selected.</td>
<td>Repository 2 through 9 information is required only if the number of VSAM repository data sets is greater than 1. Repository 2 through 9 information must be entered, in ascending order, with no gaps up through the number of repositories selected.</td>
</tr>
<tr>
<td>XBM SIBBATCH information (only if you specify that you are going to use the XBM for SSI component with SIBBATCH)</td>
<td>Location of the SIBBATCH program</td>
<td>Location of the SIBBATCH program</td>
</tr>
<tr>
<td></td>
<td>If you are using Shared Virtual Array (SVA) or RAMAC Virtual Array (RVA) devices (or other hardware devices) that support data-set-level snapshots, enter the data set name where the SIBBATCH program is located.</td>
<td>If you are using Shared Virtual Array (SVA) or RAMAC Virtual Array (RVA) devices (or other hardware devices) that support data-set-level snapshots, enter the data set name where the SIBBATCH program is located.</td>
</tr>
<tr>
<td></td>
<td>If the program is available in multiple libraries, enter each data set name on a separate line.</td>
<td>If the program is available in multiple libraries, enter each data set name on a separate line.</td>
</tr>
</tbody>
</table>

Specifying PDX DBRC global options modules and DBUSS options

Use the Configuration Parameters panel for the IMS_UTILITIES_OPTIONS category to specify PDX, Database Recovery Control (DBRC), global options, and DBUSS information for applicable database products for IMS.

The Installation System displays this panel (Figure 18 on page 330) if it is applicable for the product you are configuring. For general usage information about the Configuration Parameters panels, see “Configuring BMC products for IMS” on page 325.

Figure 18: Configuration Parameters panel for IMS_UTILITIES_OPTIONS category

<table>
<thead>
<tr>
<th>Field Lists Help</th>
<th>Configuration Parameters</th>
</tr>
</thead>
<tbody>
<tr>
<td>Command ====&gt;</td>
<td>Configuration Parameters</td>
</tr>
<tr>
<td>Product IMS Common Utilities</td>
<td>Category IMS_UTILITIES_OPTIONS</td>
</tr>
<tr>
<td>PDX Data Set Information:</td>
<td>Y</td>
</tr>
<tr>
<td>Use a PDX Data Set</td>
<td>Y</td>
</tr>
<tr>
<td>PDX Data Set Name</td>
<td>BMC.OZIV2040.BMC.PDX</td>
</tr>
<tr>
<td>PDX VOLSER</td>
<td>____________________________________________________________________________________</td>
</tr>
<tr>
<td>PDX Allocation (CYLS)</td>
<td>015</td>
</tr>
<tr>
<td>PDX Unit Name</td>
<td>SYSALLDA</td>
</tr>
</tbody>
</table>
To specify 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. 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 Customization Guide*.

1. In the **Use a PDX Data Set** field, specify one of the following values:
   - Y if you want to use a PDX data set
   - N if you do not want to use a PDX data set

2. In the **PDX Data Set Name** field, specify the name of the PDX data set.

3. In the **PDX VOLSER** field, specify the VOLSER to use to allocate the PDX data set.

4. In the **PDX Allocation** field, specify the size of the PDX data set in cylinders.

5. In the **PDX Unit Name** field, specify the unit name to use for the PDX data set allocation.
To specify 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 for IMS 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 recommends using DBRC.

1 In the Use DBRC field, specify one of the following values:
   ■ Y if you want to use DBRC for the IVP
   ■ N if you do not want to use DBRC for the IVP

To specify the global options modules option

1 In the Use/Copy Existing Global Option field, specify one of the following values:
   ■ Y if you want to copy your existing global options modules to the new libraries
   ■ N if you do not want to copy your existing global options modules to the new libraries

To specify 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.

Note

If you want to use the DBUSS for APF-authorization or other purposes, review the information about the DBUSS, APF-authorization, and the products that can obtain authorization through the DBUSS in the Database Products for IMS Customization Guide.

1 In the Install DBUSS field, specify one of the following values:
   ■ Y if you want to install the DBUSS
   ■ N if you do not want to install the DBUSS
2 In the **APFLIB Data Set Name** field, specify the name of the APF-authorized data set that will contain the required DBUSS modules if:

- The solutions and products that you are installing can obtain APF-authorization from the DBUSS.
- You want to use the DBUSS to obtain authorization.

## Specifying CPC Advisor information

Use the Configuration Parameters panel for the **IMS_UTILITIES_ADVISOR** category to specify CPC information for applicable products.

The Installation System displays this panel (**Figure 19 on page 333**) if it is applicable for the product you are configuring. For general usage information about the Configuration Parameters panels, see “Configuring BMC products for IMS” on page 325.

**Note**

Installing one of the Fast Path suites includes support for the DBA Toolkit feature in MAXM Database Advisor for IMS.

**Figure 19: Configuration Parameters panel for IMS_UTILITIES_ADVISOR category**

<table>
<thead>
<tr>
<th>File Lists Help</th>
<th>Configuration Parameters</th>
</tr>
</thead>
<tbody>
<tr>
<td>Command ===&gt;</td>
<td></td>
</tr>
<tr>
<td>Product IMS CPC UTILITIES COMMON</td>
<td>Category IMS_UTILITIES_ADVISOR</td>
</tr>
<tr>
<td>ADVISOR Information:</td>
<td></td>
</tr>
<tr>
<td>BCSS/CPC Started Task Name</td>
<td>CPCZ</td>
</tr>
<tr>
<td>BMCP/BCSS/CPC Options Lib</td>
<td>HLQ.CPC.OPTIONS.LIBRARY</td>
</tr>
<tr>
<td>ADV Repositories Prefix</td>
<td></td>
</tr>
<tr>
<td>ADV Repository Volumes: (NON SMS)</td>
<td></td>
</tr>
<tr>
<td>VOL_1 VOL_2 VOL_3 VOL_4 VOL_5 VOL_6</td>
<td></td>
</tr>
<tr>
<td>Volumes</td>
<td></td>
</tr>
<tr>
<td>SMS Information:</td>
<td></td>
</tr>
<tr>
<td>Storage Class</td>
<td></td>
</tr>
<tr>
<td>Management Class</td>
<td></td>
</tr>
<tr>
<td>Data Class</td>
<td></td>
</tr>
</tbody>
</table>

**To specify CPC information**

1 In the **BCSS/CPC Started Task Name** field, specify a valid started task name for the BCSS/CPC subsystem.

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 In the BMCP/BCSS/CPC Options Lib field, specify a data set that already exists or will be allocated during the installation.

The specified data set will hold members that the Installation System created and that apply to configuring a CPC environment. The $730DOP2 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 In the ADV Repositories Prefix field, specify the prefix to use to allocate the Advisor repositories.

4 Provide the appropriate information for storing your Advisor repository data sets:

- 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.

- 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 configuration, for example, DBULIB. Ensure that the CPCCOPT module that was created by running the $730DOP2 job during installation has been copied to a load library within your //STEPLIB DD concatenation in your CPCx and CPCxADV started task servers. CPCxADV and CPCx are the Advisor and BCSS server task names that are created during configuration and can be found in the UIM parameter library.

---

### Specifying customized global options modules

Use the Configuration Parameters panel for the COPY_GLOBAL_OPTIONS category to provide the data set name of each library that contains one or more global options modules that you want to copy.
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 20 on page 335). For general usage information about the Configuration Parameters panels, see “Configuring BMC products for IMS” on page 325.

**Figure 20: Configuration Parameters panel for COPY_GLOBAL_OPTIONS category**

<table>
<thead>
<tr>
<th>File</th>
<th>Lists</th>
<th>Help</th>
<th>Command</th>
</tr>
</thead>
<tbody>
<tr>
<td>Configuration Parameters</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Product</td>
<td>IMS Common Utilities</td>
<td>Category</td>
<td>COPY_GLOBAL_OPTIONS</td>
</tr>
<tr>
<td>Customized GLOBAL OPTION modules</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Unload Plus</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Secondary Index Utility</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fast Reorg Facility</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Unload Plus/EP</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Loadplus/EP</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Secondary Index Utility/EP</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fast Reorg Facility/EP</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Change Recording Facility</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Prefix Resolution Plus</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pointer Checker Plus</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Data Base Integrity Plus</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Image Copy Plus</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**To specify customized global options modules**

1. 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 to specify configuration options for:

- **Energizer for IMS Connect** product
- **Energizer** component of the BMC System Administration for IMS product
- **BMC System Communication** for IMS product

The Installation System displays this panel (Figure 21 on page 335) if it is applicable for the product you are configuring. For general usage information about the Configuration Parameters panels, see “Configuring BMC products for IMS” on page 325.

**Figure 21: Configuration Parameters panel for Energizer_Options category**
To specify configuration options for Energizer

1 In the **eLink Name** field, specify the eLink.

To use the console interface or to enter Energizer commands from an 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 In the **IPROPTS** field, specify the data set that will store Energizer processing options.

3 In the **VOLSER** field, specify the volume serial number to use for the IPROPTS data set allocation.

4 If you plan to use Storage Management Subsystem (SMS) to store the IPROPTS data set, in the **Storage Class**, **Management Class**, and **Data Class** fields, specify the storage class, management class, and data class.

Allocating the repository data set for the RECOVERY MANAGER for IMS functions and utilities

Use the Configuration Parameters panel for the VSAM_Repository_Data_Set category to allocate the repository data set for the Recovery Manager functions and utilities.

The Installation System displays this panel (Figure 22 on page 337) if it is applicable for the product you are configuring. For general usage information about the Configuration Parameters panels, see “Configuring BMC products for IMS” on page 325.
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).

**WARNING**

If you do not specify values, an allocation failure is probable.

**Figure 22: Configuration Parameters panel for VSAM_Repository_Data_Set category**

<table>
<thead>
<tr>
<th>File</th>
<th>Lists</th>
<th>Help</th>
<th>Configuration Parameters</th>
</tr>
</thead>
<tbody>
<tr>
<td>Command</td>
<td>===&gt;</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**VSAM Repository Data Set Information:**
- Repository VSAM Cluster Name: BMC.OZIV2040.VSAM.REPDATA
- Repository VOLSER: A
- Unit: SYSALLDA

**Sizing Information:**
- Primary Allocation (CYLS): 50
- Secondary Allocation (CYLS): 10

**SMS Information:**
- Storage Class: ________
- Management Class: ________
- Data Class: ________

**To allocate the repository data set**

1. In the **Repository VSAM Cluster Name** field, specify the data set name for the RMGR repository.

   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. In the **Repository VOLSER** field, specify the volume serial number of the device to contain the repository data set.

3. In the **Unit** field, specify the unit name to use for the repository data set allocation.

4. In the **Primary Allocation** field, specify the primary number of cylinders to allocate for the repository.

   You can specify a number from 1 through 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. In the **Secondary Allocation** field, specify the secondary number of cylinders to allocate for the repository.
You can specify a number from 1 through 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, in the Storage Class, Management Class, and Data Class fields, specify the storage class, management class, and data class.

Allocating the JOBPDS for the RECOVERY MANAGER *for IMS* functions and utilities

Use the Configuration Parameters panel for the JOBPDS_Data_Set category 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.

The Installation System displays this panel (Figure 23 on page 338) if it is applicable for the product you are configuring. For general usage information about the Configuration Parameters panels, see “Configuring BMC products for IMS” on page 325.

Figure 23: Configuration Parameters panel for JOBPDS_Data_Set category

To allocate the JOBPDS

1 In the Data Set Name field, specify the data set name of the JOBPDS.

Specify a name that uses standard operating system naming conventions. The name cannot exceed 44 characters.
2 In the **JOBPDS VOLSER** field, specify the volume serial of the device to contain the JOBPDS.

3 In the **Unit** field, specify the unit name of the direct access storage device to contain the JOBPDS.

   The default value is SYSALLDA.

4 In the **Primary Allocation** field, specify the primary number of cylinders to allocate for the JOBPDS.

   The default value is 25.

5 In the **Secondary Allocation** field, specify the secondary number of cylinders to allocate for the JOBPDS.

   The default value is 5.

6 In the **Directory Blocks** field, specify the number of directory blocks to allocate for the JOBPDS.

   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 for IMS functions and utilities**

Use the Configuration Parameters panel for the Startup_Control category to specify information for control statements that are used during RMGR startup.

The Installation System displays this panel (Figure 24 on page 339) if it is applicable for the product you are configuring. For more information, see the topics about starting RMGR in the *Database Products for IMS Customization Guide*. For general usage information about the Configuration Parameters panels, see “Configuring BMC products for IMS” on page 325.

**Figure 24: Configuration Parameters panel for Startup_Control category**

<table>
<thead>
<tr>
<th>File Lists</th>
<th>Help</th>
<th>Configuration Parameters</th>
</tr>
</thead>
<tbody>
<tr>
<td>Command</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

---

Appendix F Configuring BMC products for IMS 339
**To specify the startup information**

1. In the **IMSID** field, specify the IMS ID of the IMS system for which RMGR will provide recovery management services.

   The IMS ID cannot exceed four characters.

2. *(optional)* If this RMGR is a member of a sharegroup, in the **SHAREGROUP** field, specify the sharegroup name.

   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. *(optional)* In the **GMTTABLEPDS** field, specify the name of the partitioned data set in which you have defined a member that identifies your IBM z/OS clock information.

   This information is necessary to support timestamp recoveries across a time change boundary if you are using IBM 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 specified a value for the **GMTTABLEPDS** field, in the **GMTTABLEMEM** field, specify the name of the member in which the operating system clock information is stored.

   For an example of the contents of this member, see member IRMGMTTB in the sample data set (HLQ.DBUSAMP or HLQ.IMSAMP).
5 *(optional)* In the **SECUREREPOSITORY** field, specify whether 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 IBM RACF).

- Specify **NO** (the default) if you do not want to perform additional security checking in the RMGR ISPF interface.
  
  If the user is not authorized to perform the read or update repository access, a security message is issued and an abend can occur.

- Specify **YES** to perform security checking in the RMGR ISPF interface.
  
  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 error message is displayed, and the function is denied.

6 *(optional)* In the **TASKLIMIT** field, specify the maximum number (1 through 99) of function requests (tasks) that RMGR can process concurrently.

The default value is 10. As the value increases, the resources that are consumed (such as storage and CPU cycles) increase proportionally.

7 *(optional)* In the **TSONOTIFY** field, specify whether to send a TSO notify message to RMGR users who are logged on to the same operating system as the RMGR started task or job when a function completes.

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, specify **YES**.

---

**Complete DATA PACKER/IMS configuration**

To complete configuration for the DATA PACKER/IMS product, ensure that you run the applicable configuration jobs after reaching the end of the configuration dialog.
Table 39 on page 342 lists the configuration jobs and the products to which each job applies.

Table 39: Configuration jobs for DATA PACKER/IMS

<table>
<thead>
<tr>
<th>JCL member</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>$845COPY</td>
<td>The DPIISPF CLIST is copied to the <em>HLQ.UBMCCLIB</em> user data set</td>
</tr>
<tr>
<td>$870IVP</td>
<td>Creates an installation verification procedure (IVP) test database for testing compression and expansion of database segments</td>
</tr>
</tbody>
</table>

Complete configuration for the Fast Path database products

To complete configuration for the Fast Path database products, ensure that you run the applicable configuration jobs for your products after reaching the end of the configuration dialog.

Table 40 on page 342 lists the configuration jobs and the products to which each job applies.

Table 40: Configuration jobs for Fast Path database products

<table>
<thead>
<tr>
<th>JCL member</th>
<th>Product</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>$845COPY</td>
<td>Fast Path Indexer/EP</td>
<td>Creates the PFXLEVEL module that is required for product initialization. The BMCPFP CLIST is copied to the <em>HLQ.UBMCCLIB</em> user data set.</td>
</tr>
<tr>
<td>$830DOPT</td>
<td>Fast Path Recovery Utility</td>
<td>Reassembles and links module TSSAFRIx with your RSL maintenance level for IMS log records</td>
</tr>
<tr>
<td>$864INIT</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 Customization Guide</em>.</td>
</tr>
</tbody>
</table>
JCL member | Product | Description
--- | --- | ---
$870IVP | Fast Path/EP products, excluding Fast Path Indexer/EP and Fast Path Online Image Copy/EP | Provides the installation verification procedure (IVP) demo job that executes a reorganization and performs analysis based on the products that you selected for installation. Proper execution of the job ensures that all product elements are complete.

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

In this situation, you also need to complete configuration tasks for the UIM server and the CPC subsystem. For more information, see “Configuring UIM server options” on page 297 and “Specifying CPC Advisor information” on page 333.
Configuring MainView products

The following tasks comprise configuring MainView products:

- Configuring the MainView Logger
- Configuring the sysplexes and systems on which the products will run
- Configuring the products

For more information, view the Quick Course "BMC Installation System - MainView Configuration."

Configuration scenarios for MainView runtime and user libraries

If you are installing MainView products, review the following scenarios to determine the appropriate installation strategy based on your situation:

**Note**

If you are a new customer or existing customer who is performing one of the following functions:
- Installing product(s) or MainView Infrastructure
- Upgrading existing products or MainView Infrastructure
- Adding new products or MainView Infrastructure

BMC recommends that you perform the configuration steps in “Configuring MainView Logger” on page 346.

<table>
<thead>
<tr>
<th>If you are</th>
<th>BMC recommends</th>
</tr>
</thead>
</table>
| An existing customer who is upgrading existing products (no new products or components) | Bypassing the configuration process and manually updating your user libraries as needed  
For detailed information, see the individual product's release notes. |
If you are | BMC recommends
--- | ---
An existing customer who is adding new products | Performing the configuration process only for the new products  
Merge the newly configured elements into your existing user libraries (such as UBBPARM or UBMCPARM and so on).

An existing customer who is adding new infrastructure components to existing products | Performing the configuration process only for the new components  
If you have no new user libraries, use your existing user libraries (UBBPARM or UBMCPARM and so on). If you have new libraries, use the BMC names for the libraries.

An existing customer who wants to move everything to the BMC named library structure | Reinstalling the products  
Perform the installation process and the configuration process. You will also have to customize your products again.

A new customer | Performing all of the steps in the installation process and the configuration process  
Use the BMC named library structure.

## Configuring MainView Logger

Use the following procedure to configure MainView Logger.

### Before you begin

Before performing this procedure, BMC recommends that you install and maintain a single DBC started task per LPAR and define a single NGL component per DBC started task.

1. Review all of the current version 6.1.00 MainView Logger started tasks on the LPAR.

2. Locate the SYSP= statement from the started task JCL and note those values.

3. Enter the SYSP= values from the current MVLOGGER started task JCL into UBMCPARM member MVINGINI as shown in the following example:

   ```
   PGM=BBM9ZL00,TIME=NOLIMIT,PARM=('SYSP=00,xx,yy,')
   ```

4. Review all other LOGGERxx parameters from the SYSP= keyword and enter values into UBMCPARM member MVINGINI or enter them into a data set and enter the data set name with the PARMDSN= keyword.

   If you specify a data set name on the PARMDSN= keyword, all LOGGERxx members are read from the data set.

5. Proceed to instructions for configuring the MainView Logger.
To configure MainView Logger

The following procedure describes how to customize two BMC Infrastructure components, DB2 Component Services (DBC) and NGL, that are required for version 6.1.01 of the MainView Logger.

1 On the Configure Products or Components panel, select Configure BMC Infrastructure and press Enter.

2 On the Reuse Infrastructure Component panel, select N under the Reuse heading for the DB2 Component Services and Next Generation Logger components and press Enter.

MainView processing uses the DBC to communicate with NGL. The NGL provides all of the logging functions.

3 On the DB2 Component Services panel, enter the subsystem ID, group name, and name of the DBC repository data set and press Enter.

* BMC Software recommends including the DBC Group Name and SSID as nodes in the repository data set name to ensure uniqueness.
The Next Generation Logger panel is displayed.

4 On the Next Generation Logger panel, enter a value for the Archive STC PROC field and the name of the NGL registry data set in the Data Set field and press Enter.

<table>
<thead>
<tr>
<th>MVINGL</th>
<th>USER1 - Next Generation Logger</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Enter the values for the NGL Infrastructure Component.</td>
</tr>
<tr>
<td>General Options</td>
<td>Archive STC PROC . . . NGLARCH</td>
</tr>
<tr>
<td>Registry Options</td>
<td>Data Set . . . . . CEW.MVINGL.RUNT.DCplex.MVNG.NGLRGY *</td>
</tr>
</tbody>
</table>

* BMC Software recommends including the DBC Group Name and SSID as nodes in the registry data set name to ensure uniqueness.

The Configure Products or Components panel is re-displayed.

5 On the Configure Products or Components, select option 4, Configure MainView products.

The Configure MainView products panel is displayed.

6 On the Configure MainView Products, select MainView Infrastructure and continue to enter values for your MainView Infrastructure configuration. Press Enter to scroll through the definitions.

<table>
<thead>
<tr>
<th>Configure MainView Products</th>
<th>Row 1 to 2 of 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Select the product or products to be configured. After configuring all the products you want, enter End to continue with the configuration process</td>
<td></td>
</tr>
<tr>
<td>Enter S beside a product to select it for configuration</td>
<td></td>
</tr>
<tr>
<td>Enter Q beside a product to discard any existing configuration</td>
<td></td>
</tr>
<tr>
<td>Sel</td>
<td>Product Configuration</td>
</tr>
<tr>
<td>Status</td>
<td>MainView Alert Component</td>
</tr>
<tr>
<td>_S</td>
<td>MainView Infrastructure</td>
</tr>
<tr>
<td>COMPLETE</td>
<td></td>
</tr>
</tbody>
</table>

7 On the fourth panel of configuring MainView Infrastructure, enter the values for the NGL PIID and the log file size and press Enter.

<table>
<thead>
<tr>
<th>MainView Infrastructure</th>
<th>Panel 4 of 5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Specify the values for MainView Infrastructure</td>
<td></td>
</tr>
<tr>
<td>Press F1 in any field for field level help.</td>
<td></td>
</tr>
<tr>
<td>Press Enter to continue or F12 to go back.</td>
<td></td>
</tr>
<tr>
<td>SYSPLEX</td>
<td>SYSTEM</td>
</tr>
<tr>
<td>NAME</td>
<td>NAME</td>
</tr>
</tbody>
</table>
On the fifth panel of configuring MainView Infrastructure, enter the values for the LOG file and SMS/VOLUME, and press Enter.

Specify the values for MainView Infrastructure
Press F1 in any field for field level help.
Press Enter to continue or F12 to go back.

You can enter up to 10 2-byte suffixes on the MVLOGGER SYSP SUFFIX field.

After you press Enter, Configure MainView Products panel is re-displayed.

Complete the MainView Configuration tasks shown on the Configure MainView Products panel.

1) Use option 7. Apply Product Passwords as required.
2) Use option 8. Proceed to JCL Generation
3) Submit all created jobs in order.
4) Submit job $910CNFG as specified in the comments.
5) Review the $CHECKLIST member in the STGSAMP data set and perform all the steps to complete configuration.

Press Enter to continue.
Once all of these steps have successfully completed, you should have a DBC which contains the NGL and MVI agent.

The DBC started task issues the message BBMZL400I MVI/NGL INITIALIZATION COMPLETE, indicating that the MVI Agent is running successfully with the DBC.

Proceed to complete additional MainView configuration as required.

Configuring MainView sysplexes and systems

Use the following procedure to configure the sysplexes and systems on which the MainView products you are installing will run:

1. On the Configure Products or Components panel, select Configure MainView products and press Enter.

   **BMIPCF30** USER1 - Configure Products or Components
   Command ===> ___________________________

   Action availability is based on previously selected (or included) Products or Components.

   Select one of the following actions:
   
   1. Configure BMC Infrastructure (incomplete)
   2. Configure DB2 products (not required)
   3. Configure IMS products (not required)
   4. Configure MainView products (incomplete)
   5. Configure Mainframe Cost Optimization products (not required)
   6. Configure products common to multiple product lines (not required)
   7. Apply Product Passwords (optional)
   8. Proceed to JCL Generation

2. On the Configure MainView Products panel, select Configure Sysplexes, Systems, and Allocation Values and press Enter.

   **MVCPMVCS** USER2 - Configure MainView Products
   Command ===> _________________________________________________________________

   Select one of the following actions:
   
   1. Configure Sysplexes, Systems, and Allocation Values (incomplete)
   2. Configure MainView Products (incomplete)
   3. Import Configuration Data (optional)
   4. Export Configuration Data (optional)
   5. Reset All Configured Products (optional)
   6. Bypass MainView Configuration (optional)

3. On the Configure Sysplexes, Systems, and Allocation Values panel, a definition for your current sysplex and system is listed (the default). Press Enter to scroll right through the definition and optionally modify it.

   **Configure Sysplexes, Systems, and Allocation Values** Panel 1 of 6
   Command ===> __________________________________________________________________

   Specify the values for Configure Sysplexes, Systems, and Allocation Values
   Press F1 in any field for field level help.
   Press Enter to continue or F12 to go back.
On the last panel, when you press Enter, the Configure MainView Products panel is displayed.

4 To add additional sysplexes and systems or to remove the default one, select Configure Sysplexes, Systems, and Allocation Values and press Enter. On the Configure Sysplexes, Systems, and Allocation Values panel, use the following line commands:

- **Rxx**
  Replicates the row on which the command is entered the specified number of times. You then modify each definition (row) for each sysplex and system combination that you want to add. For example, R3 makes three copies of the row on which you use the command. You then modify each of the three new definitions.

- **Dxx**
  Deletes the row on which the command is entered and as many rows below it as you specify. For example, D5 deletes the current row (definition) and the four definitions below it.

5 When you are finished, press F3 until you return to the Configure Products or Components panel.

Your definitions are saved.

## Configuring a MainView product

Use the following procedure to configure a MainView product.

You can also use the MainView import/export utility to configure products, see “Using the MainView configuration import/export function” on page 352.

### To configure a product

1 On the Configure Products or Components panel, select **Configure MainView products** and press Enter.
Action availability is based on previously selected (or included) Products or Components.

Select one of the following actions:

1. Configure BMC Infrastructure (incomplete)
2. Configure DB2 products (not required)
3. Configure IMS products (not required)
4. Configure MainView products (incomplete)
5. Configure Mainframe Cost Optimization products (not required)
6. Configure products common to multiple product lines (not required)
7. Apply Product Passwords (optional)
8. Proceed to JCL Generation

2 On the Configure MainView Products panel, select Configure MainView Products and press Enter.

```
MVCPMVCS  USER2 - Configure MainView Products
Command ===> _________________________________________________________________
```

Select one of the following actions:

1. Configure Sysplexes, Systems, and Allocation Values (incomplete)
2. Configure MainView Products (incomplete)
3. Import Configuration Data (optional)
4. Export Configuration Data (optional)
5. Reset All Configured Products (optional)
6. Bypass MainView Configuration (optional)

3 On the Configure MainView Products panel, select (s or /) one or more products to configure and press Enter.

4 For each product, complete or modify the definition.

A product displays one or more panels to complete its definition. Press Enter to scroll right through the definition.

5 Continue completing definitions until all of the products listed on the Configure MainView Products panel have a status of COMPLETE.

6 When you are finished, press F3 until you return to the Configure Products or Components panel.

Your definitions are saved.

Using the MainView configuration import/export function

The MainView configuration import/export function provides a way to export and import values used when configuring MainView products by using a comma-separated values (csv) file.
The import function uses the values specified in a csv file to populate the fields of a product’s configuration panels. The export function writes existing field values to a csv file.

Overview of the csv files

The csv files are simple containers used to extract and populate data used while configuring MainView products.

Each product has an individual csv file associated with it. The csv files are completely optional. They are not used directly by the configuration process, which has its own repository. The csv file associated with a product can be used as input and as output.

A valid csv file is a physical sequential (PS) file with a fixed length of 4096. Each csv file contains the following columns and rows:

- A header row that specifies the name of each configuration field
- A column for each configuration field
- As many rows as needed to contain the configuration values; each row of the csv equates to a row in the MainView configuration panels

The csv files created by the export function have a naming convention (described online). The input csv files can use any name.

Overview of creating and modifying input csv files

Use a csv file created by the export function as input to the import function.

The easiest way to modify the contents of a csv file is by using a spreadsheet program on your personal computer. Use whatever method you normally use to transfer the file to and from your personal computer and your mainframe computer.

Exporting MainView configuration values

Use the following procedure to export the configuration values for one or more products:
1 On the Configure Products or Components panel, select **Configure MainView products** and press **Enter**.

```
BMIPCF30          USER1 - Configure Products or Components
Command ===>

Action availability is based on previously selected (or included) Products or Components.

Select one of the following actions:
_   1. Configure BMC Infrastructure                        (incomplete)
_   2. Configure DB2 products                              (not required)
_   3. Configure IMS products                              (not required)
_   4. Configure MainView products                         (incomplete)
_   5. Configure Mainframe Cost Optimization products      (not required)
_   6. Configure products common to multiple product lines (not required)
_   7. Apply Product Passwords                             (optional)
_   8. Proceed to JCL Generation
```

2 On the Configure MainView Products panel, complete configuring the sysplexes, systems, and products you are installing.

```
MVCPMVCS          USER2 - Configure MainView Products
Command ===> _________________________________________________________________

Select one of the following actions:
_   1. Configure Sysplexes, Systems, and Allocation Values  (incomplete)
_   2. Configure MainView Products                          (incomplete)
_   3. Import Configuration Data                            (optional)
_   4. Export Configuration Data                            (optional)
_   5. Reset All Configured Products                        (optional)
_   6. Bypass MainView Configuration                        (optional)
```

3 On the Configure MainView Products panel, select **Export Configuration Data** and press **Enter**.

4 On the Export Configuration Data panel, select (s or /) the product or products for which you want to export configuration values and press **Enter**.

```
Sel   Product                                                   Configuration
      Export Data Set Name                            Status
_    MainView for IMS Offline                                  COMPLETE
_    MainView for IMS Online                                   COMPLETE
_    MainView Alarm                                            COMPLETE
_    MainView Infrastructure                                   COMPLETE

The csv file is created in the indicated data set.

```
MVCPR78                    Export Configuration Data          Row 1 to 4 of 4
Command ===> ________________________________________________ Scroll ===> CSR

Select the products whose specifications you would like to export.
Press Enter to continue with the export process or END to exit.

Sel   Product                                                   Configuration
      Export Data Set Name                            Status
_    MainView for IMS Offline                                  COMPLETE
_    MainView for IMS Online                                   COMPLETE
_    MainView Alarm                                            COMPLETE
_    MainView Infrastructure                                   COMPLETE

The csv file is created in the indicated data set.
```
Importing MainView configuration values

Use the following procedure to import the configuration values for one or more products:

1. If a data set does not exist for an input csv file, allocate one.

2. Enter configuration values into a csv file or files.

3. If your csv file or files contain a FieldLength or FieldDescription row, delete them.

4. If you modified the csv file or files on your personal computer, transfer the file or files to your mainframe computer.

5. On the Configure Products or Components panel, select **Configure MainView products** and press **Enter**.

6. On the Configure MainView Products panel, select **Import Configuration Data** and press **Enter**.
7 On the Import Configuration Data, select (s or /) the product or products for which you want to import configuration values, specify the name of the csv file, and press Enter.

**Note**

Do not enclose the csv data set name in quotes.

<table>
<thead>
<tr>
<th>MVCPNR77</th>
<th>Import Configuration Data</th>
<th>Row 1 to 4 of 4</th>
<th>Scroll ===› CSR</th>
</tr>
</thead>
<tbody>
<tr>
<td>Command</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Select the products whose specifications you would like to import.

Press Enter to continue with the import process or END to exit.

<table>
<thead>
<tr>
<th>Sel</th>
<th>Product</th>
<th>Import Data Set Name</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>MainView for IMS Offline</td>
<td>USER.D100614.T132316.CSVIOF________________________________</td>
</tr>
<tr>
<td></td>
<td>MainView for IMS Online</td>
<td></td>
</tr>
<tr>
<td></td>
<td>MainView Alarm</td>
<td></td>
</tr>
<tr>
<td></td>
<td>MainView Infrastructure</td>
<td></td>
</tr>
</tbody>
</table>

******************************* Bottom of data ********************************

The configuration values in the csv file or files are added to the configuration specifications. Each data row in the csv file or files is added to the appropriate product.
Installation, configuration, and maintenance jobs and files

The Installation System creates many jobs and files for installing, configuring, and maintaining products. The exact jobs and files generated and the exact content of the jobs and files depends on the combination of products you are installing.

For more information, view the Quick Course "BMC Installation System - Streamlined Installation and Configuration JCL."

Generated installation and configuration jobs and files

The following tables list the installation and configuration jobs and files generated by the Installation System:

- For generated jobs, see Table 41 on page 357
- For generated files, see Table 42 on page 362

Table 41: Generated jobs

<table>
<thead>
<tr>
<th>Name</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>$103DWNL</td>
<td>Downloads the installation image files from the BMC ESD FTP site</td>
</tr>
<tr>
<td>$104DCMP</td>
<td>Decompresses the installation image files downloaded by $103DWNL</td>
</tr>
<tr>
<td>$105SMPE</td>
<td>Defines, creates, and updates SMP/E data sets</td>
</tr>
<tr>
<td>$106SMPE</td>
<td>Prepares the SMP/E environment</td>
</tr>
<tr>
<td>$130RECP</td>
<td>Receives downloaded and decompressed product functions</td>
</tr>
<tr>
<td>Name</td>
<td>Description</td>
</tr>
<tr>
<td>--------</td>
<td>-------------</td>
</tr>
</tbody>
</table>
| $135LIST | Lists the functions received but not applied to the specified target library. When you are installing newer functions into existing functions, SMP/E requires a SELECT operand for the following operations:  
  - APPLY CHECK ($175APCF)  
  - APPLY ($176APLF)  
  - ACCEPT CHECK ($177ACCF)  
  - ACCEPT ($178ACPFP)  
  Obtain the list of function IDs (FMIDs) that are needed to construct the SELECT operand from the $135LIST output.  
  **Note:** The Installation System generates this member only if you are installing BMC products into existing SMP/E data sets. |
| $140REJT | 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.  
  **WARNING:** Do not reinstall previously installed functions that are shipped with product upgrades.  
  **Note:** 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. |
| $145RECS | Receives the PTFs, APARs, and HOLDDATA from the maintenance files or service files that are prepackaged for the individual product media.  
  After $145RECS is completed, you can review system and error hold information by reviewing the RECEIVE ++HOLD/++RELEASE SUMMARY REPORT. You can also obtain the system and error hold information by submitting $155LIST and viewing the output.  
  Because the service files include maintenance for most BMC products, output from $145RECS might include ++VER messages, indicating that maintenance for other products was not received.  
  **Note:** These diagnostic messages cause a step return code of 4. |
<p>| $150HOLD | Receives HOLD statements that are stored in your data set. |
| $155LIST | 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 $175APCF, $176APLF, $180APCP, and $181APLP jobs. |
| $160DOCL | Contains JCL to print PTF documentation from the media. |
| $165MNNTD | Cleans up maintenance input files. |
| $168MHFS | Creates the HFS or zFS directory and mounts the HFS or zFS file. |
| $175APCF | Performs APPLY CHECK for all selected products and functions (FMIDs). |</p>
<table>
<thead>
<tr>
<th>Name</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>$176APLF</td>
<td>Performs APPLY for all selected products and functions (FMIDs)</td>
</tr>
<tr>
<td>$177ACCF</td>
<td>Performs ACCEPT CHECK for all selected products and functions (FMIDs)</td>
</tr>
<tr>
<td>$178ACPF</td>
<td>Performs ACCEPT for all selected products and functions (FMIDs)</td>
</tr>
<tr>
<td>$180APCP</td>
<td>Performs APPLY CHECK for all service maintenance</td>
</tr>
<tr>
<td>$181APLP</td>
<td>Performs APPLY for all service maintenance</td>
</tr>
<tr>
<td>$182ACCP</td>
<td>Performs ACCEPT CHECK for all service maintenance</td>
</tr>
<tr>
<td>$183ACPP</td>
<td>Performs ACCEPT for all service maintenance</td>
</tr>
<tr>
<td>$205RTEC</td>
<td>Allocates the runtime data sets</td>
</tr>
<tr>
<td>$206RTEC</td>
<td>Copies the SMP/E target data sets to the runtime data sets created by $205RTEC</td>
</tr>
<tr>
<td>$225ALOC</td>
<td>Allocates the non-VSAM data sets</td>
</tr>
<tr>
<td>$230VSAM</td>
<td>Defines the VSAM data sets that are required for the products that you have</td>
</tr>
<tr>
<td></td>
<td>selected for this installation</td>
</tr>
<tr>
<td>$240APF</td>
<td>Optionally copies all SMP/E target and user (default is UBMCLINK) load</td>
</tr>
<tr>
<td></td>
<td>modules to the specified APF-authorized library</td>
</tr>
<tr>
<td>$250PSWD</td>
<td>Processes permanent and temporary passwords for products</td>
</tr>
<tr>
<td>$260MAPF</td>
<td>Produces a list of data sets that might need to be APF authorized</td>
</tr>
<tr>
<td></td>
<td>The list is in the JCL data set member MAKEAPF</td>
</tr>
<tr>
<td>$310VDOM</td>
<td>Allocates VSAM data sets used by the performance products DOM agent</td>
</tr>
<tr>
<td>$310VLGC</td>
<td>Allocates VSAM data sets used by the LGC agent</td>
</tr>
<tr>
<td>$310VZMC</td>
<td>Allocates VSAM data sets used by Runtime Component System (RTCS)</td>
</tr>
<tr>
<td>$325ESEC</td>
<td>Instructions to create user IDs for the RTCS address spaces and grants them</td>
</tr>
<tr>
<td></td>
<td>access to the RTCS libraries needed for execution</td>
</tr>
<tr>
<td>$330UPRM</td>
<td>Instructions to update the infrastructure parameter libraries</td>
</tr>
<tr>
<td>$400LPAR</td>
<td>Contains information about the $4nn jobs</td>
</tr>
<tr>
<td>$410VNGL</td>
<td>Allocates the VSAM data set used by the NGL agent</td>
</tr>
<tr>
<td>$445COPY</td>
<td>Copies configured infrastructure members to non-VSAM user libraries</td>
</tr>
<tr>
<td>$463LGCD</td>
<td>Registers the DBC group to the RTCS system registry</td>
</tr>
<tr>
<td>$465INIT</td>
<td>Initializes and starts the NGL and DB2 Product Configuration (LGC) agents in</td>
</tr>
<tr>
<td></td>
<td>the DBC</td>
</tr>
<tr>
<td>$470LGCR</td>
<td>Registers DB2 Product Configuration (LGC) and templates to the LGC registry</td>
</tr>
<tr>
<td>$480INIT</td>
<td>Registers product agents to the DBC</td>
</tr>
<tr>
<td>$490RGIM</td>
<td>Registers products to DB2 Product Configuration (LGC); and imports, updates</td>
</tr>
<tr>
<td></td>
<td>and migrates optionsets</td>
</tr>
<tr>
<td>$495SDOM</td>
<td>Starts the DOM agent in the DBC</td>
</tr>
<tr>
<td>Name</td>
<td>Description</td>
</tr>
<tr>
<td>---------</td>
<td>-----------------------------------------------------------------------------</td>
</tr>
<tr>
<td>$495SGUD</td>
<td>Starts the GUD agents in the DBC</td>
</tr>
<tr>
<td>$495SBRD</td>
<td>Starts the BRD agent in the DBC</td>
</tr>
<tr>
<td>$526XIMP</td>
<td>Copies the XIM parameter member to the data PDS</td>
</tr>
<tr>
<td>$527CHCK</td>
<td>Executes checks for prior load modules used by BMC Primary Subsystem and MainView Batch Optimizer Subsystem</td>
</tr>
<tr>
<td>$532SOPT</td>
<td>Creates and assembles the installation options module for BMCSORT, the BMC sort engine</td>
</tr>
<tr>
<td>$545COPY</td>
<td>Copies configured elements for common components to non-VSAM user libraries</td>
</tr>
<tr>
<td>$562REGI</td>
<td>Registers the DATA ACCELERATOR Compression product</td>
</tr>
<tr>
<td>$729DOP1</td>
<td>Creates the DOPTs source module to be assembled</td>
</tr>
<tr>
<td>$730DOP2</td>
<td>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>$735BNDI</td>
<td>Binds the plan that is needed to install DB2 products</td>
</tr>
<tr>
<td>$740ALTR</td>
<td>Alters the ALTER for DB2, CHANGE MANAGER for DB2, and SQL Explorer for DB2 product tables and builds additional objects</td>
</tr>
<tr>
<td>$740INST</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>$744POF</td>
<td>Generates or migrates a product option file (POF)</td>
</tr>
<tr>
<td>$745COPY</td>
<td>Copies configured elements for BMC products for DB2 to non-VSAM user libraries</td>
</tr>
<tr>
<td>$760GRNT</td>
<td>Grants user authority to the various product tables and plans</td>
</tr>
<tr>
<td>$763MIGP</td>
<td>Migrates data for the BMC Performance products</td>
</tr>
<tr>
<td>$765MIG</td>
<td>Unloads data from a previous release of the product</td>
</tr>
<tr>
<td>$766MIG</td>
<td>Loads data from a previous release of the product into the new environment</td>
</tr>
<tr>
<td>$766TBLD</td>
<td>Loads the initialization data for the DASD MANAGER PLUS for DB2 product, the BMCSTATS component, and the CATALOG MANAGER for DB2 product tables</td>
</tr>
<tr>
<td>$766TCNV</td>
<td>Converts an older release of the DASD MANAGER PLUS for DB2 repository to a new repository</td>
</tr>
<tr>
<td>$767COPY</td>
<td>Produces an image copy of the new environment after migrating data from a previous release</td>
</tr>
<tr>
<td>$768ALP</td>
<td>Migrates data from previous releases of the Log Master for DB2 product to the new repository</td>
</tr>
<tr>
<td>$768ARM</td>
<td>Migrates groups from the repository for version 9.1.00 or earlier of the RECOVERY MANAGER for DB2 product to the repository for version 9.2.00 or later</td>
</tr>
<tr>
<td>Name</td>
<td>Description</td>
</tr>
<tr>
<td>--------</td>
<td>-----------------------------------------------------------------------------</td>
</tr>
<tr>
<td>$768DOM</td>
<td>Migrates VSAM data for BMC Performance products</td>
</tr>
<tr>
<td>$770IVP</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>■ Executes the dynamic bind process when applicable</td>
</tr>
<tr>
<td></td>
<td>Note: Executing the dynamic bind process after installation or maintenance helps avoid potential bind problems, including authorization problems, during later executions of the product. For products that use the WORKUNIT installation option, the specified unit must be accessible for the dynamic bind process.</td>
</tr>
<tr>
<td></td>
<td>■ Loads the required data</td>
</tr>
<tr>
<td></td>
<td>■ Verifies that the $106SMPE job 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>Note: BMC recommends that you do not run this job until after you have completed all other customization and configuration tasks.</td>
</tr>
<tr>
<td>$781PERF</td>
<td>Creates database and table space for dynamic Explain</td>
</tr>
<tr>
<td>$830DOPT</td>
<td>Creates and assembles the installation options modules for the products that you have selected for this installation</td>
</tr>
<tr>
<td></td>
<td>Verify that the parameter names and the data definition names in this job are compatible with your site requirements.</td>
</tr>
<tr>
<td>$845COPY</td>
<td>Copies configured elements for BMC products for IMS to non-VSAM user libraries</td>
</tr>
<tr>
<td>$864INIT</td>
<td>Initializes and allocates various files that are required for the BMC products for IMS</td>
</tr>
<tr>
<td>$869LODI</td>
<td>Loads product initialization data for BMC products for IMS</td>
</tr>
<tr>
<td>$870IVP</td>
<td>Runs the installation verification procedure (IVP) for BMC products for IMS</td>
</tr>
<tr>
<td>$910CNFG</td>
<td>Performs the generate work for configuring MainView products</td>
</tr>
<tr>
<td>$904ALC1</td>
<td>Allocate required data sets</td>
</tr>
<tr>
<td>$906ALC2</td>
<td>Initialize required data sets</td>
</tr>
<tr>
<td>$908CPYP</td>
<td>Copy JCL procedures to a system library</td>
</tr>
<tr>
<td>$909MNxx</td>
<td>Mount coordinating address space (CAS) registry data set</td>
</tr>
<tr>
<td>$910IMxx</td>
<td>Run RTCS Import function to establish CASPERM data set</td>
</tr>
<tr>
<td>$911IBUN</td>
<td>Dynamically uninstall MainView for IMS</td>
</tr>
</tbody>
</table>
### Name | Description
--- | ---
$912IBIN | Dynamically install MainView for IMS
$914JS3A | Assemble and Link the JES3 mapping CSECT
$916CSOC | 3270 SUPEROPTIMIZER/CICS definitions
$918FTPJ | Install file FTP job for MainView for Linux - Servers
$920VMFJ | VM install file FTP job for MainView for Linux - Servers
$922SIRP | Energizer for CICS Dynamic SVC Install
$924DSxx | Execute discovery for MainView for WebSphere Application Server
$926XBND | Bind the packages and plan for RXD2
$927XAUT | Grant execute authority of RXD2 to public
$946SDxx | Define entities for MainView Transaction Analyzer to DBC
$948MQxx | Define entities for MainView for MQ to DBC
$950HFSJ | Copy BBSAMP members to UNIX files using UFO2HFS EXEC
$954RCMD | Sample job for RXD2
$956RSQL | Sample job for RXD2
$960BNxx | Bind plan for MainView for DB2

### Table 42: Generated files

<table>
<thead>
<tr>
<th>Name</th>
<th>Description</th>
</tr>
</thead>
</table>
|#103GET | FTP commands to obtain product files from ESD when using Distributed FTP
|#103PUT | FTP commands to upload product files to the mainframe when using Distributed FTP or physical media
|#D98DCSI | Deletes global, target, and distribution CSIs that were created during the installation
|#D98DDL | Deletes all SMP/E distribution data sets that were created during the installation
|#D98DTGT | Deletes all SMP/E target data sets that were created during the installation
|#D99DROP | Drops all DB2 objects that were created during the 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.
|#D99DUSR | Deletes all non-VSAM user data sets that were created during the installation
|#D99DVSM | Deletes all VSAM data sets that were created during the 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.
|#D99RTE | Deletes all runtime data sets that were created during the installation
|#U01ACPT | Sample utility job to ACCEPT functions and service to BMC distribution libraries.
<table>
<thead>
<tr>
<th>Name</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>#U02REST</td>
<td>Sample utility job to RESTORE services or functions APPLIED to BMC target libraries if necessary.</td>
</tr>
<tr>
<td>#U03REJT</td>
<td>Sample utility job to REJECT services and functions which have not been installed.</td>
</tr>
<tr>
<td>$100DOC</td>
<td>Contains relevant information about the installation</td>
</tr>
<tr>
<td></td>
<td>Read this member before submitting any JCL.</td>
</tr>
<tr>
<td>$200ALOC</td>
<td>Contains information about the $2nn jobs</td>
</tr>
<tr>
<td>$300SPLX</td>
<td>Contains information about the $3nn jobs</td>
</tr>
<tr>
<td>$450STRT</td>
<td>Instructions to start tasks for infrastructure components</td>
</tr>
<tr>
<td>$500COMN</td>
<td>Contains information about the $5nn jobs</td>
</tr>
<tr>
<td>$700DB2</td>
<td>Contains information about the $7nn jobs</td>
</tr>
<tr>
<td>$800IMS</td>
<td>Contains information about the $8nn jobs</td>
</tr>
<tr>
<td>$900MV</td>
<td>Contains information about the $9nn jobs</td>
</tr>
<tr>
<td>$CJCKLST</td>
<td>Instructions for the configuration jobs.</td>
</tr>
<tr>
<td>$IJCKLST</td>
<td>Instructions for the installation jobs.</td>
</tr>
<tr>
<td>$$INCGEN</td>
<td>INCLUDE member with variables that are used for all products.</td>
</tr>
<tr>
<td>$$INCDB2</td>
<td>INCLUDE member with variables that are used for the BMC products for DB2.</td>
</tr>
<tr>
<td>$$INCIMS</td>
<td>INCLUDE member with variables that are used for the BMC products for IMS.</td>
</tr>
<tr>
<td>$$INCMV</td>
<td>INCLUDE member with product-specific variables used by the MainView products.</td>
</tr>
<tr>
<td>$$INCFINF</td>
<td>INCLUDE member with variables that are used for the following BMC infrastructure components.</td>
</tr>
<tr>
<td>$$INCUSR</td>
<td>INCLUDE member used to override any of the settings in the other $$INC.xxx members.</td>
</tr>
<tr>
<td>$$JOBLIB</td>
<td>The JOBLIB statement that is used by all of the $2nn through $9nn jobs.</td>
</tr>
</tbody>
</table>

**Generated maintenance jobs and files**

The following tables list the maintenance jobs and files generated by the Installation System:

- For generated jobs, see Table 43 on page 364
- For generated files, see Table 44 on page 364
Note

The exact jobs and files generated and the exact content of the jobs and files depends on the installation media, installation method, your environment, and the combination of products you are installing.

Table 43: $E, $I, $J, and $M jobs

<table>
<thead>
<tr>
<th>Name</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>$E05XRT</td>
<td>SMP/E zone extract and send new BMC ISR request</td>
</tr>
<tr>
<td>$E05SCHD</td>
<td>BMC ISR request schedule job to build zone extract and send new BMC ISR request</td>
</tr>
<tr>
<td>$I45RECV</td>
<td>SMP/E receive for the BMC ISR maintenance bundle</td>
</tr>
<tr>
<td>$I75APCK</td>
<td>SMP/E apply check for the BMC ISR maintenance bundle</td>
</tr>
<tr>
<td>$I75APLY</td>
<td>SMP/E apply for the BMC ISR maintenance bundle</td>
</tr>
<tr>
<td>$I80ACCK</td>
<td>SMP/E accept check for the BMC ISR maintenance bundle</td>
</tr>
<tr>
<td>$I81ACPT</td>
<td>SMP/E accept for the BMC ISR maintenance bundle</td>
</tr>
<tr>
<td>$I90CLRQ</td>
<td>Deletes data sets created by BMC ISR process</td>
</tr>
<tr>
<td>$I90CLRT</td>
<td>Deletes directories for BMC ISR request from the HFS or zFS file system</td>
</tr>
<tr>
<td>$J05RETV</td>
<td>Retrieves and decompresses BMC ISR maintenance bundle</td>
</tr>
<tr>
<td>$M42DWNL</td>
<td>Download PUT maintenance files from ESD</td>
</tr>
<tr>
<td>$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>$M60DOCL</td>
<td>Print PTF documentation</td>
</tr>
<tr>
<td>$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>

Table 44: #M files

<table>
<thead>
<tr>
<th>Name</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>#M04GET</td>
<td>FTP commands to obtain maintenance files from ESD for a JES2 system when using Distributed FTP or physical media</td>
</tr>
<tr>
<td>#M03GET</td>
<td>FTP commands to obtain maintenance files from ESD for a JES3 system when using Distributed FTP or physical media</td>
</tr>
<tr>
<td>Name</td>
<td>Description</td>
</tr>
<tr>
<td>------------</td>
<td>-----------------------------------------------------------------------------</td>
</tr>
<tr>
<td>#M04PUT</td>
<td>FTP commands to upload product files to the mainframe for a JES3 system when using Distributed FTP or physical media</td>
</tr>
<tr>
<td>#M03PUT</td>
<td>FTP commands to upload product files to the mainframe for a JES2 system when using Distributed FTP or physical media</td>
</tr>
<tr>
<td>#M32GET</td>
<td>FTP commands to obtain maintenance files from ESD for a JES3 system</td>
</tr>
<tr>
<td>#M42GET</td>
<td>FTP commands to obtain maintenance files from ESD for a JES2 system</td>
</tr>
<tr>
<td>#M32PUT</td>
<td>FTP commands to upload product files to the mainframe for a JES3 system</td>
</tr>
<tr>
<td>#M42PUT</td>
<td>FTP commands to upload product files to the mainframe for a JES2 system</td>
</tr>
</tbody>
</table>

Generated maintenance jobs and files
Library names

The following tables list the product libraries that are created during installation.

Library guidelines

When you configure the libraries, observe the following guidelines:

■ If you are configuring a component within the Installation System, the Installation System applies your changes to members in the JCL library to the members in the user libraries.

■ If you are configuring a product or component outside of the Installation System, you must copy the members from the SMP/E target libraries to the user libraries.

■ If you apply maintenance to your products, you must copy the SMP/E target libraries to the runtime libraries.

For more information, view the following Quick Courses:

■ "BMC Installation System - Non-VSAM Userlib Data Sets."

■ "BMC Installation System - Runtime Library Options"

Library names used by most BMC products for DB2

When you install BMC products for DB2, target and runtime libraries are created.

Table 45 on page 368 lists the names of the target and runtime libraries. In the table:
The names in the "Option 1 runtime library name" column are the recommended, default low-level qualifiers (LLQs) for the runtime library names. These names are used if you selected option 1 on the Runtime & Other Data Sets panel.

The names in the "Option 2 runtime library name" column are the product-line designator LLQs for the runtime library names. These names are used if you selected option 2 on the Runtime & Other Data Sets panel.

The table does not list runtime names if you selected option 3 on the Runtime & Other Data Sets panel.

Use the SMP/E target load library names in the "Option 2 runtime library name" column to map to the LLQs that you chose for those libraries. The OZInnnnn member in your JCL data set (where nnnnn is a timestamp) contains the mapping.

TLIBHLQ and RLIBHLQ represent the high-level qualifiers you specified for the target and runtime libraries.

prd represents the product code.

For more information about the runtime LLQs, see “Specifying runtime data set information” on page 80.

Table 45: Library names used by BMC products for DB2

<table>
<thead>
<tr>
<th>Library content</th>
<th>Target library name</th>
<th>Option 1 runtime library name</th>
<th>Option 2 runtime library name</th>
</tr>
</thead>
<tbody>
<tr>
<td>HELP, PROFILE, and SECURITY starter data sets</td>
<td>TLIBHLQ.DOMVSAM</td>
<td>RLIBHLQ.DOMVSAM</td>
<td>RLIBHLQ.BBVSAM</td>
</tr>
<tr>
<td>Password data</td>
<td>TLIBHLQ.BBLINK</td>
<td>RLIBHLQ.BMCLINK</td>
<td>RLIBHLQ.BBBLINK</td>
</tr>
<tr>
<td>DB2 DBRMs</td>
<td>TLIBHLQ.prdDBRM</td>
<td>RLIBHLQ.BMCDBRM</td>
<td>RLIBHLQ.BBDBRM (for performance products) RLIBHLQ.DBDBRM (for other products)</td>
</tr>
<tr>
<td>IBM QMF interface to DASD MANAGER PLUS</td>
<td>TLIBHLQ.ASUQMFF</td>
<td>RLIBHLQ.BMCQMFF</td>
<td>RLIBHLQ.DBQMFF</td>
</tr>
<tr>
<td></td>
<td>TLIBHLQ.ASUQMFP</td>
<td>RLIBHLQ.BMCQMFP</td>
<td>RLIBHLQ.DBQMFP</td>
</tr>
<tr>
<td></td>
<td>TLIBHLQ.ASUQMFQ</td>
<td>RLIBHLQ.BMCQMFQ</td>
<td>RLIBHLQ.DBQMFQ</td>
</tr>
<tr>
<td>Reports</td>
<td>TLIBHLQ.ASUREXX</td>
<td>RLIBHLQ.BMCREXX</td>
<td>RLIBHLQ.DBSREXX</td>
</tr>
<tr>
<td>Product attributes and data loaded during installation</td>
<td>TLIBHLQ.prdSYR</td>
<td>RLIBHLQ.BMCYSR</td>
<td>RLIBHLQ.DBSYSR</td>
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<td>Library content</td>
<td>Target library name</td>
<td>Option 1 runtime library name</td>
<td>Option 2 runtime library name</td>
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<td>RLIBHLQ.BBXML (for performance products)</td>
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<td>RLIBHLQ.XXXXML (for Subzero, BMC Workbench, and infrastructure)</td>
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<td>RLIBHLQ.DBXML (for all other BMC products for DB2)</td>
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<td>RLIBHLQ.BMCCLIB</td>
<td>RLIBHLQ.BBCLIB (for performance products and Subzero)</td>
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<td>RLIBHLQ.XXCLIB (for infrastructure)</td>
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<td>RLIBHLQ.DBCLIB (for all other BMC products for DB2)</td>
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<td>JCL examples</td>
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<td>RLIBHLQ.BMCCNTL</td>
<td>RLIBHLQ.DBCNTL</td>
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<td>RLIBHLQ.BMCLINK</td>
<td>RLIBHLQ.BBLINK (for performance products)</td>
</tr>
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<td>TLIBHLQ.prdLINK</td>
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<td>RLIBHLQ.XXLINK (for infrastructure)</td>
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<td>RLIBHLQ.DBCLINK (for all other BMC products for DB2)</td>
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<td>Load library, link lists, or generated</td>
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<td>options modules</td>
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<tr>
<td>JCL compiled skeletons</td>
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<tr>
<td>User JCL data set for customized</td>
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<td>members</td>
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<td>Password data</td>
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<td>Product macros used to create the</td>
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<td>RLIBHLQ.BMCMAC</td>
<td>RLIBHLQ.BBMAC (for performance products)</td>
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<td>installation options modules</td>
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<td></td>
<td>RLIBHLQ.DBMAC (for all other BMC products for DB2)</td>
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<td>Messages</td>
<td>TLIBHLQ.prdMLIB</td>
<td>RLIBHLQ.BMCMLIB</td>
<td>RLIBHLQ.BBMLIB (for performance products)</td>
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<td></td>
<td></td>
<td>RLIBHLQ.XXMLIB (for infrastructure)</td>
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<td></td>
<td></td>
<td>RLIBHLQ.DBMLIB (for all other BMC products for DB2)</td>
</tr>
<tr>
<td>Library content</td>
<td>Target library name</td>
<td>Option 1 runtime library name</td>
<td>Option 2 runtime library name</td>
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<td>Product parameter descriptions</td>
<td>TLIBHLQ.prdPARM</td>
<td>RLIBHLQ.BMCPARM</td>
<td>RLIBHLQ.BBPARM</td>
</tr>
<tr>
<td>Panels and Help libraries, user JCL data set for customized members</td>
<td>TLIBHLQ.prdPLIB</td>
<td>RLIBHLQ.BMCPLIB</td>
<td>RLIBHLQ.BBPLIB (for performance products)</td>
</tr>
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<td></td>
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<td>RLIBHLQ.BBPLIB (for infrastructure)</td>
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<td>RLIBHLQ.DBSAMP (for all other BMC products for DB2)</td>
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<td>Sample user exits, BMCDSN, CLISTs, PROC, REXX executable modules, JCL library,</td>
<td>TLIBHLQ.prdSAMP</td>
<td>RLIBHLQ.BMCSAMP</td>
<td>RLIBHLQ.BBSSAMP (for performance products)</td>
</tr>
<tr>
<td>user JCL data set for customized members</td>
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<td>RLIBHLQ.BBSSAMP (for infrastructure)</td>
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<td></td>
<td>RLIBHLQ.DBSAMP (for all other BMC products for DB2)</td>
</tr>
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<td>ISPF skeletons</td>
<td>TLIBHLQ.prdSLIB</td>
<td>RLIBHLQ.BMCSLIB</td>
<td>RLIBHLQ.BBSLIB (for performance products)</td>
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<td>RLIBHLQ.BBSLIB (for infrastructure)</td>
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<td>RLIBHLQ.DBSLIB (for all other BMC products for DB2)</td>
</tr>
<tr>
<td>Product attributed and data loaded during installation</td>
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<td>RLIBHLQ.BMCSYSR</td>
<td>RLIBHLQ.DBSYSR</td>
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<td>ISPF tables</td>
<td>TLIBHLQ.prdTLIB</td>
<td>RLIBHLQ.BMCCLIB</td>
<td>RLIBHLQ.DBSYSR</td>
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<td>Template library</td>
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<td>RLIBHLQ.BMCTMPLT</td>
<td>RLIBHLQ.BBTMPLT</td>
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</tbody>
</table>

**Library names used by most BMC products for IMS**

When you install BMC products for IMS, target and runtime libraries are created.

*Table 46 on page 371* lists the names of the target and runtime libraries. In the table:

- The names in the "Option 1 runtime library name" column are the recommended, default low-level qualifiers (LLQs) for the runtime library names. These names are used if you selected option 1 on the Runtime & Other Data Sets panel.
The names in the "Option 2 runtime library name" column are the product-line designator LLQs for the runtime library names. These names are used if you selected option 2 on the Runtime & Other Data Sets panel.

The table does not list runtime names if you selected option 3 on the Runtime & Other Data Sets panel.

Use the SMP/E target load library names in the "Option 2 runtime library name" column to map to the LLQs that you chose for those libraries. The OZInnnnn member in your JCL data set (where nnnnn is a timestamp) contains the mapping.

TLIBHLQ and RLIBHLQ represent the high-level qualifiers you specified for the target and runtime libraries.

prd represents the product code.

For more information about the runtime LLQs, see “Specifying runtime data set information” on page 80.

Table 46: Library names used by most BMC products for IMS

<table>
<thead>
<tr>
<th>Library content</th>
<th>Target library name</th>
<th>Option 1 runtime library name</th>
<th>Option 2 runtime library name</th>
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<tbody>
<tr>
<td>Product CLISTs</td>
<td>TLIBHLQ.BBCLIB</td>
<td>RLIBHLQ.BMCCLIB</td>
<td>RLIBHLQ.BBCLIB</td>
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<td>Executable modules</td>
<td>TLIBHLQ.BBBLINK</td>
<td>RLIBHLQ.BMCLINK</td>
<td>RLIBHLQ.BBBLINK</td>
</tr>
<tr>
<td>Batch portions of products</td>
<td>TLIBHLQ.XXLINK</td>
<td>RLIBHLQ.IMXLINK</td>
<td>RLIBHLQ.XXLINK</td>
</tr>
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<td>Required libraries</td>
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<td>RLIBHLQ.IMDLINK</td>
<td>RLIBHLQ.XXDLINK</td>
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<tr>
<td>STEPLIB or JOBLIB DD statements</td>
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<td>Link lists</td>
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<tr>
<td>JCL Generation compiled skeletons</td>
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<tr>
<td>Generated options modules</td>
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<td></td>
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</tr>
<tr>
<td>Messages</td>
<td>TLIBHLQ.BBMLIB</td>
<td>RLIBHLQ.BMCMLIB</td>
<td>RLIBHLQ.BBMLIB</td>
</tr>
<tr>
<td></td>
<td>TLIBHLQ.prdMLIB</td>
<td>RLIBHLQ.IMMLIB</td>
<td>RLIBHLQ.BBMLIB</td>
</tr>
<tr>
<td>Panels and Help libraries</td>
<td>TLIBHLQ.BBPLIB</td>
<td>RLIBHLQ.BMCPLIB</td>
<td>RLIBHLQ.BBPLIB</td>
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<td>TLIBHLQ.XXPLIB</td>
<td>RLIBHLQ.IMXPLIB</td>
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<tr>
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<td>TLIBHLQ.prdPLIB</td>
<td>RLIBHLQ.IMXPLIB</td>
<td>RLIBHLQ.XXPLIB</td>
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<td>Sample user exits</td>
<td>TLIBHLQ.BBSAMP</td>
<td>RLIBHLQ.BMCSAMP</td>
<td>RLIBHLQ.BBSAMP</td>
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<td>TLIBHLQ.prdSAMP</td>
<td>RLIBHLQ.IMSAMP</td>
<td>RLIBHLQ.BBSAMP</td>
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<tr>
<td>ISPF skeletons</td>
<td>TLIBHLQ.prdSLIB</td>
<td>RLIBHLQ.BMCSSLIB</td>
<td>RLIBHLQ.IMSSLIB</td>
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</table>

Appendix I Library names 371
<table>
<thead>
<tr>
<th>Library content</th>
<th>Target library name</th>
<th>Option 1 runtime library name</th>
<th>Option 2 runtime library name</th>
</tr>
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<tbody>
<tr>
<td>ISPF tables</td>
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<td>RLIBHLQ.BMCTLIB</td>
<td>RLIBHLQ.BBTLIB</td>
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<td>TLIBHLQ.prdTLIB</td>
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<td>Configuration files</td>
<td>TLIBHLQ.prdCNFG</td>
<td>RLIBHLQ.BMCNFG</td>
<td>RLIBHLQ.IMCNFG</td>
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<td>RLIBHLQ.XXCNFG</td>
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</tr>
<tr>
<td>JCL examples</td>
<td>TLIBHLQ.prdCNTL</td>
<td>RLIBHLQ.BMCCNTL</td>
<td>RLIBHLQ.IMCNTL</td>
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<tr>
<td>Content files</td>
<td>TLIBHLQ.prdCONT</td>
<td>RLIBHLQ.BMCCONT</td>
<td>RLIBHLQ.IMCONT</td>
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<td>RLIBHLQ.XXCONT</td>
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<td>Executable modules</td>
<td>TLIBHLQ.prdLIB</td>
<td>RLIBHLQ.BMCLIB</td>
<td>RLIBHLQ.IMMLIB</td>
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<td>RLIBHLQ.BMCLIB</td>
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</tr>
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<td>PFX sample application—program, PSB, DBD, and MFS source</td>
<td>TLIBHLQ.IVPSRC</td>
<td>RLIBHLQ.BMCIVPSR</td>
<td>RLIBHLQ.IMIVPSR</td>
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<td>RLIBHLQ.BMCIVPSR</td>
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<td>RLIBHLQ.BMCPIVP1</td>
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<td>PFX sample application—database area data sets</td>
<td>TLIBHLQ.PFPIVP2</td>
<td>RLIBHLQ.BMCPIVP2</td>
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<td>Database image for Backup and Recovery products and database utilities</td>
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<td>RLIBHLQ.BMCIIVP</td>
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<td>RLIBHLQ.BMCIIVP1</td>
<td>RLIBHLQ.IMIVP1</td>
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<td>RLIBHLQ.BMCSCLRL</td>
<td>RLIBHLQ.IMSCRL</td>
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<td>RLIBHLQ.IMSCRS</td>
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<td>RLIBHLQ.BMCREPRT</td>
<td>RLIBHLQ.IMREPRTS</td>
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**Library names used by most MainView products**

When you install MainView products, target and runtime libraries are created.

Table 47 on page 373 lists the names of the target and runtime libraries. In the table:
The names in the "Option 1 runtime library name" column are the recommended, default low-level qualifiers (LLQs) for the runtime library names. These names are used if you selected option 1 on the Runtime & Other Data Sets panel.

The names in the "Option 2 runtime library name" column are the product-line designator LLQs for the runtime library names. These names are used if you selected option 2 on the Runtime & Other Data Sets panel.

The table does not list runtime names if you selected option 3 on the Runtime & Other Data Sets panel.

Use the SMP/E target load library names in the "Option 2 runtime library name" column to map to the LLQs that you chose for those libraries. The OZInnnnn member in your JCL data set (where nnnnn is a timestamp) contains the mapping.

TLIBHLQ and RLIBHLQ represent the high-level qualifiers you specified for the target and runtime libraries.

prd represents the product code.

For more information about the runtime LLQs, see “Specifying runtime data set information” on page 80.

Table 47: Library names used by most MainView products

<table>
<thead>
<tr>
<th>Library content</th>
<th>Target library name</th>
<th>Option 1 runtime library name</th>
<th>Option 2 runtime library name</th>
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<tbody>
<tr>
<td>Action definition library</td>
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<td>TLIBHLQ.prdADEF</td>
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<td>TLIBHLQ.prddADEF</td>
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<td>RLIBHLQ.BBCLIB</td>
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<td>Product DBRM library</td>
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<td>RLIBHLQ.BMCDDBRM</td>
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<td>RLIBHLQ.BMCFORMAT</td>
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<td>Option 2 runtime library name</td>
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<td>RLIBHLQ.BMCMAC</td>
<td>RLIBHLQ.BBMAC</td>
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<tr>
<td>Message library</td>
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<td>RLIBHLQ.BMCMLIB</td>
<td>RLIBHLQ.BBMLIB</td>
</tr>
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<td>Product parameter library</td>
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<td>RLIBHLQ.BMCPARM</td>
<td>RLIBHLQ.BBPARM</td>
</tr>
<tr>
<td>Panels library</td>
<td>TLIBHLQ.BBPLIB&lt;br&gt;TLIBHLQ.prdPLIB</td>
<td>RLIBHLQ.BMCPLIB</td>
<td>RLIBHLQ.BBPLIB</td>
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<tr>
<td>Distributed executables</td>
<td>TLIBHLQ.BBPROC&lt;br&gt;TLIBHLQ.prdPROC</td>
<td>RLIBHLQ.BMCPROC</td>
<td>RLIBHLQ.BBPROC</td>
</tr>
<tr>
<td>Profile library</td>
<td>TLIBHLQ.BBPROF&lt;br&gt;TLIBHLQ.prdPROF</td>
<td>RLIBHLQ.BMCPROF</td>
<td>RLIBHLQ.BBPROF</td>
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<tr>
<td>Product sample library</td>
<td>TLIBHLQ.BBSAMP&lt;br&gt;TLIBHLQ.prdSAMP</td>
<td>RLIBHLQ.BMCSAMPLE</td>
<td>RLIBHLQ.BBSAMP</td>
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<td>Screen definition library</td>
<td>TLIBHLQ.BBSDEF&lt;br&gt;TLIBHLQ.prdSDEF</td>
<td>RLIBHLQ.BMCDEFINE</td>
<td>RLIBHLQ.BBSDEF</td>
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<td>MainView Explorer scripts and binaries</td>
<td>TLIBHLQ.BBSERVER&lt;br&gt;TLIBHLQ.prdSERVER</td>
<td>RLIBHLQ.BMCSERVER</td>
<td>RLIBHLQ.BBSERVER</td>
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<tr>
<td>Skeleton library</td>
<td>TLIBHLQ.BBSLIB&lt;br&gt;TLIBHLQ.prdSLIB</td>
<td>RLIBHLQ.BMCSSLIB</td>
<td>RLIBHLQ.BBSLIB</td>
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<td>Sample security exits</td>
<td>TLIBHLQ.prdSRC</td>
<td>RLIBHLQ.BMCSRC</td>
<td>RLIBHLQ.BBSRC</td>
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<td>Table library</td>
<td>TLIBHLQ.BBTLIB&lt;br&gt;TLIBHLQ.prdTLIB</td>
<td>RLIBHLQ.BMCTLIB</td>
<td>RLIBHLQ.BBTLIB</td>
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<td>Sample executables</td>
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<td>RLIBHLQ.BMCUSER</td>
<td>RLIBHLQ.BBUSER</td>
</tr>
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<td>View definition library</td>
<td>TLIBHLQ.BBVDEF&lt;br&gt;TLIBHLQ.prdVDEF</td>
<td>RLIBHLQ.BMCSVDEF</td>
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<tr>
<td>DLIB to target zone copy library</td>
<td>TLIBHLQ.BBYCOPY</td>
<td>RLIBHLQ.BMCYCOPY</td>
<td>RLIBHLQ.BBYCOPY</td>
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<td>RTSERVER code page binaries</td>
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<td>RLIBHLQ.BBLINK</td>
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<td>RLIBHLQ.BMCCMDH</td>
<td>RLIBHLQ.CMDSHLP</td>
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<td>RLIBHLQ.BMCOPTSH</td>
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</tr>
<tr>
<td>RTSERVER program library</td>
<td>TLIBHLQ.PGMLIB</td>
<td>RLIBHLQ.BMCPGMLI</td>
<td>RLIBHLQ.PGMLIB</td>
</tr>
</tbody>
</table>
When you install APPLICATION RESTART CONTROL (AR/CTL) products, target and runtime libraries are created.

Table 46 on page 371 lists the names of the target and runtime libraries. In the table:

- The names in the "Option 1 or option 2 runtime library name" column are the recommended, default low-level qualifiers (LLQs) for the runtime library names. These names are used if you selected option 1 or option 2 on the Runtime & Other Data Sets panel.

- The table does not list runtime names if you selected option 3 on the Runtime & Other Data Sets panel.

Use the SMP/E target load library names in the "Option 1 or option 2 runtime library name" column to map to the LLQs that you chose for those libraries. The OZInnnnnn member in your JCL data set (where nnnnnn is a timestamp) contains the mapping.

- TLIBHLQ and RLIBHLQ represent the high-level qualifiers you specified for the target and runtime libraries.

### Library names used by APPLICATION RESTART CONTROL products

<table>
<thead>
<tr>
<th>Library content</th>
<th>Target library name</th>
<th>Option 1 runtime library name</th>
<th>Option 2 runtime library name</th>
</tr>
</thead>
<tbody>
<tr>
<td>MainView for Linux - Servers archive files</td>
<td>TLIBHLQ.RPMS</td>
<td>RLIBHLQ.BMCRPMS</td>
<td>RLIBHLQ.RPMS</td>
</tr>
<tr>
<td>RTSERVER configuration members</td>
<td>TLIBHLQ.STDCM</td>
<td>RLIBHLQ.BMCSTDCM</td>
<td>RLIBHLQ.STDCM</td>
</tr>
<tr>
<td>RTSERVER message text</td>
<td>TLIBHLQ.STDTEXT</td>
<td>RLIBHLQ.BMCSTDTEXT</td>
<td>RLIBHLQ.STDTEXT</td>
</tr>
<tr>
<td>BiiZ installation packages</td>
<td>TLIBHLQ.prdTAR</td>
<td>RLIBHLQ.BMCTAR</td>
<td>RLIBHLQ.TAR</td>
</tr>
<tr>
<td>CNTL library</td>
<td>TLIBHLQ.TOSZCNTL</td>
<td>RLIBHLQ.BMCTOSZC</td>
<td>RLIBHLQ.TOSZCNTL</td>
</tr>
<tr>
<td>HTML library</td>
<td>TLIBHLQ.TOSZHTML</td>
<td>RLIBHLQ.BMCTOSZH</td>
<td>RLIBHLQ.TOSZCNTL</td>
</tr>
<tr>
<td>LINK library</td>
<td>TLIBHLQ.TOSZLINK</td>
<td>RLIBHLQ.BMCTOSZL</td>
<td>RLIBHLQ.TOSZLINK</td>
</tr>
<tr>
<td>RTCS library</td>
<td>TLIBHLQ.TOSZRTCS</td>
<td>RLIBHLQ.BMCTOSZR</td>
<td>RLIBHLQ.TOSZRTCS</td>
</tr>
<tr>
<td>RXML library</td>
<td>TLIBHLQ.TOSZRXML</td>
<td>RLIBHLQ.BMCTOSZX</td>
<td>RLIBHLQ.TOSZRXML</td>
</tr>
<tr>
<td>Included in library</td>
<td>Target library name</td>
<td>Option 1 or option 2 runtime library name</td>
<td></td>
</tr>
<tr>
<td>----------------------------------------------------------</td>
<td>---------------------------</td>
<td>------------------------------------------</td>
<td></td>
</tr>
<tr>
<td>Customized JCL library for product configuration</td>
<td>TLIBHLQ.ARCCUST</td>
<td>RLIBHLQ.ARCCUST</td>
<td></td>
</tr>
<tr>
<td>DB2 DBRM</td>
<td>TLIBHLQ.ARCDBRM</td>
<td>RLIBHLQ.ARCDBRM</td>
<td></td>
</tr>
<tr>
<td>IMS IVP modules</td>
<td>TLIBHLQ.ARCIVPC</td>
<td>RLIBHLQ.ARCIVPC</td>
<td></td>
</tr>
<tr>
<td>DB2/VSAM IVP modules</td>
<td>TLIBHLQ.ARCIVPP</td>
<td>RLIBHLQ.ARCIVPP</td>
<td></td>
</tr>
<tr>
<td>Load modules</td>
<td>TLIBHLQ.ARCLIB</td>
<td>RLIBHLQ.ARCLIB</td>
<td></td>
</tr>
<tr>
<td>ISPF messages</td>
<td>TLIBHLQ.ARCMLIB</td>
<td>RLIBHLQ.ARCMLIB</td>
<td></td>
</tr>
<tr>
<td>ISPF panels</td>
<td>TLIBHLQ.ARCPLIB</td>
<td>RLIBHLQ.ARCPLIB</td>
<td></td>
</tr>
<tr>
<td>Samples for AR/CTL components</td>
<td>TLIBHLQ.ARCSAMP</td>
<td>RLIBHLQ.ARCSAMP</td>
<td></td>
</tr>
<tr>
<td>ISPF skeletons</td>
<td>TLIBHLQ.ARCSLIB</td>
<td>RLIBHLQ.ARCSLIB</td>
<td></td>
</tr>
<tr>
<td>ISPF session TLIB</td>
<td>TLIBHLQ.RCTLIB</td>
<td>RLIBHLQ.RCTLIB</td>
<td></td>
</tr>
</tbody>
</table>
Enhanced HOLDDATA

BMC supports Enhanced HOLDDATA.

Overview of Enhanced HOLDDATA

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/holdata/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.

---

**Obtaining Enhanced HOLDDATA**

Perform the following procedure to obtain Enhanced HOLDDATA:

1. Download the Enhanced HOLDDATA file.
2. Receive the file.
3. Run the Exception SYSMOD report.

**Downloading Enhanced HOLDDATA**

BMC provides the Enhanced HOLDDATA in plain text (.txt) and binary compressed (.bin) formats.

The files are in the ftp://ftp.bmc.com/bmc/holddata directory, as shown in Table 49 on page 378.

**Table 49: Available formats for downloading Enhanced HOLDDATA**

<table>
<thead>
<tr>
<th>File</th>
<th>Covers the last</th>
<th>Download Plain text</th>
<th>Compressed</th>
</tr>
</thead>
</table>
You can download Enhanced HOLDDATA by using any of the following methods:

- “To use a web browser to download enhanced HOLDDATA” on page 379
- “To use the FTP command line to download enhanced HOLDDATA” on page 379
- “To use an FTP batch file to download enhanced HOLDDATA” on page 380
- BMC Internet Service Retrieval (ISR) (see “Task summary for applying maintenance” on page 97)

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.

**To use a web browser to download enhanced HOLDDATA**

1. From Table 49 on page 378, 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 by 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 by using any file transfer facility.

**To use the FTP command line to download enhanced HOLDDATA**

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 49 on page 378.

**To use an FTP batch file to download enhanced HOLDDATA**

1 To download the Enhanced HOLDDATA directly to the mainframe, use the sample JCL in Figure 25 on page 380.

---

**Tip**

You can copy the JCL from the `SampleFTP.txt` file in the `ftp://ftp.bmc.com/bmc/holddata` directory.

---

**Figure 25: Sample FTP batch JCL**

```bash
//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 */
/* EXAMPLE: */
/* sample.proxy.company.com </==Your proxy info */
/* proxy_id proxy_pw </==Your proxy id/pw */
/* quote site ftp.bmc.com </==BMC ftp site */
/* */
/* Note: use input DD appropriate for file type */
/* you are downloading */

/****** Sample Input DD for Text File */
/INPUT *
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
/* */
/* Sample Input DD for Binary File */
/INPUT *
```
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 SYSMOD report

When you install a BMC product through the Installation System, you can use the $150HOLD job to receive the Enhanced HOLDDATA.

**To receive Enhanced HOLDDATA**

1. If you downloaded the compressed binary file, use the sample JCL in Figure 26 on page 381.

   **Tip**
   You can copy the JCL from the SampleUnpack.txt file in the directory ftp://ftp.bmc.com/bmc/holddata.

   **Figure 26: Sample decompression JCL**
   ```plaintext
   //JOB_NAME JOB (ACCOUNT),"USER COMMENT".
   //             CLASS=JOB_CLASS,MSGCLASS=MSG_CLASS,
   //             REGION=0M,NOTIFY=&SYSUID
   //***************************************************************
   //** TRSMAIN - IBM'S PACK/UNPACK PROGRAM
   //** PARMS: PACK, UNPACK
   //** Input file FB LRECL=1024 (FOR TERSED DATA)
   //** PLACE THE downloaded DSNAME IN THE INFILE DD
   STATEMENT
   //***************************************************************
   ///DECOMP EXEC PGM=TRSMAIN,PARM=UNPACK
   ///SYSPRINT DD SYSOUT=* 
   ```
Running the Exception SYSMOD report

Enhanced HOLDDATA is updated daily. Therefore, 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

1. Use the sample JCL in Figure 28 on page 383.

   **Tip**


   **Figure 28: Sample JCL for the Exception SYSMOD report**

   ```
   //JOB_NAME JOB (ACCOUNT), 'USER COMMENT',
   //   CLASS=JOB_CLASS, MSGCLASS=MSG_CLASS,
   //   REGION=0M, NOTIFY=&SYSUID
   //******************************************************************************
   //* USE THIS SAMPLE BATCH JOB TO EXECUTE THE
   //* SMP/E REPORT ERRSYSMODS.
   //* MODIFY JOB CARD, DATA SET NAMES, AND ZONE FOR YOUR SITE.
   //******************************************************************************
   //REPORT EXEC PGM=GIMSMP
   //SMPCSI DD DISP=SHR, DSN=your.smpe.global.csi <== your global csi
   //SMPPTS DD DISP=SHR, DSN=your.smpe.smppts      <== your PTS
   //SMPOUT DD SYSOUT=*
   //SMPRPT DD SYSOUT=*
   //SMPLIST DD SYSOUT=*
   //SYSPRINT DD SYSOUT=*
   //SMPCNTL DD *
   SET BDY(GLOBAL).
   REPORT ERRSYSMODS
   */
   ZONES(your_zone).
   /*
   
   **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.

**Sample Exception SYSMOD report**

The Exception SYSMOD report 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 29: Sample Exception SYMMOD report

Table 50 on page 384 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>PERVERSIVE</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>
Installation utilities

The Installation System provides several utilities.

Available utilities

The following table lists the available utilities (CLISTs) and describes what they enable:

<table>
<thead>
<tr>
<th>CLIST</th>
<th>Enables you to</th>
</tr>
</thead>
<tbody>
<tr>
<td>FIXSQNUM</td>
<td>Verify and fix SQL worklists sequencing. FIXSQNUM is used outside the Installation System.</td>
</tr>
<tr>
<td>CKSQNUM</td>
<td>Verify SQL worklists sequencing. CKSQNUM is used outside the Installation System.</td>
</tr>
</tbody>
</table>
Migrating installation option values for BMC products for DB2

BMC provides methods for migrating installation option values from previous product versions to current versions for some BMC products for DB2.

Note
If you prefer not to use migration, you can gather your existing option values before you start the installation and enter them as you run the Installation System.
Log Master can also read a product options (POF) file to obtain certain default values for the product’s online interface. For more information about this optional file, see the ALPOFDSN option in the Log Master for DB2 Reference Manual.

Overview of migrating installation option values

You can migrate installation option values from previous product versions to current versions for some BMC products for DB2.

Tasks

Migrating the installation option values includes the following tasks:

1. Reading an existing installation options module (sometimes referred to as the DOPTs module) or the RECOVERY MANAGER (ARM) control file, and determining the product and version to which the module or file applies.

2. Generating a new installation options module or ARM control file for the latest version of the product.

By performing these tasks, you can carry over the values that you specified during earlier product customizations. Supported versions include the latest three versions of a product. Because each BMC product for DB2 has its own set of installation options, the input is product specific.
Migration methods

You can perform the migration in the following ways:

- Through ISPF and the Installation System
  
  The Installation System generates the $729DOP1 and $730DOP2 jobs. These jobs assemble the installation options module, using the values from an existing installation options module. For details, see “Migrating installation options using the Installation System” on page 389.

- Through a stand-alone batch program, which uses JCL outside the Installation System
  
  This process either creates input to generate a new installation options module, or creates a new ARM control file with the appropriate modifications. For details, see “Overview of batch migration” on page 390.

Supported products

Table 51 on page 388 lists the products and technologies that support option migration. The "Versions that support migration" column shows the versions from which you can migrate option values. The "Target version" column shows the version to which you can migrate option values.

Table 51: Products and technologies that support migrating option values

<table>
<thead>
<tr>
<th>Product or component name</th>
<th>Product or technology code</th>
<th>Target version</th>
<th>Versions that support migration</th>
</tr>
</thead>
<tbody>
<tr>
<td>ALTER for DB2</td>
<td>ALU</td>
<td>11.1.00</td>
<td>10.1.00 9.3.00</td>
</tr>
<tr>
<td>CATALOG MANAGER for DB2</td>
<td>ACT</td>
<td>11.1.00</td>
<td>10.1.00 9.3.00</td>
</tr>
<tr>
<td>CHANGE MANAGER for DB2</td>
<td>ACM</td>
<td>11.1.00</td>
<td>10.1.00 9.3.00</td>
</tr>
<tr>
<td>CHECK PLUS for DB2</td>
<td>ACK</td>
<td>11.1.00</td>
<td>10.2.00 10.1.00</td>
</tr>
<tr>
<td>BMC Next Generation Technology Copy for DB2 for z/OS</td>
<td>ACP</td>
<td>11.1.00</td>
<td>10.1.00 9.2.00</td>
</tr>
<tr>
<td>DASD MANAGER PLUS for DB2</td>
<td>ASU</td>
<td>11.1.00</td>
<td>10.1.00 9.3.00</td>
</tr>
<tr>
<td>High-speed Apply Engine</td>
<td>APT</td>
<td>11.1.00</td>
<td>10.1.00 9.2.00</td>
</tr>
<tr>
<td>Product or component name</td>
<td>Product or technology code</td>
<td>Target version</td>
<td>Versions that support migration</td>
</tr>
<tr>
<td>---------------------------------------------------</td>
<td>---------------------------</td>
<td>----------------</td>
<td>---------------------------------</td>
</tr>
<tr>
<td>LOADPLUS for DB2</td>
<td>AMU</td>
<td>11.1.00</td>
<td>10.2.00 10.1.00</td>
</tr>
<tr>
<td>Log Master for DB2</td>
<td>ALP</td>
<td>11.1.00</td>
<td>10.1.00 9.2.00</td>
</tr>
<tr>
<td>R+/CHANGE ACCUM for DB2</td>
<td>ACA</td>
<td>11.1.00</td>
<td>10.1.00 9.2.00</td>
</tr>
<tr>
<td>BMC Next Generation Technology Recover for DB2 for z/OS</td>
<td>AFR</td>
<td>11.1.00</td>
<td>10.1.00 9.2.00</td>
</tr>
<tr>
<td>RECOVERY MANAGER for DB2</td>
<td>ARM</td>
<td>11.1.00</td>
<td>10.1.00 9.2.00</td>
</tr>
<tr>
<td>Note: Migration support applies to the RECOVERY MANAGER control file. RECOVERY MANAGER has no installation options module.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>REORG PLUS for DB2</td>
<td>ARU</td>
<td>11.1.00</td>
<td>10.2.00 10.1.00</td>
</tr>
<tr>
<td>UNLOAD PLUS for DB2</td>
<td>ASU</td>
<td>11.1.00</td>
<td>10.2.00 10.1.00</td>
</tr>
</tbody>
</table>

**Authorization requirements**

To migrate the installation option values, you need the following authorizations:

- RACF READ authority to the input installation options module or ARM control file
- RACF UPDATE authority for the output library for the batch process

**Migrating installation options using the Installation System**

During customization, you can specify that you want the Installation System to use your existing option values instead of using BMC default values.

The Installation System determines whether the ZIO library (HLQ.DBLINK) exists and contains the ZIOMAIN member. ZIOMAIN is the executable for this process. The ZIO library and ZIOMAIN are unloaded when you unload the files for a product. If you attempt customization without running the unload jobs first, the
Installation System does not display the Install System Perform DOPTS Retrieval panel.

The Installation System also determines whether a product supports option value migration through the Installation System. Products that do not support this feature are not displayed in the list of selectable products on the Install System Specify DOPTS Module Libraries panel.

**Before you begin**

You must run all of the $1nn-prefixed jobs prior to and including all $1nn APPLY jobs to unload the load modules into your $HLQ.DBLINK library. The load modules use a ZIO prefix.

**To perform option value migration**

1. On the Install System Previous Release of Product panel, select the version and release that you currently have installed, and press Enter.

2. On the Install System Specify DOPTS Module Libraries panel, specify the load library or libraries to search for installation options modules, and press Enter.

   If you do not want to migrate the existing options for a specific product, deselect the product from the list.

   The existing installation option values will be used in a new installation options module for the product version that you are installing.

   If you need to change the name of the DOPTs module or the source load library after JCL generation, this can be done in the $$INCDB2 member.

   If you change your mind regarding DOPTs migration after generating the JCL, you will need to modify the $729DOP1 JCL member, per the instructions in the member.

**Overview of batch migration**

Batch migration uses JCL to generate valid input for an installation options module or a valid RECOVERY MANAGER (ARM) control file. You can also use batch migration to reconstitute the input assembler source or ARM control file that is used to generate an installation options module or ARM control file at the target version.

Building the batch migration job involves creating JCL that includes the following statements:
JOB statement

You can include a REGION parameter in either your JOB statement or your EXEC statement.

The minimum REGION specification should be 800 KB.

EXEC statement

The EXEC statement specifies the program ZIOMAIN and specifies the program utility parameters.

```
//stepName EXEC PGM=ZIOMAIN,REGION=0M,
//         PARM='productCode [IFILE(inputFile)] [OFILE(outputFile)]
[IMEMB(inputMember)]
[OMEMB(outputMember)] [ALL] [NV]'
```

The parameters on the EXEC statement are a combination of positional and keyword parameters that are separated by blanks. Parameters shown in square brackets ([ ]) are optional. If you do not specify a value for a parameter, ZIOMAIN uses the default.

Table 52 on page 392 describes the parameters and their default values. More information about each parameter follows the table.
Table 52: Parameter descriptions and default values

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
<th>Default</th>
</tr>
</thead>
<tbody>
<tr>
<td>productCode</td>
<td>(required) Three-byte product code</td>
<td>None</td>
</tr>
<tr>
<td>IFILE(inputFile)</td>
<td>(optional) Input file name (DSN or DD)</td>
<td>If you omit IFILE, the program defaults to the INDD DD.</td>
</tr>
<tr>
<td>OFILE(outputFile)</td>
<td>(optional) Output file name (DSN or DD)</td>
<td>If you omit OFILE, the program defaults to the OUTDD DD.</td>
</tr>
<tr>
<td>IMEMB(inputMember)</td>
<td>(optional) Name of the input file member</td>
<td>If you omit IMEMB(inputMember), the program expects to process a sequential input file (or you can specify the input member on the INDD data set).</td>
</tr>
<tr>
<td>OMEMB(outputMember)</td>
<td>(optional) Name of the output file member</td>
<td>If you omit OMEMB(outputMember), the program expects to process a sequential output file (or you can specify an existing output member on the OUTDD data set).</td>
</tr>
<tr>
<td>ALL</td>
<td>(optional) Process all options, not just non-default-valued options</td>
<td>If you omit ALL, only non-default valued options are processed.</td>
</tr>
<tr>
<td>NV</td>
<td>NAMEVALUE</td>
<td>(optional) Generate NAMEVALUE output</td>
</tr>
</tbody>
</table>

**productCode**

The `productCode` parameter is required.

See “Overview of migrating installation option values” on page 387 to find the product codes (`productCode`) that are supported. You can specify * (asterisk) if the following conditions exist:

- The INDD DD data set is partitioned.
- The first three characters of the member to be processed (as specified in the IMEMB parameter) reflect the product code.

**IFILE(inputFile)**

If IFILE(inputFile) specifies a DD (including the INDD default), the input data set may include the desired member name. Specifying the member name is optional.
In this case, you should not specify IMEMB(inputMember). Because the input data set and member are in the JCL, they must exist.

If you specify IFILE(inputFile) and IMEMB(inputMember), the file is dynamically allocated.

**OFILE(outputFile)**

If OFILE(outputFile) specifies a DD (including the OUTDD default), the output data set can include the desired member name. Specifying the member name is optional.

In this case, you should not specify OMEMB(outputMember). Because the output data set and member are in the JCL, they must exist.

If you specify OFILE(outputFile) and OMEMB(outputMember), the file is dynamically allocated.

If the data set does not exist, it is allocated with the appropriate DSORG based on whether you have specified a value for OMEMB(outputMember). LRECL and RECFM are based on the output format (Assembler and POF output use FB,80; NAMEVALUE uses VB,255).

**IMEMB(inputMember)**

IMEMB(inputMember) specifies the name of the installation options module or ARM control file if either of the following conditions exists:

- The data set that is associated with the INDD DD is partitioned.
- No member is explicitly indicated on that DD’s data set.
OMEMB(outputMember)

OMEMB(outputMember) specifies the name of the output member if either of the following conditions exists:

- The data set that is associated with the OUTDD DD is partitioned.
- No member is explicitly indicated on that DD’s data set.

Specifying * (asterisk) instructs the program to use the input member name as the output member name.

ALL

ALL indicates that you want to output all option values.

If you do not specify ALL, the default action is to output only non-default-valued options.

NV | NAMEVALUE

NV indicates that you want output formatted as a list of name/value pairs for the options.

If you do not specify NV, the default action is to output in the format of either assembler input or a RECOVERY MANAGER control file.

DD considerations

By including a ZIOTRACE DD, you receive output for error debugging. By default, the utility does not generate this output. If included, the LRECL for this DD should be greater than or equal to 400.

Example JCL

The following figure is an example of JCL that migrates the option values in batch.

```
//ZIOMIGR JOB (PZIO),CLASS=Q,MSGCLASS=X,NOTIFY=&SYSUID
//STEP02 EXEC PGM=ZIOMAIN,
// PARM='ACT OMEMB(ACT9101) ALL'
//STEPLIB DD DSN=ZIO.DEV0100.LOAD,DISP=SHR
//INDD DD DISP=SHR,DSN=RDASZS.INSTALL.INPUT.LOAD(ACT8201)
```
Example JCL

/OUTDD DD DISP=SHR,DSN=RDASZS.INSTALL.OUTPUT.DOCT
/SYSERR DD SYSOUT=*  
/SYSUDUMP DD SYSOUT=*
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