

OS/390 and z/OS Installer Guide

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Customer Support

You can obtain technical support by using Response Online™ (comprehensive information from the Web) or Response On Demand™. To expedite your inquiry, please see “Before Contacting BMC Software,” below.

Response Online

You can obtain technical support from BMC Software 24 hours a day, seven days a week by accessing the technical support Web site at <http://www.bmc.com/support.html>. From this site, you can

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

Response On Demand

In the USA and Canada, if you need technical support and do not have access to the Web, call 800 537 1813. Outside the USA and Canada, please contact your local support center or your local sales office for assistance.

Before Contacting BMC Software

Before you contact BMC Software, have the following information available so that a technical support analyst can begin working on your problem immediately:

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

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About This Book

This book contains detailed information about the OS/390 and z/OS Installer and is intended for system administrators and database administrators responsible for the installation of BMC Software products on OS/390 and z/OS systems.

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

- Job control language (JCL) and the Interactive System Productivity Facility (ISPF)
- IBM OS/390 or z/OS systems

For example, you should know how to respond to ISPF panels and how to perform common actions in a mainframe environment.

How This Book Is Organized

This book is organized as follows. In addition, a glossary of terms and an index appear at the end of the book.

Chapter/Appendix	Description
Chapter 1, "Introduction"	provides a brief overview of the installation system including an explanation of the distribution methods, installation procedures, and conventions
Chapter 2, "Preparing for Installation"	describes the Checklist Generator and other preinstallation tools and requirements
Chapter 3, "Using the Installation System"	describes the tasks related to running the installation system
Chapter 4, "Running Installation JCL"	describes the JCL generated by the installation system and instructions for running the jobs

Chapter/Appendix	Description
Appendix A, "BMC Software Product Authorization"	includes information and instructions related to the product authorization utility
Appendix B, "BMC Software Product Authorization Messages"	lists messages related to the product authorization utility

Related Documentation

BMC Software products are supported by several types of documentation:

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

Specific documents that are required for your product are listed in the release notes and cover letter that were shipped with your order.

Note: The messages that the installation system generates are available in a data set that is downloaded during installation. For each message, the data set includes an explanation and suggests a user response. The data set is called *HLQ*.MSGs (where *HLQ* is the high-level qualifier that is specified during installation).

Online and Printed Books

The books that accompany BMC Software products are available in online format and printed format. If you are a Windows or Unix user, you can view online books with Acrobat Reader from Adobe Systems. The reader is provided at no cost, as explained in "To Access Online Books." You can also obtain additional printed books from BMC Software, as explained in "To Request Additional Printed Books."

To Access Online Books

Online books are formatted as Portable Document Format (PDF) files. You can view them, print them, or copy them to your computer by using Acrobat Reader 3.0 or later. You can access online books from the documentation compact disc (CD) that accompanies your product or from the World Wide Web.

In some cases, installation of Acrobat Reader and downloading the online books is an optional part of the product-installation process. For information about downloading the free reader from the Web, go to the Adobe Systems site at <http://www.adobe.com>.

To view any online book that BMC Software offers, visit the support page of the BMC Software Web site at <http://www.bmc.com/support.html>. Log on and select a product to access the related documentation. (To log on, first-time users can request a user name and password by registering at the support page or by contacting a BMC Software sales representative.)

To Request Additional Printed Books

BMC Software provides printed books with your product order. To request additional books, go to <http://www.bmc.com/support.html>.

Online Help

The installation system includes online Help. In the ISPF interface, you can access Help by pressing **F1** from any ISPF panel.

Release Notes and Other Notices

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

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

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

Document Conventions

This section provides examples of the conventions used in this book and explains how to read ISPF panel-flow diagrams and syntax statements.

General Conventions

This book uses the following general conventions:

Item	Example
information that you are instructed to type	Type SEARCH DB in the designated field.
specific (standard) keyboard key names	Press Enter .
field names, text on a panel	Type the appropriate entry in the Command field.
directories, file names, Web addresses	The BMC Software home page is at www.bmc.com .
nonspecific key names, option names	Use the HELP function key. KEEPDICTIONARY option
MVS calls, commands, control statements, keywords, parameters, reserved words	Use the SEARCH command to find a particular object. The product generates the SQL TABLE statement next.
code examples, syntax statements, system messages, screen text	//STEPLIB DD The table <i>table_name</i> is not available.
emphasized words, new terms, variables	The instructions that you give to the software are called <i>commands</i> . In this message, the variable <i>file_name</i> represents the file that caused the error.

This book uses the following types of special text:

Note: Notes contain important information that you should consider.

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

Tip: Tips contain useful information that may improve product performance or that may make procedures easier to follow.

Syntax Statements

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

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

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

Item	Example
Items in italic type represent variables that you must replace with a name or value. Use an underscore for variables with more than one word.	<code>dtbackup <i>control_directory</i></code>
Brackets indicate a group of options. You can choose at least one of the items in the group, but none of them is required. Do not type the brackets when you enter the option. A comma means that you can choose one or more of the listed options. You must use a comma to separate the options if you choose more than one option.	<code>[<i>table_name, column_name, field</i>]</code>
Braces enclose a list of required items. You must enter at least one of the items. Do not type the braces when you enter the item.	<code>{<i>DBD_name table_name</i>}</code>
A vertical bar means that you can choose only one of the listed items. In the example, you would choose either <i>commit</i> or <i>cancel</i> .	<code>{<i>commit cancel</i>}</code>
An ellipsis indicates that you can repeat the previous item or items as many times as necessary.	<code><i>column_name . . .</i></code>

Chapter 1 Introduction

This chapter contains the following topics:

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Installation System Overview

The OS/390 and z/OS Installer is an ISPF application that generates a set of batch jobs in job control language (JCL). You use the installation batch jobs to install (or unload) and customize products from one or more distribution media. You also use the batch jobs to apply maintenance to installed products.

Installation Methods

The installation system supports two methods of installation:

- Standard installation provides a fast IEBCOPY installation process. This method offers an optional step that creates a predefined SMP/E environment for SMP/E maintenance. The Standard installation method requires less expertise than an SMP/E installation, but it offers less control over the SMP/E environment.
- SMP/E is an industry-standard installation program that provides a variety of capabilities for unloading products and maintenance. SMP/E provides more flexibility than the Standard installation method for setting up and using an SMP/E environment, but it is more complicated and time consuming.

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

Installation Process

The primary installation process includes unloading products from distribution media and customizing the products for use on your system. You can also use the installation system to perform other tasks, such as applying maintenance and managing licensing authority.

Unloading Products from Tape

To insure a fast and error-free installation, take the time to understand and plan the tape-unloading process before you begin. The process includes these steps:

1. Plan the installation. Checklists are included with the product documents that will help you plan the product installation.
2. Unload the installation libraries from the base installation tape. A sample job that performs this task is on page 3-4.
3. Invoke the installation system to build the customized installation library. Specify a Standard or an SMP/E installation method. This task is described on page 3-5.
4. Choose the products to install. This task is described on page 3-14.
5. If you are performing an SMP/E installation, review the JCL generated by the installation system. See “Running JCL for an SMP/E Installation” on page 4-4.
6. Submit the JCL that the installation system generates to unload the products that you selected.
7. If you are performing a Standard installation, you can optionally run the JCL that downloads SMP/E libraries. This step is required before you can apply maintenance to your products.

Customizing the Products

Customization assigns values to default options and prepares a product for execution. The installation system controls the customization process but the assigned values are specific to your product and environment. Before initiating the customization process, identify resources you may need, such as

- product release notes
- product installation requirements
- product customization guide

The specific documentation varies, depending on your products.

When you complete the customization dialog, the installation system generates JCL in your installation JCL library. When you submit the generated JCL, the customization process is complete.

Performing Other Tasks with the Installation System

In addition to unloading BMC Software products from the distribution media and customizing the products for execution, you can use the installation system to perform the following tasks:

- apply maintenance to enhance functionality and correct problems
- establish password authority to run the installed products

The installation system also allows you to customize the installation process and save the values that you provide, thus facilitating subsequent installations.

These functions are accessible from the installation system Main Menu. For information about how to perform these tasks, see “Running the Installation System” on page 3-7.

Installation Features

The installation system includes several features to make the installation process easy to perform. You can select some of these features as options during the installation process.

Profile Repository

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

By using the profile repository, you can assure a consistent and specific installation environment for a group of products or for a business unit within your enterprise.

Checkpoints

The amount of time that is required to install BMC Software products depends on several factors, including

- the number of products that you install
- the installation path that you choose for each product
- the complexity of each product

By taking checkpoints at predetermined points, the installation system enables you to interrupt the installation if necessary and later resume at the same point.

International Language Support

The installation system automatically invokes international language support if the terminal type is 32xxKN. (The terminal type is set from the ISPF main menu.) For this terminal type, the installation panels are displayed in uppercase letters.

Installation Modes

The installation system offers two installation modes for most products:

- *Basic* installation limits the number of panels that you see. Only the common installation panels and optional panels requiring user input are displayed. These panels use the default values that BMC Software provides.
- *Advanced* installation displays all of the option panels for each product in addition to the common installation panels. This option allows you the most flexibility in setting up the components of the products, from file and database names to file sizes and product-execution parameters.

Installation Methods

BMC Software distributes products using either a Standard tape or SMP/E tape to deliver products and product maintenance to customers.

Standard Tape

The Standard tape is a packaging option that allows you to install your products from tape and prepare them for maintenance in significantly less time than a typical SMP/E installation and maintenance procedure. If you install BMC Software products from Standard tapes, you do not need SMP/E experience.

Standard tape sets contain files for unloading, customizing, and executing products, as well as files for SMP/E maintenance preparation and application.

System Modification Program Extended (SMP/E)

System Modification Program Extended (SMP/E) is a product installation and maintenance program that BMC Software supports to comply with customer requirements. SMP/E is an IBM packaging program that is used to install and service any software that is packaged as a system modification or SYSMOD. Using SMP/E requires SMP/E skills and takes more time and effort than a Standard installation. CPU processing time and resource requirements to install a product with SMP/E are extensive.

The SMP/E product tape contains MCSs (modification control statements) and RELFILEs (relative files) for SMP/E product installation and maintenance.

Product Installation Considerations

This section describes options for installing and maintaining BMC Software products. It helps you determine which product installation method (Standard or SMP/E) is appropriate for your site's installation and maintenance goals.

The most desirable method should suit your product configuration needs, while requiring the least amount of time and effort to install your products. To help you choose the best method, you should determine

- which BMC Software products are already installed at your site
- which BMC Software products you plan to trial or add to your installation
- the maintenance level of each BMC Software product installed at your site
- the time and effort required for product customization
- the installer's knowledge of SMP/E procedures and terminology

Installing All New BMC Software Products

If you are a new customer who is installing all new products for the first time, you can choose one of the following installation methods:

- Order Standard tapes containing any combination of BMC Software products.

Product installation using the Standard method is much faster than using SMP/E procedures. All products on the tape are at current maintenance levels.

- Order SMP/E tapes containing any combination of BMC Software products.

Products are installed using standard SMP/E procedures. A cumulative maintenance tape is shipped with the SMP/E product tapes.

Installing Trial Products with Existing BMC Software Products

If BMC Software products are installed at your site and you are planning to install a trial version of one or more new BMC Software products, you can choose one of the following installation methods:

- Order a Standard tape containing the new products for trial, install the products, and run them with existing products on the same CPU.
- Order an SMP/E product tape containing the new product and install the product into your existing SMP/E data sets.
- Order a Standard product tape containing your existing products and new products. This choice implies the following:
 - The amount of time required to install products is less using the Standard installation procedure than it is using the SMP/E procedure.
 - All products are at current maintenance levels.
- Order an SMP/E product tape containing the new products, install the products in separate SMP/E data sets and run new and existing products concurrently on the same CPU.

If you decide to license the new product(s) after the trial, you can use the same SMP/E product tapes to install the product(s) into SMP/E data sets containing existing products.

Applying Maintenance to Existing Products

If you have existing BMC Software products and want to upgrade to the current maintenance levels, you can order product tapes as follows:

- Order a Standard product tape containing any combination of products to replace your existing system. This choice implies the following:
 - All products on the tape are at current maintenance levels.
 - Product installation is much faster than with standard SMP/E procedures.
 - All existing products must be customized again.
- Apply maintenance using program update tapes (PUT).

If you have a large number of products, you should apply maintenance with standard PUT tapes and SMP/E procedures. The effort required to customize the products again is normally greater than the effort to apply SMP/E-formatted maintenance.

Product Maintenance Tapes

BMC Software maintenance tapes are used to update BMC Software products installed with either the Standard or SMP/E methods. These maintenance tapes contain

- authorized problem analysis reports (APARs)
- program temporary fixes (PTFs)

APARs and PTFs are written to repair a product defect or add an enhancement.

There are three types of BMC Software maintenance tapes:

- candidate maintenance tape (CAND)
- program update tape (PUT)
- cumulative maintenance tape (CUM)

The maintenance tape types are discussed below.

CAND Tape

A CAND tape is a maintenance tape that contains candidate PTFs, APARs, and HOLD data. Candidate maintenance addresses specific problems that can be selectively applied and verified by a customer. The CAND tape is updated weekly.

PUT Tape

A PUT tape is a program update tape that contains verified PTFs, APARs, and HOLD data. BMC Software has tested these PTFs and APARs and verified that they perform as designed.

BMC Software provides PUT tape maintenance every two or three months. Customers decide if and when they want automatic shipment of the PUT tape. To request a form that allows you to indicate the intervals at which you would like to receive PUT tapes, call your BMC Software technical support analyst, or send an e-mail message to support@bmc.com.

CUM Tape

A CUM tape is a cumulative maintenance tape that contains recent, generally-available fixes that have not yet been merged into their base functions. The CUM tape applies only to SMP/E installation and is used to supplement SMP/E installations.

The cumulative maintenance tape may be updated when

- a new PUT tape is created

All PTFs and APARs on the PUT tape are added to the cumulative maintenance tape. However, if an APAR is incorporated into a maintenance update concurrently with the creation of a PUT tape, that APAR is not added to the cumulative maintenance tape.

- a new product release is made generally available (GA)

All PTFs and APARs needed to create the GA level of the product are added to the cumulative maintenance tape. However, if an APAR is incorporated into a maintenance update concurrently with the release of a new product, that APAR is not added to the cumulative maintenance tape.

- a severe product defect requiring an immediate fix is identified

These types of fixes are called HIPER (High Impact/PERvasive). HIPER PTFs and APARs are added to the cumulative maintenance tape as soon as they are verified by BMC Software customers.

Conventions

This section describes conventions and terms that BMC Software uses during the software installation process. See the “Glossary” for other terms that appear in this guide or other BMC Software documentation.

Making Selections

Throughout the installation system you are requested to make selections on dialog panels. Unless otherwise stated, you select an item by typing the character / (“forward slash” character) or the character **s** in the appropriate space near the item, then pressing **Enter** to continue.

Keys and Commands

The installation system panels can provide messages at the bottom to indicate which function keys are active. By default, the active function keys are not displayed. To display the active keys, type the ISPF command **PFSHOW** on the command line and press **Enter**.

Note: Some installation system panels use every available line of a panel to display input variables. Enter the ISPF command **PFSHOW OFF** on the command line to display all the variables.

You can use the following commands and function keys to help you move through the installation system panels. You enter commands on the ISPF command line.

- **HELP** or **F1** displays the Help panel for the current panel.
- **END** or **F3** *does not save changes* and returns to the installation system Main Menu.
- **CANCEL** or **F12** *saves any changes* and returns to the previous panel.
- **Enter** accepts the defaults or changes and continues to the next panel.

The following function keys help you navigate the installation system help panels:

- **F3** exits the Help panel and returns to the current dialog panel.
- **F12** returns to the previous page of a multiple-page help panel.
- **Enter** continues to the next page of a multiple-page help panel.

Data Set Names

The installation system uses ISPF conventions when processing data set names. When you specify a data set name, the installation system determines whether the TSO/E PROFILE NOPREFIX option is in use. If it is in use, the installation system does not append a prefix to the data set name. The maximum length for data set names is 44 characters, including the prefix if one is used.

Symbolic Variables

The installation system frequently uses symbolic variables in data set names, data set prefixes, and job-statement information. A symbolic variable is a variable name with an ampersand (&) prefix. In the installation system, most occurrences of symbolic variables are related to keyword values that you specify in the product options.

While assembling product options, macro processing attempts to resolve all symbolic variables in the listing. Most of the symbolic variables are resolved when JCL is generated from one of the BMC Software products. To prevent errors, the installation system doubles the ampersand for all symbolic variables when necessary.

The double-character rule also applies to

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

The following table illustrates the use of double characters:

Variable	Result
&&	&
”	,
..	.

Naming Conventions for Product Packaging

The BMC Software naming convention classifies various product components while allowing for future expansion. The convention reflects product line organization and classifies machine-readable data used during installation as SMP/E setup, product installation, or product-specific information.

System Modifications (SYSMODs)

BMC Software classifies SYSMODs by product line and type. The name is seven characters in length and is formed as *Btpffvv* or *Btpnnnn* where

- B represents BMC Software.
- *t* indicates the SYSMOD type as indicated in the table below:

Value for <i>t</i>	SYSMOD Type
B	Function
A	APAR
P	PTF

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

- *p* indicates the product line.
- *ff* is a two-character identifier used only for a function SYSMOD.
- *vv* is a two-digit version number used only for a function SYSMOD.
- *nnnn* is an APAR or PTF number within the product line.

The following examples show the three different types of SYSMODs:

B (in the second character position) indicates function SYSMODs.
Examples: BBBBX16 and BBIBA26

A (in the second character position) indicates APAR SYSMODs.
Examples: BAB0001 and BAI0002

P (in the second character position) indicates PTF SYSMODs.
Examples: BPB0123 and BPI0456

Naming Conventions for Standard and SMP/E Media Sets

This section describes the naming conventions used for product tapes. These names appear on the tape files. Naming conventions are required to avoid conflicts between system and product data sets.

The following conventions apply for both Standard and SMP/E data sets. Uppercase characters represent literal character strings. Lowercase characters (which are also italicized) represent variables. The \$ prefix identifies data sets that require special handling.

Data Set Name Variable	Description
<i>tlibname</i>	target or runtime library DD or DDDEF name
<i>dlibname</i>	distribution or maintenance library DD or DDDEF name
<i>ppp</i>	three-letter product code
<i>Rnnn</i>	release number
<i>fname</i>	function name
<i>ppprrr</i>	three-letter product code and release number

The release number in the above descriptions can include a combination of 1-digit or 2-digit version, release, and modification levels. All of the numbers in the version, release and modification number are used in the data set naming conventions. For example, version 1.1.00 would be 1100.

Standard Tape Data Set Naming Conventions

The following naming convention identifies product data sets that are unloaded from a distribution tape for a Standard installation:

BMC.ppprrrr.tlibname

BMC.ppprrrr.dlibname

BMC.ppprrrr.UCLIN.DLIB.CSI

BMC.ppprrrr.UCLIN.TARGET.CSI

SMP/E Tape Data Set Naming Conventions

The following naming convention identifies product data sets on the product tape that are unloaded from a distribution tape for an SMP/E installation:

SMPMCS

BMC.*ffname*.Fnn

To use the high-level qualifier, BMC, the RFDSNPFEX parameter is required in the header for the SMPMCS of all product FMIDs.

Chapter 2 Preparing for Installation

This chapter contains the following topics:

Installation Preparation Overview	2-2
Using the Installation Checklist Generator	2-2
Features of the Installation Checklist Generator	2-2
Running the Installation Checklist Generator	2-3
Using a Worksheet (Optional)	2-3
Obtaining Product Passwords	2-4
Determining Space Requirements	2-4

Installation Preparation Overview

Advanced planning assures a fast and error-free installation. BMC Software provides a dynamic checklist generator to help with your planning and organization. Many products also include printed worksheets that identify installation requirements.

Review the cover letter and Release Notes that are shipped with your product for password information, system requirements, and other information that you will need before proceeding with the installation.

Using the Installation Checklist Generator

To prepare for installing your BMC Software products, use the Installation Checklist Generator utility, which is available on your documentation CD or the BMC Software Web site.

Features of the Installation Checklist Generator

The Installation Checklist Generator allows you to select a set of BMC Software products and produce an integrated checklist that outlines each step you need to complete for a successful installation.

The checklist provides

- preparation steps you need to complete and the items you need to assemble before you start the installation process
- installation tasks that will help you run the installation system to successfully complete the installation process
- customization tasks that you need to complete to get your product running

Some products use a customization utility that you run through the installation utility, on its own, or both. Some products describe the customization tasks you need to perform within the product-specific documentation.

Each checklist also provides references to additional information for each task.

Running the Installation Checklist Generator

Note: The Installation Checklist Generator runs only with Microsoft Internet Explorer 4 or later. Future versions of the Installation Checklist Generator will support Netscape Navigator.

You can run the Installation Checklist Generator in the following ways:

- From the BMC Software Web site (which provides the most current information):
 1. Visit the OS/390 and z/OS Installer page on the BMC Software Web site at http://www.bmc.com/support/bmcsoftware_install.
 2. Log on and click the link for the Installation Checklist Generator.

(To log on, first-time users can request a user name and password by registering at the support page; you can request a temporary user name and password from your BMC Software sales representative.)

- From the documentation CD:
 1. View the contents of your documentation CD in Windows Explorer.
 2. Double-click the name of the documentation launch file (as described on the CD insert).
 3. Click the link for the Installation Checklist Generator, as displayed in the launch file.

Using a Worksheet (Optional)

Another resource for installation planning is the product-specific installation worksheet, which is included in some products' customization guides. The worksheet contains a list of information you need to gather or decisions you should make before beginning the installation process, such as

- the high-level qualifier for data set names
- installation library and data set names
- installation JCL information
- the names of databases
- the decisions you will make during the customization process

Refer to the product-specific customization guide to see if the product you are installing includes a worksheet.

Obtaining Product Passwords

To activate a BMC Software product, you need to use the password for your product. A Password Request Form is included in your product shipment.

The installation system offers three ways to establish license authority to access and use BMC Software products:

- Review and edit the Product Authorization JCL that is packaged and unloaded with products, and submit the JCL outside of the installation system operation.
- Establish license authority within the installation system product customization feature.
- Access the License Management option from the installation system Main Menu. This option invokes the BMC Software Security Facility which is fully documented in Appendix A, “BMC Software Product Authorization.”

Note: Some BMC Software products can be authorized only during the product customization process.

Information about product authorization is included in product technical bulletins and Release Notes.

Determining Space Requirements

During the tape unload process, the installation system determines space requirements and automatically allocates various data sets according to the products that you selected for installation. The installation system displays the total space requirements for all products you selected.

You have the opportunity to increase the allocation for any or all data set types. You can specifically increase the allocation for any data set type, or you can specify that a percentage increase be applied to all data set allocations. You may not decrease space allocations.

Chapter 3 Using the Installation System

This chapter contains the following topics:

Getting Started	3-2
Unloading the Base Installation Libraries	3-3
Creating the Customized Installation Library	3-5
Running the Installation System	3-7
Starting the Installation System	3-8
Managing Profiles	3-10
Specifying User Options	3-12
Generating Installation JCL	3-14
Customizing Products	3-16
Generating Jobs to Perform Product Maintenance	3-21
Managing Product Licenses	3-23
Cancelling the Installation	3-25

Getting Started

Before running the installation system, you must first unload the installation system from the distribution media and create an installation environment, as follows:

1. Create and submit the initial unload JCL that unloads the base installation libraries from the installation system tape. This task is described on page 3-3. You can model your initial unload JCL after the example in Figure 3-1 on page 3-4.
2. Execute the REXX exec included in the base installation libraries that invokes the installation system to create your customized installation library. This task is described on page 3-5.

After performing these steps, you are ready to install and customize products, or apply maintenance to products.

Unloading the Base Installation Libraries

Summary: The base installation tape contains an installation library and a load library. Use the following procedure to unload the base installation libraries from the distribution media.

Note: This procedure unloads only those files that you use during the installation process. It does not unload any product files from the media.

Before You Begin

Consider the following information before you unload the base installation libraries:

- Review the release notes, technical bulletins, and flashes that are included with the product. These notices contain additional information about the products on the media, including information that may have been added after this book was published.
- At times it might be necessary to cancel the installation process and revert to the previous level of a product or a product tape set. To ensure that you can revert to conditions prior to this installation, you should back up your current version before you begin the installation process. Copy and save your current installation and product libraries.
- When you install products, BMC Software recommends that you use unique plan names, table names, repository names, and qualifier names.

To Unload the Base Installation Libraries

Step 1 Create a batch job, similar to the one shown in Figure 3-1, that copies two files from the base installation tape, as follows:

- 1.A** Unload File 1 into the load library that the installation system will use (for example, BMC.INSTALL.LOAD).
- 1.B** Unload File 2 into a data set with the low-level qualifier INSTALL (for example, BMC.INSTALL).

Note: In Figure 3-1, the variable `BMIymd` represents the base installation tape `VOLSER`.

Figure 3-1 Unload Job for the Installation System

```

//IINST JOB (ACCOUNT)
//*
//*
//UNLOAD EXEC PGM=IEBCOPY
//SYSPRINT DD SYSOUT=*
//SYSUT3 DD UNIT=SYSDA,SPACE=(TRK,(1,1))
//SYSUT4 DD UNIT=SYSDA,SPACE=(TRK,(1,1))
//BMCTLOAD DD DSN=BMC.INSTALL.LOAD,DISP=OLD,VOL=SER=BMIymd,
// UNIT=TAPE,LABEL=(1,SL,EXPDT=98000)
//*
//BMCTINST DD DSN=BMC.INSTALL,DISP=OLD,VOL=SER=BMIymd,
// UNIT=AFF=BMCTLOAD,LABEL=(2,SL,EXPDT=98000)
//*
//BMCILOAD DD DISP=(,CATLG,DELETE),DSN=your.name.INSTALL.LOAD,
// UNIT=SYSDA,SPACE=(CYL,(5,1,40)),
// DCB=(RECFM=U,BLKSIZE=23476)
//*
//BMCIINST DD DISP=(,CATLG,DELETE),DSN=your.name.INSTALL,
// UNIT=SYSDA,SPACE=(CYL,(40,5,700)),
// DCB=(RECFM=FB,LRECL=80,BLKSIZE=6160)
//*
//SYSIN DD *
COPY I=BMCTINST,O=BMCIINST
COPY I=BMCTLOAD,O=BMCILOAD

```

Step 2 Submit the batch job to unload the base installation libraries.

Where to Go from Here

After you have unloaded the base installation libraries, you are ready to create the customized installation library.

Creating the Customized Installation Library

Summary: After you have unloaded the installation library and the load library from the base installation media, you must create a site-specific installation environment. You can do this by running a REXX exec that starts the installation system. The installation system creates the customized installation library. You can run the REXX exec from the TSO Commands Utility panel. (This panel is displayed if you choose the Command option from the ISPF/PDF Primary Option menu.) You can also run the REXX exec from any ISPF command line.

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

Before You Begin

Complete the steps in “Unloading the Base Installation Libraries” on page 3-3.

The installation system uses the `ZUSER` symbolic to create temporary data sets for the installation process and to identify the installer in the comments of the installation `JCL`. If you prefer to use `ZPREFIX` instead of `ZUSER`, you must edit member `HLQ.INSTALL (BMICX00)`. In member `BMICX00`, find the keyword `UNCOMMENT` and follow the instructions that are provided.

To Start the Installation System

Step 1 In the TSO Commands Utility panel, type the following command:

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

For example, the following command uses the high-level qualifier `BMC.BMCI`:

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

Note: BMC Software recommends that you use a unique high-level qualifier.

The installation system displays the BMC Installation Configuration panel (Figure 3-2 on page 3-6).

Figure 3-2 Initial Installation Configuration Panel

```

BMC Software Installation Configuration V1.1.00 Initial Menu
Command ==> _____

Welcome to the BMC Software Installation and Customization System.  The first
step of this process is the creation of a Customized Installation Library.  It
is from within this library that you will unload, customize, and maintain the
BMC Software products that you have purchased.

The Installation System has determined that you are using this process for the
first time and has preselected the Create option for you.

                                Press Enter to continue.

                                S  Create New Customized Installation Library

Install notes:  F1=Help, F3=Exit, F12=Previous Panel
                Selection is by / or S unless panel states otherwise

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```

Step 2 The Create New Customized Installation Library option is preselected. Press **Enter** to continue.

Step 3 Select the installation method that will be performed, either SMP/E or Standard, and press **Enter**.

Warning! You must specify the installation method that matches what you ordered from BMC Software. If you indicate the wrong method, your installation will not be successful.

Step 4 Specify a name for your customized installation library and provide job card information as requested. Press **Enter**.

Step 5 Specify the VOLSERS for your product distribution tapes, and press **Enter**.

The system displays the JCL that creates your customized installation library. Review the comments at the beginning of this job.

Step 6 Submit the JCL to create the customized installation library.

Note: Press **F3** to end this procedure and return to the initial panel.

Where to Go from Here

After creating your customized installation library, you are ready to run the installation system.

Running the Installation System

Now that you have created your customized installation library, you can run the installation system to perform installation tasks such as

- unloading products from the distribution media
- customizing products for execution on your system
- applying maintenance to enhance functionality and correct problems
- establishing password authority to run the installed products

The installation system also allows you to customize the installation process and save installation variables in profiles. You can retrieve these profiles for subsequent installations and restarts.

You start the system from an ISPF command procedure. If you used the same high-level qualifier for both the installation library and the load library when they were unloaded from the base installation tape, the installation system will know the location of the appropriate load library. Otherwise you will be prompted for the name of the load library that was delivered with the installation system.

The remainder of this section describes the tasks necessary to start the installation system and perform the various functions of the system.

Starting the Installation System

Summary: Use this procedure to start the installation system and display the Main Menu, which provides access to the primary functions that are available.

Before You Begin

Complete the steps in:

- “Unloading the Base Installation Libraries” on page 3-3
- “Creating the Customized Installation Library” on page 3-5

To Start the Installation System

Figure 3-3 Installation Configuration Panel

```
BMC Software Installation Configuration V1.1.00 Initial Menu
Command ==> _____

Welcome to the BMC Software Installation and Customization System. The first
step of this process is the creation of a Customized Installation Library. It
is from within this library that you will unload, customize, and maintain the
BMC Software products that you have purchased.

If you are executing this process for the first time for this release,
select to create a new Customized Installation Library. Otherwise, select
to Install and Customize your BMC Software Products and Solutions.

Select an option then press Enter to continue.

_ Create New Customized Installation Library
S Install and Customize Products and Solutions

Install notes: F1=Help, F3=Exit, F12=Previous Panel
Selection is by / or S unless panel states otherwise

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```

From the Installation Configuration Initial Menu (Figure 3-3), select Install and Customize Products and Solutions, and press **Enter**.

The Main Menu (Figure 3-4 on page 3-9) is displayed.

Figure 3-4 Installation System Main Menu

```
BMC Software Installation System V1.1.00 - Main Menu
Command ==> _____
Manage Repository/Profile option preselected. Press Enter to continue.

/ Manage Repository/Profile Create, Browse, Copy or Delete Existing Profile.

User Options                Specify User Parameters for Installation.

Product Install             Specify Product(s) to Unload.

Product Customization       Specify Product(s) to Customize.

Additional Options          Product Cloning, Maintenance, Security, etc...

CICS, DB2, IBM, IMS and MVS are registered trademarks of International
Business Machines Corp.
```

Where to Go from Here

You are now ready to perform installation system functions. If you are running the installation system for the first time, you are restricted to creating a profile repository before you can proceed with other functions.

Managing Profiles

Summary: This procedure describes how to create a repository for storing installation profiles. A profile is a data set containing installation variables and customization options. The Profile Management feature allows you to reuse profiles from earlier installations.

Before You Begin

Start the installation system as described on page 3-8.

To Create a Profile Repository

Step 1 Select Manage Repository/Profile from the installation system Main Menu, and press **Enter**.

Note: If you are running the installation system for the first time, Manage Repository/Profile is the only selection available from the Main Menu.

The system displays the Repository/Profile Options menu shown in Figure 3-5.

Figure 3-5 Repository/Profile Options Menu

```

BMC Software Install Repository/Profile Options
Command ==> _____

Change options as necessary. Press Enter to continue.

Repository Data Set . . . . . <HLQ.CUSTOMER.DEFINED.BMCREPO>
Repository Storage Class . . . . . _____ (Specify Value if Required for SMS)
Repository Management Class . . . . . _____ (Specify Value if Required for SMS)
Repository Data Class . . . . . _____ (Specify Value if Required for SMS)
Repository VOLSER . . . . . _____ (Blank to use Installation Volume)

Repository Profile ID . . . . . BMCI (ID containing Installation Parameters)
Profile System Name . . . . . <system ID>
Profile Data Set HLQ . . . . . _____ (30 char. max)
Profile Data Set Description . . . . . _____

Copy/View Previous Profiles . . . . . (Y/N) - Function Not Available
Reset Profile ID. . . . . (Y/N) - Function Not Available
Review Variables. . . . . Y (Y/N)

Entry Field Delimiter . . . . . 3 (1.Underscore 2.Reverse Video 3.None)
    
```

Step 2 Specify a repository data set name.

Step 3 Specify the Storage Class, Management Class, and Data Class for the repository if required for the Storage Management System (SMS).

Step 4 Specify the repository VOLSER.

Step 5 Specify a repository profile ID for the installation parameters.

The installation system uses the ID that you specify and the suffix *PROF* to form the profile member name. The ID can be up to four characters long. The installation system stores the profile in the following locations:

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

Warning! If you use an existing profile, you must review the installation parameters carefully. Failure to change the required parameters during the new installation procedure can cause severe errors when you submit the installation JCL. For example, if you do not change a DB2 plan name from a previously specified value, you can overwrite a plan that your current installation uses.

Step 6 Specify a profile data set high-level qualifier and description in the fields that are provided.

Step 7 Verify that the default values on the panel are correct. Type over any values to make changes. Press **Enter** to save all values and return to the Main Menu.

Where to Go from Here

After creating a profile repository, you can proceed to User Options on the Main Menu.

Specifying User Options

Summary: This procedure describes how to specify user options that determine how the installation system runs and where it stores the installation JCL. If you are running the installation system for the first time, you are required to specify parameters before continuing with any task. User options that you specify remain in effect for all subsequent installation tasks until you change them.

Before You Begin

Before you specify the user options, you must complete the following tasks:

- Unload the installation system, as described on page 3-3.
- Start the installation system, as described on page 3-8.
- Create a profile repository, as described on page 3-10.

To Specify User Options

- Step 1** From the installation system Main Menu, select User Options and press **Enter**.
- Step 2** Select an Installation/Customization Mode.
- *Basic* installation limits the number of panels that are shown for most products to the common installation panels.
 - *Advanced* installation displays all of the option panels for each product, in addition to the common installation panels.
- Step 3** Select a Navigation Method.
- *Automatic Navigation* presents a step-by-step display of required parameters. You must complete one set of parameters before proceeding to the next set.
 - *User Controlled Navigation* allows you to complete only those steps you wish to complete. This method ensures that steps are performed in the correct order. At some sites, several people may be involved with the installation and customization. This method allows skilled individuals to address only those steps for which they are qualified.
- Step 4** Specify an Installation JCL Data Set to contain the JCL that the installation system generates.

Use a data set name of your choice. This output JCL data set contains

- all of the jobs that are used to install the selected products
- most of the CLISTs that are used to run the selected products (Some products do not require CLISTs in the installation JCL.)

Step 5 Specify the Storage Class, Management Class, and Data Class for the Installation JCL if required for the Storage Management System (SMS).

Step 6 Specify the Installation JCL VOLSER.

Step 7 Press **Enter** to save your changes and return to the installation system Main Menu.

Where to Go from Here

After specifying user options, you can unload products from the distribution media.

Generating Installation JCL

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

Before You Begin

Before you use the installation system to generate the installation JCL, complete the following tasks:

- Unload the installation system, as instructed on page 3-3.
- Start the installation system, as instructed on page 3-8.
- Specify the user options, as instructed on page 3-12.

To Generate the Installation JCL

Step 1 From the installation system Main Menu, select Product Install and press **Enter**.

Note: If you have previously run the installation system, you will see a Checkpoint panel. You can choose to start over or you can resume from one of the listed checkpoints.

The Product Selection panel lists all of the products available in the customized installation library that you created when you first ran the installation system.

Step 2 On the Product Selection panel, choose the products that you want to install and the installation path for each product.

Step 3 Press **Enter** to continue.

The installation system presents a series of panels that request information for each product you chose in Step 2.

Step 4 Review your installation choices. If necessary, modify the choices as instructed on each panel. When you are satisfied with the choices, press **Enter** to continue.

Step 5 Generate the batch jobs to unload the products from the distribution media.

5.A In the JCL Generation Option panel, specify one of the following options:

- Generate installation batch jobs in the data set that you entered in “Specifying User Options” on page 3-12.

This option generates the batch jobs that unload the product libraries from the media. If installation batch jobs already exist in the specified data set, they are overwritten. The status of the JCL generation is updated on the panel as it occurs.

- Skip batch-job generation and display the next panel. No installation batch jobs are created.

5.B Press **Enter** to generate the batch jobs.

If you chose to generate the batch jobs, the installation system creates the batch job streams that are used for product installation.

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

Review the product documentation for additional installation requirements.

Step 6 Submit the generated JCL to complete the installation.

6.A If you are performing a Standard installation, refer to “Running JCL for a Standard Installation” on page 4-2 for information about the JCL you have generated and instructions for submitting those jobs.

6.B If you are performing an SMP/E installation, refer to “Running JCL for an SMP/E Installation” on page 4-4 for additional information you must consider before submitting these jobs.

Step 7 Press **F3** to exit the JCL Generation process.

Where to Go from Here

You can proceed directly to the product customization dialog or you can return to the installation system Main Menu. In most cases you will need to perform product customization before the product is ready for execution.

Customizing Products

Summary: Customization assigns values to default options and prepares a product for execution. Usually you perform customization when a product is first installed, but you can perform customization anytime a product must be modified. This procedure explains how to run the AutoCustomization utility when accessed through the installation system Main Menu.

Overview of AutoCustomization

AutoCustomization is an interactive, online ISPF dialog provided by BMC Software to customize the installed BMC Software products.

AutoCustomization minimizes mistakes, propagates information for shared customization steps, allows you to browse steps before you perform them, and marks each step as it is completed. You can also bypass steps if you prefer to perform the steps manually.

You can get help at any time during AutoCustomization by typing **HELP** on the command line or pressing the help key (**F3**). Requesting help at the first customization panel provides an overview of AutoCustomization.

After you select one or more products, AutoCustomization presents a comprehensive list of sequentially numbered steps you must complete before the product is operational. The number of steps varies depending on the product. Most of the steps are required, but some are optional.

BMC Software recommends that you browse all the steps and compile a list of questions or required information prior to selecting steps in AutoCustomization. Having all the information in advance allows you to answer the questions promptly and helps you proceed through the AutoCustomization process in a more efficient manner.

Note: Although you can browse steps in any order, you must select and complete steps in the order given, because many steps share the information given in previous steps. Each step must be selected, even if it is optional and will be bypassed.

When all required steps are marked as completed, the product is operational. When you return to the product list from the step list, the status of the product changes from UNMODIFIED to OPERATIONAL.

However, if you bypass any required steps in the list of numbered steps and then return to the product list, the status of the product is changed to INCOMPLETE and the product is not operational.

Alternatives to Running AutoCustomization Through the Installation System

You can run AutoCustomization from an ISPF command line, independent of the installation system.

You can also customize your products manually, without using the AutoCustomization utility.

Running AutoCustomization from a Command Line

You do not need to allocate any libraries or modify panels before running AutoCustomization. To run AutoCustomization, follow these steps:

1. On any ISPF panel command line, type the following:

```
TSO EX 'HLQ.BBCLIB(BBCUST)'
```

2. Press **Enter**.
3. Supply the high-level qualifier of your target libraries, as requested by AutoCustomization.
4. Press **Enter**.

AutoCustomization displays the Product Customization menu, where you can choose a product to customize.

Manually Customizing Products

While AutoCustomization allows you to perform the minimum steps required to make your product operational, manual customization allows you to customize your products to best suit your needs.

A list of all the products that you can manually customize and additional information is located in the *MAINVIEW Common Customization Guide*. This document also describes access authority required for manual customization.

Before You Begin

Install your BMC Software products as instructed in “Generating Installation JCL” on page 3-14.

Note: Review your product's Release Notes to determine if there are unique customization requirements. If the Release Notes do not specify any additional information, follow the steps in this section.

To execute AutoCustomization, you must use ISPF/PDF 2.3 or higher. You must ensure write access to the following items:

- SYS1.PARMLIB
- a JES procedure library (SYS1.PROCLIB or equivalent)
- a previously APF-authorized load library
- SYS1.VTAMLST or equivalent for MAINVIEW Alternate Access

For any additional authorization requirements for the product you are customizing, see the documents shipped with your product. These documents also describe any additional customization that you might need to perform to implement optional product functions.

Note: If you installed BMC Software products in multiple target and distribution zones, you must run AutoCustomization for each set of target libraries and distribution libraries.

To Customize Installed Products

Step 1 From the installation system Main Menu, select Product Customization and press **Enter**.

Step 2 If prompted, enter the high-level qualifier of your product libraries and press **Enter**.

The Product Customization Menu displays a list of your products and the status of each. An example Product Customization Menu is shown in Figure 3-6.

Figure 3-6 Example Product Customization Menu

```

BMC Software ----- PRODUCT CUSTOMIZATION ----- Row 1 of 6
COMMAND ===>                                     SCROLL ===> HALF

Valid line command:                               Valid primary commands:
S - Select a product for customization            MAINT - Recustomize all products after
  (you may select more than one)                  applying SMP maintenance
                                                    HELP  - Display an overview of this
                                                    product customization dialog

-----
Product                Status
-----
AUTOOPERATOR           INCOMPLETE
CMF MONITOR             INCOMPLETE
INTUNE                  OPERATIONAL
MAINVIEW Alarm Manager OPERATIONAL
MAINVIEW FOR MQSERIES  INCOMPLETE
MAINVIEW FOR OS/390    INCOMPLETE
    
```

Step 3 Select a product to customize, and press **Enter**.

The Product Customization Steps Menu displays the steps required to customize a product and the status of the customization. An example Product Customization Steps Menu is shown in Figure 3-7.

Figure 3-7 Example Product Customization Steps Menu

```

BMC Software ----- PRODUCT CUSTOMIZATION STEPS ----- ROW 1 TO 15 OF 21
COMMAND ==>
                                           SCROLL ==> HALF
Valid line commands:
- Select a step. (Must be selected in sequence) -----
B - Browse a step. (No actions will be taken and      + completed   o optional
                    may be browsed out of sequence) - bypassed

Step S F  Description
-----
 1  +   Specify jobcards and other operational defaults      SHR
 2  + o  Implement GDDM/PGF support                          SHR
 3  + o  Determine if support for Katakana terminals is required  SHR
 4  +   Create site data sets for use with MAINVIEW products    SHR
 5  + o  Create historical data sets for use with MAINVIEW products  SHR
 6  +   Add our load library to your system APF list            SHR
 7  - o  Add our load library to your system linklist          SHR
 8  +   Create Clist for invoking MAINVIEW products            SHR
 9  + o  Reload all BBX services                              SHR
10  +   Create procedure to start the CAS (Coordinating Address Space)  SHR
11  +   Create procedure to start the COMMON STORAGE MONITOR (CSMON)  SHR
12  +   Allocate WKLDFILE and PARMFILE data sets for MVS products    SHR
13  + o  Copy sample CMF MONITOR parameter members from BBPARM to UBBPARM  CMF
14  + o  Copy sample CMF Online screen definitions from BBSAMP to SBBSDEF  CMF
15  + o  Assemble and link the JES offsets CSECT                CMF

```

Step numbers are listed on the left side of the screen. To the right of each step number is the status indicator which can be one of the following:

- A plus sign (+) indicates that a step was completed by AutoCustomization.
- A minus sign (-) indicates that a step was bypassed.

The status indicator is blank initially. The indicator changes to a minus sign if the step is selected but bypassed. The indicator changes to a plus sign when the step is completed.

To the right of the status indicator is an indicator for optional steps (o).

On the far right of the screen is the Product step indicator. This indicates whether the step is shared (SHR) or product-specific. In the example shown in Figure 3-7, Step 1–12 are shared steps (indicated by SHR under Product). Step 13–15 are product-specific steps (indicated by the product name abbreviation under Product).

Step 4 On the Product Customization Steps Menu, you can either browse or select customization steps as follows:

- Browse a customization step by typing **B** in the space to the left of the step number you want to browse, then press **Enter**.

Note: You can browse steps in any order; there are no sequential restrictions.

When you browse a step, AutoCustomization displays a screen containing information specific to that product. Each step may have several screens, each with questions centered around customizing the installation of the product.

- Select a customization step by typing **S** in the space to the left of the step number you want to select, then press **Enter**.

Note: You must select steps in the given order. Because the information you provide in one step may be used in a later step, it is necessary to complete each step before continuing to the next.

After the step is complete (or bypassed), AutoCustomization returns to the list of steps. The status of the selected step is updated.

Step 5 You may exit AutoCustomization prior to completing the customization of a product. The status of each step remains as you left it until you continue AutoCustomization.

The status of the product on the Product Customization Menu changes to INCOMPLETE. When all required steps are marked as complete, the product status changes from UNMODIFIED to OPERATIONAL.

Where to Go from Here

Perform any other necessary steps for implementing each specific product and then verify that the product works properly by using it as described in the appropriate reference or user guide for that product.

For any additional authorization requirements for the product you are customizing, see the documents shipped with your product. These documents also describe any additional customization that may need to be done to implement optional product functions.

Generating Jobs to Perform Product Maintenance

Summary: BMC Software delivers maintenance tapes to upgrade products or repair problems. The Product Maintenance feature manages product maintenance. This procedure produces batch jobs in your installation JCL library. Submitting the JCL performs maintenance on your products.

Before You Begin

If you performed a product installation using the Standard method, you must download SMP/E libraries before applying product maintenance. You can do this by running the \$B90SMPE job that was created when you initially generated your installation JCL. Refer to “Running JCL for a Standard Installation” on page 4-2 for more information.

To Generate Product Maintenance JCL

- Step 1** Select Additional Options from the installation system Main Menu, and press **Enter**.
- Step 2** Select Product Maintenance from the Additional Options Menu, and press **Enter**.
- Step 3** The installation system presents panels that request job card information and maintenance tape VOLSER identification.

Supply all necessary information when prompted.

Note: If you receive an error message indicating an invalid profile, you must correct the problem and repeat the product maintenance procedure. There are two methods of providing a valid profile:

- Select User Options from the Main Menu, and specify the user profile that was used during the product installation.

Repeat the procedure to generate product maintenance JCL.

- Select Product Install from the Main Menu, and generate installation JCL for the products requiring maintenance. Do not submit the installation JCL.

Repeat the procedure to generate product maintenance JCL.

- Step 4** Generate the batch jobs to apply maintenance to installed products.

4.A In the JCL Generation Option panel, specify one of the following options:

- Generate installation batch jobs in the data set that you entered in “Specifying User Options” on page 3-12.

This option generates the batch jobs that apply maintenance to your installed products. If maintenance batch jobs already exist in the specified data set, they are overwritten. The status of the JCL generation is updated on the panel as it occurs.

- Skip batch-job generation and display the next panel. No installation batch jobs are created.

4.B Press **Enter** to generate the batch jobs.

If you chose to generate the batch jobs, the installation system creates the batch job streams that are used for applying product maintenance.

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

The installation system generates and displays the JCL that performs maintenance on your products. The maintenance jobs are located in the JCL library that you designated in your user options and are identified with a “\$M” prefix.

Step 5 Review the generated JCL. You can edit the jobs if necessary.

Step 6 Submit the maintenance JCL in the order listed to apply product maintenance.

Note: It is not necessary to submit the generated jobs from within this procedure. You can submit the jobs from your JCL library at any convenient time.

Where to Go from Here

When you complete the product maintenance dialog, you can return to the Main Menu to perform other installation system tasks or you can exit the installation system.

Managing Product Licenses

Summary: When Customer Password Response of BMC Software processes a license agreement for a product, it issues *CPU authorization passwords*. You need a password before you can run a product. This procedure describes how to enter a password using the BMC Software Security Facility.

Before You Begin

Before selecting the License Management option, you must complete the following tasks:

- Specify user options as instructed on page 3-12.
- Review Appendix A, “BMC Software Product Authorization.”
- Obtain your BMC Software product authorization passwords.

Note: Review your product's Release Notes to determine if your product has unique licensing requirements. If the Release Notes do not specify any additional information, follow the steps in this section.

To Invoke the BMC Software Security Facility

Step 1 From the installation system Main Menu, select Additional Options.

Step 2 From the Additional Options menu, select Product Authorization.

Step 3 From the displayed list of products, select a product that requires authorization.

At this point the installation system automatically invokes the Security Facility.

Step 4 Provide the information as requested. (The Security Facility is fully documented in Appendix A, “BMC Software Product Authorization.”)

Step 5 After completing the required tasks within the Security Facility, the system returns to the list of products. Repeat Step 3 and Step 4 for each product that requires authorization.

Step 6 Press **F3** to exit the Security Facility and return to the installation system Main Menu.

Where to Go from Here

You can now use your BMC Software product as specified in your license agreement.

Cancelling the Installation

At times it might be necessary to cancel the installation and revert to the previous level of a product. For this reason, you should ensure that a complete backup of your current system is available before you begin the installation process.

When you generate installation JCL, jobs are automatically created that will restore your system to conditions prior to the installation. These jobs are located in the installation JCL library that you specified when you provided user options.

Table 3-1 describes these utility jobs.

Table 3-1 Installation System Utility Jobs

Member Name	Description
\$B00UDOC	contains relevant information about the installation and descriptions of generated jobs. Read this member before submitting any JCL.
#D99DCSI	deletes global, target, and distribution zones that were created during an SMP/E installation
#D98DTGT	removes all product data sets from your target libraries
#D99DDL B	removes all product data sets from your distribution libraries
\$99DUCL	removes UCLIN data sets that are not needed after a Standard installation ACCEPT job has been run

Chapter 4 Running Installation JCL

This chapter contains the following topics:

Overview	4-2
Running JCL for a Standard Installation	4-2
Running Standard Installation JCL	4-3
Running JCL for an SMP/E Installation	4-4
Checking for PTFs in Error	4-5
Processing PTF HOLD Data	4-6
Setting Up the SMP/E Environment	4-6
Preparing an Existing SMP/E Environment	4-8
Creating a New SMP/E Environment	4-11
Installing the Product Libraries with SMP/E	4-12
Allocating and Constructing Product Data Sets with SMP/E	4-14
Running JCL to Perform Maintenance	4-17
Preparing for SMP/E Maintenance	4-18
Performing SMP/E Maintenance	4-19

Overview

If you completed the procedures in Chapter 3, “Using the Installation System,” the installation system generated jobs in your *HLQ*.JCL library. This chapter guides you through reviewing and running those jobs to complete the installation process. The procedures for running the jobs vary, depending on which installation method you use.

- If you are installing BMC Software products from Standard tapes, you must complete the procedure in “Running JCL for a Standard Installation.”
- If you are installing products from SMP/E-formatted tapes, you must consider environmental issues before running the JCL. “Running JCL for an SMP/E Installation” on page 4-4 provides details.

Running JCL for a Standard Installation

To install products from Standard tapes, run the JCL shown in Table 4-1. The remainder of this section provides instructions.

Running Standard Installation JCL

Summary: This procedure explains how to run JCL to install BMC Software products from Standard tapes. If you are using SMP/E tapes, go to page 4-4.

Before You Begin

Use the installation system to generate the JCL, as instructed in “To Generate the Installation JCL” on page 3-14.

To Run the JCL

Step 1 Review the jobs described in Table 4-1 that the installation system generated in your *HLQ*.JCL library. You can modify the JCL if necessary. When you are satisfied that the jobs are correct, proceed to the next step.

Table 4-1 Generated Jobs for a Standard Installation

JCL Member	Description
\$B00UDOC	provides documentation relevant to the unload JCL
\$B05UNLD	allocates libraries and unloads the products that you selected for this installation
\$B90SMPE	downloads an SMP/E environment for future maintenance

Step 2 Submit the \$B05UNLD job to unload the product data sets from tape.

Step 3 Submit the \$B90SMPE job to create an SMP/E environment for installed products.

Note: This step is optional for an initial installation but must be completed before applying SMP/E product maintenance.

The product unload is now complete. The product libraries reside in the data sets that you specified in your user options (page 3-12).

Where to Go From Here

Most products require customization before you can run them. You can return to the installation system Main Menu to select the product customization option or to perform other installation system tasks.

Running JCL for an SMP/E Installation

If you are installing products from SMP/E-formatted tapes, you must complete several tasks using the JCL generated by the installation system. Table 4-2 summarizes the tasks and provides references to detailed instructions:

Table 4-2 Tasks Required for an SMP/E Installation

Task	Reference
1. checking for PTFs in error	page 4-5
2. setting up the SMP/E environment	page 4-6
3. installing product libraries with SMP/E	page 4-12
4. allocating and constructing product data sets with SMP/E	page 4-14

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

- The SMP/E utility is described in these IBM publications:
 - *System Modification Program Extended User's Guide*
 - *System Modification Program Reference*
- BMC Software products have common components. When installing multiple BMC Software products into your SMP/E environment, you should install them into one set of target and distribution zones. SMP/E can then control the relationships among the components. Future products and enhancements to existing products may also share components distributed previously.

Warning! Do not install BMC Software products in zones that contain products distributed or manufactured by vendors other than BMC Software or IBM. BMC Software does not recognize the naming conventions of any vendor except IBM.

Also, if you are installing MAINVIEW AutoOPERATOR, you cannot install it into a zone with IBM products because of name conflicts with elements WTO and SUB.

Checking for PTFs in Error

You should not apply PTFs that are in error to your system. To determine whether your products have PTFs in error, check the most recent technical bulletins on the BMC Software Web site. For details about accessing the Web site, see “Customer Support” at the beginning of this guide.

The technical bulletins may indicate HOLD data for PTFs that are in error. Use the following procedure to process them. If none of your products have PTFs in error, you can proceed to “Setting Up the SMP/E Environment” on page 4-6.

Processing PTF HOLD Data

Summary: If you determine that HOLD data exists for PTFs in error, use this procedure to move that data to a HOLD data set.

Step 1 Create a data set for HOLD data processing as described in the IBM book, *System Modification Program Extended Reference*.

Step 2 Use the following MCS statements to enter exception SYSMOD HOLDDATA in your data set.

```
++HOLD ( _____ )  
    FMID ( _____ )  
    DATE ( _____ )  
    ERROR REASON ( _____ )  
COMMENT ( _____ )
```

Note: The installation system generates JCL members \$B50HOLD and \$B55LIST in the *HQL.JCL* library to process HOLD data. For descriptions of these jobs, see Table 4-4, “JCL to Install Product Libraries,” on page 4-12.

Step 3 To process HOLD data from your data set and list the exception SYSMODs, use JCL members \$B50HOLD and \$B55LIST.

Step 4 Review the hardcopy listings to determine whether any action needs to be taken.

Setting Up the SMP/E Environment

You must set up your SMP/E environment to prepare for installing the product libraries. The jobs in the *HQL.JCL* data set install BMC Software products into an existing environment or a new environment depending on your responses on the installation panels.

This section provides step-by-step instructions for preparing an existing environment (page 4-8) and for creating a new environment (page 4-11).

Upon completing the SMP/E installation dialog, the information job \$B00UDOC is generated. Select this job for browsing or offline printing. Review the contents for critical information about this installation.

Warning! Prior to 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.

Preparing an Existing SMP/E Environment

Summary: If during the installation process you chose to install your BMC Software products into an existing SMP/E environment, the installation system generated JCL in *HLQ*.JCL to create new target and distribution zones, if necessary, and relate them to an existing global zone. This procedure describes the generated jobs and considerations for running them.

Before You Begin

Use the installation system to generate the JCL, as instructed in “To Generate the Installation JCL” on page 3-14.

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

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

Review the following considerations for SMP/E zones.

Considerations for All SMP/E Environments with Existing Zones

For all SMP/E environments with existing zones, you need to consider the following issues:

- allocating space
- updating the global zone

Before installing your products, you must consider the number of directory blocks to allocate. Provide 400 directory blocks for the SMPTLIB. Failure to allocate these directory blocks can result in SMP/E errors. Verify that your DSSPACE parameters are as follows, where your site determines the *xxx* values: DSSPACE (*xxx,xxx,400*). The last parameter must be 400.

You can use the following sample UCLIN to make the correct allocation:

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

Also, make sure that the global zone is updated with a BMC Software entry. When new target and distribution zones share the same global zone, an SREL(BOOL) entry must be included in the global zone before you can install your products. The installation system generates the \$B20RELT job, which includes an SREL(BOOL) entry.

If an SREL(BOOL) entry is found in your global zone, it indicates that BMC Software products have previously been installed on your system.

Considerations for Existing Global, Target, and Distribution Zones

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

Considerations for Existing Global Zones with New Target and Distribution Zones

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

Note: If you are installing products that run in the BBI-SS PAS (MAINVIEW AutoOPERATOR, MAINVIEW FOCAL POINT, MAINVIEW for CICS, MAINVIEW for DB2, MAINVIEW for IMS, or MAINVIEW for DBCTL), a BBI-TS should be connected only to a BBI-SS PAS of the same release and maintenance level.

In order to install your products and apply maintenance, the new target and distribution zones must be related to the existing global zone. The installation system generates jobs \$B10CCSI and \$B25RELT, which allocate new target and distribution zones related to the same global zone.

To Prepare the Existing SMP/E Environment

Step 1 Review the following JCL:

JCL Member	Description
\$B10CCSI	creates new target and distribution zones
\$B25RELT	relates new target and distribution zones to an existing global zone and updates the global, target, and distributions zones with an SREL(BOOL) entry

Step 2 Submit the \$B10CCSI job to create new target and distribution zones.

Step 3 Submit the \$B25RELT job to relate new target and distribution zones to an existing global zone.

Where to Go from Here

Proceed to “Installing the Product Libraries with SMP/E” on page 4-12 to install your products in the SMP/E target and distribution zones.

Creating a New SMP/E Environment

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

Before You Begin

Use the installation system to generate JCL, as instructed on page 3-14.

To Create a New SMP/E Environment

Submit the following jobs in the order listed to define the new global, target, and distribution zones and non-VSAM data sets to SMP/E:

Table 4-3 JCL to Create a New SMP/E Environment

JCL Member	Description
\$B05CGBL	creates a global zone If AutoCustomization is used, the prefix for the product libraries must not be the same as the TSO user ID of the person conducting the installation.
\$B10CCSI	creates new target and distribution zone
\$B15CSMP	allocates non-VSAM data sets
\$B20RELT	defines BMC Software options to be used for RECEIVE, APPLY, and ACCEPT processing and relates new BMC Software target and distribution zones to a global zone To create new target and distribution zones only for BMC Software products, you must relate these zones to the global zone. A return code of 4 and ADD ASSUMED messages are normal. If the job ends with a higher return code, check the output and call your BMC Software technical support analyst.

Where to Go from Here

Proceed to “Installing the Product Libraries with SMP/E” to install your products in the SMP/E target and distribution zones.

Installing the Product Libraries with SMP/E

Summary: This procedure explains how to unload product libraries with SMP/E. It provides instructions on how to RECEIVE, APPLY, and ACCEPT product functions and maintenance, and how to define target and distribution libraries using jobs that the installation system generates.

Before You Begin

Complete an SMP/E installation as described in “Generating Installation JCL” on page 3-14.

To Install Product Libraries

Step 1 Review the jobs listed in Table 4-4.

Note: These jobs require special consideration before you submit them. Review all descriptions and notes. Make modifications if necessary.

Table 4-4 JCL to Install Product Libraries

JCL Member	Description
\$B30RECP	<p>receives product tapes</p> <p>Review the output, and write down the list of function modification IDs (FMIDs) received from the RECEIVE summary output. These FMIDs are used in the \$B35LIST job described below.</p> <p>Note that you should use the \$B35LIST and \$B40REJT instructions below only if you are installing your product(s) in the same target and distribution libraries as other BMC Software products.</p>
\$B35LIST	<p>lists the functions previously applied in target zones and accepted in distribution library zones</p> <p>Note that the installation system generates this member only if you are installing a product(s) in the same target and distribution libraries as other BMC Software products.</p> <p>Submit the job to list functions previously applied in target zones and accepted in distribution library zones.</p> <p>Compare the FMIDs on this output with the FMIDs you wrote down from the preceding \$B30RECP job. On the list you wrote down, note the FMIDs that are not duplicated in \$B35LIST. These are the new FMIDs that do not already exist, which you will later APPLY and ACCEPT.</p>

Table 4-4 JCL to Install Product Libraries

JCL Member	Description
\$B40REJT	<p>\$B40REJT rejects functions that were previously received, applied, and accepted. A subsequent SMP/E RECEIVE of functions that contain REWORK dates later than previously applied and accepted functions are not processed. These functions must be rejected selectively.</p> <p>Warning: Do <i>not</i> reinstall previously installed functions that are shipped with product upgrades.</p> <p>Note that 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 Software products.</p>
\$B30RECS	<p>receives the PTFs from the cumulative maintenance tape or program update maintenance tapes</p> <p>Before you submit \$B30RECS, be sure to review the ++HOLD, ++RELEASE summary report you received from BMC Software, noting the PTFs included on your maintenance tape.</p> <p>Because the maintenance tape includes maintenance for all BMC Software products, output from \$B30RECS may include ++VER messages that indicate maintenance for other products was not received. These diagnostic messages cause a step return code of 4.</p>
\$B50HOLD	<p>receives HOLD statements that are stored in your data set</p> <p>Note that you should do this step only if you called and received HOLD data from BMC Software Customer Support. (See "Checking for PTFs in Error" on page 4-5.)</p>
\$B55LIST	<p>lists HOLDDATA</p> <p>SYSMODs that are held because of errors are released automatically when an APAR or PTF resolves the error. SYSMODs held for documentation or action must be released with the BYPASS keyword in the APPLY JCL at the end of the \$B75APLY job.</p>
\$B60DOCL	<p>contains JCL to print PTF documentation from the maintenance tape</p> <p>Keep the product documentation, and insert it into the appropriate book.</p>

Step 2 Submit the JCL in the order listed.

Where to Go from Here

Proceed to "Allocating and Constructing Product Data Sets with SMP/E" to finish the installation process.

Allocating and Constructing Product Data Sets with SMP/E

Summary: To complete an SMP/E installation, you must allocate product data sets in target and distribution zones, and you must apply and accept all functions and maintenance. The installation system generates JCL that accomplishes these tasks. This procedure provides considerations and instructions for running the jobs.

Before You Begin

Complete the installation process for an SMP/E installation as described in “Generating Installation JCL” on page 3-14.

The installation system generates JCL to allocate and construct product data sets. Review the generated jobs listed in the following table:

JCL Member	Description
\$B27FSET	defines FMIDSETs for new target and distribution zones
\$B65ALOC	allocates target and distribution data sets for products
\$B70DDEF	defines data sets to SMP/E using DDDEF statements
\$B75APCK	performs APPLY CHECK for all functions and maintenance
\$B76APLY	applies all functions and maintenance
\$B80ACCK	performs ACCEPT CHECK for functions and maintenance for a new installation
\$B81ACPT	accepts functions, PTFs, and APARs during a new installation

To Create a Product FMIDSET

Note: Follow these steps only if you selected to create a product FMIDSET on the product installation panels.

- Step 1** Review comments near the beginning of the \$B27FSET job.
- Step 2** Submit the \$B27FSET job.

To Allocate Target and Distribution Data Sets

- Step 1** Review comments near the beginning of the \$B65ALOC job.
- Step 2** Submit the \$B65ALOC job to allocate target and distribution data sets for products.
- Note:** Perform the following steps only if you selected to allocate data sets with DDDEF statements on the product installation panels.
- Step 3** Review comments near the beginning of the \$B70DDEF job.
- Step 4** Submit the \$B70DDEF job to allocate data sets with DDDEF statements.

To Apply All Functions and Maintenance

- Step 1** Perform APPLY checking before applying functions and maintenance.
- 1.A** Review the comments near the beginning of the \$B75APCK job.
- 1.B** Submit the \$B75APCK job to perform APPLY checking.
- 1.C** Review the \$B75APCK output to verify that the expected functions and maintenance will be applied by the \$B76APLY job.
- Note:** A return code of 4 is normal. If the job ends with a higher return code, check the output and call your BMC Software technical support analyst for assistance.
- Step 2** Review comments near the beginning of the \$B76APLY job.
- Step 3** Change the BYPASS keyword to take appropriate action for system HOLDS, for example:
- ```
BYPASS (HOLDSYS (DOC , ACTION))
```
- This releases SYSMODs held for documentation and action.
- Step 4** Inspect the output from member \$B35LIST and the output from member \$B40REJT. Use the SMP/E SELECT operand to select all FMIDs in the FMIDSET that do not appear in either the \$B35LIST or the \$B40REJT output.
- Step 5** If the zones contain products other than BMC Software products, add the FMIDs you wrote down as instructed in Table 4-4 or the equivalent FMIDSET to the FORFMID parameter on the APPLY statement.

**Step 6** Save your changes.

**Step 7** Submit the \$B76APLY job to execute the APPLY.

**Note:** A return code of 4 is normal. If the job ends with a higher return, check the output and call your BMC Software technical support analyst for assistance.

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

### To Accept Functions, PTFs, and APARs

**Step 1** Perform ACCEPT checking before accepting functions and maintenance.

**1.A** Review the comments near the beginning of the \$B80ACCK job.

**1.B** Submit the \$B75ACCK job to perform ACCEPT checking.

**1.C** Review the \$B75ACCK output to verify that the expected functions and maintenance will be accepted by the \$B81ACPT job.

**Step 2** Review the comments near the beginning of the \$B81ACPT job.

**Note:** Distribution libraries are defined by product line, not by product. Some products within a product line do not need all the distribution libraries for that line. For this reason, ACCEPT might not use some distribution libraries. You can delete the unused distribution libraries if you do not plan to install other BMC Software products.

**Step 3** Change the BYPASS keyword to take appropriate action for system HOLDS, for example:

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

This releases SYSMODs held for documentation and action.

**Step 4** Add the FMIDs you wrote down as instructed in the \$B30RECP entry in Table 4-4 or the equivalent FMIDSET to the FORFMID parameter on the ACCEPT statement.

**Step 5** Save your changes.

**Step 6** Submit the \$B81ACPT job to execute the ACCEPT.

**Note:** Accept the functions as soon as possible.

- If functions have not been previously accepted, the application of future PTFs and functions may require concurrent reapplication of functions (using REDO).
- The target library data sets must be available, or ACCEPT processing will fail.
- The target library data sets might be archived or deleted if ACCEPT processing is postponed.
- Accepting functions releases the disk space occupied by the relative file data sets.
- Functions must be accepted before a PTF can be restored (using RESTORE) from the distribution zone in your system.

### Where to Go from Here

Most products require customization before running. You can now return to the installation system Main Menu to select the product customization option or to perform other installation system tasks.

## Running JCL to Perform Maintenance

BMC Software delivers product maintenance on three types of SMP/E service tapes. These tapes are described in “Product Maintenance Tapes” on page 1-8. Regardless what type of tape you receive, the installation system uses SMP/E to perform maintenance on installed BMC Software products.

After you have completed the maintenance dialog (see “Generating Jobs to Perform Product Maintenance” on page 3-21) the installation system generates jobs in your JCL library. When submitted, these jobs perform maintenance on installed BMC Software products.

## Preparing for SMP/E Maintenance

---

**Summary:** If you performed an SMP/E installation, your products are ready for SMP/E maintenance. If you performed a Standard installation, the installation system generated JCL that will prepare your installed products for SMP/E maintenance. The following procedure describes what you must do to prepare your Standard installation for SMP/E maintenance.

---

### Before You Begin

The Standard installation process creates the \$B90SMPE job, which prepares your environment for SMP/E maintenance. \$B90SMPE builds and populates zones, initializes the SMP/E environment, and allocates and populates SMP/E support data sets and distribution libraries. Verify that this job is in your *HLQ.JCL* library.

### To Prepare for SMP/E Maintenance

**Step 1** Assign a job class or specify a time parameter that allows sufficient CPU time for the \$B90SMPE job to complete. The CPU time required varies, depending on the number of products you are installing.

**Step 2** Submit the \$B90SMPE job.

**Note:** The VSMALLOC step in this job may complete with a return code of 8. This is normal and does not indicate an error condition.

### Where to Go from Here

Your BMC Software products are now ready for SMP/E maintenance. Proceed to “Performing SMP/E Maintenance.”

---

## Performing SMP/E Maintenance

---

**Summary:** To perform maintenance, use the jobs in your *HLQ.JCL* library that were generated when you followed the “Generating Jobs to Perform Product Maintenance” procedure on page 3-21. The instructions for using these jobs are in the sections that follow.

---

### Before You Begin

If you are performing maintenance to products that were installed using the Standard installation method, you must prepare for maintenance as described on page 4-18.

Obtain the most recent Technical Bulletins for your products by accessing the BMC Software Web site. The Technical Bulletins might indicate that you must receive exception SYSMOD HOLD data before applying maintenance. Technical Bulletins may also contain other information made available since your maintenance tape was produced.

### To Receive SYSMOD HOLD Data

If the Technical Bulletins indicate exception SYSMOD HOLD data, follow this procedure:

- Step 1** Create an FB/80 data set.
- Step 2** Use the following MCS statements to enter exception SYSMOD HOLD data in the FB/80 data set:

---

```

++HOLD(_____)
FMID(_____)
DATE(_____)
ERROR REASON(_____)
COMMENT(_____) .

```

---

- Step 3** Submit the \$M40HLD job to receive HOLD statements that are stored in your data set.

### To Receive Maintenance Data

Submit the \$M35RSCS job to receive maintenance data for both BBCUM or BBPUT (cumulative maintenance or program update tapes) and BBCAND (candidate PTFs, APARs, and HOLD data).

**Note:** Because the maintenance tape includes maintenance for all BMC Software products, the output may include ++VER messages that indicate that maintenance for other products was not received. Therefore, the submitted job will get diagnostic messages with a step return code of 4. These messages do not require any action.

### To List SYSMODS with a HOLD Status

**Step 1** Submit the \$M30LST 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 must be released with the BYPASS keyword in the APPLY JCL at the end of the #A60APL job.

**Step 2** Review the hardcopy listings to determine if you need to take any action.

### To Print PTF Documentation

**Step 1** Submit the \$M35DOC job to print PTF documentation from tape.

**Step 2** Keep the product documentation and insert it into the appropriate book.

### To Apply Functions and Maintenance Data

**Step 1** Perform APPLY checking before applying functions and maintenance.

**1.A** Review comments near the beginning of the \$M75APCK job.

**1.B** Submit the \$M75APCK job to perform APPLY checking.

**1.C** Review the \$M75APCK output to verify that the expected functions and maintenance will be applied by the \$M76APLY job.

**Step 2** Review the comments near the beginning of the \$M76APLY job.

**Step 3** Change the BYPASS keyword to take appropriate action for system HOLDS, for example:

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

This releases SYSMODs held for documentation and action.

**Note:** If you apply BBCAND maintenance, replace BPC001 with the ID number(s) of the candidate PTFs to be applied on the APPLY SELECT statement.

**Step 4** Save your changes.

**Step 5** Submit the \$M76APLY job to execute the APPLY.

**Note:** \$M76APLY applies a selected list of PTFs and their prerequisites; for BBCAND tapes, \$M76APLY rejects all BBCAND maintenance not applied.

### To Accept Functions and Maintenance Data

**Step 1** Perform ACCEPT checking before accepting functions and maintenance.

**1.A** Review the comments near the beginning of the \$M80ACCK job.

**1.B** Submit the \$M80ACCK job to perform ACCEPT checking.

**1.C** Review the \$M80ACCK output to verify that the expected functions and maintenance will be accepted by the \$M81ACPT job.

**Step 2** Review the comments near the beginning of the \$M81ACPT job.

**Step 3** Change the BYPASS keyword to take appropriate action for system HOLDS, for example:

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

This releases SYSMODs held for documentation and action.

**Step 4** Save your changes.

**Step 5** Submit \$M81ACPT to execute the ACCEPT.

**Note:** You should accept PTFs and APARs before applying the next maintenance tape for the following reasons:

- Accepting PTFs and APARs removes them from the SMPPTS data set and makes the space available for additional use. The data set must be compressed.

- Accepting the PTFs and APARs reduces the effort required to restore future PTFs if and when required.
- The prerequisite chains will become long and complex if ACCEPT processing is deferred. Periodic ACCEPT processing is simpler.

### Where to Go from Here

The latest maintenance is now applied to your products. To implement the applied maintenance, it may be necessary to recustomize your products. To recustomize those products to which maintenance was applied, repeat the appropriate steps in the customization procedures you used when you tailored your products originally.

If you used AutoCustomization to make your products operational, follow the instructions below to implement maintenance.

1. 1. Invoke AutoCustomization as described in “Customizing Products” on page 3-16.
2. 2. In the line command field of the main AutoCustomization panel listing the BMC Software products, type

MAINT

If additional steps are necessary, another panel appears; follow the steps shown. If a blank screen appears, no additional steps are necessary; your products are ready for use.

---

---

# Appendix A BMC Software Product Authorization

This appendix presents the following topics:

|                                                                      |      |
|----------------------------------------------------------------------|------|
| Overview . . . . .                                                   | A-2  |
| Product Authorization Tables . . . . .                               | A-3  |
| Problem Regarding Product-Authorization Table Installation . . . . . | A-3  |
| Product Authorization Passwords . . . . .                            | A-4  |
| Permanent Passwords . . . . .                                        | A-4  |
| Temporary Passwords . . . . .                                        | A-5  |
| How to Apply Passwords . . . . .                                     | A-5  |
| How Products Are Licensed . . . . .                                  | A-5  |
| Product Trials and Permanent Licensing . . . . .                     | A-6  |
| CPU Upgrades . . . . .                                               | A-6  |
| CPU Failures . . . . .                                               | A-6  |
| Product Maintenance or Version Upgrades . . . . .                    | A-8  |
| How to Obtain Passwords . . . . .                                    | A-9  |
| CPU Information . . . . .                                            | A-10 |
| Online Product Authorization . . . . .                               | A-10 |
| Processing a Permanent Password . . . . .                            | A-11 |
| Batch Product Authorization . . . . .                                | A-27 |
| Running Batch Product Authorization . . . . .                        | A-27 |
| Control Statements and Keywords . . . . .                            | A-29 |
| Return Codes . . . . .                                               | A-30 |

## Overview

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

The types of passwords are as follows:

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

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

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

Passwords can be processed in either of the following ways:

- as part of an online procedure
- in a batch interface that uses a job that is supplied on the product distribution tape

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

# Product Authorization Tables

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

The types of product-authorization tables are as follows:

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

See “Product Authorization Passwords” on page A-4 for more information about permanent and temporary passwords.

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

*prd*TBL3P (permanent)

*prd*TBL3T (temporary)

## Problem Regarding Product-Authorization Table Installation

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

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

### Detailed Error Message

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

## Solution

This problem will be corrected in a future version of the Product Authorization utility; however, the problem can be circumvented by specifying a different library to contain the product authorization tables. You should allocate a separate PDS or PDS/E for the authorization table, and specify this PDS or PDS/E when installing the password. If you have questions about the problem or the work-around, contact your BMC Software Product Authorization technical support analyst.

## Product Authorization Passwords

Valid passwords can include the following characters:

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

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

## Permanent Passwords

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

**Table A-1** Permanent Password Functions

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

## Temporary Passwords

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

## How to Apply Passwords

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

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

## How Products Are Licensed

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

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

**Note:** Although you do not need the Product Authorization utility for product maintenance and version upgrades, you must consider certain issues that are associated with these upgrades. See “Product Maintenance or Version Upgrades” on page A-8 for more information.

## Product Trials and Permanent Licensing

During a trial period for a BMC Software product, you can install and use the product on any CPU by using a temporary password that you obtained from your BMC Software sales representative. 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 Software Customer Password Response 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 load library to run a product on multiple CPUs or to install a product at a central site and run it at remote sites.

## CPU Upgrades

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

## CPU Failures

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

## Updating Product-Authorization Tables

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

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

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

## Running a Product on an Unlicensed Processor

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

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

To prevent this situation, you should obtain a RESET password from BMC Software Customer Password Response. If you apply the RESET password before the grace period ends, it updates the product-authorization table and makes another 15-calendar-day grace period available.

When the grace period is triggered, the Product Authorization utility (either 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 the product on a different CPU, that CPU must also be licensed. Copy the product-authorization tables from the *old* library to the *new* library that contains the product's new maintenance or upgrade. To copy the tables from the old library to the new library, use the job *prd*CPUID, where the variable *prd* is the three-character product code.

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

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

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

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

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

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

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

## How to Obtain Passwords

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

**Table A-2 Password Scenarios**

| Scenario                                                                                | Password Type | Password Function                                                                                           | How to Obtain                                                                                                                                                                    |
|-----------------------------------------------------------------------------------------|---------------|-------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| You want to begin a free trial period.                                                  | temporary     | temporarily bypasses authorization checking and allows you to run the product on any CPU for a limited time | BMC Software sales representative                                                                                                                                                |
| You purchase a license for a new product.                                               | permanent     | adds a designated CPU to the list of CPUs that are authorized to run a licensed product                     | BMC Software sales representative or Customer Password Response (reach Customer Password Response at 1-800-841-2031)                                                             |
| You stop using an authorized CPU.                                                       | permanent     | removes a designated CPU from the list of CPUs that are authorized to run a licensed product                | BMC Software sales representative or Customer Password Response (reach Customer Password Response at 1-800-841-2031)                                                             |
| You upgrade to a new CPU.                                                               | permanent     | authorizes the transfer of a license from one CPU to another                                                | BMC Software sales representative or Customer Password Response (reach Customer Password Response at 1-800-841-2031)                                                             |
| You want to run the product on an additional CPU.                                       | permanent     | adds a designated CPU to the list of CPUs that are authorized to run a licensed product                     | BMC Software sales representative or Customer Password Response (reach Customer Password Response at 1-800-841-2031)                                                             |
| The authorized CPU is not available because of an emergency (such as hardware failure). | temporary     | temporarily bypasses authorization checking and allows you to run the product on any CPU for a limited time | BMC Software sales representative, Customer Password Response (reach Customer Password Response at 1-800-841-2031), or Product Support (reach Product Support at 1-800-537-1813) |

## CPU Information

When you request a permanent product license from BMC Software, you must furnish information about the affected CPUs. For each product that you license, use the worksheet in Table A-3 to record the CPU information and the passwords that you receive from BMC Software. The first line of the table provides a sample entry for a 9X2 with three processors and a CPU ID of 10309-9021-DA.

**Note:** CPU information is not needed for temporary passwords.

**Table A-3** Product Authorization Work Sheet

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

For information about determining your CPU ID, see “Displaying Current Processor Information” on page A-26 or use the LIST option of Batch Product Authorization.

## Online Product Authorization

This section describes the online interface that you can use for product authorization. To apply passwords using the batch interface, see “Batch Product Authorization” on page A-27.

## Processing a Permanent Password

Use the Product Authorization Primary Menu (Figure A-1) to process passwords. You can also obtain pertinent information about the current processor and the authorization for that processor.

**Figure A-1 Product Authorization Primary Menu (SECEPPRI)**

```
SECEPPRI <product-name> Product Authorization Primary Menu
COMMAND ===> _____

Select an option. Type additional information if applicable. Then press Enter.

Options

_ 1. Process password (Requires password library and password)
 2. Display product authorization (Requires password library only)
 3. Display current processor information
 4. Help about...
 5. Exit

Additional information

Password library . . . '<HLQ>.BMCPSWD'

Authorization password . . . _ _ _ _

F1=Help F2=Split F3=Exit F7=Bkwd F8=Fwd F9=Swap F12=Cancel
```

Table A-4 describes each option on the primary menu. The following sections of this appendix provide instructions for completing specific tasks, such as adding authorization to run the product on a new CPU.

**Table A-4 Product Authorization Primary Menu Options**

| Option | Description                                                                                                                                                                                                                                                                                      |
|--------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1      | processes a password that BMC Software Customer Password Response provides to you<br>Use this option to add, delete, replace, modify, or reset authorization for a password. The Product Authorization utility automatically identifies the type of password and displays the appropriate panel. |
| 2      | displays a listing of processors that are currently authorized to use the product<br>The listing also displays when the authorization was last modified (and by whom) and the trial or temporary expiration date.                                                                                |
| 3      | displays information about the current processor, including the serial number, the model number, the version code (submodel), and the number of available processors                                                                                                                             |
| 4      | displays version, copyright, and licensing information about the Product Authorization utility                                                                                                                                                                                                   |
| 5      | exits the Product Authorization utility and returns to the previous menu or panel                                                                                                                                                                                                                |

**Note:** If you select option 1, you must also type the name of the password library and the authorization password. The utility saves the library name in your ISPF profile and uses that name as the default library. The data set name must be fully qualified.

## Adding Authorization for a Processor

**Summary:** This procedure explains how to use the ADD Authorization for a Processor panel to authorize a new CPU to run the product.

**Step 1** Access the ADD Authorization for a Processor panel as follows:

- 1.A** On the Product Authorization Primary Menu (Figure A-1 on page A-11), select option 1.
- 1.B** At **Password library**, type a fully-qualified data set name and press **Tab**.
- 1.C** At **Authorization password**, type your permanent password and press **Enter**.

The ADD Authorization for a Processor panel is displayed. Figure A-2 shows a sample.

**Figure A-2** ADD Authorization for a Processor Panel (SECEPADD)

```

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)

F1=Help F2=Split F3=Exit F7=Bkwd F8=Fwd F9=Swap F12=Cancel

```

**Step 2** At **New serial number**, type the serial number of the processor for which you are adding authorization.

- Step 3** At **New model number**, type the model number of the processor for which you are adding authorization and press **Enter**.

A pop-up message on the Product Authorization Primary Menu explains that the product-authorization table was modified successfully (Figure A-3).

**Figure A-3 Product Authorization ADD Message**

```

SECEPPRI <product-name> Product Authorization Primary Menu
COMMAND ====> _____

Select an option. Type additional information if applicable. Then press Enter.

Options

_ 1. Process password (Requires password library and password)
 2. Display product authorization (Requires password library only)
 3. Display current processor information
 4. Help about...
 5. Exit

Additional information

Password library . . . '<HLQ>.BMCPSWD'

Authorization password . | BMC89127I PROCESSOR WAS SUCCESSFULLY ADDED TO
 | THE PRODUCT AUTHORIZATION TABLE. YOU ARE NOW
 | AUTHORIZED TO EXECUTE THIS PRODUCT ON SERIAL
 | NUMBER 10293, MODEL NUMBER 9672. PRESS ENTER TO
 | CONTINUE.
 |-----|

F1=Help F2=Split F3=Exit F7=Bkwd F8=Fwd F9=Swap F12=Cancel

```

- Step 4** Press **F3** to exit the Product Authorization utility and return to the previous menu or panel.

## Deleting Authorization for a Processor

**Summary:** This procedure explains how to use the DELETE Authorization for a Processor panel to remove a CPU from the product-authorization table.

**Step 1** Access the DELETE Authorization for a Processor panel as follows:

- 1.A** On the Product Authorization Primary Menu (Figure A-1 on page A-11), select option 1.
- 1.B** At **Password library**, type a fully-qualified data set name and press **Tab**.
- 1.C** At **Authorization password**, type your permanent password and press **Enter**.

The DELETE Authorization for a Processor panel is displayed. Figure A-4 shows a sample.

**Figure A-4** DELETE Authorization for a Processor Panel (SECEPDEL)

```

SECEPDEL DELETE Authorization for a Processor
Command ==> _____

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

```

**Step 2** At **Old serial number**, type the serial number of the processor for which you are deleting authorization.

**Step 3** At **Old model number**, type the model number of the processor for which you are deleting authorization and press **Enter**.

A pop-up message on the Product Authorization Primary Menu explains that the product-authorization table was updated successfully (Figure A-5).

**Figure A-5 Product Authorization DELETE Message**

```

SECEPPRI <product-name> Product Authorization Primary Menu
COMMAND ===> _____

Select an option. Type additional information if applicable. Then press Enter.

Options

- 1. Process password (Requires password library and password)
 2. Display product authorization (Requires password library only)
 3. Display current processor information
 4. Help about...
 5. Exit

Additional information

Password library . . . '<HLQ>.BMCPSWD'

Authorization password . | BMC89128I PROCESSOR (SERIAL NUMBER 10293, MODEL |
 | NUMBER 9672) WAS SUCCESSFULLY DELETED FROM THE |
 | PRODUCT AUTHORIZATION TABLE. PRESS ENTER TO |
 | CONTINUE. |
 |-----|
F1=Help F2=Split F3=Exit F7=Bkwd F8=Fwd F9=Swap F12=Cancel

```

**Step 4** Press **F3** to exit the Product Authorization utility and return to the previous menu or panel.

## Replacing Authorization for a Processor

**Summary:** This procedure explains how to use the REPLACE Authorization for a Processor panel to replace one CPU in the product-authorization table with another CPU. This process allows the *new* CPU to run the product in place of the *old* CPU.

**Step 1** Access the REPLACE Authorization for a Processor panel as follows:

- 1.A** On the Product Authorization Primary Menu (Figure A-1 on page A-11), select option 1.
- 1.B** At **Password library**, type a fully-qualified data set name and press **Tab**.
- 1.C** At **Authorization password**, type your permanent password and press **Enter**.

The REPLACE Authorization for a Processor panel is displayed. Figure A-6 shows a sample.

**Figure A-6 REPLACE Authorization for a Processor Panel (SECEPREP)**

```

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

```

- Step 2** At **Old serial number**, type the serial number of the processor to be replaced.
- Step 3** At **Old model number**, type the model number of the processor to be replaced.
- Step 4** At **New serial number**, type the serial number of the processor that will replace the old processor.
- Step 5** At **New model number**, type the model number of the processor that will replace the old processor and press **Enter**.

A pop-up message on the Product Authorization Primary Menu explains that the product-authorization table was updated successfully, replacing the old processor with the new processor (Figure A-7).

**Figure A-7 Product Authorization REPLACE Message**

```

SECEPPRI <product-name> Product Authorization Primary Menu
COMMAND ====> _____

Select an option. Type additional information if applicable. Then press Enter.

Options

_ 1. Process password (Requires password library and password)
 2. Display product authorization (Requires password library only)
 3. Display current processor information
 4. Help about...
 5. Exit

Additional information

Password library . . . '<HLQ>.BMCPSWD'

Authorization password . | BMC89129I PROCESSOR WAS SUCCESSFULLY REPLACED
 | IN THE PRODUCT AUTHORIZATION TABLE. YOU ARE NOW
 | AUTHORIZED TO EXECUTE THIS PRODUCT ON SERIAL
 | NUMBER 10293, MODEL NUMBER 9652. PRESS ENTER TO
F1=Help F2=Split F3=Ex| CONTINUE.
 |
 |-----|

```

- Step 6** Press **F3** to exit the Product Authorization utility and return to the previous menu or panel.

## Modifying Authorization for an Existing Processor

---

**Summary:** This procedure explains how to use the MODIFY Authorization for an Existing Processor panel to change one or more properties of an existing CPU in the product-authorization table. These properties include the version code, the number of significant digits for the serial number, the tier, the maximum number of processors, and the expiration date for the product license.

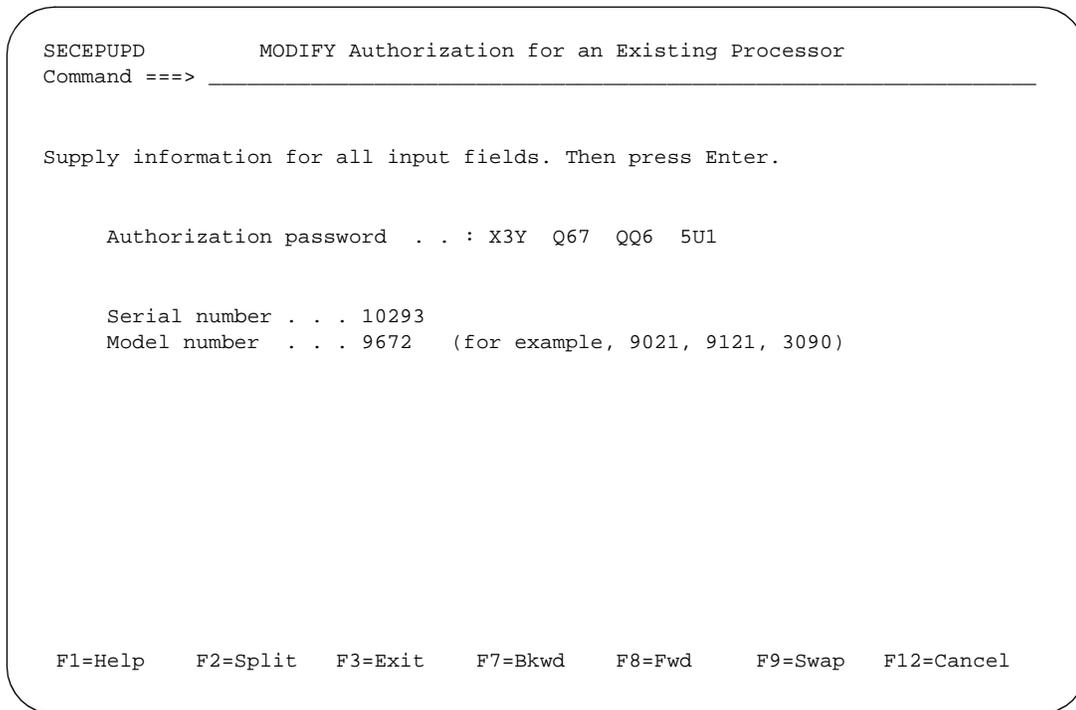
---

**Step 1** Access the MODIFY Authorization for an Existing Processor panel as follows:

- 1.A** On the Product Authorization Primary Menu (Figure A-1 on page A-11), select option 1.
- 1.B** At **Password library**, type a fully-qualified data set name and press **Tab**.
- 1.C** At **Authorization password**, type your permanent password and press **Enter**.

The MODIFY Authorization for an Existing Processor panel is displayed. Figure A-8 on page A-20 shows a sample.

**Figure A-8 MODIFY Authorization for an Existing Processor Panel (SECEPUPD)**



**Step 2** At **Serial number**, type the serial number of the processor for which you want to modify the authorization.

**Step 3** At **Model number**, type the model number of the processor for which you want to modify the authorization and press **Enter**.

The properties are modified automatically. A pop-up message on the Product Authorization Primary Menu explains that the product-authorization table was updated successfully (Figure A-9 on page A-21).

**Figure A-9 Product Authorization MODIFY Message**

```

SECEPPRI <product-name> Product Authorization Primary Menu
COMMAND ===> _____

Select an option. Type additional information if applicable. Then press Enter.

Options

1 1. Process password (Requires password library and password)
 2. Display product authorization (Requires password library only)
 3. Display current processor information
 4. Help about...
 5. Exit

Additional information

Password library . . . `<HLQ>.BMCPSWD'

Authorization password . | BMC89130I PROCESSOR (SERIAL NUMBER 10293, MODEL |
 | NUMBER 9672 WAS SUCCESSFULLY MODIFIED IN THE |
 | PRODUCT AUTHORIZATION TABLE. PRESS ENTER TO |
 | CONTINUE. |
 |-----|

F1=Help F2=Split F3=Exit F7=Bkwd F8=Fwd F9=Swap F12=Cancel

```

**Step 4** Press **F3** to exit the Product Authorization utility and return to the previous menu or panel.

## Resetting Authorization for all Processors

**Summary:** This procedure explains how to use the Product Authorization Primary Menu to reset a global property (applying to all CPU IDs) of the authorization table.

**Step 1** On the Product Authorization Primary Menu (Figure A-1 on page A-11), select option 1.

**Step 2** At **Password library**, type a fully-qualified data set name and press **Tab**.

**Step 3** At **Authorization password**, type your permanent password and press **Enter**.

A pop-up message explains that the product-authorization table was updated successfully (Figure A-10).

**Figure A-10 Product Authorization RESET Message**

```

SECEPPRI <product-name> Product Authorization Primary Menu
COMMAND ====> _____

Select an option. Type additional information if applicable. Then press Enter.

Options

1 1. Process password (Requires password library and password)
 2. Display product authorization (Requires password library only)
 3. Display current processor information
 4. Help about...
 5. Exit

Additional information

Password library . . . '<HLQ>.BMCPSWD'

Authorization password . | BMC89029I PRODUCT AUTHORIZATION TABLE WAS
 | SUCCESSFULLY UPDATED. PRESS ENTER TO CONTINUE. |
 |-----|

F1=Help F2=Split F3=Exit F7=Bkwd F8=Fwd F9=Swap F12=Cancel

```

**Step 4** Press **F3** to exit the Product Authorization utility and return to the previous menu or panel.

## Processing a Temporary Password

**Summary:** This procedure explains how to use the Product Authorization Primary Menu to process a temporary password.

**Step 1** On the Product Authorization Primary Menu (Figure A-1 on page A-11), select option 1.

**Step 2** At **Password library**, type a fully-qualified data set name and press **Tab**.

**Step 3** At **Authorization password**, type your temporary password and press **Enter**.

A pop-up message explains that the product-authorization table was built or updated successfully (Figure A-11).

**Figure A-11 Product Authorization Temporary Password Message**

```

SECEPPRI <product-name> Product Authorization Primary Menu
COMMAND ===> _____

Select an option. Type additional information if applicable. Then press Enter.

Options

_ 1. Process password (Requires password library and password)
 2. Display product authorization (Requires password library only)
 3. Display current processor information
 4. Help about...
 5. Exit

Additional information

Password library . . . '<HLQ>.BMCPSWD'

Authorization password . | BMC89110I PRODUCT AUTHORIZATION TABLE WAS |
 | SUCCESSFULLY BUILT/UPDATED. YOU ARE NOW |
 | AUTHORIZED TO EXECUTE THIS PRODUCT ON ANY |
 | PROCESSOR UNTIL 11/26/1999. PRESS ENTER TO |
 | CONTINUE. |
 |-----|
F1=Help F2=Split F3=E '-----' 1

```

**Step 4** Press **F3** to exit the Product Authorization utility and return to the previous menu or panel.

## Displaying Product Authorization

**Summary:** Use the Product Authorization Display panel to display the current authorization for a product.

**Step 1** On the Product Authorization Primary Menu (Figure A-1 on page A-11), select option 2.

**Step 2** At **Password library**, type a fully-qualified data set name.

**Step 3** Press **Enter** to display the Product Authorization Display panel (Figure A-12).

See “Additional Information” on page A-25 for descriptions of the fields on this panel.

**Step 4** When you finish reviewing the panel, press **F3** to exit the Product Authorization utility and return to the previous menu or panel.

**Figure A-12 Product Authorization Display Panel (SECEPTBL)**

```

SECEPTBL Product Authorization Display ROW 1 TO 1 OF 1
Command ===> _____

Press Enter to continue.

Password library : '<HLQ>.BMCPSWD'
Product code : DOM
Last changed (mm/dd/yy-hh:mm) : 11/19/96-10:11
Last changed by : RDHDXJ3
Grace period ends (mm/dd/yyyy) : 04/29/1999
Temporary expiration date (mm/dd/yyyy) . : 05/10/1999

Licensed Processors

Serial Model Version Significant Maximum Product
Number Number Code Digits Number of License
 Tier Processors Expiration
77403 3090 62 4 018 ALL NONE
10309 9021 D5 4 018 ALL 12/1999
***** Bottom of data *****

F1=Help F2=Split F3=Exit F7=Bkwd F8=Fwd F9=Swap F12=Cancel

```

**Additional Information**

The Product Authorization Display panel provides the following information:

**Table A-5 Field Descriptions for the Product Authorization Display Panel**

| <b>Field</b>                                       | <b>Description</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
|----------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Password library                                   | name of the password library                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| Product code                                       | code that BMC Software assigns to the product                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| Last changed<br>( <i>mm/dd/yy-hh:mm</i> )          | <p>date and time that the product-authorization tables were last modified</p> <p>The variables are as follows:</p> <ul style="list-style-type: none"> <li>• <i>mm</i> represents the month (in the range 01 – 12)</li> <li>• <i>dd</i> represents the day (in the range 01 – 31)</li> <li>• <i>yy</i> represents the year (in the range 00 – 99)</li> <li>• <i>hh</i> represents the hour (in the range 00 – 23)</li> <li>• <i>mm</i> represents minutes (in the range 00 – 59)</li> </ul>                                                                                                                                                                                                            |
| Last changed by                                    | user ID or job that requested the modification                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| Grace period ends<br>( <i>mm/dd/yyyy</i> )         | <p>date when the grace period (if triggered) will end</p> <p>The variables are as follows:</p> <ul style="list-style-type: none"> <li>• <i>mm</i> represents the month (in the range 01 – 12)</li> <li>• <i>dd</i> represents the day (in the range 01 – 31)</li> <li>• <i>yyyy</i> represents the year (in the range 0001 – 9999)</li> </ul> <p><b>Note:</b> This line appears only if the failure mode is phased and the grace period has been triggered. The grace period can be triggered when you run a permanently licensed product on an unlicensed processor. You should apply a RESET password to reset the grace period. Contact your BMC Software sales representative for assistance.</p> |
| Temporary expiration date<br>( <i>mm/dd/yyyy</i> ) | <p>date on which you will no longer be allowed to bypass the CPU ID check or trial the product</p> <p>The variables are as follows:</p> <ul style="list-style-type: none"> <li>• <i>mm</i> represents the month (in the range 01-12)</li> <li>• <i>dd</i> represents the day (in the range 01-31)</li> <li>• <i>yyyy</i> represents the year (in the range 0001-9999)</li> </ul> <p><b>Note:</b> If this expiration date has not yet been reached, you can run this product on any processor. On the date shown, either your trial period will end or (if you have licensed the product) you will be able to run the product only on authorized processors.</p>                                       |
| Licensed processors                                | <p>list of properties for each licensed CPU</p> <p>The Version Code column reflects the hardware representation of the submodel. Significant Digits 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 Software Product Support.</p>                                                                                                                                                                                              |

## Displaying Current Processor Information

---

**Summary:** This procedure explains how to use the Current Processor Information panel to display information about the processor that you are currently using.

---

- Step 1** On the Product Authorization Primary Menu (Figure A-1 on page A-11), select option 3.
- Step 2** Press **Enter** to display the Current Processor Information panel (Figure A-13).
- Step 3** When you finish reviewing the panel, press **F3** to exit the Product Authorization utility and return to the previous menu or panel.

See “Additional Information” on page A-27 for an explanation of the information that is displayed on this panel.

**Figure A-13 Current Processor Information Panel (SECEPCPU)**

```

SECEPCPU Current Processor Information
Command ==> _____

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

```

## Additional Information

This panel displays the CPU serial and model numbers for the processor on which TSO is currently running. It 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 the 600 for a 3090-600 processor). If you experience problems, your BMC Software technical support analyst may need this information.

**Note:** Version code X'FF' indicates that MVS is running as a VM guest. This X'FF' is not the real processor version code. To determine the real version code, run the LIST option of the Batch Product Authorization utility from an APF-authorized library. See Table A-7, “Control Statement Keywords,” on page 29 for more information.

This panel also displays the number of processors that are online to the current operating system. This information may apply to your BMC Software License Agreement.

**Note:** The information that is displayed on this panel might not refer to a computer on which you are licensed to run a BMC Software product. For example, if you log on to TSO on SYSA but run your BMC Software product on SYSB, your product-authorization entries might refer to SYSB.

## Batch Product Authorization

This section describes the batch interface that is used for product authorization. To use the online interface, see “Online Product Authorization” on page A-10.

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

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

## Running Batch Product Authorization

Figure A-14 on page A-28 is a sample JCL script for running batch product authorization. See “Additional Information” on page A-28 for descriptions of the information in the JCL script. You can find product-specific JCL samples in *HLQ.CNTL* or in the output JCL data set. Select the member *prdCPUID*, where the variable *prd* is the three-character product code, and then follow the instructions in the comments section of that member.

**Figure A-14 Sample JCL for Running Batch Product Authorization**

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

**Additional Information**

Information required for the JCL script is as follows:

**Table A-6 Sample JCL Script Information**

| JCL Statement | Description                                                                                                                                                                                           |
|---------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| JOB           | varies, depending on your system                                                                                                                                                                      |
| EXEC          | identifies the program (SECSEC3B) and passes the product code in the PARM field<br>Replace <i>prd</i> with the three-character product code.                                                          |
| STEPLIB DD    | identifies the load library in which SECSEC3B resides (This is optional if SECSEC3B resides in LINKLIST or is specified in JOBLIB.)                                                                   |
| SYSLIB DD     | identifies the password library<br>Product-authorization tables are stored and updated in this data set.                                                                                              |
| SYSPRINT DD   | enables the product to issue messages and output from the LIST control statement                                                                                                                      |
| SYSIN DD      | identifies the location of the control statements that define the actions the program is to take<br>See "Control Statements and Keywords" on page A-29 for a description of these control statements. |

## Control Statements and Keywords

Some tasks require different input parameters depending on the type of password that you are installing. The sample JCL shown in Figure A-14 on page A-28 shows various tasks that you can perform by using the batch version of product authorization. You need to modify the JCL to include only the tasks that you want to perform.

The following syntax rules apply to the control statements:

- Control statements can begin in any column.
- Uppercase letters are required.
- You must insert at least one blank space between individual keywords and data fields. Multiple 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, and OLDCPUID.

Table A-7 describes the control statement keywords.

**Table A-7 Control Statement Keywords**

| Keyword  | Data                                                                                                                                                                                                    | Explanation                                                                                                                                                                                                 |
|----------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| PSWD     | 12-character password formatted as four fields of three characters each, separated by either a comma or a blank (See sample JCL on page A-28.)<br><br>Twelve continuous characters are also acceptable. | Valid characters are alphanumeric (excluding letters I and O). Valid special characters are =, +, and @. You can substitute the asterisk (*) for the "at" sign (@) when @ is not available on the keyboard. |
| NEWCPUID | five-digit serial number, followed by a hyphen and a four-digit model number                                                                                                                            | The serial number and model number must be hexadecimal characters separated by a single hyphen.                                                                                                             |
| OLDCPUID | five-digit serial number, followed by a hyphen and a four-digit model number                                                                                                                            | The serial number and model number must be hexadecimal characters separated by a single hyphen.                                                                                                             |
| LIST     | not applicable                                                                                                                                                                                          | A report prints showing the contents of the product-authorization tables and information about the processor on which the job ran.                                                                          |

## Return Codes

You can receive any of the following return codes when you use the batch version of product authorization:

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

---

---

# Appendix B    **BMC Software Product Authorization Messages**

This appendix presents the following topics:

|                                  |     |
|----------------------------------|-----|
| Error Messages . . . . .         | B-2 |
| Message Format . . . . .         | B-2 |
| Message Severity Codes . . . . . | B-3 |
| Message Explanations . . . . .   | B-3 |

## Error Messages

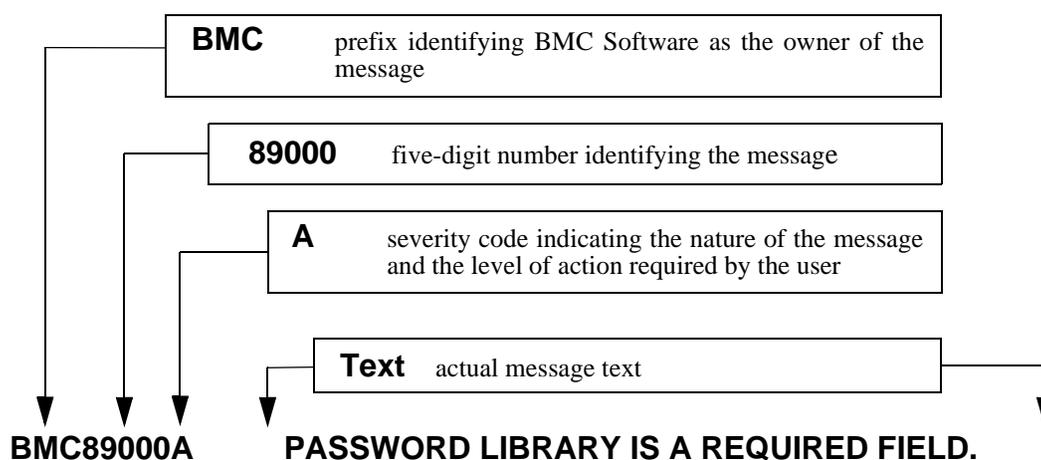
This section contains the text and explanations for all error messages issued by the ISPF interface and the batch interface of the Product Authorization utility.

The following information is provided for each message:

- *Explanation* explains why the product issued the message.
- *System Action* describes what the product does as a result of encountering the situation.
- *User Response* describes what you should do in this situation.

## Message Format

All messages produced by this product consist of a message identifier and message text. These messages use the following format:



Words in the message text that are italicized and enclosed in arrows (<example>) indicate variable text that will be determined when the message is issued.

Words in the message text that are enclosed in brackets and separated by vertical lines ([ON | OFF]) indicate actual values, one of which will be included at that point in the message.

## Message Severity Codes

Messages produced by the Product Authorization utility use the following severity codes:

**Table B-1 Message Severity Codes**

| Code            | Meaning                                                                                                                   |
|-----------------|---------------------------------------------------------------------------------------------------------------------------|
| A (action)      | Immediate action is required.                                                                                             |
| E (error)       | The function that you requested was not completed.                                                                        |
| I (information) | Information only. No action is required.                                                                                  |
| R (reply)       | You must reply to the message before the system can continue.                                                             |
| S (severe)      | A severe error occurred.                                                                                                  |
| W (warning)     | The system is still operating, and no immediate action is required. When time is available, more investigation is needed. |

All messages with a severity code *E* are sent to the system console. Some messages with a severity code *A* or *I* are also sent to the system console.

## Message Explanations

The following error messages can be issued by the Product Authorization utility:

### **BMC89000A**

#### **PASSWORD LIBRARY IS A REQUIRED FIELD.**

*Explanation:* The password library must be specified.

*System Action:* The action fails.

*User Response:* Enter the data set name for the password library, and retry the action.

### **BMC89001A**

#### **PASSWORD IS A REQUIRED FIELD.**

*Explanation:* The action that you requested requires a password to be specified.

*System Action:* The action fails.

*User Response:* Enter the password, and retry the action. If you do not have a password, contact your BMC Software sales representative to acquire one.

**BMC89002E      PASSWORD MAY NOT CONTAIN BLANK CHARACTERS.**

*Explanation:*      A blank is not a valid password character. Valid characters are A to Z (excluding I and O), 0 to 9, @, +, and =.

**Note:**      Some nondomestic keyboards do not have the “at” sign (@). For this reason, the asterisk (\*) has been designated as a synonym for @. These two characters (@ and \*) can be used interchangeably when typing passwords.

*System Action:*      The action fails.

*User Response:*      Correct the password, and retry the action.

**BMC89003A      SERIAL NUMBER IS A REQUIRED FIELD.**

*Explanation:*      A valid CPU serial number has not been specified. Valid CPU serial numbers consist of five hexadecimal digits. No blanks or special characters are allowed.

*System Action:*      The action fails.

*User Response:*      Supply a valid CPU serial number, and retry the action.

**BMC89004E      SERIAL NUMBER FIELD CONTAINS INVALID CHARACTERS.**

*Explanation:*      The specified CPU serial number contains invalid characters. Valid CPU serial numbers consist of five hexadecimal digits. No blanks or special characters are allowed.

*System Action:*      The action fails.

*User Response:*      Supply a valid CPU serial number, and retry the action.

**BMC89005E      SERIAL NUMBER MAY NOT CONTAIN BLANK CHARACTERS.**

*Explanation:*      The specified CPU serial number contains a blank character and is invalid. Valid CPU serial numbers consist of five hexadecimal digits. No blanks or special characters are allowed.

*System Action:*      The action fails.

*User Response:*      Supply a valid CPU serial number, and retry the action.

**BMC89006A      MODEL NUMBER IS A REQUIRED FIELD.**

*Explanation:*      A valid CPU model number has not been specified. Valid CPU model numbers consist of four hexadecimal digits. No blanks or special characters are allowed.

*System Action:*      The action fails.

*User Response:*      Supply a valid CPU model number, and retry the action.

- BMC89007E      MODEL NUMBER FIELD CONTAINS INVALID CHARACTERS.**
- Explanation:*      The specified CPU model number contains invalid characters. Valid CPU model numbers consist of four hexadecimal digits. No blanks or special characters are allowed.
- System Action:*    The action fails.
- User Response:*    Supply a valid CPU model number, and retry the action.
- BMC89008E      MODEL NUMBER MAY NOT CONTAIN BLANK CHARACTERS.**
- Explanation:*      The specified CPU model number contains a blank. Valid CPU model numbers consist of four hexadecimal digits. No blanks or special characters are allowed.
- System Action:*    The action fails.
- User Response:*    Correct the model number, and retry the action.
- BMC89009E      DATA SET NAME IS INVALID.**
- Explanation:*      The specified data set name is invalid. The data set does not exist, or it is not cataloged.
- System Action:*    The action fails.
- User Response:*    Correct the data set name, and retry the action.
- BMC89010A      OPTION IS A REQUIRED FIELD. VALID VALUES ARE 1, 2, 3, 4, OR 5.**
- Explanation:*      No menu option has been specified.
- System Action:*    All functions are suppressed.
- User Response:*    Type a valid option number in the selection field, and retry the action.
- BMC89011E      INVALID OPTION. PLEASE ENTER 1, 2, 3, 4, OR 5.**
- Explanation:*      The specified option is invalid.
- System Action:*    All functions are suppressed.
- User Response:*    Type a valid option number in the selection field, and retry the action.

**BMC89012E      OPTION IS REQUIRED. VALID VALUES ARE 1, 2, OR 3.**

*Explanation:*      No menu option has been specified.

*System Action:*    All functions are suppressed.

*User Response:*    Type a valid option number in the selection field, and retry the action.

**BMC89013E      <command> IS NOT A VALID COMMAND.**

*Explanation:*      The specified command is invalid.

*System Action:*    The command fails.

*User Response:*    Correct the command, or remove the command from the command line.

**BMC89019E      YOU MAY VIEW PRODUCT AUTHORIZATION FOR THIS PRODUCT FROM ONLY ONE LOGICAL SCREEN AT A TIME.**

*Explanation:*      Product Authorization is being displayed on another panel.

*System Action:*    Product Authorization is not displayed on this panel.

*User Response:*    Use the panel currently displaying Product Authorization, or cancel that panel and resubmit the job on this one.

**BMC89021E      ERROR DURING DYNAMIC ALLOCATION. PASSWORD LIBRARY WAS NOT ALLOCATED, ERROR CODE=<code>, INFO. CODE=<code>, DDNAME=SYSLIB.**

*Explanation:*      The product-authorization interface and the Product Authorization utility were unable to dynamically allocate the password library. The error codes and information codes returned by the DYNALLOC macro are described in the *Authorized Assembler Programming Guide* and in the appendixes of the ISPF help tutorial panels.

*System Action:*    The action fails, or the batch (utility) job terminates.

*User Response:*    Verify that the correct data set name for the password library was specified and that the data set exists and is cataloged on DASD. Retry the action. If failure persists, contact your BMC Software technical support analyst for assistance.

**BMC89022E      ERROR IN INPUT DSN. PLEASE CONTACT BMC PRODUCT SUPPORT.**

*Explanation:*      The data set name for the product-authorization table was not found.

*System Action:*    All functions are suppressed.

*User Response:*    If the data set name is wrong, correct it and resubmit the job. If the data set name is correct, contact your BMC Software technical support analyst for assistance.

**BMC89029I      PRODUCT AUTHORIZATION TABLE WAS SUCCESSFULLY UPDATED.  
PRESS ENTER TO CONTINUE.**

*Explanation:*      The table has been updated.

*System Action:*    All functions have been processed.

*User Response:*    Press **Enter** to continue.

**BMC89050E      THE BMC PRODUCT CODE IS MISSING OR IS INVALID. CHECK PARM=  
ON JCL EXEC STATEMENT.**

*Explanation:*      No product code (or an invalid product code) was specified in the PARM parameter of the batch JCL.

*System Action:*    The password is not processed.

*User Response:*    Add or correct the product code in the PARM parameter of the JCL EXEC statement. See “Control Statements and Keywords” on page A-29 for assistance with syntax.

**BMC89051E      UNRECOGNIZABLE OR INCOMPLETE PARAMETER ON THE CURRENT  
INPUT CONTROL STATEMENT.**

*Explanation:*      A parameter on the input control statement is incorrect.

*System Action:*    The password is not processed.

*User Response:*    Correct the parameter, and retry the action. See “Control Statements and Keywords” on page A-29 for assistance with syntax.

**BMC89052E      MODEL NUMBER CANNOT BE LONGER THAN FOUR CHARACTERS.**

*Explanation:*      A CPU model number of more than four characters was specified in the batch JCL. CPU model numbers cannot be longer than four characters.

*System Action:*    The password is not processed.

*User Response:*    Correct the model number, and retry the action. See “Control Statements and Keywords” on page A-29 for assistance with syntax.

**BMC89053E SERIAL NUMBER MUST BE 5 HEXADECIMAL CHARACTERS WITH DELIMITING HYPHEN.**

*Explanation:* The CPU serial number must be followed by a delimiting hyphen (-).

*System Action:* The password is not processed.

*User Response:* Insert a hyphen between the serial number and the model number, and retry the action. See “Control Statements and Keywords” on page A-29 for assistance with syntax.

**BMC89054E THE FIRST CHARACTER OF THE BMC PRODUCT CODE CANNOT BE A NUMBER. PLEASE CORRECT AND RERUN THE JOB.**

*Explanation:* The first character of the product code is invalid.

*System Action:* The password is not processed.

*User Response:* Correct the first character of the product code in the PARM field on the JCL EXEC statement. See “Control Statements and Keywords” on page A-29 for assistance with syntax.

**BMC89055E THE PASSWORD MUST BE FORMATTED AS “PSWD=PPP,PPP,PPP,PPP” OR “PSWD=PPPPPPPPPPPP” OR “PPP PPP PPP PPP.”**

*Explanation:* The password in the batch JCL has been specified incorrectly. The password can be specified as 12 consecutive characters without spaces or as four sets of three characters, with each set separated by a comma or a blank space.

*System Action:* The password is not processed.

*User Response:* Correct the password, and resubmit the job. See “Control Statements and Keywords” on page A-29 for assistance with syntax.

**BMC89057E OPEN FAILURE FOR DDNAME=SYSIN.**

*Explanation:* The Product Authorization utility batch program was unable to open the data set specified by the SYSIN DD statement.

*System Action:* The batch program terminates.

*User Response:* Correct the data set name specified on the SYSIN DD statement, and resubmit the job. See “Control Statements and Keywords” on page A-29 for assistance with syntax.

**BMC89058E      MODEL NUMBER CONTAINS INVALID CHARACTERS.**

*Explanation:*      At least one character in the CPU model number specified in the batch JCL is invalid. Only hexadecimal characters (0 to 9 and A to F) are allowed in the model number.

*System Action:*    The password is not processed.

*User Response:*    Correct the model number, and resubmit the job. See “Control Statements and Keywords” on page A-29 for assistance with syntax.

**BMC89059E      SERIAL NUMBER CONTAINS INVALID CHARACTERS.**

*Explanation:*      At least one character in the CPU serial number specified in the batch JCL is invalid. Only hexadecimal characters (0 to 9 and A to F) are allowed in the serial number.

*System Action:*    The password is not processed.

*User Response:*    Correct the serial number, and resubmit the job. See “Control Statements and Keywords” on page A-29 for assistance with syntax.

**BMC89060E      THIS PASSWORD REQUIRES “NEWCPUID” KEYWORD FOR THE CPU ID TO BE ADDED.**

*Explanation:*      The Add password being processed requires specification of the NEWCPUID keyword, and none was specified.

*System Action:*    The password is not processed.

*User Response:*    Specify the NEWCPUID keyword on your input control statement. See “Control Statements and Keywords” on page A-29 for assistance with syntax.

**BMC89061E      THIS PASSWORD REQUIRES “OLDCPUID” KEYWORD FOR THE CPU ID TO BE DELETED.**

*Explanation:*      The Delete password being processed requires specification of the OLDCPUID keyword, and none was specified.

*System Action:*    The password is not processed.

*User Response:*    Specify the OLDCPUID keyword on your input control statement. See “Control Statements and Keywords” on page A-29 for assistance with syntax.

**BMC89062E      PASSWORD TO UPDATE AN EXISTING CPU ID ENTRY REQUIRES  
“OLDCPUID” KEYWORD.**

*Explanation:*     The Update password being processed requires specification of the  
OLDCPUID keyword, and none was specified.

*System Action:*   The password is not processed.

*User Response:*   Specify the OLDCPUID keyword on your input control statement.  
See “Control Statements and Keywords” on page A-29 for assistance with syntax.

**BMC89063E      THIS PASSWORD REQUIRES “NEWCPUID” AND “OLDCPUID”  
KEYWORDS.**

*Explanation:*     The Replace password being processed requires specification of  
the NEWCPUID and OLDCPUID keywords, and neither was specified.

*System Action:*   The password is not processed.

*User Response:*   Specify the NEWCPUID and OLDCPUID keywords on your input  
control statement. See “Control Statements and Keywords” on page A-29 for  
assistance with syntax.

**BMC89064W      ERRORS CAUSED TERMINATION. SOME OR ALL REQUESTS DID NOT  
COMPLETE SUCCESSFULLY.**

*Explanation:*     The input data contains one or more errors.

*System Action:*   Processing terminates at the point of the error.

*User Response:*   Examine the input control statements for errors. See “Control  
Statements and Keywords” on page A-29 for assistance with syntax. If you cannot  
locate the errors, contact your BMC Software technical support analyst for  
assistance.

**BMC89065I      ALL REQUESTS COMPLETED SUCCESSFULLY.**

*Explanation:*     All requested functions have been processed.

*System Action:*   The product load library is updated.

*User Response:*   None. Information only.

**BMC89069E PERMANENT PRODUCT AUTHORIZATION TABLE'S GRACE PERIOD IS INVALID. PLEASE CONTACT BMC PRODUCT SUPPORT.**

*Explanation:* An error occurred, invalidating the table's grace period. The table must be rebuilt.

*System Action:* All functions are suppressed.

*User Response:* Contact your BMC Software technical support analyst for assistance.

**BMC89070E ISPF V3 REQUIRED. USE BATCH UPDATE PGM INSTEAD.**

*Explanation:* ISPF version 3 (or later) is required to run the online customer interface.

*System Action:* The online customer interface terminates.

*User Response:* Use the batch update program.

**BMC89100E INTERNAL ERROR, RC = <return-code>. PLEASE CONTACT BMC PRODUCT SUPPORT.**

*Explanation:* A processing error occurred.

*System Action:* The function is not performed.

*User Response:* Note the return code, and contact your BMC Software technical support analyst for assistance.

**BMC89101E PASSWORD CONTAINS INVALID CHARACTERS.**

*Explanation:* The password contains one or more invalid special characters. The only special characters permitted are @, =, and +.

*System Action:* The password is not processed.

*User Response:* Correct the password, and resubmit the job.

**BMC89102E PASSWORD CONTAINS ILLEGAL CHARACTERS (I AND/OR O).**

*Explanation:* The password contains one or more of the letters *I* or *O*. These letters are not permitted in passwords.

*System Action:* The password is not processed.

*User Response:* Correct the password, and resubmit the job.

**BMC89104E      PASSWORD DOES NOT MATCH SERIAL NUMBER AND MODEL NUMBER.**

*Explanation:*      The specified password is not correct for the specified CPU serial number and model number; or (if the batch interface was used) the product code in the PARM statement is not correct. To obtain your CPU serial and model numbers, log on to the processor and perform one of the following actions:

- Select the **Display current processor information** option from the Product Authorization Primary Menu (see page A-11), and submit the product-authorization batch program with the LIST option (see page A-29).
- Issue the MVS operator command D M=CPU from the system console.

*System Action:*      The password is rejected.

*User Response:*      Verify that the specified CPU serial number and model number are correct. If the numbers are incorrect, retry the action specifying the proper numbers. If the numbers are correct, contact BMC Software Product Support for assistance.

If the batch program was used, verify that the three-character product code specified in the PARM= statement is correct. If the product code is correct, but the job still fails, contact your BMC Software technical support analyst for assistance.

**BMC89105E      PASSWORD IS INCORRECT. PLEASE VERIFY AND RE-ENTER THE PASSWORD.**

*Explanation:*      The specified password is not correct.

*System Action:*      The password is rejected.

*User Response:*      Verify that the password and the product code have been specified correctly, and retry the action. If the password continues to be rejected, contact your BMC Software technical support analyst for assistance.

**BMC89106E      COULD NOT FIND THE EXISTING CPU ID ENTRY THAT WAS TO BE DELETED.**

*Explanation:*      An attempt was made to delete an entry in the product-authorization table, but the entry could not be found. This error usually indicates that the wrong product library was specified.

*System Action:*      No changes are made to the product-authorization table.

*User Response:*      Verify that the correct product load library is specified and retry the action. You can view entries in the product-authorization table by selecting the **Display product authorization** option from the “Product Authorization Primary Menu (SECEPPRI)” on page A-11 or by submitting the product-authorization batch program with the LIST option.

- BMC89107E**      **ATTEMPTING TO ADD A CPU ID THAT IS ALREADY IN THE TABLE.**
- Explanation:*      This CPU is already authorized for this product.
- System Action:*      The password is not processed.
- User Response:*      Determine whether the CPU ID is correct. You may need to display current processor information.
- 
- BMC89108W**      **PRODUCT IS NOT AUTHORIZED TO EXECUTE. PLEASE ENTER BMC-SUPPLIED PASSWORDS.**
- Explanation:*      There are no authorized CPUs in the password library.
- System Action:*      The product does not run.
- User Response:*      Use a password to add an entry for the correct processor to the product load library.
- 
- BMC89110I**      **PRODUCT AUTHORIZATION TABLE WAS SUCCESSFULLY BUILT/UPDATED. YOU ARE NOW AUTHORIZED TO EXECUTE THIS PRODUCT ON ANY PROCESSOR UNTIL <mm/dd/yyyy>. PRESS ENTER TO CONTINUE.**
- Explanation:*      The product-authorization table has been modified to allow execution of this product temporarily (until the indicated date).
- System Action:*      None.
- User Response:*      None. Information only. If you have a permanent license for this product, contact your BMC Software sales representative to obtain a permanent license password.
- 
- BMC89111E**      **RC=<n> WHILE ATTEMPTING TO DECODE THE EXPIRATION DATE.**
- Explanation:*      The Product Authorization utility was unable to decode the expiration date because of an internal error.
- System Action:*      The action fails, or the batch job terminates.
- User Response:*      Note the return code, and contact your BMC Software technical support analyst for assistance.
- 
- BMC89112W**      **THERE ARE NO ENTRIES FOR LICENSED PROCESSORS.**
- Explanation:*      There are no authorized CPUs in the password library.
- System Action:*      The product does not execute.
- User Response:*      Use a password to add an entry for the correct processor to the password library.

**BMC89113E DATA SET DOES NOT EXIST OR IS NOT CATALOGED.**

*Explanation:* The specified password library cannot be found.

*System Action:* The action fails, or the batch job terminates.

*User Response:* Correct the data set name for the password library or catalog the data set, and retry the action.

**BMC89114E OBTAIN ERROR. DATA SET MAY BE ARCHIVED.**

*Explanation:* The specified password library cannot be found and might be archived.

*System Action:* The action fails, or the batch job terminates.

*User Response:* Verify the data set name for the password library or restore the data set, and retry the action.

**BMC89115E DATA SET IS NOT A VALID LOAD LIBRARY.**

*Explanation:* The specified password library is not a partitioned data set. The product-authorization interface and Product Authorization utility expect the product load library to be a partitioned data set.

*System Action:* The action fails, or the batch (utility) job terminates.

*User Response:* Verify that the data set name for the correct password library was specified. The password library should be a partitioned data set. If the data set is not partitioned, check to ensure that the product was correctly installed. Retry the action. If the error persists, contact your BMC Software technical support analyst for assistance.

**BMC89116E THIS TEMPORARY AUTHORIZATION PASSWORD CONTAINS AN EXPIRATION DATE THAT HAS ALREADY EXPIRED.**

*Explanation:* To be valid, the expiration date for the temporary password must be equal to, or greater than, the current date.

*System Action:* The password is not processed.

*User Response:* Contact your BMC Software sales representative.

- 
- BMC89117E THE PRODUCT AUTHORIZATION TABLE IS FULL. NO NEW CPU IDS CAN BE ADDED.**
- Explanation:* The maximum number of CPUs has been stored in this product-authorization table.
- System Action:* The password is not processed.
- User Response:* If some CPUs in the table are no longer being used, they can be deleted to make room for this CPU. Contact your BMC Software sales representative to obtain a Delete password. If no CPUs can be deleted, call your BMC Software technical support analyst for assistance.
- BMC89118E TEMPORARY AUTHORIZATION PASSWORD DOES NOT CORRESPOND TO THE CURRENT BMC PRODUCT.**
- Explanation:* The temporary authorization in your product-authorization library is for a product other than the one that you are attempting to execute.
- System Action:* The product does not execute.
- User Response:* Contact your BMC Software technical support analyst for assistance.
- BMC89119E I/O ERROR WHILE ATTEMPTING TO READ PRODUCT AUTHORIZATION TABLE (DDNAME=SYSLIB).**
- Explanation:* The system is unable to read the product-authorization table.
- System Action:* All functions are suppressed.
- User Response:* After several attempts are made to read the table, the table might have to be rebuilt. Contact your BMC Software technical support analyst for assistance.
- BMC89120E COULD NOT FIND THE EXISTING CPU ID ENTRY THAT WAS TO BE REPLACED.**
- Explanation:* An attempt was made to apply a Replace password, but the CPU to be replaced in the product-authorization table cannot be found.
- System Action:* The password is not processed.
- User Response:* The old CPU ID or the password was specified incorrectly. Correct the specification and retry the action. If failure persists, contact your BMC Software technical support analyst for assistance.

**BMC89121E PERMANENT PRODUCT AUTHORIZATION TABLE WAS NOT FOUND, BUT THE PASSWORD SPECIFIES A “DELETE” OR “REPLACE” ACTION.**

*Explanation:* An attempt was made to apply a Delete password or a Replace password, but the system cannot locate a product-authorization table for this product.

*System Action:* The password is not processed.

*User Response:* Contact your BMC Software technical support analyst for assistance.

**BMC89122E ATTEMPTING TO ADD A NEW CPU ID TO A NEW TABLE, BUT SERIAL NUMBER AND MODEL NUMBER WERE NOT SPECIFIED.**

*Explanation:* The CPU serial number and the model number are required before the password can be processed.

*System Action:* The password is not processed.

*User Response:* Add the CPU ID and the model number, and resubmit the job.

**BMC89123E PERMANENT PRODUCT AUTHORIZATION TABLE IS INVALID. PLEASE CONTACT BMC PRODUCT SUPPORT.**

*Explanation:* An error invalidated the product-authorization table. The table must be rebuilt.

*System Action:* All functions are suppressed.

*User Response:* Contact your BMC Software technical support analyst for assistance.

**BMC89124E TEMPORARY PRODUCT AUTHORIZATION TABLE IS INVALID. PLEASE CONTACT BMC PRODUCT SUPPORT.**

*Explanation:* An error invalidated the product-authorization table. The table must be rebuilt.

*System Action:* All functions are suppressed.

*User Response:* Contact your BMC Software technical support analyst for assistance.

**BMC89125E            THIS PASSWORD IS NO LONGER VALID. IT CANNOT BE USED TO  
ACTIVATE OR CHANGE YOUR PRODUCT LICENSE. PLEASE CONTACT  
YOUR BMC SALES REPRESENTATIVE.**

*Explanation:*     The password has expired.

*System Action:*   The password is not processed.

*User Response:*   Contact your BMC Software sales representative or your BMC  
Software technical support analyst for assistance.

**BMC89126E            I/O ERROR WHILE ATTEMPTING TO WRITE PRODUCT  
AUTHORIZATION TABLE (DDNAME=SYSLIB).**

*Explanation:*     A write error occurred.

*System Action:*   All functions are suppressed.

*User Response:*   Verify that the data set name is correct and that the data set is  
partitioned. If you are unable to resolve the problem, contact your BMC Software  
technical support analyst for assistance.

**BMC89127I            PROCESSOR WAS SUCCESSFULLY ADDED TO THE PRODUCT  
AUTHORIZATION TABLE. YOU ARE NOW AUTHORIZED TO EXECUTE  
THIS PRODUCT ON SERIAL NUMBER <nnnnn>, MODEL NUMBER  
<mmmm>. PRESS ENTER TO CONTINUE.**

*Explanation:*     The Add password has been processed. The product-authorization  
table was modified to allow operation of this product on the CPU with the serial  
number and model numbers indicated.

*System Action:*   None.

*User Response:*   None. Information only.

**BMC89128I            PROCESSOR (SERIAL NUMBER <nnnnn>, MODEL NUMBER <mmmm>)  
WAS SUCCESSFULLY DELETED FROM THE PRODUCT  
AUTHORIZATION TABLE. PRESS ENTER TO CONTINUE.**

*Explanation:*     The Delete password has been processed. This product can no  
longer be executed on the CPU with the serial and model numbers indicated in the  
message.

*System Action:*   None.

*User Response:*   None. Information only.

**BMC89129I           PROCESSOR WAS SUCCESSFULLY REPLACED IN THE PRODUCT AUTHORIZATION TABLE. YOU ARE NOW AUTHORIZED TO EXECUTE THIS PRODUCT ON SERIAL NUMBER <nnnnn>, MODEL NUMBER <mmmm>. PRESS ENTER TO CONTINUE.**

*Explanation:*     The Replace password has been processed. The CPU with the serial and model numbers indicated is now authorized to use this product.

*System Action:*   None.

*User Response:*   None. Information only.

**BMC89130I           PROCESSOR (SERIAL NUMBER <nnnnn>, MODEL NUMBER <mmmm>) WAS SUCCESSFULLY MODIFIED IN THE PRODUCT AUTHORIZATION TABLE. PRESS ENTER TO CONTINUE.**

*Explanation:*     The Modify password has been processed. The product-authorization table has been modified for the CPU with the serial and model numbers indicated.

*System Action:*   None.

*User Response:*   None. Information only.

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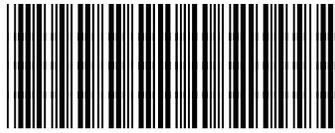
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# Notes



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