MainView Threshold Management Guide

Supporting

Version 6.1 of MainView Infrastructure
MainView products

September 2012
Contacting BMC Software

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Before contacting BMC

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

■ product information
  — product name
  — product version (release number)
  — license number and password (trial or permanent)

■ operating system and environment information
  — machine type
  — operating system type, version, and service pack or other maintenance level such as PUT or PTF
  — system hardware configuration
  — serial numbers
  — related software (database, application, and communication) including type, version, and service pack or maintenance level

■ sequence of events leading to the issue

■ commands and options that you used

■ messages received (and the time and date that you received them)
  — product error messages
  — messages from the operating system, such as file system full
  — messages from related software
License key and password information

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

- Send an e-mail message to customer_support@bmc.com.
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About this book

This book contains information about MainView threshold management, which includes the MainView Threshold Advisor application and dynamic threshold views on the mainframe. This book is intended for performance analysts and system programmers who are responsible for the performance of IBM® z/OS® systems and subsystems.

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Conventions

This book uses the following special conventions:

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

- Variable text in path names, system messages, or syntax is displayed in italic text:
  
  `testsys/instance/fileName`

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

This chapter introduces MainView threshold management, and describes:

- Challenge of setting performance monitor thresholds
- Concepts and features
- Architecture

The challenge of setting performance thresholds

Setting meaningful and effective thresholds in performance monitors can be a challenge. You might try using standard rules-of-thumb or vendor recommendations, but the definition of normal behavior or good performance can vary, depending on:

- Site standards and practices
- The tasks being performed by the system, workload, or application
- The affected time period (time of day and day of the week)

To overcome these challenges, you could try a statistical approach—using your own data to determine what is normal for a particular resource and its associated performance metric. You could calculate historical average and standard deviation values for a metric, and define normal as a range of values centered around that average. However, this approach ignores variations in time and business activity by combining values for all time periods (some with high activity, others with low). Analyzing different time periods for dozens, if not hundreds, of metrics manually over different time periods would be complex and time-consuming. And subsequently defining threshold conditions and alarm settings for each metric would require significant additional effort.
The MainView Threshold Advisor application and MainView dynamic thresholds on the mainframe can help you address these challenges by:

- Collecting and analyzing large amounts of performance data
- Recommending threshold values based on the analyzed data
- Making those thresholds available across your MainView environment, in both product views and alarm definitions
- Applying those thresholds dynamically, according to time periods that match your business activity

MainView Threshold Advisor application

MainView Threshold Advisor is a web-based application that can help you develop meaningful and effective thresholds for your MainView performance monitors.

Using MainView Threshold Advisor on a personal computer, you can:

- Select specific MainView performance metrics to collect for statistical processing
- Define business weeks, which are collections of calendar periods that represent a typical week of business activity at your site
- Compare the statistical parameters that MainView Threshold Advisor calculates (such as average, first, and second standard deviation) with actual data for the same or different business weeks
- Display recommended threshold values for a given metric in tabular reports and graphical charts
- Push recommended threshold values to the mainframe for use by your MainView performance monitors

Currently, MainView Threshold Advisor can generate recommended thresholds for the following MainView products:

- CMF MONITOR
- MainView for CICS®
- MainView for DB2®
- MainView for IMS™
- MainView for WebSphere® MQ
- MainView for z/OS
Dynamic thresholds on the mainframe

Dynamic thresholds offer a flexible way to monitor key performance metrics across your entire MainView environment. You can develop dynamic thresholds in one of two ways:

- With help from the MainView Threshold Advisor web-based application
- Manually, by using MainView product views and dynamic threshold views

Dynamic threshold concepts

MainView stores the performance data collected by products in one or more data tables. An element (one piece of data in a table) represents a performance metric for the system or subsystem that you are monitoring. Elements are displayed as fields in MainView product views. With standard view customization, you can set threshold conditions for a specific instance of an element in a specific view; the threshold remains in effect all the time. With alarm definitions, you can specify an alarm severity and a resulting action for a specific instance of an element in a specific view.

Dynamic thresholds add the ability to:

- Define threshold comparisons for an element wherever it appears in any MainView product view or alarm definition
- Specify different threshold comparisons for different times of the day or week
- Deploy threshold definitions to multiple systems, as appropriate

Dynamic thresholds consist of threshold sets for an element and calendar periods during which those threshold sets should be used. This combination of threshold set and calendar period is referred to as a threshold selection. Threshold selections are the basis for dynamic thresholds in your environment.
In each threshold set, you assign a display attribute, an alarm severity, or both to the element. If one of the element’s threshold comparisons is found to be true, an action is triggered based on your definition:

- In a view, MainView highlights the corresponding field by changing its color.
- In an alarm, MainView triggers the defined action, such as generating a message.

**NOTE**

By default, dynamic thresholds are used in all views and alarm definitions that include the specified element. You must tell MainView if you do not want dynamic thresholds to be in effect for a specific view or alarm definition. For more information, see “How dynamic thresholds are implemented in views and alarms” on page 19.

Figure 1 illustrates how threshold sets, calendar periods, and threshold selections combine to provide dynamic thresholds in views and alarms.

**Figure 1  Overview of dynamic thresholds**
How dynamic thresholds are evaluated

For each element that is used in a view or alarm definition, MainView performs the following evaluation:

1. Determines whether a dynamic threshold (or threshold selection) is defined for the element. If not, the evaluation ends.

   **Note:** The element might still be affected by a standard threshold condition that is defined in a specific view or alarm definition.

2. Determines which calendar period is active for the threshold selection, based on the current time and day of the week.

3. Determines whether the threshold set that is associated with the active calendar period is defined and enabled. If the threshold set is not defined or not enabled, the evaluation ends.

4. Evaluates each threshold comparison in the threshold set to find the first comparison that is true. If all comparisons are false, the evaluation ends.

5. Based on the first threshold comparison that is true:
   - assigns the appropriate display attribute to the element in all views
   - sets the appropriate severity level in any alarm for the element

How dynamic thresholds are implemented in views and alarms

When you define dynamic thresholds for an element, those thresholds are, by default, in effect for every instance of the element in every MainView product view and alarm definition. Unless you tell MainView **not** to use the dynamic thresholds for an element, they override:

- View-specific thresholds that are defined with the CUST command
- View-specific alarms that are defined with the MAKEALARM wizard

Defining dynamic thresholds for an element is a global decision that affects your entire MainView environment, and you should plan for them accordingly. If you decide that you need a different threshold for a specific instance of an element, you can:

- Use the CUST command to customize a view where the element appears, and specify `Dynamic=N`. 
Where dynamic threshold definitions are stored

All dynamic threshold definitions, whether pushed from MainView Threshold Advisor or defined manually, are stored in the CASPERM registry on the local system. The CASPERM registry is a Runtime Component System (RTCS) product registry that stores MainView object definitions. Each coordinating address space (CAS) in your MainView environment must have its own CASPERM registry; the registry cannot be shared by multiple CASs. A CASPERM registry is normally allocated for the local CAS during installation, as part of the customization process.

Any changes that you make to dynamic threshold definitions are available throughout the local system without having to update individual product views or alarm definitions. However, only MainView products that are running on the same system as the local CAS can use those dynamic threshold definitions. To use the same dynamic threshold definitions with MainView products running on other systems, you must deploy the definitions to those systems, as described in “Deploying dynamic threshold definitions” on page 107.

Architecture of MainView threshold management

As shown in Figure 2 on page 21, the MainView threshold management architecture involves:

- Collecting MainView performance data from one or more MainView host servers on the mainframe
- Storing that data in a Capacity Management Database (CDB) server
- Performing statistical analysis on the collected data
- Generating recommended threshold values and displaying them in tabular and graphical formats in a web browser
- Pushing the recommended thresholds to the mainframe via a User Interface Middleware (UIM) server

- Storing the pushed thresholds (and any manually created threshold definitions) in the CASPERM registry for the system where the thresholds are to be used

**Figure 2** MainView threshold management architecture
Where to go from here

- To set up the threshold management environment on the z/OS and Microsoft Windows platforms, see Chapter 2, “Setting up the environment.”

- If you want to use MainView Threshold Advisor to analyze your performance data and develop recommended thresholds:
  - See Chapter 3, “Collecting performance data” to perform the necessary data collection and administrative tasks.
  - See Chapter 4, “Generating recommended thresholds” to create a statistical study and generate recommended thresholds.
  - See Chapter 5, “Pushing thresholds to the mainframe” to push recommended thresholds from MainView Threshold Advisor to the mainframe for use by MainView products.

- If you want to create dynamic thresholds manually or manage thresholds that you pushed from MainView Threshold Advisor, see Chapter 6, “Working with dynamic thresholds on the mainframe.”

- To review terms that are central to understanding MainView threshold management, see the “Glossary.”
Setting up the environment

This chapter explains how to set up the environment for MainView threshold management.

Overview of the environment

The MainView threshold management environment includes components that reside on:

- One or more Microsoft Windows servers
- Your z/OS systems

To install these components, you need to be familiar with the relevant platform. Figure 3 on page 24 shows the components that must be installed and customized on each platform.
Setting up the MainView environment

This topic describes the required MainView components and explains how to check the status of those components.

Required components

The MainView environment on z/OS includes:

- MainView Infrastructure
- MainView products for which you want to develop thresholds

To set up the MainView environment, you use the Installation System on a z/OS system. When you install MainView Infrastructure, you must use the OZI Customization process to customize the components listed in Table 1 on page 25.
Checking the status of MainView components

MainView threshold management requires certain MainView components to:

- Collect performance data on the mainframe
- Make that data available to MainView Threshold Advisor for analysis
- Push recommended thresholds from MainView Threshold Advisor back to the mainframe
- Deploy definitions to other systems

Use the following procedure to check the status of the required MainView components.

---

Table 1  MainView components to customize with OZI Customization

<table>
<thead>
<tr>
<th>Component</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>CAS</td>
<td>Supplies common services and enables communication within the MainView environment</td>
</tr>
<tr>
<td>CASPERM registry</td>
<td>Stores MainView object definitions, such as dynamic threshold definitions</td>
</tr>
<tr>
<td></td>
<td>Note: A CASTEMP registry, which is used for internal processing, is created by MainView automatically.</td>
</tr>
<tr>
<td>MainView Infrastructure common registry</td>
<td>Stores information related to Alarm Management, and supports the deployment of definitions to other CASPERM registries on other systems</td>
</tr>
<tr>
<td>UIM server</td>
<td>Provides web services support, such as receiving recommended thresholds that are pushed from MainView Threshold Advisor to the mainframe</td>
</tr>
<tr>
<td>MainView host server</td>
<td>Provides access to MainView product data</td>
</tr>
<tr>
<td>MainView Alarm Management</td>
<td>Monitors performance metrics and produces alarm reports, which can be based on dynamic thresholds</td>
</tr>
</tbody>
</table>

For information about using the Installation System and the OZI Customization process, see the *Installation System User Guide*. For information about managing these MainView components after they are installed, see the *MainView Administration Guide*. 

---

Checking the status of MainView components
To check the status of MainView components

1 Display the CASINFO view (Figure 4) by performing one of the following actions:

- Hyperlink from the CAS Information field on the EZPLEX menu.
- Type CASINFO on the COMMAND line, and press Enter.

Figure 4 CASINFO view (left)

The CASINFO view provides information about the local CAS and the status of the components that are required to support MainView threshold management. To see additional information, scroll the display to the right (Figure 5 and Figure 6).

Figure 5 CASINFO view (middle)

Figure 6 CASINFO view (right)

2 Review the following fields on CASINFO to ensure that the required components are available:

<table>
<thead>
<tr>
<th>Field</th>
<th>What to look for</th>
</tr>
</thead>
<tbody>
<tr>
<td>M</td>
<td>A value of Y means MainView Alarm Management is available.</td>
</tr>
<tr>
<td>UIM Name</td>
<td>The name of the UIM server should be displayed.</td>
</tr>
</tbody>
</table>
Setting up the CDB server

This topic describes the requirements and procedures for setting up the CDB server in a Windows environment. You must install the following CDB components:

- BMC CDB Services
- BMC CDB Workflow Service

**NOTE**

- CDB version 1.2 or later is required to run the MainView Threshold Advisor application.
- You can install BMC CDB Services and BMC CDB Workflow Service on the same machine or on different machines. At least one instance of each component is required.

## System requirements

Table 2 lists the requirements for installing CDB components.

### Table 2  CDB system requirements

<table>
<thead>
<tr>
<th>Component</th>
<th>Requirement</th>
</tr>
</thead>
</table>
| Operating system | ■ Windows 7  
                     ■ Windows 2008 Server R2  
                     ■ Windows 2008 Server SP1 or later  
                     ■ Windows 2003 Server R2 SP2 or later |
| Features      | ■ Microsoft .NET Framework versions 3.5 and 4.0 FULL  
                     ■ Message Queuing Server (MSMQ) |
| Roles         | ■ Internet Information Server (IIS) for your version of Windows:  
                     — ASP.NET  
                     — Windows Authentication  
                     — IIS Management Compatibility |
Before you begin

Before you set up the CDB server, review the following information:

- Close all open files and applications. If the installation program cannot override certain system files, you might have to restart your computer when the installation is complete.

- The installation program checks for the requirements described in “System requirements” on page 27. If any requirement is not satisfied, the installation program notifies you and stops. Before restarting the installation program, you must satisfy the missing requirements.

- Perform one of the following tasks:
  
  — If you downloaded the product from the Electronic Product Distribution (EPD) facility, navigate to the folder where the installation files were saved.
  
  — If you received a physical product shipment, insert the BMC CDB installation CD into a CD drive.

Installing BMC CDB Services

Use the following procedure to install BMC CDB Services.

To install BMC CDB Services

1 In the BMC CDB Services folder, double-click the setup.exe file.

2 On the Welcome page, click Next.

3 Read the license agreement and click Yes.

4 Review the Readme file and click Next.

5 On the Choose Destination Location page, click Next to accept the default location or Browse to choose a different location.

This location identifies the folder where you want to install BMC CDB Services product files. The default destination folder is C:\Program Files\BMC Software\CDB.
Installing BMC CDB Workflow Service

Use the following procedure to install BMC CDB Workflow Service.

**NOTE**
You can install BMC CDB Workflow Service on the same machine as BMC CDB Services or on a different machine.

**To install BMC CDB Workflow Service**

1. In the BMC CDB Workflow Service folder, double-click the setup.exe file.

2. On the Welcome page, click Next.

3. Read the license agreement and click Yes.

4. Review the Readme file and click Next.

5. On the Choose Destination Location page, click Next to accept the default location or Browse to choose a different location.

   This location identifies the folder where you want to install BMC CDB Workflow Service product files. The default destination folder is C:\Program Files\BMC Software\CDB.

---

**NOTE**
This location becomes the IIS virtual directory, which provides access to BMC CDB Services.

6. On the Start Copying Files page, review the destination folder and click Next to begin the installation.

   The Setup Status page displays a progress bar. After the files are installed, the Setup program updates your registry.

7. Click Finish and, if prompted to to restart your computer, restart it now.

   **NOTE**
   You *must* restart your computer before you attempt to access BMC CDB Services.
6 On the Binding Information page (Figure 7 on page 31), specify the following information to bind this instance of BMC CDB Workflow Service to an instance of BMC CDB Services:

<table>
<thead>
<tr>
<th>Field</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>CDB Server</td>
<td>Host name or IP address of the BMC CDB Services server</td>
</tr>
<tr>
<td></td>
<td>If BMC CDB Services is installed on the same machine, you can specify localhost.</td>
</tr>
<tr>
<td>Port</td>
<td>Port number of the BMC CDB Services server</td>
</tr>
<tr>
<td></td>
<td>The default port number is 80.</td>
</tr>
<tr>
<td>Virtual Directory</td>
<td>Virtual directory where BMC CDB Services is installed</td>
</tr>
<tr>
<td></td>
<td>The default directory is BMCCDB.</td>
</tr>
<tr>
<td>Username</td>
<td><em>(optional)</em> User name to be used when accessing a secure IIS server where BMC CDB Services is installed</td>
</tr>
<tr>
<td>Password</td>
<td><em>(optional)</em> Password to be used when accessing a secure IIS server where BMC CDB Services is installed</td>
</tr>
</tbody>
</table>

**NOTE**

If you have an open site, you can use the default login, Anonymous. If you have a secure site, you must specify user account information.
Chapter 2 Setting up the environment

7 Click **Test CDB Connection** to verify the connection and click **Next**.

If a message indicates that the connection failed, correct your binding information to specify a valid connection.

8 On the Service Account Information page (Figure 8 on page 32), select an account under which the BMC CDB Workflow Service should run:

- If BMC CDB Workflow Service is on the same machine as BMC CDB Services, select **Local System Account** and click **Next**.

- If the BMC CDB Workflow Service is binding to BMC CDB Services on a remote machine, select **Specific User Account**. After entering a user name and password, click **Test User Account** to verify the account, and click **Next** to continue.
9 When the Start Copying Files page is displayed, review your entries and click **Next** to begin the installation.

The Setup Status page displays a progress bar. After the files are installed, BMC CDB Workflow Service detects the Microsoft Windows Firewall.

10 When asked if you want to configure the firewall, enter **YES** or **NO**:

- Enter **YES** if you want the installation program to add all necessary entries to the firewall.
- Enter **NO** if you want to enter the firewall settings shown in Table 3 manually.

### Table 3  
**Firewall settings for BMC CDB Workflow Service**

<table>
<thead>
<tr>
<th>Rule type</th>
<th>Direction</th>
<th>Program</th>
<th>Protocol and ports</th>
<th>Action</th>
<th>Profile</th>
<th>Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>Port</td>
<td>Inbound / Outbound</td>
<td>CDBWorkflowService. EXE</td>
<td>TCP All local ports</td>
<td>Allow Connection</td>
<td>Domain Private</td>
<td>CDBWorkflowService</td>
</tr>
</tbody>
</table>

11 Click **Finish** and, if prompted to to restart your computer, restart it now.
Setting up MainView Threshold Advisor

This topic describes the requirements and procedures for setting up and launching MainView Threshold Advisor in a Windows environment.

NOTE

If you are not required to restart your computer, Setup starts the BMC CDB Workflow Service automatically.

Setting up MainView Threshold Advisor

This topic describes the requirements and procedures for setting up and launching MainView Threshold Advisor in a Windows environment.

NOTE

You can install MainView Threshold Advisor on the same machine as the CDB server components (BMC CDB Services and BMC CDB Workflow Service) or on a different machine.

System requirements

This topic describes the MainView Threshold Advisor server and application requirements.

Server requirements

Table 4 lists the requirements for installing the MainView Threshold Advisor server on a web server.

Table 4 System requirements for a web server

<table>
<thead>
<tr>
<th>Component</th>
<th>Requirement</th>
</tr>
</thead>
</table>
| Operating system                 | ■ Windows 7  
■ Windows 2008 Server R2  
■ Windows 2008 Server SP1 or later  
■ Windows 2003 Server R2 SP2 or later |
| Additional OS features and roles | ■ .NET Framework 3.5 and 4 FULL  
■ Message Queuing Server (MSMQ)  
■ Internet Information Server (IIS) for your version of Windows:  
  — ASP.NET  
  — Windows Authentication  
  — IIS Management Compatibility  
■ Oracle® 32-bit Java Standard Edition Release 6 Java Runtime Environment (JRE) |
| Memory                           | ■ 4 GB  |
If you want to run MainView Threshold Advisor on the server machine, the requirements listed in “Application requirements” on page 34 must also be met.

**JVM requirements**

Due to software dependencies within MainView Threshold Advisor, the 32-bit edition of the Java Virtual Machine (JVM) is required. The 32-bit edition is required even on machines that are running the 64-bit version of the Windows operating system.

When you install JVM, note the directory that contains the 32-bit `java.exe` executable; you need to specify that location during MainView Threshold Advisor installation. Normally, the 32-bit executable is in one of the following directories:

- `C:\Program Files\Java\jre6\bin` (32-bit Windows)
- `C:\Program Files (x86)\Java\jre6\bin` (64-bit Windows)

**Application requirements**

Table 5 lists the requirements for launching the MainView Threshold Advisor application in a web browser.

<table>
<thead>
<tr>
<th>Component</th>
<th>Requirement</th>
</tr>
</thead>
</table>
| Operating system           | ■ Windows 7  
■ Windows XP SP3 or later  
■ Windows 2003 Server R2 SP2 or later  
■ Windows 2008 Server SP1 or later  
■ Windows 2008 Server R2 |
| Web browser                | ■ Windows Internet Explorer 8 or later  
■ Mozilla Firefox 3 or later  
■ Google Chrome 4 or later |
| Additional components      | ■ Microsoft Silverlight 3 or later               |
| Memory                     | ■ 1 GB                                            |
| Screen resolution          | ■ 1280 x 1024  
**Note:** For screen resolutions lower than 1280 x 1024, BMC recommends that you put your web browser into full-screen mode (F11) to fully utilize the available screen space.
Installing MainView Threshold Advisor

Use the following procedure to install the MainView Threshold Advisor server component on a web server.

Before you begin

- Ensure that the server machine meets the requirements outlined in “Server requirements” on page 33.

- Perform one of the following tasks:
  - If you downloaded the product from the Electronic Product Distribution (EPD) facility, navigate to the folder where the installation files were saved.
  - If you received a physical product shipment, insert the MainView Threshold Advisor installation CD into a CD drive.

To install MainView Threshold Advisor

1. In the MainView Threshold Advisor folder, double-click the setup.exe file.

2. Click Run to launch the installation wizard.

3. On the Choose Java Virtual Machine Location page, specify (or navigate to) the location of the JVM 32-bit executable and click Next.
   Typically, the location is C:\Program Files\Java\jre6\bin (32-bit Windows) or C:\Program Files (x86)\Java\jre6\bin (64-bit Windows).

4. On the BMCMVIT Service page (Figure 9 on page 36), select an account under which the BMCMVIT Service should run and click Next:
   - Local System Account, which is the standard LocalSystem account
   - Specific User Account, provided that the account meets the following requirements:
     - Is part of the local Administrators group
     - Has Logon As A Service rights

      After entering a user name and password, click Test User Account to verify the account.
Figure 9  BMCMVIT Service page

NOTE
The BMCMVIT Service is used to schedule the population of collected data into the CDB.

5 When prompted, click Finish to complete the installation.

Where to go from here

Install Microsoft Silverlight on every computer that will run the MainView Threshold Advisor application, as described in “Installing Microsoft Silverlight.”
Installing Microsoft Silverlight

Use the following procedure to install Microsoft Silverlight on every computer that will run the MainView Threshold Advisor application.

**NOTE**
- If Silverlight is not already installed when you launch MainView Threshold Advisor for the first time, you are prompted to install it.
- Depending on your site standards, installing Silverlight might require administrator rights. If you are not able to install Silverlight yourself, contact your local administrator.

**To install Microsoft Silverlight**


2. Follow the instructions on the Silverlight installation page.

3. When the installation wizard is complete, click **Finish**.

Launching MainView Threshold Advisor

You can run MainView Threshold Advisor from a web browser or from the server where the application is installed. Use the following procedure to launch the application from either location.

**To launch MainView Threshold Advisor**

- From a web browser, type the required URL to launch MainView Threshold Advisor at your site:

  http://[machineName | IPaddress]/BMCMVIT/default.html

- To run MainView Threshold Advisor on the server where it is installed, select Programs > BMC Capacity Management > MainView Threshold Advisor > Navigate to BMC MainView Threshold Advisor.

The MainView Threshold Advisor splash screen is displayed while the necessary application services are loaded. When the Getting Started page appears, you can:

- Use the application toolbar at the top to access data collection and administration tools, as described in Chapter 3, “Collecting performance data.”
MainView Threshold Advisor console

- Use the Study List pane on the left to work with new and existing statistical studies, as described in Chapter 4, “Generating recommended thresholds.”

- Display this book in PDF format.

**NOTE**

- If you are launching MainView Threshold Advisor for the first time and have not installed Microsoft Silverlight, a prompt tells you to install Silverlight before proceeding. For more information, see “Installing Microsoft Silverlight” on page 37.

- If you need to contact Customer Support about a MainView Threshold Advisor issue, you will need to know the product version and build number (available on the splash screen and the About page).

MainView Threshold Advisor console

The MainView Threshold Advisor console provides easy access to the tools you need to collect performance metrics and develop statistical studies.

Figure 10 is an example of the MainView Threshold Advisor console.

**Figure 10** MainView Threshold Advisor console
Areas of the console

The console includes the following areas:

- The *application toolbar* (across the top) provides access to tools for data collection and administration. The status icon in the top left corner shows host server availability; to display detailed information, move your cursor over the icon.

- The *Study List pane* (on the left) lets you work with new and existing statistical studies.

  **TIP**

  To collapse or expand the Study List pane, click the arrow button at the top of the pane.

- The *Workflow pane* (on the right) contains a series of tabs that guide you through the basic steps for creating statistical studies and reports:

<table>
<thead>
<tr>
<th>Use this tab</th>
<th>To</th>
</tr>
</thead>
<tbody>
<tr>
<td>CDB Selection</td>
<td>Select a CDB profile, target database, and business week</td>
</tr>
<tr>
<td>Date Selection</td>
<td>Specify date ranges for reporting and statistical analysis</td>
</tr>
<tr>
<td>View Selection</td>
<td>Select a MainView view and fields for statistical analysis</td>
</tr>
<tr>
<td>Reporting</td>
<td>■ Generate recommended thresholds for a given metric</td>
</tr>
<tr>
<td></td>
<td>■ Display recommended thresholds in tabular reports and charts</td>
</tr>
<tr>
<td></td>
<td>■ Push recommended thresholds to the mainframe for use by MainView products</td>
</tr>
</tbody>
</table>

You can move from one step to another by clicking the appropriate tab. As you move from page to page, the data is validated for accuracy and completeness. If any required entries are missing or incorrect, the current page remains open and a warning message is displayed.

When using the workflow pane to create a new study, you must access each page in the order presented. However, when updating a study, you can access the pages in any order, moving backward and forward as needed.
Console icons

Icons on the console represent options that are available to you in the Study List and workflow panes (Table 6).

Table 6  MainView Threshold Advisor console icons

<table>
<thead>
<tr>
<th>Icon</th>
<th>Description</th>
</tr>
</thead>
</table>
| ![Folder](image) | Opens the selected study[^a]  
Only one study can be open at a time. If a study is open and you try to create or open another study, the active study closes automatically. If you have made changes to the active study, you are prompted to save them. |
| ![Plus](image) | Creates a new study |
| ![Minus](image) | Deletes the selected study[^a]  
To display this icon, move your cursor over a study name in the Study List pane. |
| ![Save](image) | Saves the active study[^b] |
| ![Save As](image) | Saves a copy of the active study under a new name[^b] |
| ![Close](image) | Closes the active study[^b] |
| ![Reload](image) | Refreshes a selection list or display by reloading data from the application server |
| ![Close](image) | Closes the selected threshold report |
| ![Close](image) | Closes all generated threshold reports |

[^a]: To display this icon, move your cursor over a study name in the Study List pane.

[^b]: This icon is displayed only when a study is open in the workflow pane.
Collecting performance data

This chapter explains how to set up the MainView Threshold Advisor application to collect performance data from your MainView performance monitors.

Overview of data collection

To set up MainView Threshold Advisor for data collection, you need to decide:

■ Where to collect data and where to store it
■ What data to collect
■ How the data relates to your business activity

Where to collect data and where to store it

MainView Threshold Advisor collects performance data from MainView host servers on the mainframe and stores that data in Capacity Management Database (CDB) servers, as shown here:
What data to collect

MainView Threshold Advisor helps you establish thresholds for your MainView performance monitors by collecting and analyzing performance data. In order to do that, you need to specify:

- A MainView product, the system on which it is running, and the context (product address spaces, or PASs) from which data should be collected

- Which views and fields within that product contain the data to be collected

The following example shows data that is being collected for CMF MONITOR.
How the data relates to your business activity

The data that MainView Threshold Advisor collects is analyzed in relation to the business activity at your site. To describe your business activity, you need to divide a typical week into calendar periods that represent different levels of activity.

In the following example, the week has been divided into six distinct calendar periods:

- Weekdays (Monday through Friday) are different from weekends (Saturday and Sunday).
- Each 8-hour period on a given day is different from every other period on that day.
Defining connection profiles

To define one or more business weeks that correspond to your activity, see “Defining business weeks” on page 51.

Defining connection profiles

To collect and store MainView performance data, you need to define connections between the MainView Threshold Advisor server and one or more:

- MainView host servers on the mainframe
- CDB servers

Defining MainView host server profiles

The Manage MainView Host Server Profiles tool lets you manage the connections to one or more MainView host servers.

To define a MainView host server profile

1. In the application toolbar, click Administration Tools.
2. In the Administration Tools window, click Manage MainView Host Server Profiles.
3. Click Add to open the Add MainView Host Server Profile dialog box.
4. Enter the values for each field, as described in Table 7 on page 45.
Defining CDB server profiles

Table 7  MainView host server profile parameters

<table>
<thead>
<tr>
<th>Field</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Host Server</td>
<td>Host name or IP address of the MainView host server</td>
</tr>
<tr>
<td>Port Number</td>
<td>Port number that the MainView host server is using to communicate</td>
</tr>
<tr>
<td></td>
<td>The default port number is 3940.</td>
</tr>
<tr>
<td>TSO User ID</td>
<td>User ID to be used when accessing the MainView host server</td>
</tr>
<tr>
<td>TSO Password</td>
<td>Password to be used when accessing the MainView host server</td>
</tr>
</tbody>
</table>

5  Click Test Connection.

The Connection Status field displays the result.

6  After the connection has been verified, click OK.

The profile appears in the Available MainView Host Server Profiles list.

7  Click Save Changes to complete the update, or Close to cancel.

---

**NOTE**

- You can define multiple MainView host server profiles. Each profile is named by its host server name and port number (such as SYSB3940).
- MainView Threshold Advisor attempts to collect data through all defined MainView host servers. If you do not want to collect data from a specific host server, you must explicitly remove its profile from the list of available servers.

---

**Defining CDB server profiles**

The Manage CDB Server Profiles tool lets you manage the connections to one or more CDB servers.

**To define a CDB server profile**

1  In the Administration Tools window, click Manage CDB Server Profiles.

2  Click Add to open the Add CDB Server Profiles dialog box.

3  Enter the values for each field, as described in Table 8 on page 46.
Defining CDB server profiles

Table 8  CDB server profile parameters

<table>
<thead>
<tr>
<th>Field</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Profile Name</td>
<td>Name to be assigned to the profile</td>
</tr>
<tr>
<td>Profile Description</td>
<td>(optional) Description of the profile</td>
</tr>
</tbody>
</table>
| Server Hostname or IP-Address | Host name or IP address of the CDB server  
You must specify https:// or http:// in front of the URL to indicate whether the connection is secure or non-secure. |
| Port              | Port number that the CDB server is using to communicate  
The default port number is 80. |
| Virtual Directory | Virtual directory where the CDB server is installed  
The virtual directory indicates the location of the application in the web server. In most cases, the value is BMCCDB, unless it was changed during CDB installation. |
| Username          | (optional) User name to be used when accessing the CDB server |
| Password          | (optional) Password to be used when accessing the CDB server |

4  Click Test Connection.

The Connection Status field displays the result.

5  After the connection has been verified, click OK.

The profile appears in the Available CDB Server Profiles list.

6  Click Save Changes to complete the update, or Close to cancel.

NOTE
You can define multiple CDB server profiles. You identify the CDB server profile to be used when you select the metrics to be collected, as described in “Creating a metric recording request” on page 47.
Selecting the metrics to be collected

To select the performance metrics that you want MainView Threshold Advisor to collect, you use the MainView Recording Requests tool. This tool helps you create a metric recording request, which specifies:

- MainView performance metrics that you want to collect
- CDB server profile and target database in which to store the data
- How frequently to transfer collected data to the CDB database (the population frequency)

Creating a metric recording request

Use the following procedure to create a metric recording request for collecting MainView performance metrics.

Before you begin

Keep these rules in mind as you create metric recording requests:

- You can create multiple metric recording requests, and edit and delete existing requests.
- You can associate a specific recording request with only one:
  - Target CDB profile
  - Target CDB database
  - Population frequency
- A single recording request can collect multiple metrics from multiple views and multiple products.
- For a given CDB profile and database combination, you should create a single recording request that includes all metrics for all views and all products that are stored on that CDB server.

To create a metric recording request

1 In the application toolbar, click Manage MainView Recording Requests.

2 In the Manage MainView Recording Requests dialog box (Figure 11 on page 48), select Create a new Metric Recording Request.
Creating a metric recording request

Figure 11   Manage MainView Recording Requests dialog box

3 Specify a name and, optionally, a description for the recording request.

4 Select appropriate values from the following lists:

<table>
<thead>
<tr>
<th>Field</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Target CDB profile</td>
<td>Identifies the CDB server that manages the collected data</td>
</tr>
<tr>
<td>Target CDB data source</td>
<td>Identifies the database that physically stores the data</td>
</tr>
<tr>
<td>Population frequency (hrs)</td>
<td>Specifies, in hours, how frequently to transfer data from a temporary staging area into the CDB database</td>
</tr>
<tr>
<td></td>
<td>This value determines how soon you can display data from the CDB database in MainView Threshold Advisor.</td>
</tr>
</tbody>
</table>

5 Under Selected MainView products, views, and fields, click Add/Remove.
MainView Threshold Advisor displays a list of products that are currently accessible from all of the MainView host servers you defined, as described in “Defining MainView host server profiles” on page 44.

6 In the MainView Product Browser window, display the available product views and fields:

A Expand a product name to display the list of instances of the product (that is, the system images on which it is running).

B Expand a product instance to open the list of contexts (that is, the PASs from which data can be collected).

C Expand a context name, and click the product/instance/context combination that is displayed.

A list of views and fields that are available for the selected combination is displayed (Figure 12).

Figure 12  MainView Product Browser with product/instance/context selected

7 To filter the list to display only recommended views and fields, select Yes in the Best Practice views and fields toggle switch.
Creating a metric recording request

**NOTE**
Initially, BMC recommends that you select the Best Practice views and fields for any given MainView product. When you become more familiar with the application, you can add non-Best Practice views and fields to your data collection, provided that the fields are numeric.

For a list of Best Practice views and fields, see Appendix A, “Best Practice metrics in MainView Threshold Advisor.” For guidelines about selecting non-Best Practice views and fields, see Appendix B, “Considerations for selecting additional metrics.”

8 When your metric selections are complete, click **Add Selection**.

The selected metrics appear in the **Selected MainView products, views, and fields** list.

9 (optional) If you do not want the recording request to run at this time, select **No** in the **Allow data to be downloaded** toggle switch.

By default, recording requests begin to run as soon as they are saved. By using this option, you can:

- Define recording requests ahead of time and hold them until you are ready to use them
- Allow a recording request to run for a period of time and then turn it off without deleting the request

10 Click **Save Changes** to complete your updates.

MainView Threshold Advisor begins collecting the requested performance data, as described in “How MainView Threshold Advisor collects performance data” on page 51.

**NOTE**
You can also click:

- **Add/Remove** to add another metric to the recording request
- **Delete** to delete a metric from the recording request
- **Close** to cancel your updates
How MainView Threshold Advisor collects performance data

After you save a metric recording request, MainView Threshold Advisor sends the request to all defined MainView host servers. The data is saved in a temporary staging database (.MDB files). At the next hour boundary, MainView Threshold Advisor moves the data into the specified CDB database. This population process is repeated at regular intervals based on the population frequency that you specified (see “Creating a metric recording request” on page 47).

The data collection process must continue long enough to accumulate a sufficient number of samples for statistical processing. What constitutes a sufficient number of samples depends on several factors:

- Number and length of the calendar periods that you define, as described in “Defining business weeks.”
- Length of the corresponding MainView product recording interval. (That is, a 5-minute recording interval results in six times more samples than a 30-minute recording interval.)

BMC recommends that you collect a minimum of two weeks of data, although some situations could warrant a significantly longer period of data collection.

**NOTE**
The same data can be processed repeatedly by applying different business weeks (that is, a small number of longer calendar periods, or a large number of more granular periods).

Defining business weeks

To get meaningful statistical results from MainView Threshold Advisor, you must define at least one business week that corresponds to your business activity. A business week is a collection of calendar periods that, when combined, represent a typical week at your site.

**NOTE**
The calendar periods that you define should represent periods of uniform, or at least similar, activity. If the data for a given period is too varied, MainView Threshold Advisor marks the data as not suitable for statistical processing in the resulting threshold report.
Overview of business weeks

When processing collected data, MainView Threshold Advisor combines each data sample (that is, a performance metric for a particular object in a particular recording interval) with all data samples for that object during the same calendar period.

The following examples show how business weeks might work for different types of activity:

- For a company that works worldwide on a 24x7 schedule, a business week might consist of just one calendar period. Samples for all days of the week and all hours of the day can be processed together because the business activity has no significant variations.

- For a retail store, business activity on weekends is probably different from weekday activity, and daytime activity is different from nighttime activity. In this case, a business week might contain four calendar periods:
  - hours 1000–2000 on weekdays
  - hours 0000–1000 and 2000–2400 on weekdays
  - hours 1100–2200 on weekends
  - hours 0000–1100 and 2200–2400 on weekends

**NOTE**

- A week contains 168 hours (7×24=168).
- Each hour of each day can belong to one and only one calendar period.
- Calendar periods do not need to be equal in size or contiguous. However, all periods together must cover the entire 168-hour week.

Business week templates

MainView Threshold Advisor provides predefined templates to help you create business weeks. Each business week has two parameters:

- **Days** determines how days of the week are assigned to calendar periods.
- **Times** determines how hours of the day are assigned to calendar periods.
The following table shows the predefined options for the **Days** parameter:

<table>
<thead>
<tr>
<th>Name</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>All Days Same</td>
<td>All days of a week belong to the same calendar period.</td>
</tr>
<tr>
<td>Each Day Different</td>
<td>Each day belongs to a separate calendar period.</td>
</tr>
<tr>
<td>Weekends/Weekdays</td>
<td>Weekend days belong to the same calendar period, and all weekdays belong to a separate calendar period.</td>
</tr>
<tr>
<td>Weekends/Weekdays/Monday</td>
<td>Weekend days belong to the same calendar period, and the specified day belongs to a separate calendar period from other weekdays.</td>
</tr>
<tr>
<td>Weekends/Weekdays/Tuesday</td>
<td>Weekend days belong to the same calendar period, and the specified day belongs to a separate calendar period from other weekdays.</td>
</tr>
<tr>
<td>Weekends/Weekdays/Wednesday</td>
<td>Weekend days belong to the same calendar period, and the specified day belongs to a separate calendar period from other weekdays.</td>
</tr>
<tr>
<td>Weekends/Weekdays/Thursday</td>
<td>Weekend days belong to the same calendar period, and the specified day belongs to a separate calendar period from other weekdays.</td>
</tr>
<tr>
<td>Weekends/Weekdays/Friday</td>
<td>Weekend days belong to the same calendar period, and Mondays and Fridays belong to a separate calendar period from other weekdays.</td>
</tr>
</tbody>
</table>

For the **Times** parameter, **All Hours Same** means that all hours of a day belong to the same calendar period. Alternatively, you can divide the hours of a day into any of the following time periods:

- 2 12-Hour Periods
- 3 8-Hour Periods
- 4 6-Hour Periods
- 6 4-Hour Periods
- 8 3-Hour Periods
- 12 2-Hour Periods
- 24 1-Hour Periods

By default, a period starts at midnight, but you can specify any hour of the day as the starting time for a period.
Defining a business week

Use the following procedure to define a business week that corresponds to your activity for a typical week.

To define a business week

1. In the application toolbar, click Manage Business Weeks.

2. In the Manage Business Weeks dialog box (Figure 13), select Create a new Business Week.

Figure 13 Manage Business Weeks dialog box

3. Specify a name and, optionally, a description for the business week.

4. From the Days list, select an option to represent how days of the week should be assigned to calendar periods (such as Weekends/Weekdays).

5. In the Times field, select All Hours Same or a set of periods (such as 3 8-Hour Periods) to represent how the hours of a day should be assigned to calendar periods.
6 *(optional)* If you selected a set of periods and you want to change the starting time, select a new value from the Starting Time list.

As you choose parameters, the Manage Calendar Periods list and Business Week Preview table at the bottom of the page are automatically updated. You can use these tools to further customize your calendar period, as described in “Customizing a business week.”

7 When your business week is complete, click Save Changes to complete the update.

---

**NOTE**

To build a customized set of calendar periods that represent your business activity for a week, select Custom from the Days list. The Manage Calendar Periods list and Business Week Preview table remain empty. You must manually define calendar periods that cover the entire 168-hour week.

---

**Customizing a business week**

After you specify the basic day and time parameters, you can use the Manage Calendar Periods list to customize the business week. With this tool you can:

- Change an existing calendar period by selecting the period and clicking Modify

  In the Modify Calendar Period dialog box, you can change the name of the period, the color that represents the period, and the day or times that the period covers.

  In the preview table, you can:

  — Click a multi-hour block of cells in the table by holding down the Ctrl key and clicking each cell

  — Highlight a group of adjacent cells by clicking and dragging

  — Click a day row to select all hours of a day, or an hour column to select that hour in all days of the week

- Remove an existing calendar period by selecting the period and clicking Remove

  When calendar periods are removed, the corresponding cells in the Business Week Preview table become white, which means they are unassigned. All unassigned cells, which represent hours in the week, must be assigned to a calendar period before you can save the business week.
Defining a business week

- Add a new calendar period by clicking Add

You can add a new calendar period to:

— Cover unassigned cells that result from modifying or removing other periods
— Divide an existing calendar period into two or more separate periods

- Change the order of calendar periods in the Manage Calendar Periods list by clicking the up or down arrow above the list

The order in which calendar periods appear in this list determines the order in which they are displayed on some charts.

**NOTE**

- As you create and customize business weeks, remember that the number of hours in different periods affects the accuracy of statistical analysis and the length of data collection that is required. The greater the number of hours in a period, the shorter the preliminary data collection process will be, and the more reliable the statistical analysis will be.

- Each business week is validated before it is saved. If you try to save a business week that contains unassigned cells, MainView Threshold Advisor prompts you to assign those cells to a calendar period called Other_\(n\).
Generating recommended thresholds

This chapter explains how to use MainView Threshold Advisor to:

■ Create a statistical study to analyze your collected performance data

■ Generate recommended threshold values and display them in tabular reports and charts

Before you begin

Before you can create a statistical study and generate recommended thresholds, you must complete the following tasks:

■ Define connections to MainView host servers and CDB servers, as described in “Defining connection profiles” on page 44.

■ Select performance metrics and collect a sufficient amount of performance data for statistical processing, as described in “Selecting the metrics to be collected” on page 47.

■ Define one or more business weeks that represent your business activity, as described in “Defining business weeks” on page 51.
Creating a statistical study

When you create a statistical study, you must specify:

- CDB server profile, target database, and business week for the study
- Date ranges to be used for reporting and statistical analysis
- View data to be analyzed

To create a statistical study

1. In the Study List pane, click **Create a new study for threshold exploration**.

2. In the Create a Study dialog box, type a name and, optionally, a description, and click **Create Study**.

   The name of your study appears across the top of the workflow pane, and the CDB Selection page is open.

Selecting a CDB and business week

Use the following procedure to select a CDB and business week for your statistical study.

To select a CDB and business week

1. On the CDB Selection page, select appropriate values from the following lists:

   **| **Field** | **Description** |
   --|----------------|-----------------|
   | **Available CDB Server Profiles** | Select the CDB server where the data that you want to analyze is stored. |
   | **Available CDB Data Sources** | Select a specific database on the CDB server. |

2. From the **Available Business Weeks** list, select a business week.

   The preview table is populated with the selected business week information.
NOTE
If you add or remove a CDB server profile or business week while working on a study, you can use one of the following Refresh options to refresh the values on this page:

- Refresh CDB Server Profile List
- Refresh Business Weeks List

Figure 14 is an example of a completed CDB Selection page.

3 Save your study by clicking Save Active Study.

4 To continue with your study, click the Date Selection tab.
Specifying analysis and reporting dates

Use the following procedure to specify analysis and reporting dates for your statistical study.

To specify analysis and reporting dates

1. On the Date Selection page, specify dates in the Start and End fields under Reporting Date Range.

   This date range is used to select view data from the specified CDB database.

2. (optional) If you want to specify a different date range for statistical analysis, select No in the Synchronize toggle switch.

   By default, the reporting and statistical analysis date ranges are synchronized. If you synchronize the date ranges, your study compares calculated statistical parameters (such as median and standard deviation) with the actual measurement data for the same time period.

   If you do not synchronize the date ranges, your study compares the statistical parameters for one time period with the measurement data for a different time period.

3. (optional) If you selected No in the Synchronize toggle switch, specify dates in the Start and End fields under Statistical Analysis Date Range.

   Figure 15 on page 61 is an example of a completed Date Selection page.
Figure 15  Date Selection page

4  Save your study by clicking **Save Active Study**.

5  To continue with your study, click the **View Selection** tab.
Selecting a view for analysis

Use the following procedure to select a view for analysis. The first time you access the View Selection page in a new study, it looks like the example shown in Figure 16.

Figure 16  View Selection page (without data)

To select a view

1 On the View Selection page, select a view from the Collected Views list.

MainView Threshold Advisor queries the specified CDB database and returns:

- All objects that fall within the previously selected reporting date range
- Fields that uniquely identify objects for the selected view

The objects that are returned are available for use on the Reporting page.

2 (optional) If you want to filter the list of objects, continue with “To filter objects” on page 63.

3 (optional) If you want to aggregate instances of an object that are the same type and exhibit similar behavior, continue with “To aggregate column instances” on page 65.
If you know that a column contains multiple instances of the same object type and those instances behave in a similar way, you can aggregate those instances for statistical processing. Instance aggregation can improve the statistical quality of the recommended thresholds by providing more samples for comparison.

4 Save your study by clicking `Save Active Study`.

**Where to go from here**

The next step is to generate a report of recommended threshold values, as described in “Generating threshold reports” on page 66.

**To filter objects**

1 From a list of objects on the View Selection page, click the filter tool for a specific column and select `Column Filter Tool`.

The Filter Columns dialog box is displayed (Figure 17). You can use this dialog box to specify filters for one or more columns at a time.

**Figure 17  Filter Columns dialog box**
2 Select a column name from the Select Column to Filter list, or use the one you selected originally by clicking the column filter tool.

3 Click Specify Column Filter to open the Column Filter dialog box.

On the Column Filter dialog box, you can:

- Select a relationship option (such as Begins With, Contains, or Does Not Equal) and specify a text string on which to query

- Click Advanced to build your own search string by using standard wildcard characters (click the tip button for a list of supported characters)

4 When your filter is complete, click Apply Filter.

A query is performed, and objects that match the specified filter are displayed in the Query Results window.

5 Move one or more of the returned values from Query Results to Selection by using the arrow keys, and click Save Changes.

The View Selection page is redisplayed with the following filter warning message:

Your filter criteria has changed invalidating your current selection.

6 Click Click here to refresh to refresh the list of objects.

Figure 18 on page 65 is an example of a completed View Selection page with filters applied (as indicated by in the Job Name column).
Selecting a view for analysis

Chapter 4 Generating recommended thresholds

Figure 18 View Selection page (with data and filters applied)

7 (optional) To clear a column filter, click the filter tool \( \checkmark \) and select Clear Column Filter.

You are prompted to confirm the action, and then the filter warning message is redisplayed with the Click here to refresh button.

8 Save your study by clicking \( \checkmark \) Save Active Study.

Where to go from here

The next step is to generate a report of recommended threshold values, as described in “Generating threshold reports.”

To aggregate column instances

1 From a list of objects on the View Selection page, click the filter tool \( \checkmark \) for a specific column and select Aggregate Column Instances.

The following filter warning message is displayed:

Your filter criteria has changed invalidating your current selection.

2 Click Click here to refresh to refresh the list of objects.
The View Selection page is redisplayed with instances of the selected object aggregated, as indicated by \( \Box \) in the column.

3 (optional) To clear instance aggregation, click the filter tool \( \checkmark \) and uncheck Aggregate Column Instances.

Where to go from here

The next step is to generate a report of recommended threshold values, as described in “Generating threshold reports.”

Generating threshold reports

Use the following procedure to generate a report of recommended threshold values.

To generate threshold reports

1 On the Reporting page, select a metric from the Available Metrics list.

A report of recommended threshold values is displayed like the one shown in Figure 19 on page 67.
Figure 19  Reporting page — Recommended threshold values

MainView Threshold Advisor generates the initial recommended threshold values based on:

- Business week that you selected for the study (such as Weekends/Weekdays, in this example)

- Default confidence level value of 0.999

The confidence level value represents the probability that a measurement that exceeds the threshold boundary represents a real problem rather than a random deviation in measurement. You can change the confidence level value, as described in “To modify a generated report” on page 69.
Working with threshold reports

NOTE
If the data for a calendar period was not suitable for statistical processing, one of the following icons is displayed in that cell:

- ![Information](icon-info.png) No data
- ![Warning](icon-warning.png) Insufficient data
- ![Alert](icon-alert.png) Data cannot be used. The data for that period might be clustered, or the metric value might be constant across the period. You can try:
  - Selecting a different (or longer) date range for the study
  - Tuning the business week or selecting a different business week
  - Collecting more performance data and regenerating the report

2 (optional) Generate additional threshold reports by selecting a different metric from the Available Metrics list.

Each new report is displayed on a separate tab. To move between reports, click the appropriate tab at the top of the window.

As you work with threshold reports, you can:

- Close a selected report
- Close all generated reports

Working with threshold reports

After you generate a threshold report, you can:

- Modify the threshold report display
- Adjust the threshold severity levels
- Tune the currently selected business week
- Export report data to a CSV file

NOTE
You can also generate charts of threshold data, as described in “Generating threshold charts” on page 74.
Modifying the report display

Use the following procedure to modify the display attributes of a threshold report.

To modify a generated report

1 Use the Display Options pane (Figure 20) to modify a generated report of recommended threshold values.

**Figure 20  Display Options pane**

The Display Options pane enables you to switch between the following report displays:

<table>
<thead>
<tr>
<th>Display</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Confidence Level</td>
<td>Select a confidence level value for the recommended thresholds. Confidence level represents the probability that a measurement that exceeds the threshold boundary represents a real problem rather than a random deviation in measurement. For example, with a confidence level of 0.999 versus 0.99, you can be more confident that a threshold exception is not a false alarm.</td>
</tr>
<tr>
<td>Threshold Severity Levels</td>
<td>Display the values associated with one of the currently defined severity levels for the metric.</td>
</tr>
</tbody>
</table>
Adjusting threshold severity levels

Use the following procedure to adjust the severity levels that are associated with the recommended threshold for a given metric. By default, three severity levels are defined for each metric:

<table>
<thead>
<tr>
<th>Level</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Critical</td>
<td>1.0 (100% of the recommended threshold value)</td>
</tr>
<tr>
<td>Warning</td>
<td>.50 (50% of the recommended threshold value)</td>
</tr>
<tr>
<td>Informational</td>
<td>.30 (30% of the recommended threshold value)</td>
</tr>
</tbody>
</table>

For a given metric, you can define up to five severity levels and modify the attributes of each level.

**NOTE**

Any changes that you make to threshold severity levels are specific to a given metric. Each metric that you select on the Reporting page uses the default severity levels unless you change them.
To adjust the threshold severity levels for a metric

1 In the Report Actions area of the Reporting page, click Adjust Threshold Severity Levels.

The currently defined severity levels for the selected metric are displayed in the Adjust Threshold Severity Levels dialog box. You can:

- Add new threshold severity levels
- Modify existing threshold severity levels
- Remove threshold severity levels

To add a threshold severity level

1 In the Adjust Threshold Severity Levels dialog box, click Add.

2 In the Severity Level list, select one of the following labels:
   - Critical
   - Major
   - Minor
   - Warning
   - Informational

3 In the Scalar Multiplier field, specify a multiplier value.

   The value must be greater than 0 and less than or equal to 1. For example, a value of .80 is equivalent to 80% of the recommended threshold value.

4 In the Color Palette Index list, select a color value (numbered 0–9).

   The color that you select will be reflected in the MainView product views where thresholds are defined.

**NOTE**

MainView Threshold Advisor uses the default MainView color palette. However, users can customize the color palette that specific MainView products use.

5 *(optional)* Specify a description for the severity level.

6 Click Add Severity Level.
Tuning the business week

**To modify a threshold severity level**

1 In the Adjust Threshold Severity Levels dialog box, select a severity level and click Modify.

2 Modify any of the following attributes of the severity level:
   - Severity Level (label)
   - Scalar Multiplier
   - Color Palette Index
   - Description

3 Click Modify Severity Level.

**To remove a threshold severity level**

1 In the Adjust Threshold Severity Levels dialog box, select a severity level and click Remove.

2 Click Yes to remove the severity level.

**Tuning the business week**

Use the following procedure to tune the currently selected business week. When you tune a business week, MainView Threshold Advisor uses statistical analysis to create:

- Calendar periods that contain more uniform data
- Thresholds that are more consistent

**To tune the business week**

1 In the Report Actions area of the Reporting page, click Tune Business Week.

MainView Threshold Advisor tunes the currently selected business week. The result is displayed with a generated name and description.

2 *(optional)* Specify a different name and description for the tuned business week.

3 Select one of the following options:
If you saved the tuned business week, the following message is displayed on the Reporting page:

Changes have been made to this study that invalidate the current report.

4 Click Click here to refresh to refresh the report.

---

**NOTE**

You can select a different business week by returning to the CDB Selection page.

---

## Exporting report data

Use the following procedure to export the currently displayed report data to a CSV file for manual processing.

**To export report data**

1 In the Report Actions area of the Reporting page, click Export Metric Report to CSV.

The report data is displayed in CSV-compatible format in a separate window.

2 Follow the instructions to export some or all of the report data to an external application in CSV format.
Generating threshold charts

Use the following procedures to display various charts of the threshold data for a given metric.

To generate a threshold chart

1. On the Reporting page, click **View Threshold Charts**.

A default chart of threshold data for the first instance of the selected metric is displayed in a separate window (Figure 21).

**Figure 21  Threshold Chart — Collected Data**

The initial chart type is **Collected Data**, which displays the collected data and recommended threshold values. You can use the date range selectors at the top to adjust the date range for which data is displayed.
To display a different chart type

1 In the threshold chart window, click the appropriate tab at the bottom for the type of chart that you want to display:

<table>
<thead>
<tr>
<th>Chart type</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Summarized by Weeks</td>
<td>Collected data summarized for each calendar period within each week of the specified date range</td>
</tr>
<tr>
<td>Summarized by Calendar Periods</td>
<td>Collected data summarized for each calendar period across all weeks in the specified date range</td>
</tr>
<tr>
<td>Exceptions</td>
<td>Number of exceptions that would occur during each hour of a typical week, based on the recommended thresholds</td>
</tr>
</tbody>
</table>

After the initial chart of each type is generated, you can move between the charts for a given instance of data by clicking the appropriate tab at the bottom of the window.

To display a chart for a different instance of data

1 From the Available Objects list in the chart window, select another instance of data to generate a new chart.

---

**NOTE**
The list of available objects corresponds to the rows of data in the threshold report. Each row in a report is a separate instance of metric data that can be displayed in chart form.

---

Modifying threshold charts

Use any of the following options to modify a generated threshold chart:

<table>
<thead>
<tr>
<th>Option</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Business Week Display Options</td>
<td>Show or hide one or more calendar periods in the chart.</td>
</tr>
<tr>
<td>Display Options</td>
<td>Show or hide the following elements in the chart:</td>
</tr>
<tr>
<td></td>
<td>■ Reported value</td>
</tr>
<tr>
<td></td>
<td>■ Recommended threshold</td>
</tr>
<tr>
<td></td>
<td>■ Severity levels</td>
</tr>
<tr>
<td></td>
<td>■ Metrics</td>
</tr>
<tr>
<td>Note: The specific options that are available vary according to the chart type.</td>
<td></td>
</tr>
</tbody>
</table>
Exporting chart data

Use the following procedure to export the currently displayed chart data to a CSV file for manual processing.

**To export chart data**

1. In an open threshold chart window, click Export Chart Data to CSV.

   The chart data is displayed in CSV-compatible format in a separate window.

2. Follow the instructions to export some or all of the chart data to an external application in CSV format.
This chapter explains how to use MainView Threshold Advisor to push recommended threshold values to the mainframe for use by MainView products.

From the Reporting page, you can:

- Push the thresholds for a specific metric to the mainframe
- Review a log of the most recent push operation for a specific metric

By using the Administration Tools on the application toolbar, you can display a push history file.

Pushing the thresholds for a metric

Use the following procedure to push the recommended threshold values for a specific metric to the mainframe. The thresholds for each defined severity level (such as Critical, Warning, and Informational) and the associated calendar periods for a given business week are pushed as a set.

If the push operation is successful, the threshold set and calendar period definitions are:

- Stored in the CASPERM registry on the local system
- Made available for use, or enabled, automatically

To push the thresholds for a metric

1. On the Reporting page, click the threshold report tab for the metric whose thresholds you want to push.

2. In the Report Actions area, click Push recommended threshold values to the mainframe.
3 In the Push Thresholds to Mainframe dialog box, enter the value for each field, as described in Table 9.

Table 9 UIM server parameters

<table>
<thead>
<tr>
<th>Field</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>UIM Server</td>
<td>Host name or IP address of the User Interface Middleware (UIM) server that communicates with the system where you want to push threshold values. <strong>Note:</strong> MainView Threshold Advisor attempts to push threshold values to the same system from which the performance data was collected (that is, the system that you specified in the metric recording request). Specify a UIM server that has a connection to that system.</td>
</tr>
<tr>
<td>Port</td>
<td>Port number that the UIM server is using to communicate. The default port number is 3683.</td>
</tr>
<tr>
<td>Virtual Directory</td>
<td><em>(optional)</em> Virtual directory where MainView Threshold Advisor web services are located on the UIM server. The default directory is <code>axis2/services/MVIService</code>.</td>
</tr>
<tr>
<td>TSO User ID</td>
<td>User ID to be used when accessing the UIM server.</td>
</tr>
<tr>
<td>TSO Password</td>
<td>Password to be used when accessing the UIM server.</td>
</tr>
</tbody>
</table>

4 Click Push Thresholds.

The recommended threshold values for the selected metric are pushed to the specified UIM server. The status bar at the bottom identifies the metric that you pushed by its `product.table.element` combination.

**NOTE**

You must push the recommended threshold values for each metric to the mainframe independently by using the **Push recommended threshold values** option on the report tab for that metric.

When the push operation completes, the Reporting page displays the following message:

The status of this Product.Table.Element has changed on the mainframe.

A log of the push operation is displayed in a separate window (Figure 22 on page 79).
Displaying the push history file

Use the following procedure to display the push history file that MainView Threshold Advisor maintains.

The push history file provides information about the last 25 threshold sets that were pushed for a specific metric to any given system, including:

- Tabular report of all values pushed to the mainframe
- Detailed transaction log that identifies the systems affected by the push

**NOTE**

You can also display a log of the most recent push operation for a specific metric at any time by clicking View Threshold Push Log File on the report tab for that metric.
To display the push history file

1. In the application toolbar, click Administration Tools.

2. In the Administration Tools window, click MainView Threshold Advisor Push History Viewer.

Figure 23 shows a sample push history file.

NOTE
The push history file is the MainView Threshold Advisor record of what was pushed to the CASPERM registry via the UIM server on the mainframe. However, MainView Threshold Advisor cannot verify the current status of the CASPERM registry.
Working with dynamic thresholds on the mainframe

This chapter explains how to work with dynamic thresholds. You can:

- Display thresholds that you pushed from MainView Threshold Advisor
- Define dynamic thresholds manually by using MainView product views and dynamic threshold views
- Manage your dynamic thresholds

Dynamic threshold views

Table 10 lists the dynamic threshold views by category and provides a brief description of each view.

<table>
<thead>
<tr>
<th>Category</th>
<th>View name</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Threshold sets and definitions</td>
<td>THRSETS</td>
<td>List of all threshold set definitions</td>
</tr>
<tr>
<td></td>
<td>THRSET</td>
<td>Details about a specific threshold set definition</td>
</tr>
<tr>
<td></td>
<td>THRACT</td>
<td>List of currently active threshold sets</td>
</tr>
<tr>
<td></td>
<td>THREXPL</td>
<td>List of threshold set definitions for a specific element, and information about how the threshold sets are being used</td>
</tr>
</tbody>
</table>
Navigation between dynamic threshold views

The dynamic threshold views are designed as a set. Often, the best way to navigate between them is by using hyperlink fields. Table 11 lists the hyperlink fields on the primary, tabular dynamic threshold views.

**NOTE**
The THRSET, CALDEF, and THRSEL views are detail views that require parameters to identify the definition that you want to display. You should always access these views by hyperlinking from another view (such as accessing CALDEF from CALDEFS). If you try to access one of these views by typing its name on the COMMAND line, MainView displays informational messages about the required parameters.

<table>
<thead>
<tr>
<th>Hyperlink field</th>
<th>View displayed</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>THRSETS</td>
<td></td>
<td></td>
</tr>
<tr>
<td>&gt;Active Threshold Sets</td>
<td>THRACT</td>
<td>List of currently active threshold sets</td>
</tr>
<tr>
<td>&gt;Threshold Selections</td>
<td>THRSELS</td>
<td>List of all threshold selection definitions</td>
</tr>
<tr>
<td>Name</td>
<td>THRSET</td>
<td>Details about the selected threshold set definition</td>
</tr>
<tr>
<td>Thr Sel</td>
<td>THRSEL</td>
<td>Details about the threshold selection definition where the threshold set is used</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Category</th>
<th>View name</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Calendar periods and definitions</td>
<td>CALDEFS</td>
<td>List of all calendar period definitions</td>
</tr>
<tr>
<td></td>
<td>CALDEF</td>
<td>Details about a specific calendar period definition</td>
</tr>
<tr>
<td></td>
<td>CALSTAT</td>
<td>List of all calendar periods and their current state, either active or inactive</td>
</tr>
<tr>
<td></td>
<td>CALSCHED</td>
<td>List of calendar periods that will go into effect after the currently active calendar periods become inactive</td>
</tr>
<tr>
<td></td>
<td>CALUSED</td>
<td>List of calendar periods that are being used by enabled threshold selections</td>
</tr>
<tr>
<td></td>
<td>EZCAL</td>
<td>Easy menu that provides navigation to various calendar-related views</td>
</tr>
<tr>
<td>Threshold selection definitions</td>
<td>THRSELS</td>
<td>List of all threshold selection definitions</td>
</tr>
<tr>
<td></td>
<td>THRSEL</td>
<td>Details about a specific threshold selection definition</td>
</tr>
</tbody>
</table>
For example, when you use the **Product Name** hyperlink field from THRSELS, the THRSEL view is displayed with information about a specific threshold selection definition (Figure 24).

**Figure 24 THRSEL view**

<table>
<thead>
<tr>
<th>Hyperlink field</th>
<th>View displayed</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Name</td>
<td>CALDEF</td>
<td>Details about the selected calendar period definition</td>
</tr>
<tr>
<td>Status or State</td>
<td>CALSTAT</td>
<td>The current state of the selected calendar period, either active or inactive</td>
</tr>
<tr>
<td>THRSELS</td>
<td></td>
<td></td>
</tr>
<tr>
<td>&gt;THRSETS</td>
<td>THRSETS</td>
<td>List of threshold set definitions, based on the filter criteria specified in THRSELS</td>
</tr>
<tr>
<td>Product Name</td>
<td>THRSEL</td>
<td>Details about the selected threshold selection definition</td>
</tr>
<tr>
<td>THR SETS</td>
<td>THRSETS</td>
<td>List of threshold set definitions for the selected element</td>
</tr>
<tr>
<td>VER</td>
<td>VEROBJ</td>
<td>List of all versions of the threshold selection definition</td>
</tr>
<tr>
<td>EXP</td>
<td>THREXPL</td>
<td>List of threshold set definitions for the selected element, and information about how the threshold sets are being used</td>
</tr>
</tbody>
</table>

From the THRSEL view, you can navigate further by using these hyperlink fields:

- >VERSIONS to display the VEROBJ view
- >THREXPL to display the THREXPL view
- Calendar Period to display the CALDEFS view
- Threshold Set to display the THRSET view
Filtering the contents of a dynamic threshold view

The THRSETS and THRSELS views are hybrid views that include filter fields in the fixed portion of the view. By default, the filter fields are set to *, which displays information about all definitions. Use the following procedure to limit what is displayed in THRSETS or THRSELS.

To filter the contents of THRSETS or THRSELS

1. In a filter field (Product, Table, or Element), enter a specific value or a partial value followed by the * wildcard character and press Enter.

Figure 25 is an example of the THRSETS view with SCRE specified in the Table field.

Figure 25  THRSETS view with table filter

<table>
<thead>
<tr>
<th>ddmmmyyyy hh:mm:ss</th>
<th>MAINVIEW WINDOW INTERFACE (Vv.r.mm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>COMMAND</td>
<td>SCROLL ===&gt; CSR</td>
</tr>
<tr>
<td>CURR WIN ===&gt; 1</td>
<td>ALT WIN ===&gt;</td>
</tr>
<tr>
<td>&gt;W1 =THRSETS---------SJSC--------*=========ddmmmyyyy==hh:mm:ss====PLEXMGR==D------4====</td>
<td></td>
</tr>
<tr>
<td>Filters..</td>
<td>Threshold Set Definitions</td>
</tr>
<tr>
<td>Product.. *</td>
<td>Hide Fixed Section</td>
</tr>
<tr>
<td>Table.... SCRE</td>
<td>&gt; Active Threshold Sets..</td>
</tr>
<tr>
<td>Element.. *</td>
<td>&gt; Threshold Selections...</td>
</tr>
<tr>
<td>Threshold *</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>CMD</th>
<th>Name</th>
<th>System</th>
<th>Product</th>
<th>Table</th>
<th>Element</th>
<th>Thr</th>
<th>Ver</th>
<th>Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>---</td>
<td>----</td>
<td>------</td>
<td>-------</td>
<td>-----</td>
<td>-------</td>
<td>-----</td>
<td>-----</td>
<td>--------</td>
</tr>
<tr>
<td>DEFAULT</td>
<td>SJSC610</td>
<td>CMF</td>
<td>SCRE</td>
<td>SCIIRAVG</td>
<td>&gt;</td>
<td>&gt;</td>
<td>CREATED</td>
<td></td>
</tr>
<tr>
<td>DEFAULT</td>
<td>SJSC610</td>
<td>MVMVS</td>
<td>SCRE</td>
<td>SCIBCOPUB</td>
<td>&gt;</td>
<td>&gt;</td>
<td>CREATED</td>
<td></td>
</tr>
<tr>
<td>DEFAULT</td>
<td>SJSC610</td>
<td>MVMVS</td>
<td>SCRE</td>
<td>SCIBZAB</td>
<td>&gt;</td>
<td>&gt;</td>
<td>CREATED</td>
<td></td>
</tr>
<tr>
<td>DEFAULT</td>
<td>SJSC610</td>
<td>MVMVS</td>
<td>SCRE</td>
<td>SCIBZMVS</td>
<td>&gt;</td>
<td>&gt;</td>
<td>CREATED</td>
<td></td>
</tr>
</tbody>
</table>

Displaying pushed thresholds

After you push a set of thresholds and calendar periods from MainView Threshold Advisor to the mainframe, MainView treats them as dynamic thresholds. The definitions for those thresholds and calendar periods are displayed in the dynamic threshold views with generated names, as shown in Table 12 on page 85.
Displacing pushed thresholds

Chapter 6 Working with dynamic thresholds on the mainframe

Figure 26 is an example of the CALDEFS view with calendar periods that were pushed from MainView Threshold Advisor.

Table 12 Pushed thresholds and calendar periods in dynamic threshold views

<table>
<thead>
<tr>
<th>Definition type</th>
<th>Views</th>
<th>Naming convention for pushed definitions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Business week (set of calendar periods)</td>
<td>CALDEFS, CALDEF, CALSTAT, CALSCHED</td>
<td>TACPw.n</td>
</tr>
<tr>
<td></td>
<td></td>
<td>w identifies the business week, and n identifies a calendar period in that week, beginning with zero.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>For example, a business week that consists of four calendar periods would produce calendar period definitions called TACP1.0, TACP1.1, TACP1.2, and TACP1.3.</td>
</tr>
</tbody>
</table>

Threshold set

<table>
<thead>
<tr>
<th>Views</th>
<th>TATSET.n</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>n identifies the calendar period to which the threshold set applies.</td>
</tr>
</tbody>
</table>

You can modify threshold and calendar period definitions from MainView Threshold Advisor just as you can modify the dynamic threshold definitions that you create manually. However, BMC recommends that you manage pushed thresholds separately from manually defined dynamic thresholds for these reasons:
MainView Threshold Advisor recommends a set of threshold values and calendar periods that work together on a specific system. Changing the relationship between the recommended threshold sets and calendar periods, or deploying those thresholds to a different system, might not be as effective.

Any changes that you make to pushed thresholds on the mainframe will be lost the next time thresholds for that element are pushed from MainView Threshold Advisor.

Defining dynamic thresholds manually

This topic explains how to define dynamic thresholds manually. You can define dynamic thresholds manually for all MainView products.

**NOTE**

After you define the parts of a dynamic threshold, you must enable them for use, as described in “Controlling the availability of dynamic thresholds” on page 100.

Overview of the definition process

Dynamic thresholds consist of three parts: threshold sets, calendar periods, and threshold selections. The basic steps to defining dynamic thresholds are:

1. Define a threshold set:
   A. Create a threshold set definition for an element that you want to monitor.
   B. Add threshold comparisons to the definition.
   C. Enable the definition to make it available for use.

2. Define a calendar period:
   A. Create a calendar period definition.
   B. Add time spans to the definition to indicate when the calendar period should be active.
   C. Enable the definition to make it available for use.
3. Define a threshold selection:

   A. Create a threshold selection definition made up of threshold selection entries (pairs of threshold set definitions and calendar period definitions).

   B. Enable the definition to make it available for use.

**Dynamic threshold examples**

This topic provides examples of dynamic threshold definition.

**Create the DEFAULT threshold set for use with ANYTIME**

One approach to defining dynamic thresholds is to create the DEFAULT threshold set for an element that you want to monitor and associate that threshold set with the predefined ANYTIME calendar period. The DEFAULT threshold set will be in effect anywhere that element is used in MainView product views or alarm definitions. However, the same threshold set will be in effect all the time without regard for changes in your business activity.

**NOTE**

BMC recommends that you associate the DEFAULT threshold set for each element with the ANYTIME calendar period. This combination of DEFAULT threshold set and ANYTIME calendar period ensures that some form of threshold monitoring is in effect 24 hours a day, 7 days a week.

1. Use the MAKETHResh command on a MainView product view for an element that you want to monitor.

2. On the THRSET view, add or change threshold comparisons for the element in the DEFAULT threshold set.

3. Use the ENAble command on THRSET to make the DEFAULT threshold set available for use.

4. Hyperlink to the THRSEL view to associate the DEFAULT threshold set for the element with the predefined ANYTIME calendar period.

5. Use the ENAble command on THRSEL to make the DEFAULT/ANYTIME selection pair available for use.

When you finish, the thresholds defined in the DEFAULT threshold set for the element will be in effect all the time.
Add a calendar period and another threshold set

To have different thresholds in effect for an element at different times, you need to define one or more calendar periods that reflect your business activity and at least one additional threshold set (in addition to the DEFAULT threshold set).

1. Use the CALDEFS view to create a calendar period definition that represents a period of business activity (such as PRIME).

2. On the CALDEF view, specify one or more time spans for the calendar period to indicate when the calendar period should be active (such as 08:00—18:00, Monday through Friday).

3. Use the ENAble command on CALDEF to make the calendar period available for use.

4. Use the MAKETHR command to add another threshold set (such as PRIMESET) for an element that already has a DEFAULT threshold set.

5. On the THRSET view, add or change threshold comparisons for the element in the new threshold set.

6. Use the ENAble command on THRSET to make the new threshold set available for use.

7. Hyperlink to the THRSEL view to associate the new threshold set for the element with the calendar period you defined (such as the PRIMESET threshold set with the PRIME calendar period).

8. Use the ENAble command on THRSEL to make the new threshold selection available for use.

When you finish, the thresholds defined in the PRIMESET threshold set will be in effect when the PRIME calendar period is active (08:00—18:00, Monday through Friday). The thresholds defined in the DEFAULT threshold set for the element will be in effect at all other times.
Define standard calendar periods for multiple threshold sets

As an alternative, you can start with standard calendar periods that reflect your business activity (such as AM and PM, or WEEKDAY and WEEKEND), and use those calendar periods for multiple threshold sets that cover multiple elements.

1. Use the CALDEFS view to create standard calendar period definitions that represent your business activity (such as SHIFT1, SHIFT2, and SHIFT3).

2. Use the CALDEF view to specify one or more time spans for each calendar period (such as 07:00–15:00, 15:00–22:00, and 22:00–07:00, every day of the week).

3. Use the ENAble command on CALDEF to make the calendar periods available for use.

4. Use the MAKETHR command to create threshold sets for the elements that you want to monitor (such as SHIFT1SET, SHIFT2SET, and SHIFT3SET for each element).

5. On the THRSET view for each threshold set, perform the following actions:
   - Add or change threshold comparisons for the element.
   - Use the ENAble command to make the threshold set available for use.
   - Hyperlink to the THRSEL view to associate the threshold set with the appropriate calendar period (such as SHIFT1SET with SHIFT1).

6. On the THRSEL view, use the ENAble command to make each threshold selection available for use.

When you finish, multiple threshold sets called SHIFT1SET (each for a different element) will be in effect when the SHIFT1 calendar period is active (07:00–15:00). The same would be true for the SHIFT2SET and SHIFT3SET threshold sets. This approach provides a standard way to monitor multiple metrics during each shift.

NOTE

Remember that the first threshold set you create for each element is called DEFAULT. You can create additional threshold sets for an element and call them anything you want.
Rules for defining dynamic thresholds manually

Table 13 lists the rules for defining the parts of a dynamic threshold manually.

<table>
<thead>
<tr>
<th>Threshold part</th>
<th>Rules</th>
</tr>
</thead>
<tbody>
<tr>
<td>Element</td>
<td>■ Dynamic thresholds can be defined for numeric elements only.</td>
</tr>
<tr>
<td></td>
<td>■ An element can be associated with multiple threshold set definitions.</td>
</tr>
<tr>
<td></td>
<td>■ An element is associated with only one threshold selection (combination of calendar period definition and threshold set definition) at a time.</td>
</tr>
<tr>
<td>Threshold set</td>
<td>■ A threshold set definition pertains to a single element.</td>
</tr>
<tr>
<td></td>
<td>■ Multiple threshold set definitions can be defined for an element.</td>
</tr>
<tr>
<td></td>
<td>■ A threshold set definition can contain one or more threshold comparisons.</td>
</tr>
<tr>
<td></td>
<td>■ Threshold comparisons in a threshold set definition are evaluated in order from top to bottom as listed on the THRSET view. The first comparison to evaluate to true is used as the threshold value.</td>
</tr>
<tr>
<td>Calendar period</td>
<td>■ A calendar period definition is independent of any element.</td>
</tr>
<tr>
<td></td>
<td>■ Multiple calendar period definitions can be defined.</td>
</tr>
<tr>
<td></td>
<td>■ A calendar period definition can be associated with multiple threshold sets to create multiple threshold selections.</td>
</tr>
<tr>
<td>Threshold selection</td>
<td>■ A threshold selection definition pertains to a single element.</td>
</tr>
<tr>
<td></td>
<td>■ A threshold selection definition can contain one or more selection pairs (calendar period definition and threshold set definition).</td>
</tr>
<tr>
<td></td>
<td>■ Each calendar period definition can be used only once in a threshold selection definition.</td>
</tr>
<tr>
<td></td>
<td>■ The same threshold set definition can be used multiple times in a threshold selection definition (associated with different calendar period definitions).</td>
</tr>
</tbody>
</table>
Creating a threshold set definition

Creating a threshold set definition for a numeric element of data is a good starting point for defining dynamic thresholds manually. A threshold set definition is combined with a calendar period definition to create a threshold selection (the basis for dynamic thresholds).

You can create multiple threshold set definitions for an element. This approach enables you to combine threshold set definitions and calendar period definitions to apply different thresholds for the element at different times.

NOTE

Threshold sets should not be defined for elements in:

- Summary views
- Log views
- Easy menus
- Fixed section of hybrid views

To create a threshold set definition

1 Display a MainView product view that contains a numeric element (or field) for which you want to create a threshold set definition.

2 On the COMMAND line of the selected view, type **MAKETHRESH**, but do not press Enter.

3 Place the cursor in the field for which you want to create a threshold set definition, and press Enter.

The THRSET view is displayed (Figure 27).

Figure 27 THRSET view after the MAKETHR command

<table>
<thead>
<tr>
<th>Command</th>
<th>Comparison</th>
<th>At Sev Target</th>
<th>Select Element</th>
<th>Second Compar</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>&gt;= 95</td>
<td>4</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>&gt;= 85</td>
<td>3</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>&gt;= 75</td>
<td>2</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>&gt;= 0</td>
<td>0</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
The first threshold set definition that you create for an element is called DEFAULT. If the element you selected has threshold values that were distributed with the product, those values are displayed (as shown in Figure 27 on page 91). If the element does not have any distributed threshold values, the following message is displayed:

BBMXC781W Comparisons not defined for view 'viewName' column 'c'

---

**NOTE**

After the DEFAULT threshold set for an element is created, you can use the MAKETHR command again to create additional threshold sets for the same element. The Threshold Set Already Exists dialog is displayed, which allows you to replace the existing DEFAULT threshold set or save it with a new name.

---

4 From the THRSET view, add or modify threshold comparisons in the threshold set, as described in “Specifying threshold comparisons.”

---

**NOTE**

BMC recommends that you use the MAKETHR command to create threshold set definitions. However, you can also create a threshold set definition from the THRSETS view by using the:

- Add line command, to model the definition after an existing one
- ADD primary command, to create a definition from scratch, which requires you to know the product, table, and element names

---

**Specifying threshold comparisons**

After you create a threshold set definition, you can add, change, delete, and rearrange the threshold comparisons to be evaluated. You can also limit the evaluation based on the target system or the value of another element.

The threshold comparisons in a threshold set definition are evaluated *in order* from top to bottom. The first comparison to be evaluated as true is used as the threshold value.
Use the following procedures to specify threshold comparisons in a threshold set definition:

- “To add a threshold comparison” on page 93
- “To change a threshold comparison” on page 94
- “To specify the order in which threshold comparisons are evaluated” on page 94
- “To delete a threshold comparison” on page 94
- “To evaluate threshold comparisons based on target system” on page 94
- “To evaluate threshold comparisons based on another element” on page 95

**To add a threshold comparison**

1. On the THRSET view, type one of the following commands and press Enter:
   - Add line command to create a threshold comparison based on an existing one and place it after that comparison
   - Insert line command to create a threshold comparison based on an existing one and place it before that comparison
   - ADD primary command to create a threshold comparison from scratch and place it at the top of the list

2. In the Add Threshold dialog, specify the following information:
   - Display attribute, severity level, or both to be applied to the element if the comparison is evaluated as true
   - Values and operators to be evaluated
   - Target pattern to limit the target systems to which the threshold evaluation is applied ("To evaluate threshold comparisons based on target system" on page 94)
   - Select element pattern to limit the data records to which the threshold evaluation is applied ("To evaluate threshold comparisons based on another element" on page 95)

   For more information about completing the Add Threshold dialog, see the online Help.

3. Type END on the COMMAND line and press Enter.
To change a threshold comparison

1 On the THRSET view, type the `CHange` line command next to the threshold comparison that you want to change and press `Enter`.

2 In the Change Threshold dialog, change the threshold values as needed.

   For more information about completing the Change Threshold dialog, see the online Help.

3 Type `END` on the COMMAND line and press `Enter`.

To specify the order in which threshold comparisons are evaluated

1 On the THRSET view, use the `UP` and `DOWN` line commands to move a threshold comparison up or down in the list.

To delete a threshold comparison

1 On the THRSET view, type the `DELETE` line command next to the threshold comparison that you want to delete and press `Enter`.

To evaluate threshold comparisons based on target system

1 On the THRSET view, use the `Add` (or `CHANGE`) line command to open the Add (or Change) Threshold dialog for a specific threshold comparison.

2 In the Target Pattern field, perform one of the following actions:

   ■ Enter a specific target system name.
   ■ Use wildcard characters (?) and *) to specify a pattern for multiple targets.

3 When the threshold comparison is complete, type `END` on the COMMAND line and press `Enter`.

   The threshold comparison will be evaluated only if the target system matches the pattern that you specified.

4 Repeat step 1 through step 3 for each threshold comparison whose evaluation you want to limit by target system.

   Specifying target patterns allows a threshold set to contain different threshold comparisons for different target systems.
To evaluate threshold comparisons based on another element

1. On the THRSET view, type the name of another element from the same data table in the Select Ele field, and press Enter.

   The selected element must be a character element (such as job name).

2. Use the Add (or CHA) line command to open the Add (or Change) Threshold dialog for a specific threshold comparison.

3. In the Select Element Pattern field, perform one of the following actions:
   - Enter a specific element value.
   - Use wildcard characters (?) and * to specify a pattern for multiple element values.

4. When the threshold comparison is complete, type END on the COMMAND line and press Enter.

   The threshold comparison will be evaluated only if the value of the selected element (Select Ele field) matches the pattern that you specified.

5. Repeat step 2 through step 4 for each threshold comparison whose evaluation you want to limit.

Specifying select element patterns allows a threshold set to contain different threshold comparisons for different data records (or rows in a view).

--- EXAMPLE ---

1. Specify ASGNAME, which is a job name element in MainView for z/OS data tables, in the Select Ele field.

2. Specify PRD* in the Select Element Pattern field for one threshold comparison, and TST* in the Select Element Pattern field for a different threshold comparison.

   Different threshold comparisons will be applied to jobs whose name begins with PRD* and TST*.

Creating a calendar period definition

You associate threshold set definitions with calendar period definitions to create a threshold selection. Most calendar period definitions consist of time spans, which can be any combination of hours of the day and days of the week.
Creating a calendar period definition

NOTE
The scope of the default calendar period definition, ANYTIME, is 24 hours a day, 7 days a week. You cannot modify or disable the ANYTIME definition. Any calendar period that you define overrides ANYTIME.

To create a calendar period definition

1. Display the CALDEFS view by performing one of the following actions:
   - Type CALDEFS on the COMMAND line, and press Enter.
   - In Plex Manager, hyperlink from the Dynamic Calendars field on the EZPLEX menu.

2. Type one of the following commands and press Enter:
   - Add line command to create a calendar period based on an existing one
   - ADD primary command to create a calendar period from scratch

3. In the Add Calendar Period dialog, specify a name, description, and type for the calendar period.

   For type, you can specify:
   - TIME - The calendar period state is based on day and time. When the calendar period is active depends on the time spans that you specify.
   - MANUAL - The calendar period state is controlled manually by view or operator command. You can change the calendar period state by using the ACTivate and INActivate commands on the CALSTAT view, or by issuing the following operator commands:

     ```
     F casname,CAL,Status,manualPeriod
     F casname,CAL,ACTive,manualPeriod
     F casname,CAL,INACTive,manualPeriod
     ```

     Manual calendar periods allow an automation product such as MainView AutoOPERATOR to implement calendar periods whose state is based on complex situations in the system.

     For more information about completing the Add Calendar Period dialog, see the online Help.

4. Type END on the COMMAND line and press Enter.

   The CALDEF view is displayed with message BBMXBD15I (Figure 28 on page 97), which means no time spans have been specified for the calendar period definition.
Specifying time spans for a calendar period

The time spans that you specify in a calendar period definition determine when a calendar period is active. If the current time and day of the week fall within a time span that is defined in a calendar period definition and that definition is enabled, the calendar period is active.

Use the following procedures to specify time spans in a calendar period definition:

- “To add a time span”
- “To change a time span” on page 98
- “To delete a time span” on page 98

To add a time span

1. On the CALDEF view, type one of the following commands and press Enter:

   - Add line command to create a time span based on an existing one
   - ADD primary command to create a time span from scratch

2. On the Add Calendar Time Span dialog, specify a start time, stop time, and one or more days of the week.

   For more information about completing the Add Calendar Time Span dialog, see the online Help.

3. Type END on the COMMAND line and press Enter.
Creating a threshold selection definition

**To change a time span**

1. On the CALDEF view, type the CHange line command next to the time span that you want to change and press Enter.

2. On the Change Calendar Time Span dialog, change the time span values as needed.

   For more information about completing the Change Calendar Time Span dialog, see the online Help.

3. Type END on the COMMAND line and press Enter.

**To delete a time span**

1. On the CALDEF view, type the DELete line command next to the time span that you want to delete and press Enter.

---

Creating a threshold selection definition

A threshold selection definition pairs threshold set definitions and calendar period definitions to create dynamic thresholds for an element.

**To create a threshold selection definition**

1. Perform one of the following actions:

   - On the THRSETS view, hyperlink from the Thr Sel field for a specific threshold set definition.
   
   - On the THRSET view, hyperlink from the THRSEL field.

   The THRSEL view is displayed for the element named in the threshold set definition.

2. Type one of the following commands and press Enter:

   - **Add** line command to create a threshold selection entry based on an existing one and place it after that entry

   - **Insert** line command to create a threshold selection entry based on an existing one and place it before that entry

3. On the Add Threshold Selection Entry dialog, specify the threshold set definition and calendar period definition for this entry.
Modifying threshold selection entries

For more information about completing the Add Threshold Selection Entry dialog, see the online Help.

4 Type END on the COMMAND line and press Enter.

NOTE
- If the threshold set definition that you specified does not exist yet, you must define it by using the Threshold Set hyperlink to the THRSETS view.
- If the calendar period definition that you specified does not exist yet, you must define it by using the Calendar Period hyperlink to the CALDEFS view.
- You can also create a threshold selection definition from the THRSELS view by using the ADD primary command. The Add Threshold Selection dialog is displayed; you must manually identify the element, and the product and table that contain the element.

Modifying threshold selection entries

Use the following procedures to modify the pairs of threshold set definitions and calendar period definitions in a threshold selection definition:

- “To change a threshold selection entry”
- “To specify the order in which threshold selection entries are used” on page 100
- “To delete a threshold selection entry” on page 100

To change a threshold selection entry

1 On the THRSEL view, type over the values in one or both of the following fields and press Enter:

- Threshold Set
- Comment
Managing dynamic thresholds

To specify the order in which threshold selection entries are used

1. On the THRSEL view, use the UP and DOWN line commands to move a threshold selection entry up or down in the list of entries.

To delete a threshold selection entry

1. On the THRSEL view, type the DELETE line command next to the threshold selection entry that you want to delete and press Enter.

Managing dynamic thresholds

Use the following procedures to manage your dynamic thresholds:

- “Controlling the availability of dynamic thresholds”
- “Reviewing calendar periods” on page 101
- “Diagnosing dynamic threshold problems” on page 103
- “Restoring previous versions of dynamic threshold definitions” on page 106
- “Deleting or disabling dynamic threshold definitions” on page 106
- “Deploying dynamic threshold definitions” on page 107

Controlling the availability of dynamic thresholds

To make a dynamic threshold available for use, the threshold selection definition, threshold set definition, and calendar period definition must all be enabled. Any status other than ENABLED means the definition is not currently available for use.

For a dynamic threshold to take effect, one of the calendar periods specified in the threshold selection definition must be active. By default, a time-based calendar period is active when the current time and day of the week fall within one of the time spans specified in a calendar period definition that is enabled. A MANUAL calendar period is controlled by view or operator command.

Use the following procedures to:

- Enable or disable dynamic threshold definitions
- Change the current state (active or inactive) of a calendar period
To enable or disable calendar period definitions

1 Display the CALDEFS or CALDEF view.

2 Use the ENAble or DI$able primary or line command, as appropriate.

To enable or disable threshold set definitions

1 Display the THRSETS or THRSET view.

2 Use the ENAble or DI$able primary or line command, as appropriate.

To enable or disable threshold selection definitions

1 Display the THRSELS or THRSEL view.

2 Use the ENAble or DI$able primary or line command, as appropriate.

To change the state of a calendar period

1 Display the CALSTAT view.

2 Use the ACTivate or INActivate line command, as appropriate.

---

NOTE
A MANUAL calendar period remains in the state that you set until someone changes the state by using the appropriate line command on CALSTAT or an operator command.

A time-based calendar period remains in the state that you set until one of the time spans specified in its definition changes the state. Using the ACTivate or INActivate line command on a time-based calendar period is a temporary measure.

---

Reviewing calendar periods

The EZCAL easy menu provides a convenient way to review the calendar periods that you defined manually or pushed from MainView Threshold Advisor.

To access the EZCAL menu

1 Type EZCAL on the COMMAND line, and press Enter.

Figure 29 on page 102 is an example of the EZCAL menu.
From EZCAL, you can navigate to additional calendar information by using the hyperlink fields listed in Table 14.

Table 14  Hyperlink fields on EZCAL menu

<table>
<thead>
<tr>
<th>Hyperlink field</th>
<th>View displayed</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>&gt; Used By</td>
<td>CALUSED</td>
<td>List of all calendar periods that are being used by enabled threshold selections</td>
</tr>
<tr>
<td>&gt; States</td>
<td>CALSTAT</td>
<td>List of all calendar periods and their current state, either active or inactive</td>
</tr>
<tr>
<td>&gt; Schedule</td>
<td>CALSCHED</td>
<td>List of calendar periods that will go into effect after the currently active calendar periods become inactive</td>
</tr>
<tr>
<td>Period Name or Def</td>
<td>CALDEF</td>
<td>Detailed information about the selected calendar period definition</td>
</tr>
<tr>
<td>State</td>
<td>CALSTAT</td>
<td>Information about the current state of the selected calendar period, either active or inactive</td>
</tr>
<tr>
<td>Sched</td>
<td>CALSCHED</td>
<td>Information about the calendar period that will go into effect after the selected calendar period becomes inactive</td>
</tr>
<tr>
<td>Used</td>
<td>CALUSED</td>
<td>Information about which enabled threshold selections are using the selected calendar period</td>
</tr>
</tbody>
</table>
Diagnosing dynamic threshold problems

For a dynamic threshold to be in effect, the following conditions must be met:

■ The threshold selection definition (THRSEL) must be enabled.

■ The threshold sets that are named in the threshold selection must be defined and those threshold set definitions (THRSETS) must be enabled.

■ The calendar periods that are named in the threshold selection must be defined and those calendar period definitions (CALDEFS) must be enabled.

■ One of the calendar periods named in the threshold selection must be active. A calendar period is active when the current time and day of the week fall within one of the time spans specified in a calendar period definition that is enabled.

If these conditions are met, the next thing to consider is the order of threshold selection entries in the threshold selection definition. The entries, which are pairs of threshold set definitions and calendar period definitions, are evaluated in order, starting at the top (as displayed in THRSEL):

■ If the calendar period is active, the corresponding threshold set is checked.

■ If the corresponding threshold set is defined and enabled, that threshold set becomes the active threshold set.

■ If the corresponding threshold set is not defined or not enabled, the pair is ignored and the next pair is evaluated.

Use the following procedures to:

■ Identify the currently active threshold sets
■ Determine how those threshold sets are being used
To display currently active threshold sets

1 Display the THRACT view (Figure 30).

Figure 30 THRACT view

<table>
<thead>
<tr>
<th>Product</th>
<th>Table</th>
<th>Element</th>
<th>Current</th>
<th>Causing</th>
<th>Time</th>
</tr>
</thead>
<tbody>
<tr>
<td>MVMVS</td>
<td>CSRE</td>
<td>CSRECSAU</td>
<td>DEFAULT</td>
<td>ANYTIME</td>
<td>22:12:36</td>
</tr>
<tr>
<td>MVMVS</td>
<td>CPRE</td>
<td>CPISTCPC</td>
<td>DEFAULT</td>
<td>ANYTIME</td>
<td>22:12:36</td>
</tr>
</tbody>
</table>

2 To see which calendar period is causing a threshold set to be active, use the Causing Cal Period hyperlink to display the CALDEF view.

To determine how threshold sets are being used

1 Display the THRSELS view (Figure 31).

Figure 31 THRSELS view

<table>
<thead>
<tr>
<th>CMD Product</th>
<th>Table</th>
<th>Element</th>
<th>THR</th>
<th>VER</th>
<th>EXP</th>
<th>Status</th>
<th>Mod</th>
<th>Time</th>
</tr>
</thead>
<tbody>
<tr>
<td>CMF</td>
<td>SCRE</td>
<td>SCIIRAVG</td>
<td>&gt;</td>
<td>&gt;</td>
<td>&gt;</td>
<td>CREATED</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CMF</td>
<td>SUREONE</td>
<td>SUMEBUSY</td>
<td>&gt;</td>
<td>&gt;</td>
<td>&gt;</td>
<td>MODIFIED</td>
<td>2012/04/12</td>
<td>18:</td>
</tr>
<tr>
<td>MVMVS</td>
<td>CFREC</td>
<td>CFISTGPC</td>
<td>&gt;</td>
<td>&gt;</td>
<td>&gt;</td>
<td>CREATED</td>
<td></td>
<td></td>
</tr>
<tr>
<td>MVMVS</td>
<td>CPRE</td>
<td>CPIBSYP</td>
<td>&gt;</td>
<td>&gt;</td>
<td>&gt;</td>
<td>CREATED</td>
<td></td>
<td></td>
</tr>
<tr>
<td>MVMVS</td>
<td>CPRE</td>
<td>CPISTCPC</td>
<td>&gt;</td>
<td>&gt;</td>
<td>&gt;</td>
<td>ENABLED</td>
<td>2012/04/18</td>
<td>08:</td>
</tr>
<tr>
<td>MVMVS</td>
<td>CSRE</td>
<td>CSRECSAU</td>
<td>&gt;</td>
<td>&gt;</td>
<td>&gt;</td>
<td>ENABLED</td>
<td>2012/04/25</td>
<td>06:</td>
</tr>
</tbody>
</table>

2 Use the EXP hyperlink to display the THREXPL view for a specific threshold selection and the element to which it applies (Figure 32 on page 105).
The THREXPL view provides the following information:

- List of all threshold sets for the element, with those that are included in the threshold selection listed first (In Thr Select field)

- Status of each threshold set definition (Thresh Def Status field)

  Any status other than ENABLED means the threshold set definition is not currently available for use. A status of UNDEFINED means the threshold set was named in the threshold selection, but it was never defined.

- Indication of which threshold set in the threshold selection is currently active (Act field)

- Calendar period associated with the threshold set, including:
  - calendar period definition status (Period Def Status field)
  - calendar period’s current state (Period State field)

**NOTE**

You can also display THREXPL from the THRACT view by using these hyperlinks:

- **Current Set** on THRACT to display THRSET for a specific threshold set

- **>THRSEL** on THRSET to display THRSEL for the threshold selection where the threshold set is being used

- **>THREXPL** on THRSEL to display THREXPL
Restoring previous versions of dynamic threshold definitions

When you enable a threshold set definition, calendar period definition, or threshold selection definition, a copy of the newly enabled definition is saved in the CASPERM registry. The last three versions of a definition are kept. If necessary, you can restore a previous version of a dynamic threshold definition.

To restore a previous version of a dynamic threshold definition

1. Display the THRSETS, CALDEFS, or THRSELS view, depending on the type of definition that you want to restore.

2. Use the Ver hyperlink field to display a list of available versions for the selected definition.

3. On the VEROBJ view, use the RESTore line command to restore a particular version of the definition.

The version that you select is displayed in the appropriate view (THRSETS, CALDEFS, or THRSELS) with a status of MODIFIED. You must use the ENAble command to make the restored definition available for use.

Deleting or disabling dynamic threshold definitions

To delete or disable a dynamic threshold, you can use the following line commands on the THRSELS view:

- **DELeTe** to delete the threshold selection definition for an element
- **DISable** to disable the threshold selection definition for an element

You do not have to delete or disable any threshold set definitions or calendar period definitions that are associated with the threshold selection definition. You can keep those definitions and reuse them. If you do want to delete or disable a threshold set definition or calendar period definition, use the **DELeTe** or **DISable** line command on the THRSETS or CALDEFS view.
Deploying dynamic threshold definitions

By default, the dynamic thresholds that you define are specific to the local system where you define them. All dynamic threshold definitions are stored in the local CASPERM registry. However, deployment enables you to copy those definitions to other systems. By deploying definitions, you do not have to redefine the same dynamic thresholds on multiple systems.

**NOTE**

- The system to which you deploy dynamic threshold definitions must be running version 6.1 or later, and must have a CASPERM registry defined.

- When deciding whether to deploy dynamic thresholds, consider that the thresholds you define on one system might not be appropriate for other systems because of varying levels of activity. For example, MainView Threshold Advisor generates recommended thresholds based on data collected from a specific system. Those same thresholds might not be as effective on a different system.

To deploy dynamic threshold definitions

1. Display the THRSETS, CALDEFS, or THRSELS view, depending on the type of definition that you want to deploy.

2. Select one or more definitions that you want to deploy:
   - In the MainView windows environment, enter the T line command next to one or more definition names.
   - In MainView Explorer, click a definition name to select it.

   **TIP**

   To select multiple names, click Enable Selections, press and hold the Ctrl key, and click the names.

3. Start the deployment wizard:
   - In the MainView windows environment, enter the DEPLOY primary command.
   - In MainView Explorer, right-click a definition name and choose Line action => Deploy a Dynamic Threshold.

4. Complete the deployment wizard.

   The deployment process starts and the DPLYMNT view shows the status of the request. For more information about the DPLYMNT view, see “Managing the deployment process” on page 108.
Managing the deployment process

You can use the DPLYMNT view to manage the deployment process. The DPLYMNT view lists all deployment requests from the current system and their statuses.

From the DPLYMNT view, you can:

- Stop, start, delete, and cancel deployment requests by using the available line commands
- See details about a deployment request by using the S (select) line command, which displays the DPLYITMS view
- See details about the status of a deployment request by hyperlinking from the status field, which displays the LOGDEPLM view
Best Practice metrics in MainView Threshold Advisor

Table 15 describes the MainView product views and fields that are presented as Best Practice metrics in the MainView Threshold Advisor user interface.

<table>
<thead>
<tr>
<th>View</th>
<th>Element (field)</th>
<th>Description</th>
<th>Why Best Practice?</th>
</tr>
</thead>
<tbody>
<tr>
<td>CREGION</td>
<td>CRGNSMFI</td>
<td>SMF ID associated with the z/OS system that is running the CICS region</td>
<td>Target identification.</td>
</tr>
<tr>
<td>CREGION</td>
<td>CRGNTARG</td>
<td>Name of the target CICS region, which is the job name or started task ID</td>
<td>Target identification.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>associated with the region</td>
<td></td>
</tr>
<tr>
<td>CREGION</td>
<td>CRGRPMXT</td>
<td>Number of tasks in the CICS region in relation to the maximum task value.</td>
<td>As this metric approaches 100%, the ability of the CICS region to absorb excess</td>
</tr>
<tr>
<td></td>
<td></td>
<td>This is the defined capacity of the CICS region</td>
<td>work is reduced. Once CICS reaches the maximum task value, it will no longer</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>dispatch new work in the region.</td>
</tr>
<tr>
<td>CREGION</td>
<td>CRGIRESP</td>
<td>Average response time of all transactions executing in the CICS region</td>
<td>Average response time is an indication of problems that might be causing</td>
</tr>
<tr>
<td></td>
<td></td>
<td>during the recording interval</td>
<td>additional delays in the execution of work in the CICS region. If average</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>response time exceeds its target, you should examine response time factors in</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>task performance history.</td>
</tr>
<tr>
<td>CREGION</td>
<td>CRGIEXCR</td>
<td>Number of EXCPs issued by the CICS region during the current sample</td>
<td>This metric is an indication of the amount of I/O being performed by the CICS</td>
</tr>
<tr>
<td></td>
<td></td>
<td>expressed as the rate per second over the recording interval</td>
<td>region against CICS files. An unexpected decrease in this rate might be an</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>indication of file contention.</td>
</tr>
<tr>
<td>View</td>
<td>Element (field)</td>
<td>Description</td>
<td>Why Best Practice?</td>
</tr>
<tr>
<td>--------</td>
<td>-----------------</td>
<td>-----------------------------------------------------------------------------</td>
<td>-----------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>CREGDSAS</td>
<td>CRGNTARG</td>
<td>Name of the target CICS region, which is the job name or started task ID associated with the CICS region</td>
<td>Target identification.</td>
</tr>
<tr>
<td>CREGDSAS</td>
<td>CRGRDSA</td>
<td>Percent of the dynamic storage area (DSALIMIT) that is currently being used</td>
<td>This metric is the percentage of below-the-line storage in use by the CICS region. If this percentage is too high, the CICS region will not be able to handle additional work and might stall.</td>
</tr>
<tr>
<td>CREGDSAS</td>
<td>CRGREDSA</td>
<td>Percent of the extended dynamic storage area (EDSALIMIT) that is currently being used</td>
<td>This metric is the percentage of above-the-line storage in use by the CICS region. If this percentage is too high, the CICS region will not be able to handle additional work and might stall.</td>
</tr>
<tr>
<td>CREGDSAS</td>
<td>CRGRGTPCT</td>
<td>Percent of above the bar dynamic storage area (GDSALIMIT) that is currently being used</td>
<td>This metric is the percentage of above-the-bar storage in use by the CICS region. If this percentage is too high, the CICS region will not be able to handle additional work and might stall.</td>
</tr>
<tr>
<td>CREGDSAS</td>
<td>CRGRMVSPCT</td>
<td>Percent of z/OS storage in use below the 16 MB line</td>
<td>The percentage of z/OS below-the-line storage is an indication of how much available storage is allocated for use by CICS DSA. If this percentage is too high, the region will not be able to allocate sufficient DSA to satisfy below-the-line requests.</td>
</tr>
<tr>
<td>CREGION</td>
<td>CRGRCPUP</td>
<td>CPU time consumed by the CICS region expressed as a percentage of the total available time</td>
<td>This metric is an indication of the amount of CPU resources the CICS region is consuming. An increase in CPU utilization might indicate that more work than expected is being pushed through the region due to slowdowns in other regions, or that some transactions have encountered issues with loops. A decrease might indicate the CICS region is experiencing slowdowns due to resource contention.</td>
</tr>
<tr>
<td>View</td>
<td>Element (field)</td>
<td>Description</td>
<td>Why Best Practice?</td>
</tr>
<tr>
<td>----------</td>
<td>-----------------</td>
<td>------------------------------------------------------------------------------</td>
<td>-------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>CREGION</td>
<td>CRGITRTE</td>
<td>Number of transactions per second during the recording interval</td>
<td>This metric is the rate of work being processed by the CICS region. Deviation from a target transaction rate might indicate a slowdown in this CICS region (the rate decreases) or other CICS regions (the rate increases).</td>
</tr>
<tr>
<td>CREGION</td>
<td>CRGIRESP</td>
<td>Average response time of all transactions executing in the CICS region during the recording interval</td>
<td>Average response time can be an indication of problems that might cause additional delays in the execution of work in the CICS region. If the average response time exceeds the target, you should examine response time factors in task performance history.</td>
</tr>
<tr>
<td>CREGION</td>
<td>CRGIEXCR</td>
<td>Number of EXCPs issued by the CICS region during the current sample expressed as the rate per second over the recording interval</td>
<td>This metric is an indication of the amount of I/O being performed by the CICS region against CICS files. An unexpected decrease in this rate might be an indication of file contention.</td>
</tr>
<tr>
<td>CREGDSAS</td>
<td>CRGNTARG</td>
<td>Name of the target CICS region, which is the job name or started task ID associated with the CICS region</td>
<td>Target identification.</td>
</tr>
<tr>
<td>CREGDSAS</td>
<td>CRGRDSA</td>
<td>Percent of the dynamic storage area (DSALIMIT) that is currently being used</td>
<td>This metric is the percentage of below-the-line storage in use by the CICS region. If this percentage is too high, the CICS region will not be able to handle additional work and might stall.</td>
</tr>
<tr>
<td>CREGDSAS</td>
<td>CRGREDSA</td>
<td>Percent of the extended dynamic storage area (EDSALIMIT) that is currently being used</td>
<td>This metric is the percentage of above-the-line storage in use by the CICS region. If this percentage is too high, the CICS region will not be able to handle additional work and might stall.</td>
</tr>
<tr>
<td>CREGDSAS</td>
<td>CRGRGTPCT</td>
<td>Percent of above the bar dynamic storage area (GDSALIMIT) that is currently being used</td>
<td>This metric is the percentage of above-the-bar storage in use by the CICS region. If this percentage is too high, the CICS region will not be able to handle additional work and might stall.</td>
</tr>
</tbody>
</table>
Table 15  Best Practice metrics in MainView Threshold Advisor (part 4 of 19)

<table>
<thead>
<tr>
<th>View</th>
<th>Element (field)</th>
<th>Description</th>
<th>Why Best Practice?</th>
</tr>
</thead>
<tbody>
<tr>
<td>CREGDSAS</td>
<td>CRGRMVSPCT</td>
<td>Percent of z/OS storage in use below the 16 MB line</td>
<td>The percentage of z/OS below-the-line storage can indicate how much available storage is allocated for use by CICS DSA. If this percentage is too high, the region will not be able to allocate sufficient DSA to satisfy below-the-line requests.</td>
</tr>
<tr>
<td>CREGDSAS</td>
<td>CRGREMVSPCT</td>
<td>Percent of z/OS storage in use above the 16 MB line</td>
<td>The percentage of z/OS above-the-line storage can indicate how much available storage is allocated for use by CICS DSA. If this percentage is too high, the region will not be able to allocate sufficient EDSA to satisfy above-the-line requests.</td>
</tr>
<tr>
<td>COBJ</td>
<td>MONPARM</td>
<td>Name of a product target included in a workload definition, which is used to identify the monitor to be tested</td>
<td>Target identification.</td>
</tr>
<tr>
<td>COBJ</td>
<td>MONTARG</td>
<td>Job name of the system that is being monitored</td>
<td>Target identification.</td>
</tr>
<tr>
<td>COBJ</td>
<td>MONICVAL</td>
<td>Reported value of data collected by the monitor during the current interval</td>
<td>This metric represents the average response time for CICS transactions that are part of this workload. A increase in the expected average response time for transactions in the workload can be an indication of resource contention causing delays.</td>
</tr>
<tr>
<td>COBJ</td>
<td>MONICCNT</td>
<td>Number of recorded transactions from a product workload during the current interval</td>
<td>This metric represents the number of CICS transactions that executed during the current interval as part of this workload.</td>
</tr>
<tr>
<td>COBJ</td>
<td>MONIPOBJ</td>
<td>Percentage of transactions in the current interval whose response times are less than or equal to the response time goal set in a workload definition</td>
<td>This metric indicates how well the workload is doing in relation to its response time goals. The goal is a target response time, and this metric indicates what percentage of transactions that ran during the interval met the goal.</td>
</tr>
<tr>
<td>CTGSERV</td>
<td>RC1CTGNAME</td>
<td>Job name of the CICS Transaction Gateway (CTG) daemon</td>
<td>Target identification.</td>
</tr>
<tr>
<td>CTGSERV</td>
<td>RC1CTGAPPL</td>
<td>APPLID of the CTG daemon.</td>
<td>Target identification.</td>
</tr>
</tbody>
</table>
### Table 15  Best Practice metrics in MainView Threshold Advisor (part 5 of 19)

<table>
<thead>
<tr>
<th>View</th>
<th>Element (field)</th>
<th>Description</th>
<th>Why Best Practice?</th>
</tr>
</thead>
<tbody>
<tr>
<td>CTGSERV</td>
<td>RC1GDCHEALT</td>
<td>Current health value for communications between the CTG daemon and CICS</td>
<td>The health value is an indication of whether the CTG daemon has to wait for threads to process work. If this value is less than 100, CTG is waiting for threads.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Values range from 0 to 100, with the higher the value the healthier the state.</td>
<td></td>
</tr>
<tr>
<td>CTGSRVTP</td>
<td>RC1CTGAPPL</td>
<td>APPLID of the CTG daemon</td>
<td>Target identification.</td>
</tr>
<tr>
<td>CTGSRVTP</td>
<td>RC1ITRANRAT</td>
<td>Calculated transaction rate over the monitored lifetime of CTG</td>
<td>This metric is the rate of work being processed by CTG. Deviation from a target transaction rate can indicate a slowdown in this CTG or the CICS regions where the work is being performed (the rate decreases) or other CTGs (the rate increases).</td>
</tr>
<tr>
<td>CTGSRVTP</td>
<td>RC1ITASKAV</td>
<td>Average elapsed time of all transactions that were processed by the CTG daemon during the reporting period</td>
<td>Average elapsed time can be an indication of problems that might cause additional delays in the execution of work in the CTG. If the average response time exceeds the target, you should examine response time factors in task performance history.</td>
</tr>
<tr>
<td>CTGSRVTP</td>
<td>RC1ITASKWAV</td>
<td>Average portion of elapsed time that all transactions (both EXCI and IPIC) spent waiting for threads during the reporting period</td>
<td>Waiting for threads in the CTG indicates a problem. If this value climbs, it indicates that too much work is being processed through CTG with too few threads available to process the requests. This is an indication of increased workload without an increase in the ability of CTG to manage the load.</td>
</tr>
</tbody>
</table>

### MainView for DB2

<table>
<thead>
<tr>
<th>STDB2SYS</th>
<th>STDB2TARG</th>
<th>DB2 subsystem ID</th>
<th>Target identification.</th>
</tr>
</thead>
<tbody>
<tr>
<td>STDB2SYS</td>
<td>SI1TCBH</td>
<td>MSTR TCB CPU time</td>
<td>This value is most often the result of log archive processing. If the value is high, determine if unusual database change activity is occurring (such as from batch or utility processing).</td>
</tr>
<tr>
<td>STDB2SYS</td>
<td>SI1SRBH</td>
<td>MSTR SRB CPU time</td>
<td>This value can be attributed to one or more of the following activities: active logging, checkpoint processing, and subsystem restarts.</td>
</tr>
</tbody>
</table>
Table 15  Best Practice metrics in MainView Threshold Advisor (part 6 of 19)

<table>
<thead>
<tr>
<th>View</th>
<th>Element (field)</th>
<th>Description</th>
<th>Why Best Practice?</th>
</tr>
</thead>
<tbody>
<tr>
<td>STDB2SYS</td>
<td>SI2TCBH</td>
<td>DBM1 TCB CPU time</td>
<td>A small amount of DBM1 TCB time can be seen as a result of VSAM database data set open/close processing.</td>
</tr>
<tr>
<td>STDB2SYS</td>
<td>SI2SRBH</td>
<td>DBM1 SRB CPU time</td>
<td>Prior to DB2 V10, the majority of DBM1 SRB time is associated with asynchronous database I/O such as sequential or list prefetch or deferred write activity. This might or might not be a cause for concern.</td>
</tr>
<tr>
<td>STDB2SYS</td>
<td>SI3TCBH</td>
<td>DIST TCB CPU time</td>
<td>Miscellaneous DDF region overhead is recorded here.</td>
</tr>
<tr>
<td>STDB2SYS</td>
<td>SI3SRBH</td>
<td>DIST SRB CPU time</td>
<td>Miscellaneous DDF region overhead is recorded here.</td>
</tr>
<tr>
<td>STDB2SYS</td>
<td>SI4TCBH</td>
<td>IRLM TCB CPU time</td>
<td>This value should be negligible since it is only involved in startup, shutdown, and error processing.</td>
</tr>
<tr>
<td>STDB2SYS</td>
<td>SI4SRBH</td>
<td>IRLM SRB CPU time</td>
<td>The IRLM schedules SRBs to perform timeout and deadlock processing, as well as lock resumption. If this value is high, consider further investigation of lock contention.</td>
</tr>
<tr>
<td>STDB2SYS</td>
<td>SI5TCBH</td>
<td>SPAS TCB CPU time</td>
<td>CPU time for external stored procedures is recorded here. If this value is high, stored procedure activity might be increasing, or stored procedures might be looping or invoking inefficient SQL.</td>
</tr>
<tr>
<td>STDB2SYS</td>
<td>SI5SRBH</td>
<td>SPAS SRB CPU time</td>
<td>CPU time for external stored procedures is recorded here. If this value is high, stored procedure activity might be increasing, or stored procedures might be looping or invoking inefficient SQL.</td>
</tr>
<tr>
<td>STDB2SYS</td>
<td>SI1PSRBH</td>
<td>MSTR preemptible SRB time not on zIIP</td>
<td>This dispatchable unit of work is used for rollback and commit phase 2 processing, among other things.</td>
</tr>
<tr>
<td>STDB2SYS</td>
<td>SI1PZIPH</td>
<td>MSTR preemptible SRB zIIP</td>
<td>Can be used in DB2 V10 for asynchronous I/O (such as prefetch and deferred writes), unless PTF UK64423 is applied, in which case the CPU time for these I/Os is charged to DMB1 Premp SRBs.</td>
</tr>
<tr>
<td>STDB2SYS</td>
<td>SI2PSRBH</td>
<td>DBM1 preemptible SRB time not on zIIP</td>
<td>This dispatchable time is not currently documented. Contact IBM if a problem is suspected here.</td>
</tr>
</tbody>
</table>
### Table 15  Best Practice metrics in MainView Threshold Advisor (part 7 of 19)

<table>
<thead>
<tr>
<th>View</th>
<th>Element (field)</th>
<th>Description</th>
<th>Why Best Practice?</th>
</tr>
</thead>
<tbody>
<tr>
<td>STDB2SYS</td>
<td>SI2PZIPH</td>
<td>DBM1 preemptible SRB zIIP time</td>
<td>This dispatchable unit is used for a number of processes, including parallelism and asynchronous I/O. Some DB2 utilities also exploit it. If utilities are not running, check for inefficient SQL queries.</td>
</tr>
<tr>
<td>STDB2SYS</td>
<td>SI3PSRBH</td>
<td>DIST preemptible SRB time not on zIIP</td>
<td>SQL processing on behalf of TCP/IP originating DBATs is performed under this dispatchable unit. If this value is high distributed processing is increasing.</td>
</tr>
<tr>
<td>STDB2SYS</td>
<td>SI3PZIPH</td>
<td>DIST preemptible SRB zIIP time</td>
<td>Miscellaneous DDF region overhead is recorded here.</td>
</tr>
<tr>
<td>STDB2SYS</td>
<td>SI4PSRBH</td>
<td>IRLM preemptible SRB time not on zIIP</td>
<td>DB2 does not currently use this dispatchable unit. If the value is non-zero, contact IBM.</td>
</tr>
<tr>
<td>STDB2SYS</td>
<td>SI4PZIPH</td>
<td>IRLM preemptible SRB zIIP time</td>
<td>DB2 does not currently use this dispatchable unit. If the value is non-zero, contact IBM.</td>
</tr>
<tr>
<td>STBFRPL</td>
<td>STDB2TARG</td>
<td>DB2 subsystem ID</td>
<td>Target identification.</td>
</tr>
<tr>
<td>STBFRPL</td>
<td>SIRPI</td>
<td>Buffer pool page-ins for read</td>
<td>This metric indicates z/OS paging activity due to a shortage of real storage. This value is frequently the result of excessive load on the LPAR or inadequate real storage configuration.</td>
</tr>
<tr>
<td>STBFRPL</td>
<td>SIWPI</td>
<td>Buffer pool page-ins for write</td>
<td>This metric indicates z/OS paging activity due to a shortage of real storage. This value is frequently the result of excessive load on the LPAR or inadequate real storage configuration.</td>
</tr>
<tr>
<td>STDB2</td>
<td>STDB2TARG</td>
<td>DB2 subsystem ID</td>
<td>Target identification.</td>
</tr>
<tr>
<td>STDB2</td>
<td>STATOT</td>
<td>Active threads</td>
<td>Higher than normal transaction volumes can cause constraints to various system resources. In that case, system resources might need to be tuned or the workload might need to be throttled back.</td>
</tr>
<tr>
<td>STDB2</td>
<td>STTEXTOT</td>
<td>Total exceptions</td>
<td>This metric indicates the existence of potential system-wide problems that should be individually investigated and resolved.</td>
</tr>
</tbody>
</table>
### Table 15  Best Practice metrics in MainView Threshold Advisor (part 8 of 19)

<table>
<thead>
<tr>
<th>View</th>
<th>Element (field)</th>
<th>Description</th>
<th>Why Best Practice?</th>
</tr>
</thead>
<tbody>
<tr>
<td>STDB2</td>
<td>SCAVSTOR</td>
<td>DBM1 storage available</td>
<td>DB2 will abend if all available virtual storage below the 2 GB bar is exhausted. Further investigation using DB2STORD might be necessary.</td>
</tr>
<tr>
<td>STDB2</td>
<td>STCPUDB2</td>
<td>CPU % - DB2 threads</td>
<td>High consumption of CPU by DB2 threads might indicate more work taking place, inefficient queries, or a looping application.</td>
</tr>
<tr>
<td>STDB2</td>
<td>STCPUSYS</td>
<td>CPU % - LPAR</td>
<td>A CPU-overloaded LPAR can cause degradation in performance. This might be the result of high DB2 activity, non-DB2 activity, or both.</td>
</tr>
<tr>
<td>STDB2</td>
<td>SCDB2CPU</td>
<td>CPU % - DB2 subsystem</td>
<td>This metric refers to DB2 subsystem address space overhead. A certain amount is normal, but it should be investigated if the value gets too high.</td>
</tr>
<tr>
<td>STLOCK</td>
<td>STDB2TARG</td>
<td>DB2 subsystem ID</td>
<td>Target identification.</td>
</tr>
<tr>
<td>STLOCK</td>
<td>SILOCKR</td>
<td>Locks</td>
<td>Locks are typical of normal application activity, but they might be a factor in elongated application elapsed times if their numbers are higher than usual.</td>
</tr>
<tr>
<td>STLOCK</td>
<td>SIUNLK</td>
<td>Unlocks</td>
<td>The number of unlocks should be close to the number of locks; otherwise, applications might be holding locks too long.</td>
</tr>
<tr>
<td>STLOCK</td>
<td>SIDRNO</td>
<td>Drains</td>
<td>This metric indicates that utility or command processing is attempting to serialize access to a database resource. This situation might adversely impact normal application activity.</td>
</tr>
<tr>
<td>STLOCK</td>
<td>SIDEA</td>
<td>Deadlocks</td>
<td>Deadlocks are a serious form of lock contention that should seldom occur. They are usually the result of faulty application logic.</td>
</tr>
<tr>
<td>STLOCK</td>
<td>SITIM</td>
<td>Timeouts</td>
<td>When a timeout occurs, the application abends after the site-specified waiting period has elapsed. Timeouts should not occur very frequently.</td>
</tr>
<tr>
<td>DOBJ</td>
<td>MONTARG</td>
<td>DB2 subsystem ID</td>
<td>Target identification.</td>
</tr>
<tr>
<td>DOBJ</td>
<td>MONPARM</td>
<td>Workload name</td>
<td>Target identification.</td>
</tr>
<tr>
<td>DOBJ</td>
<td>MONAPPL</td>
<td>Composite workload name</td>
<td>Target identification.</td>
</tr>
</tbody>
</table>
## Table 15  Best Practice metrics in MainView Threshold Advisor (part 9 of 19)

<table>
<thead>
<tr>
<th>View</th>
<th>Element (field)</th>
<th>Description</th>
<th>Why Best Practice?</th>
</tr>
</thead>
<tbody>
<tr>
<td>DOBJ</td>
<td>MONICVAL</td>
<td>Average response time</td>
<td>Higher than usual response time might indicate the existence of new long-running applications, a performance problem with existing applications, or both.</td>
</tr>
<tr>
<td>DOBJ</td>
<td>MONICCNT</td>
<td>Transaction count</td>
<td>Special performance evaluation and tuning might be necessary as the overall workload in DB2 increases.</td>
</tr>
<tr>
<td>DOBJ</td>
<td>MONIPOBJ</td>
<td>% Transaction meeting goal</td>
<td>A decrease in this value might mean service levels are no longer being met. If that is the case, immediate tuning action might be required.</td>
</tr>
<tr>
<td>STRATES</td>
<td>STDB2TARG</td>
<td>DB2 subsystem ID</td>
<td>Target identification.</td>
</tr>
<tr>
<td>STRATES</td>
<td>SISCTHDT</td>
<td>Thread create rate</td>
<td>In a non-batch environment, the lower this number is compared to the commit rate, the more benefit is being realized from thread reuse.</td>
</tr>
<tr>
<td>STRATES</td>
<td>SISCOMIT</td>
<td>Commit rate</td>
<td>This is the best metric of transactions per second. This value is not necessarily bad if high, but it might require tuning as suggested by other indicators.</td>
</tr>
<tr>
<td>STRATES</td>
<td>SISDMLT</td>
<td>DML SQL rate</td>
<td>Along with the commit rate, this metric might indicate higher transaction volume, more complex applications, or both. Tune as necessary.</td>
</tr>
<tr>
<td>STRATES</td>
<td>SISCALL</td>
<td>Stored procedure call rate</td>
<td>Increased stored procedure activity might require WLM tuning, DDF tuning, or both.</td>
</tr>
<tr>
<td>STRATES</td>
<td>SISPLGRP</td>
<td>Parallel group rate</td>
<td>A high value is not necessarily a problem, although inefficient queries might be responsible for parallel processing activity. Adequate buffer pool space must be provided.</td>
</tr>
<tr>
<td>STRATES</td>
<td>SISDSO</td>
<td>Dataset open rate</td>
<td>If workloads are stable, database data sets should never have to be closed and reopened. Adjust the DS MAX Z PARM value, if necessary.</td>
</tr>
<tr>
<td>STRATES</td>
<td>SISGET</td>
<td>Getpage rate</td>
<td>A much higher than usual get page rate might indicate inefficient queries using table scan access instead of index access.</td>
</tr>
</tbody>
</table>
### Table 15  **Best Practice metrics in MainView Threshold Advisor (part 10 of 19)**

<table>
<thead>
<tr>
<th>View</th>
<th>Element (field)</th>
<th>Description</th>
<th>Why Best Practice?</th>
</tr>
</thead>
<tbody>
<tr>
<td>STRATES</td>
<td>SISSWS</td>
<td>Page update rate</td>
<td>This value is governed by application activity. Expect a higher update rate for special batch processing (such as month-end). Logging activity will go hand-in-hand.</td>
</tr>
<tr>
<td>STRATES</td>
<td>SISRIO</td>
<td>Sync read I/O rate</td>
<td>A small increase might be nominal; a larger increase might indicate an application problem. Higher rates might require additional buffer pool resources.</td>
</tr>
<tr>
<td>STRATES</td>
<td>SISPIO</td>
<td>Async read I/O rate</td>
<td>A higher than normal rate is often caused by inefficient queries performing full table scans. The situation might also be the result of normal batch or utility processing.</td>
</tr>
<tr>
<td>STRATES</td>
<td>SISWRTS</td>
<td>Write I/O rate</td>
<td>Like page update rate, this value is a result of data change activity, but might also indicate that buffer pool tuning is necessary.</td>
</tr>
<tr>
<td>STRATES</td>
<td>SISEDML</td>
<td>EDM load rate</td>
<td>This situation should be rare unless applications and databases are initially being accessed. If not, EDM pool tuning might be necessary.</td>
</tr>
<tr>
<td>STRATES</td>
<td>SISSUSRT</td>
<td>Lock suspend rate</td>
<td>This metric indicates that applications are experiencing degradation due to lock wait time. This situation should be kept to a minimum.</td>
</tr>
<tr>
<td>STRATES</td>
<td>SISLCTOT</td>
<td>Latch suspend rate</td>
<td>This value is the result of internal DB2 activity and is typically inconsequential. If the value is significant, investigate with IBM.</td>
</tr>
<tr>
<td>STRATES</td>
<td>SISLKOUT</td>
<td>Lockout rate</td>
<td>This metric indicates that deadlocks and timeouts are occurring. This situation should be considered abnormal and a cause for investigation.</td>
</tr>
<tr>
<td>STRATES</td>
<td>SISGCONT</td>
<td>Global lock suspend rate</td>
<td>This metric is the same as lock suspend rate except the scope is between members of a data sharing group.</td>
</tr>
<tr>
<td>STDIST</td>
<td>STDB2TARG</td>
<td>DB2 subsystem ID</td>
<td>Target identification.</td>
</tr>
<tr>
<td>STDIST</td>
<td>SIQDBT</td>
<td>DBATs queued - MAXDBAT reached</td>
<td>Distributed transactions are having to wait to be processed within DB2. The MAXDBAT ZPARM value might need to be increased.</td>
</tr>
</tbody>
</table>
## Table 15  Best Practice metrics in MainView Threshold Advisor (part 1 of 19)

<table>
<thead>
<tr>
<th>View</th>
<th>Element (field)</th>
<th>Description</th>
<th>Why Best Practice?</th>
</tr>
</thead>
<tbody>
<tr>
<td>STDIST</td>
<td>SIQCRT</td>
<td>Connections deallocated - CONDBAT reached</td>
<td>More distributed connections to DB2 are being requested than the CONDBAT ZPARM value allows. The value might require adjustment.</td>
</tr>
<tr>
<td>STDIST</td>
<td>SCCNAT</td>
<td>Current DBATs active and pooled</td>
<td>If the overall distributed transaction load is growing significantly, consider throttling with ZPARMs or performing DB2 subsystem tuning.</td>
</tr>
<tr>
<td>STDIST</td>
<td>SCMQR2</td>
<td>HWM connections queued for DBAT</td>
<td>The maximum number of waiting connections can be used along with other indicators to determine if distributed connection tuning is necessary.</td>
</tr>
<tr>
<td>STCACHE</td>
<td>STDB2TARG</td>
<td>DB2 subsystem ID</td>
<td>Target identification.</td>
</tr>
<tr>
<td>STCACHE</td>
<td>SIPFND</td>
<td>Global cache hit ratio</td>
<td>As this ratio degrades from 100%, reusable dynamic SQL statements must be reloaded and reprepared.</td>
</tr>
<tr>
<td>STCACHE</td>
<td>SIDEXP</td>
<td>Statements discarded</td>
<td>The least recently used SQL statements were discarded from the cache because the MAXKEEPD ZPARM value had been reached. Consider increasing the MAXKEEPD value or the cache itself.</td>
</tr>
<tr>
<td>STCACHE</td>
<td>SIHNPRP</td>
<td>Local cache hit ratio</td>
<td>As this ratio degrades from 100%, reusable dynamic SQL statements must be reloaded and reprepared.</td>
</tr>
<tr>
<td>STCACHE</td>
<td>SIDINV</td>
<td>Statements purged from cache</td>
<td>This situation is often the result of a DROP ALTER or REVOKE statement against a dependent object. Such configuration changes should be tightly controlled in a production environment.</td>
</tr>
<tr>
<td>STDISA</td>
<td>STDB2TARG</td>
<td>DB2 subsystem ID</td>
<td>Target identification.</td>
</tr>
<tr>
<td>STDISA</td>
<td>SCDSONP</td>
<td>Data sets open</td>
<td>This metric represents the number of concurrently open database data sets. If this number grows significantly, make sure adequate virtual storage is available in the DBM1 address space.</td>
</tr>
<tr>
<td>STDISA</td>
<td>SIPCCT</td>
<td>Convert RW to RO</td>
<td>This metric ndicates that infrequently used database objects have been converted to read-only to reduce the possible impact on recovery of large numbers of objects in read-write status.</td>
</tr>
<tr>
<td>View</td>
<td>Element (field)</td>
<td>Description</td>
<td>Why Best Practice?</td>
</tr>
<tr>
<td>--------</td>
<td>-----------------</td>
<td>--------------------------------------------------</td>
<td>--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>STDSA</td>
<td>SIDSDRN</td>
<td>Datasets closed by drain</td>
<td>This metric is incremented when a data set has not been recently used and DB2 has reached 99% of the DSMAX ZPARM value. The value can be increased, if adequate DBM1 storage exists.</td>
</tr>
<tr>
<td>STEDMP</td>
<td>SIPHDBD</td>
<td>DBD hit ratio</td>
<td>If this value degrades significantly in a stable production environment, consider increasing the size of the DBD cache EDMDBDC ZPARM.</td>
</tr>
<tr>
<td>STEDMP</td>
<td>SIPHCT</td>
<td>CT hit ratio</td>
<td>If this value degrades significantly in a stable production environment, consider increasing the size of the EDMPOOL ZPARM.</td>
</tr>
<tr>
<td>STEDMP</td>
<td>SIPHPT</td>
<td>PT hit ratio</td>
<td>If this value degrades significantly in a stable production environment, consider increasing the size of the EDMPOOL ZPARM.</td>
</tr>
<tr>
<td>STGBLLK</td>
<td>STDB2TARG</td>
<td>DB2 subsystem ID</td>
<td>Target identification.</td>
</tr>
<tr>
<td>STGBLLK</td>
<td>SIGCONTTP</td>
<td>% Global contention</td>
<td>In a data sharing environment, the degree of lock contention between members should be kept to a minimum. Standard lock tuning applies, except between members of a data sharing group.</td>
</tr>
<tr>
<td>STLOG</td>
<td>STDB2TARG</td>
<td>DB2 subsystem ID</td>
<td>Target identification.</td>
</tr>
<tr>
<td>STLOG</td>
<td>SILSUS</td>
<td>Suspends log writes</td>
<td>The number of times applications had to wait for log records to be written to the active log. A moderate value here is not necessarily a problem; a higher value might mean log tuning is needed.</td>
</tr>
<tr>
<td>STLOG</td>
<td>SIBPAG</td>
<td>Log output buffers paged in</td>
<td>This metric indicates z/OS paging activity due to a shortage of real storage. This situation should be a very rare occurrence.</td>
</tr>
<tr>
<td>STLOG</td>
<td>SISCIWR</td>
<td>Active log bytes written per second</td>
<td>This value is the result of normal application processing. If excessive log data set I/O occurs, tuning might be necessary.</td>
</tr>
<tr>
<td>STSERV</td>
<td>STDB2TARG</td>
<td>DB2 Subsystem ID</td>
<td>Target identification.</td>
</tr>
<tr>
<td>STSERV</td>
<td>SICTHW</td>
<td>Create threads queued</td>
<td>This value represents the number of times a user thread had to wait to be processed because the CTHREAD ZPARM limit had been reached. Increase the CTHREAD limit, if adequate resources are available.</td>
</tr>
</tbody>
</table>
### Table 15  Best Practice metrics in MainView Threshold Advisor (part 13 of 19)

<table>
<thead>
<tr>
<th>View</th>
<th>Element (field)</th>
<th>Description</th>
<th>Why Best Practice?</th>
</tr>
</thead>
<tbody>
<tr>
<td>STSERV</td>
<td>SIHWIB</td>
<td>Batch threads HWM</td>
<td>Batch jobs can often negatively impact the performance of transaction processing by locking users out of key database resources. Be aware of batch jobs running when they shouldn’t be.</td>
</tr>
<tr>
<td>STSERV</td>
<td>SIHWIF</td>
<td>TSO threads HWM</td>
<td>Like batch jobs, TSO threads sometimes represent administrative activity that could increase locking contention among normal production transactions.</td>
</tr>
<tr>
<td>STSERV</td>
<td>SIABRT</td>
<td>Aborts</td>
<td>Rollbacks, whether the result of abends or initiated by applications themselves, indicate abnormal activity. Further investigation is warranted, if this value increases.</td>
</tr>
<tr>
<td>STSERV</td>
<td>SIHWCT</td>
<td>Allied threads HWM</td>
<td>This metric represents the overall application workload within DB2. If the workload grows significantly, DB2 tuning as well as z/OS tuning and adjustments to hardware resources might be necessary.</td>
</tr>
</tbody>
</table>

### MainView for IMS

<table>
<thead>
<tr>
<th>View</th>
<th>Element (field)</th>
<th>Description</th>
<th>Why Best Practice?</th>
</tr>
</thead>
<tbody>
<tr>
<td>IMSDASHR</td>
<td>IMSSIMSI</td>
<td>IMS ID</td>
<td>Target identification.</td>
</tr>
<tr>
<td>IMSDASHR</td>
<td>IMSFFMSQ</td>
<td>Number of messages queued for full function databases</td>
<td>A high value could indicate a lack of processing regions, workload fluctuation, or both.</td>
</tr>
<tr>
<td>IMSDASHR</td>
<td>IMSFFAVG</td>
<td>Average response time of full function database messages</td>
<td>This metric is a measure of response time health for online transactions.</td>
</tr>
<tr>
<td>IMSDASHR</td>
<td>IMSFFRAT</td>
<td>Current number of full-function messages arriving (enqueues) per second</td>
<td>This metric is a measure of the speed of IMS online transaction workloads and fluctuations.</td>
</tr>
<tr>
<td>IMSDASHR</td>
<td>IMSFPMSQ</td>
<td>Number of messages queued for Fast Path databases</td>
<td>A high value could indicate a lack of processing regions, workload fluctuation, or both.</td>
</tr>
<tr>
<td>IMSDASHR</td>
<td>IMSFPAVG</td>
<td>Average response time of Fast Path database messages</td>
<td>This metric is a measure of response time health for online transactions.</td>
</tr>
<tr>
<td>IMSDASHR</td>
<td>IMSFPRAT</td>
<td>Current number of Fast Path messages arriving (enqueues) per second</td>
<td>This metric is a measure of the speed of IMS online transaction workloads and fluctuations.</td>
</tr>
<tr>
<td>IMSDASHR</td>
<td>IMSBMMSQ</td>
<td>Number of batch message processing (BMP) messages queued</td>
<td>This value is the number of messages queued for batch processing.</td>
</tr>
<tr>
<td>IMSDASHR</td>
<td>IMSBMRAT</td>
<td>Current number of BMP messages arriving (enqueues) per second</td>
<td>This metric is a measure of the speed of BMP transaction workloads and fluctuations.</td>
</tr>
</tbody>
</table>
Table 15  Best Practice metrics in MainView Threshold Advisor (part 14 of 19)

<table>
<thead>
<tr>
<th>View</th>
<th>Element (field)</th>
<th>Description</th>
<th>Why Best Practice?</th>
</tr>
</thead>
<tbody>
<tr>
<td>IMSDASHR</td>
<td>IMSCTRLCP</td>
<td>Current CPU utilization of the IMS control region</td>
<td>Excessive CPU usage by IMS could effect all other work on z/OS images.</td>
</tr>
<tr>
<td>IMSDASHR</td>
<td>IMSIRLCP</td>
<td>Current CPU utilization of the IRLM to which IMS has identified itself</td>
<td>A high value could indicate an excessive amount of locking in database access.</td>
</tr>
<tr>
<td>IMSDASHR</td>
<td>IMSDLSCP</td>
<td>Current CPU utilization of the DLISAS to which IMS has identified itself</td>
<td>This metric could indicate an increase or decrease in accessing databases; a significant increase could indicate a possible loop in an application.</td>
</tr>
<tr>
<td>IMSDASHR</td>
<td>IMSDBRCP</td>
<td>Current CPU utilization of the DBRC address space to which IMS has identified itself</td>
<td>A high value could indicate an increase of tasks or jobs accessing RECONs, or disorganized RECONs.</td>
</tr>
<tr>
<td>IMSDASHR</td>
<td>IMSMVSCP</td>
<td>Current CPU utilization of z/OS</td>
<td>This metric could indicate an increase or decrease in workloads.</td>
</tr>
<tr>
<td>IMSDASHR</td>
<td>IMSRECAU</td>
<td>Current percentage of RECA (receive any buffers VTAM) pool utilization</td>
<td>A high value might indicate a shortage of pool space and cause for IMS dispatching slowdowns.</td>
</tr>
<tr>
<td>IMSDASHR</td>
<td>IMSDBBFU</td>
<td>Current percentage of DBBF pool utilization</td>
<td>A high value might indicate a pool shortage and possible failure in the scheduling of MPRs.</td>
</tr>
<tr>
<td>IMSDASHR</td>
<td>IMSPSBWU</td>
<td>Percentage of PSBW pool utilization</td>
<td>A high value might indicate a possible pool shortage and might prevent transactions from scheduling in MPRs.</td>
</tr>
<tr>
<td>IMSDASHR</td>
<td>IMSPIWU</td>
<td>Percentage of program isolation pool utilization</td>
<td>A high value might indicate excessive database locking contention and might result in pool shortages.</td>
</tr>
<tr>
<td>IMSDASHR</td>
<td>IMSDMBWU</td>
<td>Percentage of DMBW pool utilization</td>
<td>A high value might indicate more databases are being opened or closed too often and might result in pool shortages.</td>
</tr>
<tr>
<td>IMSDASHR</td>
<td>IMSOLDPC</td>
<td>Current percentage of OLDS that are full</td>
<td>A high value might indicate an OLDS shortage and possible DASD contention or application looping.</td>
</tr>
<tr>
<td>IMSDASHR</td>
<td>IMSOLDAV</td>
<td>Number of available OLDS</td>
<td>This metric can indicate whether extra OLDS should be allocated to prevent a shortage.</td>
</tr>
<tr>
<td>IMSDASHR</td>
<td>IMSLCHWC</td>
<td>Current number of latch waits</td>
<td>An increase in this value might indicate an internal IMS latching problem.</td>
</tr>
</tbody>
</table>
### Table 15  Best Practice metrics in MainView Threshold Advisor (Part 15 of 19)

<table>
<thead>
<tr>
<th>View</th>
<th>Element (field)</th>
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</tr>
</thead>
<tbody>
<tr>
<td>IMSDASHR</td>
<td>IMSVSAVG</td>
<td>Average response time for VSAM buffer pools</td>
<td>An increase in this value might indicate the need for more buffers or separating sizes of VSAM buffer pools.</td>
</tr>
<tr>
<td>IMSDASHR</td>
<td>IMSOSAVG</td>
<td>Average response time for OSAM buffer pools</td>
<td>An increase in this value might indicate the need for more buffers or separating sizes of OSAM buffer pools.</td>
</tr>
<tr>
<td>IMSDASHR</td>
<td>IMSDEAVG</td>
<td>Average response time for DEDB databases</td>
<td>An increase in this value might indicate a pool shortage or disorganized DEDB databases.</td>
</tr>
<tr>
<td>IMSDASHR</td>
<td>IMSBFULS</td>
<td>Number of times the OLDS buffers are full when the system checkpoint is not in progress</td>
<td>An increase in this value indicates the number of OLDS buffers should be increased.</td>
</tr>
<tr>
<td>IMSDASHR</td>
<td>IMSLKWPI</td>
<td>Number of program isolation waiters</td>
<td>Program isolation (PI) pool size might be too small, or application processes are not taking enough checkpoints.</td>
</tr>
<tr>
<td>IMSDASHR</td>
<td>IMSLKWIR</td>
<td>Number of IRLM waiters</td>
<td>A high value is a possible indication that IRLM locks are being used up by too many requestors.</td>
</tr>
<tr>
<td>IMSDASHR</td>
<td>IMSQLGUT</td>
<td>Percentage of long message queue data set utilization</td>
<td>A high value is an indication of a large number of long messages being enqueued to the LGMSGQ data set.</td>
</tr>
<tr>
<td>IMSDASHR</td>
<td>IMSQSHUT</td>
<td>Percentage of short message queue data set utilization</td>
<td>A high value is an indication of a large number of short messages being enqueued to the SHMSGQ data set.</td>
</tr>
<tr>
<td>IMSDASHR</td>
<td>IMSQBKUT</td>
<td>Percentage of QBLKS message queue data set utilization</td>
<td>A high value is an indication of a large amount of inserts to the SHMSGQ, LGMSGQ, or both.</td>
</tr>
<tr>
<td>IMSDASHR</td>
<td>IMSFAILP</td>
<td>Percentage of transaction failures compared to total activity</td>
<td>A high value could indicate pool shortages, program conflicts, or intent failures at scheduling time.</td>
</tr>
<tr>
<td>IRGOCCR</td>
<td>RGNOROCC</td>
<td>Percentage of time the region is busy processing transactions/scheduling</td>
<td>This metric can indicate if class assignment is balanced, or a possible overuse or underuse of a processing region.</td>
</tr>
</tbody>
</table>

### MainView for WebSphere MQ

<table>
<thead>
<tr>
<th>QMMVS</th>
<th>QMNAMES</th>
<th>Queue manager name</th>
<th>Target identification.</th>
</tr>
</thead>
<tbody>
<tr>
<td>QMMVS</td>
<td>QMNQMES</td>
<td>Normal queue messages</td>
<td>Number of normal queue messages.</td>
</tr>
<tr>
<td>QMMVS</td>
<td>QMXQMES</td>
<td>Transmission queue messages</td>
<td>Number of transmission queue messages.</td>
</tr>
<tr>
<td>QMMVS</td>
<td>QMIIPUTR</td>
<td>Interval put rate</td>
<td>The rate of put requests during the current interval.</td>
</tr>
</tbody>
</table>
Table 15  Best Practice metrics in MainView Threshold Advisor (part 16 of 19)

<table>
<thead>
<tr>
<th>View</th>
<th>Element (field)</th>
<th>Description</th>
<th>Why Best Practice?</th>
</tr>
</thead>
<tbody>
<tr>
<td>QMMVS</td>
<td>QMIGETR</td>
<td>Interval get rate</td>
<td>The rate of get requests during the current interval.</td>
</tr>
<tr>
<td>BP</td>
<td>SBPQMSN</td>
<td>Queue manager name</td>
<td>Target identification.</td>
</tr>
<tr>
<td>BP</td>
<td>SBPBUFID</td>
<td>Buffer pool ID</td>
<td>Target identification.</td>
</tr>
<tr>
<td>BP</td>
<td>SBPRPRR</td>
<td>Page read ratio</td>
<td>Shows the efficiency of page retrieval within the buffer pool during the most recent sample.</td>
</tr>
<tr>
<td>BP</td>
<td>SBPUPCT</td>
<td>Percent used</td>
<td>Shows percentage used of the buffer pool.</td>
</tr>
<tr>
<td>CF</td>
<td>CFQMGRN</td>
<td>Queue manager name</td>
<td>Target identification.</td>
</tr>
<tr>
<td>CF</td>
<td>CFSTRNAM</td>
<td>CF structure name</td>
<td>Target identification.</td>
</tr>
<tr>
<td>CF</td>
<td>CFSTRIUP</td>
<td>CF entries in use percent</td>
<td>Percentage of list entries that are in use for the structure.</td>
</tr>
<tr>
<td>LM</td>
<td>LMQMGRN</td>
<td>Queue manager name</td>
<td>Target identification.</td>
</tr>
<tr>
<td>LM</td>
<td>LMRRDLY</td>
<td>Realtime archive log ratio</td>
<td>If this number is greater than 0.01 (1%), you should increase the MAXALLC value in CSQ6LOGP.</td>
</tr>
<tr>
<td>LOGID</td>
<td>LOGQMGR</td>
<td>Queue manager name</td>
<td>Target identification.</td>
</tr>
<tr>
<td>LOGID</td>
<td>LOGUSED1</td>
<td>Log used for copy 1</td>
<td>The percentage of the first copy of the active log DSN that has been used.</td>
</tr>
<tr>
<td>LOGID</td>
<td>LOGUSED2</td>
<td>Log used for copy 2</td>
<td>The percentage of the second copy of the active log DSN that has been used.</td>
</tr>
<tr>
<td>PS</td>
<td>SPSPSID</td>
<td>Page set ID</td>
<td>Target identification.</td>
</tr>
<tr>
<td>PS</td>
<td>SPFREE</td>
<td>Percent free</td>
<td>The percentage of pages available for use.</td>
</tr>
</tbody>
</table>

**MainView for z/OS and CMF MONITOR**

<table>
<thead>
<tr>
<th>View</th>
<th>Element (field)</th>
<th>Description</th>
<th>Why Best Practice?</th>
</tr>
</thead>
<tbody>
<tr>
<td>CFOVER</td>
<td>CFGCFNM</td>
<td>CF name</td>
<td>Target identification.</td>
</tr>
<tr>
<td>CFOVER</td>
<td>CIFPRCPC</td>
<td>CPU utilization %</td>
<td>This metric indicates how much coupling facility (CF) CPU is consumed by CF activity. When close to 100%, tasks have to wait and application delays might occur.</td>
</tr>
<tr>
<td>CFOVER</td>
<td>CFISTGPC</td>
<td>Storage utilization %</td>
<td>A high value indicates CF-dedicated storage is overcommitted, which might cause failure to allocate additional structures or structure rebuild from another CF.</td>
</tr>
<tr>
<td>CFOVER</td>
<td>CFICRQRT</td>
<td>Request rate per second</td>
<td>This metric is the rate per second for requests originating from this system to all structures in this CF. An unusually high value might cause application delays.</td>
</tr>
</tbody>
</table>
Table 15  Best Practice metrics in MainView Threshold Advisor (part 17 of 19)

<table>
<thead>
<tr>
<th>View</th>
<th>Element (field)</th>
<th>Description</th>
<th>Why Best Practice?</th>
</tr>
</thead>
<tbody>
<tr>
<td>CSASUM</td>
<td>CSRECSUP</td>
<td>CSA in use %</td>
<td>A high value indicates CSA is nearing its maximum.</td>
</tr>
<tr>
<td>CSASUM</td>
<td>CSREECUP</td>
<td>ECSA in use %</td>
<td>A high value indicates ECSA is nearing its maximum.</td>
</tr>
<tr>
<td>CSASUM</td>
<td>CSRESQUP</td>
<td>SQA in use %</td>
<td>A high value indicates SQA is nearing its maximum.</td>
</tr>
<tr>
<td>CSASUM</td>
<td>CSREESUP</td>
<td>ESQA in use %</td>
<td>A high value indicates ESQA is nearing its maximum.</td>
</tr>
<tr>
<td>CSASUM</td>
<td>CSRECSUP</td>
<td>Converted CSA to SQA %</td>
<td>A non-zero value indicates SQA has been exhausted.</td>
</tr>
<tr>
<td>CSASUM</td>
<td>CSREEECUP</td>
<td>Converted ECSA to ESQA %</td>
<td>A non-zero value indicates ESQA has been exhausted.</td>
</tr>
<tr>
<td>SYSOVER</td>
<td>SUCCPUB</td>
<td>CPU busy %</td>
<td>This metric represents the utilization of standard CPs. An unusually high value might cause application delays or indicate high usage by particular jobs.</td>
</tr>
<tr>
<td>SYSOVER</td>
<td>SUCZAAB</td>
<td>zAAP busy %</td>
<td>This metric represents the utilization of zAAPS. An unusually high value might cause application delays or indicate high usage by particular jobs.</td>
</tr>
<tr>
<td>SYSOVER</td>
<td>SUCZIIB</td>
<td>zIIP busy %</td>
<td>This metric represents the utilization of zIIPs. An unusually high value might cause application delays or indicate high usage by particular jobs.</td>
</tr>
<tr>
<td>SYSOVER</td>
<td>SCIAIRW</td>
<td>Average CPU queue length</td>
<td>This metric represents the average number of address spaces that had to be queued before being dispatched because a processor was not available. An unusually high value might cause CPU delays for applications.</td>
</tr>
<tr>
<td>JCPU</td>
<td>ASGNAME</td>
<td>Job name</td>
<td>Target identification.</td>
</tr>
<tr>
<td>JCPU</td>
<td>ASGJBID</td>
<td>JES job number</td>
<td>Target identification.</td>
</tr>
<tr>
<td>JCPU</td>
<td>ASICPPAU</td>
<td>CPU utilization %</td>
<td>The unadjusted CPU utilization percent shows the percentage of a single processor used by the address space. An unusually high value might indicate an issue within a job that could potentially affect other jobs.</td>
</tr>
<tr>
<td>LPARCAP</td>
<td>LPGNAME</td>
<td>Partition name</td>
<td>Target identification.</td>
</tr>
</tbody>
</table>
Table 15  Best Practice metrics in MainView Threshold Advisor (part 18 of 19)

<table>
<thead>
<tr>
<th>View</th>
<th>Element (field)</th>
<th>Description</th>
<th>Why Best Practice?</th>
</tr>
</thead>
<tbody>
<tr>
<td>LPARCAP</td>
<td>LPREMSU</td>
<td>Rolling 4-hour MSU</td>
<td>This metric represents standard CP usage in MSU per hour over the last four hours. For a subcapacity-eligible product, the combined peak four-hour rolling MSU/hour during a month of the LPARs that the product runs in is used to determine the licensing cost for the product in that month.</td>
</tr>
<tr>
<td>LPARCAP</td>
<td>LPG4HRUT</td>
<td>Rolling 4-hour MSU as % of CEC capacity</td>
<td>This metric represents standard CP usage of the LPAR as % of CEC capacity over the last four hours. When the CEC capacity usage is unusually high, this value helps identify the LPARs that are contributing to the increase.</td>
</tr>
<tr>
<td>LPARCAP</td>
<td>LPREC4P2</td>
<td>Rolling 4-hour MSU as % of LPAR defined capacity</td>
<td>This metric represents standard CP usage of the LPAR as % of defined capacity over the last four hours when the LPAR has a defined capacity. When exceeding 100%, the LPAR is soft capped, causing CPU delay to applications.</td>
</tr>
<tr>
<td>LPARCAP</td>
<td>LPICPUB</td>
<td>Interval MSU</td>
<td>This metric represents standard CP usage in MSU per hour during the interval. Values trending upward through several intervals might lead to increasing rolling 4-Hour MSU/hour for the LPAR.</td>
</tr>
<tr>
<td>LPARCAP</td>
<td>LPGCECUT</td>
<td>Interval MSU as % of CEC capacity</td>
<td>This metric represents standard CP usage of the LPAR as % of CEC capacity during the interval. When the CEC capacity usage is unusually high, this value helps identify the LPARs that are contributing to the increase.</td>
</tr>
</tbody>
</table>
### Table 15  Best Practice metrics in MainView Threshold Advisor (part 19 of 19)

<table>
<thead>
<tr>
<th>View</th>
<th>Element (field)</th>
<th>Description</th>
<th>Why Best Practice?</th>
</tr>
</thead>
<tbody>
<tr>
<td>LPARCAP</td>
<td>LPGINTGU</td>
<td>Interval MSU as % of group capacity</td>
<td>This metric represents standard CP usage of the LPAR as % of group capacity during the interval when the LPAR belongs to a capacity group. Values trending upward through several intervals might lead to increasing rolling 4-Hour MSU/hour for the capacity group. When the group capacity value is exceeded, all the LPARS of the group are soft capped, causing CPU delay to applications.</td>
</tr>
<tr>
<td>LPARCAP</td>
<td>LPG4HRGU</td>
<td>Rolling 4-hour MSU as % of group capacity</td>
<td>This metric represents standard CP usage of the LPAR as % of group capacity over the last four hours when the LPAR belongs to a capacity group. When the sum for all LPARs of the group exceeds 100%, all the LPARS of the group are soft capped, causing CPU delay to applications.</td>
</tr>
</tbody>
</table>
Considerations for selecting additional metrics

This appendix contains recommendations for selecting additional, non-Best Practice views and fields to be included in a metric recording request.

NOTE
You can include any field from any supported view in a metric recording request, and the collected data can be used for research and analysis within MainView Threshold Advisor. However, pushing thresholds for some non-Best Practice fields to the mainframe is not recommended. You should push only Best Practice fields and non-Best Practice fields that meet the criteria listed here.

When you choose a MainView product view for data collection, take into account the following considerations:

- Some fields are necessary to identify unique objects. These fields are collected automatically, and you cannot exclude them.

- BMC does not recommend collecting non-numeric or constant fields.

- You do not have to collect all the Best Practice fields for a view. Some fields are more likely to be useful than others, depending on your hardware and software configurations.

- Some metrics are available in multiple MainView product views. BMC recommends that you collect these metrics from one view only.
If a view contains records for multiple objects, consider how many objects there might be and also how the records are sorted.

Currently, MainView Threshold Advisor has a hard-coded limit of 500 records per view. Even if a view contains more records, only the first 500 are collected. If the records are sorted by a performance metric (such as job CPU utilization), the application collects the first 500 most active jobs. However, if the records are sorted alphabetically, as in some device views, the data collected will not represent the most active devices.
Displaying MainView Threshold Advisor log files

This appendix describes how to display the log files that MainView Threshold Advisor produces. BMC Customer Support might ask you to review these log files as part of problem diagnosis.

**To display log files**

1. In the application toolbar, click **Administration Tools**.
2. In the Administration Tools window, click **MainView Threshold Advisor Log Viewer**.
3. Click the tab for the log file that you want to display (Table 16).

**Table 16 Types of log files**

<table>
<thead>
<tr>
<th>File name</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Services Event Logs</td>
<td>Monitoring and troubleshooting information about the product’s core services</td>
</tr>
<tr>
<td></td>
<td>You can limit the type of messages that are displayed to All, Error, Warning, or Informational.</td>
</tr>
<tr>
<td>Population Event Logs</td>
<td>Monitoring and troubleshooting information about the CDB population workflow process</td>
</tr>
<tr>
<td></td>
<td>You can limit the type of messages that are displayed to All, Error, Warning, or Informational.</td>
</tr>
<tr>
<td>Data Server Logs</td>
<td>Monitoring and troubleshooting information about the MainView Data Server component</td>
</tr>
<tr>
<td></td>
<td>You can limit the messages that are displayed by date.</td>
</tr>
<tr>
<td>Audit Logs</td>
<td>Temporal tracking information about all transactions associated with the product's web services</td>
</tr>
</tbody>
</table>
Glossary

B

business week
Collection of calendar periods that, when combined, represent a typical week of business activity at your site.

MainView Threshold Advisor distributes business week templates that represent various combinations of days and times (such as Weekends/Weekdays).

C

calendar period
Named period of time (such as AM or PM), as specified in a calendar period definition.

In MainView Threshold Advisor, calendar periods are combined to form a business week.

calendar period definition
Representation of a calendar period that is stored in the CASPERM registry.

You can manually define two types of calendar periods: time-based (consisting of time spans), and manual (for use by automation products).

Calendar periods that you push from MainView Threshold Advisor are also stored in the CASPERM registry.

Capacity Management Database (CDB)
BMC database repository for capacity and performance metric data.

CASPERM registry
Runtime Component System (RTCS) product registry that stores MainView object definitions.

Each coordinating address space (CAS) in your MainView environment must have its own CASPERM registry; the registry cannot be shared by multiple CASs.

CDB data source
Relational database management system (RDBMS) that is known to a CDB server.
CDB server
Microsoft Windows server class machine that hosts the CDB core web services and makes their functionality available though Microsoft Internet Information Services (IIS).

confidence level
Probability that a measurement that exceeds the threshold boundary represents a real problem rather than a random deviation in measurement.

In MainView Threshold Advisor, the default confidence level of 0.999 means on average, for a normal distribution of data, only 1 instance out of 1000 will exceed the threshold randomly.

D
dynamic threshold
Threshold that can be in effect for an element wherever that element appears in a MainView product view or alarm definition, and which can vary by time of day or day of the week.

Threshold selections are the basis for dynamic thresholds in your environment.

E
element
Single unit of data in a table of product data.

Elements are displayed as fields in MainView views.

M
MainView host server
Mainframe started task that provides access to MainView product data.

metric
Numerical value that represents a particular performance characteristic (such as CPU utilization) at given time intervals.

metric recording request
Set of parameters that identify the metrics that you want MainView Threshold Advisor to collect.

P
population frequency
How frequently, in hours, the data collected by MainView Threshold Advisor will be transferred from a temporary staging area into a CDB.
S

state
Whether a calendar period or threshold set is currently active or inactive.

By default, a time-based calendar period is active when the current time and day of the week fall within one of the time spans specified in the calendar period definition. A threshold set becomes active when the calendar period with which it is associated is active.

status
Whether a definition (calendar period, threshold set, or threshold selection) is available for use.

A status of ENABLED means the definition is available. Any status other than ENABLED (such as DISABLED, CREATED, or MODIFIED) means the definition is not available.

T

threshold set
One or more threshold comparisons for a given element in a given product table, as specified in a threshold set definition.

threshold set definition
Representation of thresholds that is stored in the CASPERM registry.

A threshold set definition specifies an ordered list of threshold comparisons. These comparisons are used to determine the display attribute for an element in a view, the severity of an alarm, or both.

Threshold sets that you push from MainView Threshold Advisor are also stored in the CASPERM registry.

threshold selection
Combination of threshold set and calendar period that forms the basis for dynamic thresholds.

threshold selection definition
Representation of a threshold selection that is stored in the CASPERM registry.

A threshold selection definition is an ordered list of pairs. The first item in each pair is a calendar period; the second item is a threshold set. Threshold selection definitions are evaluated in order and are used to determine the active threshold set. The first active calendar period with an associated threshold set that is enabled determines the threshold set that will be active.

time span
Start time, end time, and day (or days) of the week.

You specify time spans when you create a calendar period definition manually.
User Interface Middleware (UIM)
Mainframe-based server that provides web services support for BMC products.
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