

# **MAINVIEW<sup>®</sup> Alarm Manager User Guide**

**Version 4.1**

**November 18, 2002**



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- search a database for problems similar to yours and possible solutions
- order or download product documentation
- report a problem or ask a question
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  - license number and password (trial or permanent)
- operating system and environment information
  - machine type
  - operating system type, version, and service pack or other maintenance level such as PUT or PTF
  - system hardware configuration
  - serial numbers
  - related software (database, application, and communication) including type, version, and service pack or maintenance level
- sequence of events leading to the problem
- commands and options that you used
- messages received (and the time and date that you received them)
  - product error messages
  - messages from the operating system, such as `file system full`
  - messages from related software

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# About This Book

This book tells you how to use MAINVIEW<sup>®</sup> Alarm Manager. MAINVIEW Alarm Manager works in conjunction with other MAINVIEW products.

## Who Should Read This Book

This book is for data center operators, managers, and system programmers who monitor system performance and need to know when jobs, workloads, devices, or resources exceed certain levels.

This book assumes that you have a basic understanding of MVS and system performance.

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## How This Book Is Organized

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

Chapter/Appendix	Description
Chapter 1, "Introducing MAINVIEW Alarm Manager"	provides an overview of MAINVIEW Alarm Manager
Chapter 2, "Starting MAINVIEW Alarm Manager"	explains how to access MAINVIEW Alarm Manager from your MAINVIEW session
Chapter 3, "Setting Up an Alarm Definition Quickly"	provides a quick procedure for setting up, installing, and troubleshooting a MAINVIEW Alarm Manager alarm definition
Chapter 4, "Displaying Alerts"	explains how to display MAINVIEW product alerts by using the Alert Management component of MAINVIEW Alarm Manager
Chapter 5, "Understanding Alarm Groups and Definitions"	provides detailed information on alarm groups and alarm definitions
Chapter 6, "Working with Alarm Groups and Definitions"	explains some of the basic procedures for working with alarm groups and alarm definitions
Appendix A, "Controlling the MAINVIEW Alarm Manager PAS"	explains how the MODIFY command can be used to control the MAINVIEW Alarm Manager PAS

## Related Documentation

MAINVIEW Alarm Manager works in conjunction with your other MAINVIEW products. You will need to understand how to use the MAINVIEW window interface to access and work with MAINVIEW Alarm Manager. If you have never used a MAINVIEW product, BMC Software strongly recommends that you read *Using MAINVIEW* and work through the exercises in your product's *Getting Started* book to become familiar with the MAINVIEW window interface.

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# MAINVIEW Library

The MAINVIEW product family includes the following products:

CMF<sup>®</sup> MONITOR  
MAINVIEW AutoOPERATOR<sup>™</sup>  
MAINVIEW Explorer  
MAINVIEW FOCAL POINT  
MAINVIEW for CICS  
MAINVIEW for DB2<sup>®</sup>  
MAINVIEW for DBCTL  
MAINVIEW for IMS Offline  
MAINVIEW for IMS Online  
MAINVIEW for IP  
MAINVIEW for Linux – Servers  
MAINVIEW for OS/390  
MAINVIEW for UNIX System Services (USS)  
MAINVIEW for VTAM  
MAINVIEW for WebSphere Application Server  
MAINVIEW for WebSphere MQ (formerly MAINVIEW for MQSeries)  
MAINVIEW Storage Resource Manager (SRM)  
MAINVIEW SYSPROG Services  
MAINVIEW VistaPoint<sup>™</sup>

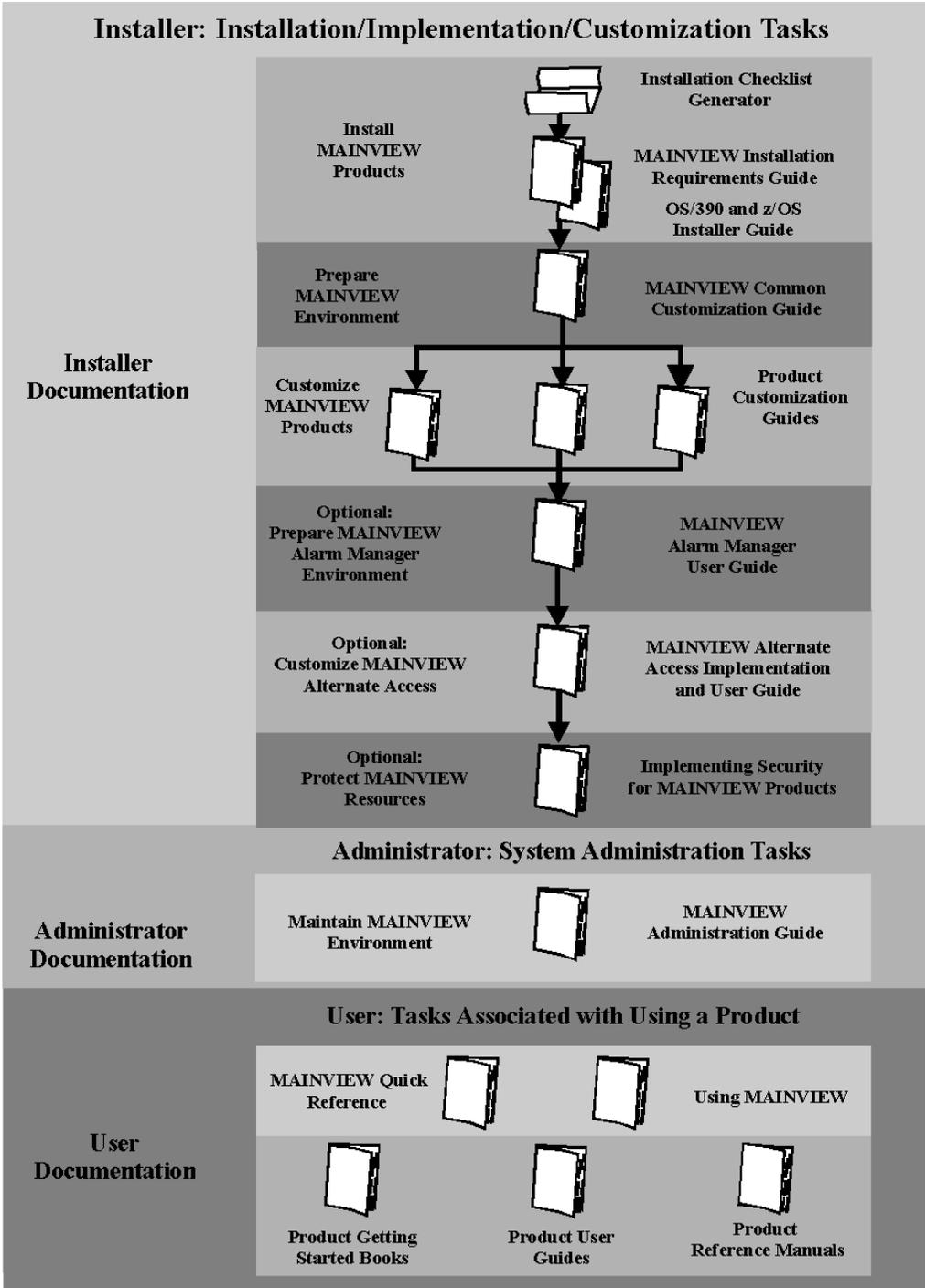
Each of these products provides a product-specific library that typically includes getting started, customization, user, and reference books.

In addition to product-specific books, there are several books and quick references that provide general information common to all or many MAINVIEW products. Those books are listed and described in the following table.

OS/390 and z/OS Installer Guide	provides information about the installation of BMC Software products on OS/390 and z/OS systems
MAINVIEW Installation Requirements Guide	provides information about installation requirements, such as software requirements, storage requirements, and system requirements
MAINVIEW Common Customization Guide	provides instructions for manually customizing the MAINVIEW environment for your products
MAINVIEW Alarm Manager User Guide	explains how to create and install alarm definitions that indicate when exceptions occur in a sysplex
MAINVIEW Alternate Access Implementation and User Guide	explains how to configure, start, and stop VTAM and EXCP AutoLogon sessions to access MAINVIEW products without an active TSO subsystem.
Implementing Security for MAINVIEW Products	explains basic MAINVIEW security, enhanced security, and MAINVIEW Alternate Access security
MAINVIEW Administration Guide	provides information about MAINVIEW operations, targets, single-system image contexts, MAINVIEW Alarm Manager, data sets, view customization, and diagnostic facilities
MAINVIEW Quick Reference	introduces the MAINVIEW family of products and lists the commands used to manage the MAINVIEW windows environment
Using MAINVIEW	provides information about working with MAINVIEW products in windows mode and full-screen mode

**Note:** MAINVIEW messages are documented in the Messages and Codes online service, which you can access by typing MSG on the COMMAND line of any MAINVIEW screen.

The following figure shows the documentation for MAINVIEW products and its intended use.



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## Online and Printed Books

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

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

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### To Request Additional Printed Books

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

## Online Help

MAINVIEW products include extensive online Help. You can access Help by pressing **F1** from any product view or ISPF panel.

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## Release Notes and Other Notices

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

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

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

## Conventions

This book uses the following general conventions:

Text Style	Use
Plain	running text
Bold	features that you interact with, such as panel names, field names, or values
Monospaced	computer output
Monospaced Italic	variable computer output
Monospaced Bold	values that must be supplied (input)
Monospaced Bold Italic	variable values that must be supplied (input)

This book uses the following types of special text:

**Note:** Notes contain important information that you should consider.

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

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

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# Chapter 1 Introducing MAINVIEW Alarm Manager

This chapter introduces you to the major components and features of MAINVIEW Alarm Manager.

The following topics are covered in this chapter:

- overview of MAINVIEW Alarm Manager
- features and benefits
- terminology
- alarm groups and definitions
- security

**Note:** If you *did not* use AutoCustomization when you installed MAINVIEW Alarm Manager, you must perform the manual customization steps described in the *MAINVIEW Common Customization Guide* before you can use the product.

## Overview

MAINVIEW Alarm Manager consists of two components:

- **Alarm Administration**

This component enables other MAINVIEW products to define and generate messages that can be displayed in the Alert Management component. Alarm Administration is used to set alarm thresholds and generate messages, or *alerts*, when those threshold conditions are met.

The service point attach name that is shown in the window information line for Alarm Administration is MVALARM.

- **Alert Management**

This component is used to display and manage all MAINVIEW alerts, regardless of their source. Alert Management can display alerts generated by

- the Alarm Administration component
- MAINVIEW AutoOPERATOR
- MAINVIEW Storage Resource Manager (SRM)
- MAINVIEW SYSPROG Services

The service point attach name that is shown in the window information line for Alert Management is MVALERT.

MAINVIEW Alarm Manager is capable of monitoring multiple systems simultaneously. You can display a single view that shows alerts for all MAINVIEW performance monitors within your MVS enterprise.

Any data element on any MAINVIEW product can be used to generate alarms that

- create MVS console or subsystem messages
- display messages that include hyperlinks back to the MAINVIEW product that produced the alert
- trigger an automated alert or action from MAINVIEW AutoOPERATOR for quick problem resolution

MAINVIEW Alarm Manager generates alarms when thresholds from specific MAINVIEW product views are exceeded. Alarms can be based on summarized data from multiple systems and subsystems by using the MAINVIEW single system image (SSI) capabilities.

Using MAINVIEW Alarm Manager, you can create and modify alarm definitions that display meaningful messages for your site's specific requirements. Alarms can be set for any or all of five severity levels, ranging from informational to critical.

The products that work with MAINVIEW Alarm Manager are

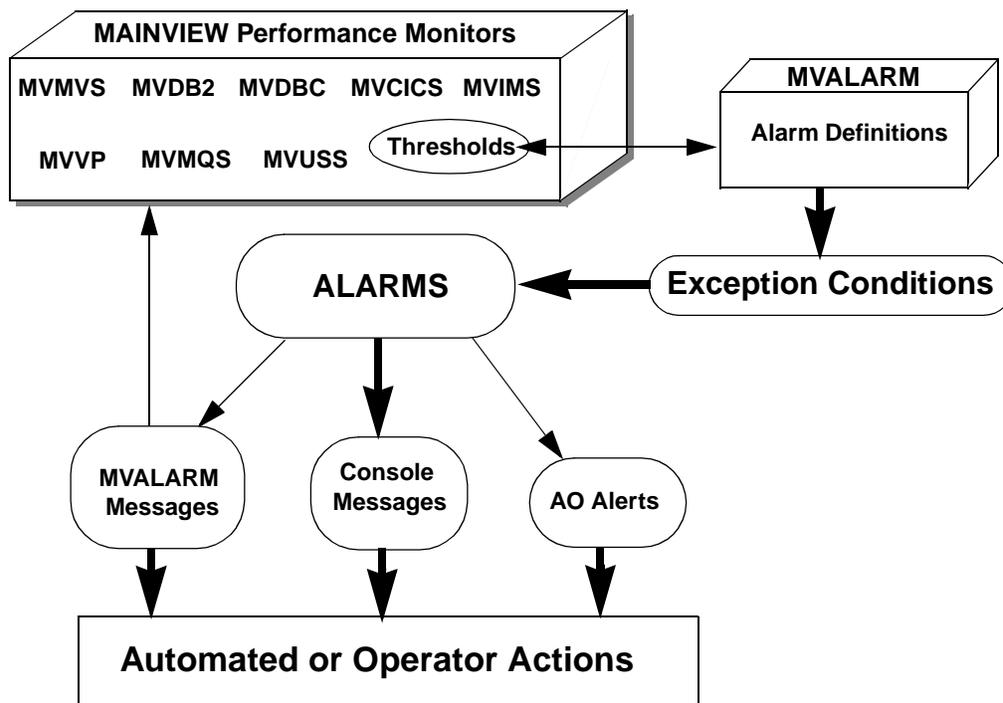
- CMF MONITOR
- MAINVIEW Explorer
- MAINVIEW for CICS
- MAINVIEW for DB2
- MAINVIEW for DBCTL
- MAINVIEW for IMS Online
- MAINVIEW for IP

- MAINVIEW for Linux – Servers
- MAINVIEW for OS/390
- MAINVIEW for UNIX System Services
- MAINVIEW for VTAM
- MAINVIEW for WebSphere Application Server
- MAINVIEW for WebSphere MQ
- MAINVIEW Storage Resource Manager (SRM)
- MAINVIEW VistaPoint

BMC Software recommends that you run one MAINVIEW Alarm Manager product address space (PAS) for each MVS image in the sysplex. When exceptions are detected in an MVS, BBI-SS, or product-specific PAS on a specific MVS image, the local MAINVIEW Alarm Manager generates the alarm message on that image and automatically routes it to the local MAINVIEW AutoOPERATOR system.

Figure 1-1 is an example of how MAINVIEW Alarm Manager works with some of the MAINVIEW products.

**Figure 1-1 Alarm Management Structure**



## Features and Benefits

MAINVIEW Alarm Manager provides the following features and benefits:

- Alarm conditions are monitored based on default thresholds or thresholds set up by the user.
- Thresholds determine whether an alarm is recorded and displayed as critical, major, minor, or a warning or informational message.
- Messages are color-coded to indicate alert severity.
- A set of views is available to display alerts according to severity and chronology.
- Hyperlinking on an alert message displays the view where the exception occurred.
- Alarm definitions can be customized to display messages meaningful to your specific site.
- Time and days for monitoring can be specified in each alarm definition, as well as monitoring frequency.
- User-created help panels can provide specific instructions when a certain alarm occurs.
- Alarms can be forwarded to MAINVIEW AutoOPERATOR for automatic actions.

# Terminology

The following words have special meaning within MAINVIEW Alarm Manager:

<b>Alarm Definition</b>	A set of parameters based on elements in a MAINVIEW product view. An alarm definition identifies <ul style="list-style-type: none"> <li>• the product and the specific data elements</li> <li>• thresholds against which the data is compared</li> <li>• messages and actions to be issued when an alarm is triggered</li> </ul>
<b>Alarm Group</b>	A collection of alarm definitions stored in a single PDS member (BBHTMNxx, where xx is the group ID). Group ID 00 is distributed with MAINVIEW Alarm Manager; all other distributed groups are packaged with individual MAINVIEW products.
<b>Alarm Message</b>	A message generated by the Alarm Administration component when an alarm definition is processed and a threshold condition has been met. The message is primarily used for diagnostic purposes.
<b>Alert</b>	A collection of attributes, including alert text, EXEC command text and parameters, escalation directions and intervals, and an alarm indicator (such as a terminal bell). Alerts can be generated by the Alarm Administration component or by other MAINVIEW products. All MAINVIEW alerts are displayed by the Alert Management component.
<b>Runtime Environment</b>	The environment where alarm definitions are processed. The runtime environment produces alarm start and end messages based on an evaluation of data elements collected from MAINVIEW products.
<b>Runtime Status</b>	The status of an alarm definition or group as it exists in the runtime environment.
<b>Library Status</b>	A status stored in the PDS library. There are two status types: <ul style="list-style-type: none"> <li>• Definition is the status of a single alarm definition.</li> <li>• Group is the status of an alarm group.</li> </ul>
<b>Admin Status</b>	A status that indicates whether the most recent copy of an alarm definition or group is in the runtime environment.
<b>Install</b>	The process of introducing an alarm definition or group into the runtime environment.
<b>Save</b>	The process of copying an alarm group into the PDS library.
<b>Start Message</b>	A message that is issued by the Alarm Administration component when an alarm is triggered.
<b>End Message</b>	A message that is issued by the Alarm Administration component when the condition that originally triggered an alarm no longer exists.

## Alarm Groups and Definitions

MAINVIEW Alarm Manager alarms are triggered by thresholds associated with one or more data elements. Data elements are the data components of a data collector record, displayed as fields in a view. Alarm definitions are organized into groups.

### Alarm Groups

MAINVIEW Alarm Manager includes a default group and groups containing several product-specific alarm definitions. Alarm groups are located in *hilevel.UBBPARM(BBHTMNxx)*, where *xx* corresponds to the two-character group ID. Every group must have a two-character ID, consisting of any alphanumeric characters. Table 1-1 shows the naming convention used for the suffix of distributed product-specific alarm groups, where *x* is alphanumeric:

**Table 1-1 Default Product Group Suffixes**

Product	Suffix
MAINVIEW for CICS	Cx
MAINVIEW for DB2	Dx
MAINVIEW for IMS Online and MAINVIEW for DBCTL	Ix
MAINVIEW for IP	Px
MAINVIEW for Linux – Servers	Lx
MAINVIEW for OS/390	Zx
MAINVIEW for UNIX System Services	Ux
MAINVIEW for VTAM	Tx
MAINVIEW for WebSphere Application Server	Wx
MAINVIEW for WebSphere MQ and MAINVIEW for WebSphere MQ Integrator	Qx
MAINVIEW VistaPoint	Vx

The MAINVIEW Alarm Manager default group is shown in Table 1-2.

**Table 1-2 MAINVIEW Alarm Manager Default Group Suffix**

Group ID	Works with	Contains Alarm Definition
00	All Products	TGTCHK

You can use the groups that are provided with your product and add to or modify the alarm definitions in those groups. Group attributes can also be modified, and groups can be copied, renamed, created, or deleted.

However, you might choose to create new groups that contain alarm definitions that monitor specific system resources or actions, such as CPU usage, devices, or storage. There is no limit to the number of groups or definitions that can be created, but each group and definition requires storage space.

For detailed information about alarm groups, see “Understanding Alarm Groups” on page 5-1.

## Alarm Definitions

Alarm definitions consist of

- threshold and filter criteria
- view, product, and contexts for which the criteria are established
- message IDs and message text
- monitoring frequency and time periods
- hyperlinks to views, extended help, and data passed to MAINVIEW AutoOPERATOR

Threshold conditions can be derived from the thresholds defined in your MAINVIEW product. Threshold values are defined as one of five priority levels:

- informational
- warning
- minor
- major
- critical

Alarm definitions are always contained in an alarm group and stored in a parameter library member that is read by MAINVIEW Alarm Manager at PAS initialization and whenever administrative functions are performed.

For detailed information about alarm definitions, see “Understanding Alarm Definitions” on page 5-3.

## Exception Reporting

Exceptions can be reported in the following ways:

- as a list of exception messages displayed in Alert Management
- as write-to-operator (WTO) messages on the MVS image where MAINVIEW Alarm Manager is running (this option must be enabled)
- passed to the MAINVIEW AutoOPERATOR Rules Processor interface directly, if MAINVIEW AutoOPERATOR is running on the same MVS image as MAINVIEW Alarm Manager
- as a list of alarm messages displayed in the Current Alarms view (ALARM), for diagnostic purposes

MAINVIEW Alarm Manager also issues End messages when alarm conditions are resolved. End messages can also be reported in any of the preceding destinations.

## Security with MAINVIEW Alarm Manager

MAINVIEW Alarm Manager requires security authorization to

- display MAINVIEW product alerts
- process alarm definitions that launch MAINVIEW AutoOPERATOR EXECs

This authorization should have been granted when MAINVIEW Alarm Manager was set up to run at your site. For information about the required security updates, see the discussion of MAINVIEW Alarm Manager security in the *MAINVIEW Common Customization Guide*.

In addition, you can use the MAINVIEW security interface to control access to MAINVIEW Alarm Manager resources by means of your external security manager (ESM). By default, security is enabled for all MAINVIEW Alarm Manager views. You can enable or disable security for MAINVIEW Alarm Manager actions either collectively or individually. Refer to *Implementing Security for MAINVIEW Products* for instructions on how to authorize users for MAINVIEW Alarm Manager.

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# Chapter 2 Starting MAINVIEW Alarm Manager

The procedures for starting a MAINVIEW Alarm Manager user session might vary. Most sites choose to use the MAINVIEW CLIST, created during AutoCustomization or manual customization, to access the MAINVIEW Selection Menu from any ISPF command field. Others sites prefer to add an option to an ISPF menu to invoke the MAINVIEW CLIST.

This chapter contains the following topics:

- product requirements
- address space requirements
- entering and exiting MAINVIEW Alarm Manager

## Product Requirements

MAINVIEW Alarm Manager is always used in conjunction with another MAINVIEW product. You must have one or more of the following products connected to a CAS within the same plex as MAINVIEW Alarm Manager:

- CMF MONITOR
- MAINVIEW Explorer
- MAINVIEW for CICS
- MAINVIEW for DB2
- MAINVIEW for DBCTL
- MAINVIEW for IMS Online
- MAINVIEW for IP
- MAINVIEW for Linux – Servers
- MAINVIEW for OS/390
- MAINVIEW for UNIX System Services
- MAINVIEW for VTAM

- MAINVIEW for WebSphere Application Server
- MAINVIEW for WebSphere MQ
- MAINVIEW Storage Resource Manager (SRM)
- MAINVIEW VistaPoint

## Address Space Requirements

MAINVIEW Alarm Manager requires its own address space in addition to those address spaces required by specific MAINVIEW products. The following address spaces should be running on your system:

- the MAINVIEW Alarm Manager product address space (PAS)

The PAS implements the views that are displayed by MAINVIEW Alarm Manager and its runtime environment.

- one or more of the following product address spaces:
  - the MVS PAS, which supports CMF MONITOR, MAINVIEW for OS/390, MAINVIEW for UNIX System Services, and MAINVIEW VistaPoint
  - the BBI-SS PAS, which supports MAINVIEW for CICS, MAINVIEW for DB2, MAINVIEW for DBCTL, MAINVIEW for IMS Online, MAINVIEW for WebSphere MQ, and MAINVIEW VistaPoint
  - product-specific PASs that support MAINVIEW for IP, MAINVIEW for Linux – Servers, MAINVIEW for VTAM, MAINVIEW for WebSphere Application Server, and MAINVIEW SRM

- the coordinating address space (CAS)

The CAS supports cross-system communication functions.

- the user address space (UAS)

The UAS is required to support a terminal session for each user.

Because MAINVIEW Alarm Manager relies on both the CAS and the PAS, if either address space is not initialized, you cannot access MAINVIEW Alarm Manager.

Refer to *Using MAINVIEW* for more information about MAINVIEW address spaces.

# Using MAINVIEW Alarm Manager

Before you begin, check with your product administrator to make sure that the CAS, the MAINVIEW Alarm Manager PAS, and at least one other PAS (such as the MVS PAS) are up and running.

## Entering MAINVIEW Alarm Manager

There are two ways to access MAINVIEW Alarm Manager views:

- from the Alerts and Alarms option on the MAINVIEW Selection Menu
- by using the SETALARM command in any product view (refer to Chapter 3, “Setting Up an Alarm Definition Quickly”)

This section tells you how to access MAINVIEW Alarm Manager from the MAINVIEW Selection Menu.

**Step 1** Display the MAINVIEW Selection Menu, as shown in Figure 2-1.

**Figure 2-1 MAINVIEW Selection Menu**

```

----- MAINVIEW Selection Menu -----
OPTION  ===>                                DATE   -- mm/dd/yy
                                           TIME   -- hh:mm
      0  Parameters and Options                USERID -- tsoid
      E  Alerts and Alarms                    MODE    -- ISPF 4.8
      P  PLEX Management (PLEXMGR)
      U  Utilities, Tools, and Messages

Solutions for:
      A  Automated Operations
      C  CICS
      D  DB2
      I  IMS
      L  Linux
      N  Network Management
      S  Storage Management
      T  Application Management and Performance Tuning
      W  WebSphere and MQSeries
      Z  OS/390, z/OS, and USS

Enter X to Terminate

                                Copyright BMC Software, Inc. 2002

```

If you want to set some session parameters before accessing MAINVIEW Alarm Manager (such as PF keys), select option **0**, Parameters and Options. Issue the Help command and use online help if you need assistance.

- Step 2** Select option **E**, Alerts and Alarms, from the MAINVIEW Selection Menu and press **Enter**.

The Alerts and Alarms menu is displayed, as shown in Figure 2-2.

**Figure 2-2 Alerts and Alarms Menu**

```

----- Alerts and Alarms -----
OPTION  ===>                                DATE  -- mm/dd/yy
1  ALERTS      Alert Management              TIME  -- hh:mm
2  ALARMS      Alarm Administration          USERID -- tsoid
M  MESSAGES    Display Messages and Codes    MODE  -- ISPF 4.8

```

- Step 3** Select option **2**, ALARMS, and press **Enter**.

Depending on how you specified the session parameters (using option 0 on the MAINVIEW Selection Menu), MAINVIEW displays either the EZALARM menu, as shown in Figure 2-4 on page 2-5, or the ISPF Session Control Parameters panel, as shown in Figure 2-3.

**Figure 2-3 Session Control Parameters Panel**

```

----- SESSION CONTROL PARAMETERS -----
COMMAND  ===>
Subsystem ID  ===> BCS      (Coordinating Address Space subsystem ID)
XDM mode     ===> NO      (Execute session in diagnostic mode, Yes/No)

Press ENTER to confirm use of session parameters entered above.

```

- Step 4** If your subsystem ID is correctly specified in the Subsystem ID field, press **Enter**. (You might have to contact your product administrator to verify that the ID is correct.)

After you press **Enter** on the Session Control Parameters panel, you see the message `Connecting...` at the top right corner of your screen. When you are connected, the EZALARM menu appears, as shown in Figure 2-4 on page 2-5.

## Using the EZALARM Menu

The EZALARM menu, as shown in Figure 2-4, is the starting point for using MAINVIEW Alarm Manager. From EZALARM, you can hyperlink to MAINVIEW Alarm Manager views directly.

**Figure 2-4 EZALARM Menu**

```

ddmmmyyyy hh:mm:ss ----- MAINVIEW WINDOW INTERFACE (Rv.r.mm)-----
COMMAND ==>                                     SCROLL ==> CSR
CURR WIN ==> 1                                ALT WIN ==>
W1 =EZALARM=====DXTSTH====*=====ddmmmyyyy==hh:mm:ss====MVALARM==D==1
                                     Alarm Administration

  Set Up/Modify Alarms                                Advanced Options
+-----+
. List Alarm Groups | Place cursor on | . Add Alarm Definition
. List Alarm Definitions | menu item and | . Edit Alarm Definition
. All Alarm Definitions | press ENTER | . View Alarm Definition
+-----+

  Alerts                                              Alarm Diagnostics
. Alert Management                                  . Current Alarms
                                                    . Alarm History
                                                    . Alarm Summary

```

From EZALARM, you can perform administrative tasks, such as

- setting up or modifying alarm definitions that are meaningful to your site
- creating groups to organize alarm definitions by the type of system resource that is being monitored (such as CPU utilization, devices, storage, page data sets, and so forth)
- transferring to Alert Management to review current messages issued by MAINVIEW Alarm Manager

## Exiting MAINVIEW Alarm Manager

To exit, type **QUIT** on the COMMAND line of any MAINVIEW Alarm Manager screen and press **Enter**. The Alerts and Alarms Menu is displayed. To return to the MAINVIEW Selection Menu, press the End key.



---

## Chapter 3      Setting Up an Alarm Definition Quickly

This chapter provides a quick procedure for setting up an alarm definition from a MAINVIEW product view. MAINVIEW Alarm Manager provides defaults for all required values, enabling you to set up and install an alarm definition quickly.

The following topics are addressed in this chapter:

- using the SETALARM command
- exploring the alarm definition
- troubleshooting alarm definitions
- frequently asked questions

**Note:** The alarm messages generated by an alarm definition are one type of alert that can be displayed by the Alert Management component. For information about displaying alerts, see Chapter 4, “Displaying Alerts.”



Figure 3-1 on page 3-2 shows an example for the JCPUR view in MAINVIEW for OS/390. Alarm definition name NEWMON00 has been assigned to this new alarm.

**Step 4** Type **INSTALL** on the COMMAND line and press **Enter**. The following changes occur:

- The **Runtime Status** field changes from NotFound to Enabled.
- The **Admin Status** field changes from NotInstall to Installed.

**Step 5** Type **SAVE** on the COMMAND line to save your changes.

You cannot close the ALMADD01 view unless you type either SAVE or CANcel.

The message BBHAA829I Alarm Definition (NEWMON00/00) ADD successful is displayed. The /00 in the message indicates that the alarm definition was added to Group 00. This alarm group corresponds to *hilevel*.UBBPARM member BBHTMN00.

If this is the first alarm definition to be added to Group 00, the alarm definition name will be NEWMON00. If alarm definition NEWMON00 already exists in the group, the alarm definition name will be NEWMON01; if both NEWMON00 and NEWMON01 exist, the alarm definition name will be NEWMON02, and so on.

To see the alarm messages that are now being generated by the NEWMON00 alarm, refer to Chapter 4, “Displaying Alerts.” To learn more about alarm definitions, continue by reading “Exploring the Alarm Definition.”

## Exploring the Alarm Definition

To review the parts of an alarm definition, display the NEWMON00 definition that you just created:

**Step 1** From the EZALARM menu, place the cursor on **List Alarm Groups** and press **Enter**.

**Step 2** When the alarm group list (ALGLST01) is displayed, place the cursor on **Group 00** and press **Enter**.

**Step 3** When the alarm definition list (ALMLST01) is displayed, type **E** (Edit) in the line command field next to NEWMON00.

The details of the NEWMON00 alarm definition are displayed in the ALMEDI01 view.

**Note:** The following views all contain the same fields: ALMADD01 (for adding definitions), ALMEDI01 (for editing), and ALMBRO01 (for browsing).

The information on the left side of the alarm definition views provides an overview of the definition, while the fields on the right side provide hyperlinks to forms where information can be added, deleted, or modified.

## Identification Fields

The Identification fields provide the following information:

<b>Alarm Def Name</b>	The name of the alarm definition, up to eight characters. The name can be changed by typing over it in the ALMADD01 view, or by using the R (Rename) line command in the alarm definition list view (ALMLST01).
<b>Group ID</b>	The two-character identifier of the group to which this alarm definition is assigned. The ID corresponds to the member in the user parameter library, which contains all of the information about the group and the alarm definitions assigned to it.
<b>Description</b>	A short description of the alarm definition, up to 60 characters. MAINVIEW Alarm Manager uses the product, view, and context as the default description. The description can be modified by typing over it in either the ALMADD01 or ALMEDI01 views.
<b>Runtime Status</b>	The alarm definition status as it exists in the runtime environment. See “Understanding Status Values” on page 5-15 for possible values.
<b>Admin Status</b>	Indicates whether the most recently updated copy of an alarm definition is in the runtime environment. See “Understanding Status Values” on page 5-15 for possible values.
<b>Library Status</b>	The status as stored in the user parameter library. See “Understanding Status Values” on page 5-15 for possible values.

**Passing PARMs**

Indicates whether MAINVIEW Alarm Manager passes the alarm definition filters to the monitored PAS. The default is NO for most MAINVIEW products. Do not specify YES unless the product to which the definition applies requires it.

For example, MAINVIEW for WebSphere MQ uses this field because that product can monitor thousands of objects. Passing the filter information to the MAINVIEW for WebSphere MQ PAS reduces the amount of data that has to pass through the network and be processed. For more information, see the MAINVIEW for WebSphere MQ product documentation.

**Note:** The Passing PARMs field is not visible in the ALMADD01, ALMEDI01, and ALMBRO01 views that are distributed with MAINVIEW Alarm Manager. If your MAINVIEW product documentation tells you to use this field, you must first customize the appropriate view to Include the field. For information about customizing views, see the *MAINVIEW Administration Guide*.

**Source Fields**

The Source fields provide the following information:

**Product**

The name of the product that is queried by the alarm definition. This field provides a hyperlink to the VIEWS view for that product.

**Context**

The context that is queried by the alarm definition. By default, the context is the local system where the alarm definition was created. This field provides a hyperlink to the Plex Manager PLEXOVER view.

Distributed alarms have a context of \*, which will use the local system by default.

**View**

The view that is queried by the alarm definition. This field provides a hyperlink to the specified view in the specified product and context.

**Note:** The hyperlinks provided by these fields can be used to decide what product, context, and view you want to monitor. The selected view should be displayed in an alternate window to permit continued access to both views.

## Definitions Fields

The Definitions fields provide the following information:

<b>Conditions</b>	Indicates whether conditions have been defined for the definition. Conditions are based on the thresholds associated with the data element that the alarm definition queries. Refer to “Thresholds Field” on page 3-7 for more information on thresholds.
<b>Filters</b>	Indicates whether filters have been defined for the definition. Alarm definition filters are based on the filters or Where text associated with the data element. Refer to “Filters Field” on page 3-7 for more information.
<b>Expressions</b>	Indicates whether expressions have been defined for the definition. Expressions are built from thresholds, conditions, and filters. There is an expression associated with each severity level of an alarm definition. Refer to “Expressions Field” on page 3-9 for more information.
<b>Messages</b>	Indicates whether Start and End messages have been defined for the alarm definition. Refer to “Messages Field” on page 3-9 for more information.
<b>Actions</b>	Indicates whether actions have been specified for the alarm definition. Refer to “Actions Field” on page 3-10 for more information.
<b>Frequency</b>	Indicates whether monitoring frequency has been defined for the alarm definition. Refer to “Frequency Field” on page 3-11 for more information.

## Last Update Fields

The Last Update fields provide the following information:

<b>Date</b>	The date that this alarm definition was last updated.
<b>Time</b>	The time that this alarm definition was last updated.
<b>UserId</b>	The ID of the user who last updated the alarm definition.
<b>System</b>	The system from which the alarm definition was last updated.

## Thresholds Field

When you hyperlink from the Thresholds field, the ALMTHR01 form is displayed, as shown in Figure 3-2.

**Figure 3-2 ALMTHR01 Form**

```
ddmmmyyyy hh:mm:ss ----- MAINVIEW WINDOW INTERFACE (Rv.r.mm)-----
COMMAND ==>>                                SCROLL ==>> PAGE
CURR WIN ==>> 1          ALT WIN ==>>
>W1 =ALMEDI01=ALMTHR01=DXTSTH===*=====(NEWMON00/00 E MOD)====MVALARM==D==1
C Cond Element Sum Op Info      Warning  Minor    Major    Critical Description
- Id-- Name---- Typ -- -----
C1  ASLWCPP  ___ >= _____ 2          5          10      %Dly CPU
```

This example shows one condition for the alarm definition.

Thresholds that exist for a data element are copied to the alarm definition automatically when the SETALARM or SENDT commands are used. Refer to “Using the SETALARM Command” on page 3-2 and “Using the SENDT Primary Command” on page 6-16 for more information.

Threshold conditions govern when an alarm is triggered. In this example in Figure 3-2, if the value in the ASLWCPP element (%Dly CPU) is > or = 2, a Minor alarm message will be generated. If the value is > or = 5, a Major alarm message will be generated, and so on. A higher level severity always supersedes a lower level one; that is, if ASLWCPP is > or = 10, only the Major alarm message will be generated.

Conditions can be modified by typing over the text in the fields. If a threshold value is modified, it is only modified in the alarm definition. The thresholds defined for the data element in the product views are not affected.

## Filters Field

Data presented to MAINVIEW Alarm Manager can be filtered by specifying operators and values for selected data elements, or by writing WHERE and QWHERE text. Whatever filters exist for a view are copied to the alarm definition automatically when the SETALARM command is used. Refer to “Using the SETALARM Command” on page 3-2 for additional information.

## Filters Hyperlink

When you hyperlink from the Filters field, the ALMFLT01 form is displayed, as shown in Figure 3-3.

**Figure 3-3 ALMFLT01 Form**

```

ddmmmyyyy hh:mm:ss ----- MAINVIEW WINDOW INTERFACE (Rv.r.mm)-----
COMMAND ===>                                SCROLL ===> PAGE
CURR WIN ===> 1          ALT WIN ===>
W1 =ALMEDI01=ALMFLT01=DXTSTH===*===== (NEWMON00/00 E MOD)====MVALARM==D===3
C Cond Element  Sum Op Value                Description                Status
- Id-- Name---- Typ -- -----
  F1  ASLCPPC  ___ >= 0                       % CPU Utilization         Enabled
  F2  ASGDP    ___ >= 0                       Cur Pty                   Enabled
  F3  ASGFL1C  ___ = 'ACTIVE '                   Status                    Enabled

```

In this example, there are three filters for the alarm definition, as indicated by the F1, F2, and F3 in the Cond ID field.

The filters govern which data is evaluated by MAINVIEW Alarm Manager for a particular data element. Filters can simply be modified by typing over the values in the ALMFLT01 form. If a filter is modified, it is only modified in the alarm definition. The filters defined for the data element in the product view are not affected.

## WHERE and QWHERE Text

When you hyperlink from the Where Text field, the ALMWHE01 form is displayed, as shown in Figure 3-4.

**Figure 3-4 ALMWHE01 Form**

```

ddmmmyyyy hh:mm:ss ----- MAINVIEW WINDOW INTERFACE (Rv.r.mm)-----
COMMAND ===>                                SCROLL ===> PAGE
CURR WIN ===> 1          ALT WIN ===>
W1 =ALMEDI01=ALMWHE01=DXTSTH===*===== (NEWMON00/00 E MOD)====MVALARM==D===1

WHERE Text   :   ASGNAME = PAYR*
               _____
               _____
               _____

QWHERE Text  :   _____
               _____
               _____
               _____

```

A WHERE statement can be written to apply only to that alarm definition. Job names that start with PAYR\* were selected in this example.

## Expressions Field

When you hyperlink from the Expressions field, the ALMEXP01 form is displayed, as shown in Figure 3-5.

**Figure 3-5 ALMEXP01 Form**

```

ddmmmyyy hh:mm:ss ----- MAINVIEW WINDOW INTERFACE (Rv.r.mm)-----
COMMAND ===>                                SCROLL ===> PAGE
CURR WIN ===> 1          ALT WIN ===>
>W1 =ALMEDI01=ALMEXP01=DXTSTH===*===== (NEWMON00/00 E MOD)====MVALARM==D===1
Severity Status      Max  Msg  Expression
-----
Template Defaulted n/a  n/a  &C1
Info... Template  999  No  _____
Warning. Template  999  No  _____
Minor... Template  999  No  (ASLWCPP >= 2)
Major... Template  999  No  (ASLWCPP >= 5)
Critical Template  999  No  (ASLWCPP >= 10)

```

Each alarm severity has an expression associated with it. Expressions can be modified directly by hyperlinking from the Severity field to the ALMSEV $xx$  form (where  $xx$  is the severity level 01-05). The ALMSEV $xx$  form displays the single expression for that severity and allows you to type over the text of the expression.

## Messages Field

When you hyperlink from the Messages field, the ALMMSG01 form is displayed, as shown in Figure 3-6.

**Figure 3-6 ALMMSG01 Form**

```

ddmmmyyy hh:mm:ss ----- MAINVIEW WINDOW INTERFACE (Rv.r.mm)-----
COMMAND ===>                                SCROLL ===> PAGE
CURR WIN ===> 1          ALT WIN ===>
>W1 =ALMEDI01=ALMMSG01=DXTSTH===*===== (NEWMON00/00 E MOD)====MVALARM==D===1
Alarm... Message Id      Message Text
Start.. NEWMON00S00      &ASGNAME.H: &ASGNAME.V &ASLWCPP.H >= &ASLWCPP.T
_____
_____
_____

End... NEWMON00E00      &ASGNAME.H: &ASGNAME.V End of Alarm Condition
_____
_____
_____

Alarm... Destination      Messages ordered by:
View... Yes                +
Console No

```

The NEWMON00 Start and End messages are generated by default. The *.H* at the end of a variable indicates that the description from the condition will be substituted. The *.V* at the end of a variable indicates that the element value that was returned from the query will be substituted. The *.T* at the end of a variable indicates that the threshold value from the condition will be substituted.

For more information about how alarm messages are sorted, refer to “Specifying Actions for an Alarm Definition” on page 6-18.

## Actions Field

When you hyperlink from the Actions field, the ALMACT01 form is displayed, as shown in Figure 3-7.

**Figure 3-7 ALMACT01 Form**

```

ddmmmyyyy hh:mm:ss ----- MAINVIEW WINDOW INTERFACE (Rv.r.mm)-----
COMMAND ==>                                     SCROLL ==> PAGE
CURR WIN ==> 1          ALT WIN ==>
W1 =ALMEDI01=ALMACT01=DXTSTH==*=====(NEWMON00/00 E MOD)====MVALARM=D==1
Hyperlink... CONTEXT DXTSTH MVMVS; VIEW JCPUR; TIME Z Z 1I &ALM
                : ZNTS_____
                : _____
                : _____
                : _____
Helplink...
  Topic       : CPUPROBS_____
  Subtopic    : JOBS_____

AutoOPERATOR
  UserId      : _____
  Queue       : MAIN_____

PCMD..... TRANSFER DXTSTH MVMVS;JCPUR;TIME Z Z 1I &ALMZNTS
                : _____
                : _____
                : _____
                : _____

```

The ALMACT01 form contains the following information:

- The Hyperlink value is the command that will be executed from the alarm message ID in the ALARM or ALARMH views.
- The Helplink Topic and Subtopic values specify how to locate user-written help from the HLPIND field in the ALARM or ALARMH views.
- The PCMD value is the command that will be executed from the Ind field of the Alert Management ALERTS view when that field contains a C.

## Frequency Field

When you hyperlink from the Frequency field, the ALMFRQ01 form is displayed, as shown in Figure 3-8.

**Figure 3-8 ALMFRQ01 Form**

```

ddmmmyyy hh:mm:ss ----- MAINVIEW WINDOW INTERFACE (Rv.r.mm)-----
COMMAND ==>                                     SCROLL ==> PAGE
CURR WIN ==> 1          ALT WIN ==>
W1 =ALMEDI01=ALMFRQ01=DXTSTH==*=====(NEWMON00/00 E MOD)====MVALARM==D==1
Monitor Cycle:  15 seconds (Time MVALarm waits between monitoring cycles)

---Schedule---      Start      Stop
Everyday      : Yes    00:00    23:59
Mondays       : No     00:00    00:00
Tuesdays     : No     00:00    00:00
Wednesdays   : No     00:00    00:00
Thursdays    : No     00:00    00:00
Fridays       : No     00:00    00:00
Saturdays     : No     00:00    00:00
Sundays       : No     00:00    00:00
    
```

The monitoring frequency for an alarm definition can be changed from the ALMFRQ01 form, as well as the times and days of the week that the alarm definition elements are monitored.

## Troubleshooting Alarm Definitions

This section tells you how to identify errors during alarm definition creation or modification, and explains how to ensure that an alarm is generating messages.

The following topics are covered:

- the Verify command
- ensuring that alarm messages are generated correctly



For each alarm message, the ALARM view displays

- the time at which the alarm was issued
- the severity of the alarm
- whether or not additional user-written help is available
- the message ID for the alarm
- the message text

The default sort order for alarm messages is by alarm severity within descending time.

Take the example of alarm definition NEWMON00 in Group 00, which was created and installed into the runtime environment in “Using the SETALARM Command” on page 3-2. NEWMON00 is monitoring %Dly CPU (or the field that you selected with the SETALARM command).

If alarm conditions for the % Dly CPU field are met, messages with the ID of NEWMON00S00 and NEWMON00E00 will be generated by the alarm definition that you installed and will be displayed in the ALARM view, as shown in Figure 3-9.

If there are no alarm messages being produced, the threshold values in the alarm definition might not have been met. Try editing the alarm definition to change the threshold values, and then display the ALARM view again.

## Frequently Asked Questions

This section contains the answers to some frequently asked questions about setting up and using MAINVIEW Alarm Manager.

### How do I find out the name of a data element that I want to monitor?

Move the cursor to the data element that you want to monitor (such as the **% Delay CPU** field in the MAINVIEW for OS/390 JCPUR view) and press the Help key. The data element name is displayed at the end of the field help text.

### **How do I find out whether thresholds exist for a particular data element that I want to monitor?**

There are two ways to find out:

- Use online help by placing the cursor on the field and pressing the Help key.
- Issue the view customization command (CUST) in the view containing the data element that you want to monitor. Then issue the threshold command (T) with the column ID of the data element that you want to monitor. The thresholds and element name for that field are displayed.

### **How frequently can MAINVIEW Alarm Manager check for an alarm condition?**

The minimum frequency is every 5 seconds and the maximum is 9999 seconds. The default is 60 seconds. You can hyperlink from the **Frequency** field of various MAINVIEW Alarm Manager views to define this value.

### **How many users can work in an alarm group?**

Because alarm groups are stored in separate members (BBHTMN $xx$ ) of a user parameter library, only one user at a time may edit or add alarm definitions to a group.

### **Can any user issue the SETALARM command?**

No. Only authorized users can issue the SETALARM command or perform administrative tasks from the EZALARM menu.

### **How do I send alarms to MAINVIEW AutoOPERATOR?**

If it is installed and executing on the same MVS image as MAINVIEW Alarm Manager, MAINVIEW AutoOPERATOR will receive alarms automatically. There are two rules that must be enabled in order for MAINVIEW AutoOPERATOR to act on MAINVIEW Alarm Manager messages: ALRMSTRT and ALRMSTOP. These rules are located in the AAORUL00 rule set.

### **Can I use the SETALARM and SENDThreshold commands in any product view?**

Yes. If you are in a MAINVIEW product that provides windows mode views, SETALARM and SENDThreshold will work.

---

## Chapter 4    Displaying Alerts

All alerts issued by MAINVIEW products are sent to the Alert Management component of MAINVIEW Alarm Manager. The alerts that can be displayed through Alert Management include

- alarm messages generated by the Alarm Administration component
- MAINVIEW AutoOPERATOR alerts
- MAINVIEW SRM alerts
- MAINVIEW SYSPROG Services Exception Monitor messages

**Note:** Alarm messages (both Start and End messages) also appear in the Alarm Administration ALARM view for diagnostic purposes.

This chapter describes how to use Alert Management to display MAINVIEW alerts in windows mode. The following topics are covered:

- specifying which alerts to display
- entering Alert Management
- using alert detail views
- using alert summary views
- hyperlinking to product views
- exiting Alert Management

## Specifying Which Alerts to Display

To activate Alert Management, you have to modify BBPARM member BBOTA000 as follows:

---

```
<mvalert>

- Specify that information from all Alert repositories
  in the OS/390 image are to be displayed in this
  MVALERT service point:

    <ssid>
      <include>      *
      </include>
    </ssid>
-
</mvalert>
```

---

where

- <mvalert>** Marks the beginning of the MVALERT control sequence. This tag must be matched with a subsequent **</mvalert>** tag.
- <ssid>** Marks the beginning of the subsystem ID (SSID) control sequence. This tag must be matched with a subsequent **</ssid>** tag.
- <include> ssidmask1 ssidmask2 ...**  
Identifies one or more wildcard SSIDs of alert repository address spaces (either MAINVIEW Alarm Manager or MAINVIEW AutoOPERATOR). This tag must be matched with a subsequent **</include>** tag.
- Address spaces with SSIDs that match one of the wildcard masks are the source of alerts presented by Alert Management.
- <exclude> ssidmask1 ssidmask2 ...**  
Identifies one or more wildcard SSIDs of alert repository address spaces (either MAINVIEW Alarm Manager or MAINVIEW AutoOPERATOR). This tag must be matched with a subsequent **</exclude>** tag.
- Address spaces with SSIDs that match one of the wildcard masks are *not* used as a source of alerts presented by Alert Management.
- Note:** When determining whether a particular alert repository should be included or excluded, the **<exclude>** sequence takes precedence. That is, if the SSID matches a mask in the **<exclude>** sequence, it is *not* used as a source, even if it also matches a mask in the **<include>** sequence.

# Entering Alert Management

There are two ways to access Alert Management views:

- From the MAINVIEW Selection Menu
  1. Select option **E**, Alerts and Alarms, and press **Enter**. The Alerts and Alarms menu is displayed.
  2. Select option **1**, Alert Management, and press **Enter**.
- From the EZALARM view, position the cursor on **Alert Management** and press **Enter**.

The EZALERT menu is displayed, as shown in Figure 4-1.

**Figure 4-1 EZALERT Menu**

```

ddmmmyyyy hh:mm:ss ----- MAINVIEW WINDOW INTERFACE (Rv.r.mm)-----
COMMAND ==>
CURR WIN ==> 1          ALT WIN ==>
W1 =EZALERT=====DXTSTH====*=====ddmmmyyyy==hh:mm:ss====MVALERT==D==1
          Alert Management

Alert Detail                                Alert Summary
+-----+
. Ordered by Time          | Place cursor on | . Summarized by Target
. Ordered by Queue Name   | menu item and  | . Summarized by Queue
. Ordered by Priority      | press ENTER   | . All Queues
+-----+
    
```

The EZALERT menu is the starting point for using Alert Management. From EZALERT, you can display alerts in various ways:

- Alert Detail

These views present detailed alert information sorted by

- time (the default)
- queue name
- priority

- Alert Summary

These views present summarized alert information for

- targets
- queues

## Using Alert Detail Views

On the EZALERT menu under Alert Detail, position the cursor on **Ordered by Time** and press **Enter**.

The ALERTS view is displayed, as shown in Figure 4-2.

**Figure 4-2 ALERTS View - Alert Detail Ordered by Time**

```

ddmmmyyyy hh:mm:ss ----- MAINVIEW WINDOW INTERFACE (Rv.r.mm)-----
COMMAND ==>                                SCROLL ==> PAGE
CURR WIN ==> 1          ALT WIN ==>
>W1 =ALERTS=====SJCSDAVM=*=====ddmmmyyyy=hh:mm:ss====MVALERT==D===13
C  Rsp Time  Ind Origin  Alert Text
---
___ hh:mm eh  TC6D    ACM720A  START command has timed out for AAOTC777
___ hh:mm eh  TC6D    ACM740A  AAOTC318 is not up as scheduled
___ hh:mm      BITFKMVA CPUHIGHCSM0 CPU Utilization >= 20%
___ hh:mm eh  MH61    ACM720A  START command has timed out for AAOMH005
___ hh:mm eh  MH61    ACM720A  START command has timed out for AAOMH002
___ hh:mm h   MH61    ACM716A  Subsystem Communications INACTIVE
          AO will NOT allow any Cross System
          Functions to be performed
___ hh:mm      CSMCSTR .ACM716A  Subsystem Communications INACTIVE
          AO will NOT allow any Cross System
          Functions to be performed
___ hh:mm      OLTV    SOL TEST OLTV
___ hh:mm      OLTV    SOL TEST OLTV
___ hh:mm h   OLTV    ACM223W  ONLY 2 SUBSYSTEM CONSOLES ALLOCATED
          CSM PERFORMANCE DEGRADED.
___ hh:mm      OLTV    SOL TEST OLTV
___ hh:mm      OLTV    SOL TEST OLTV
___ hh:mm      AAOMH61 CSM.AAOMH001.STATE UP

```

The ALERTS view presents detailed alert information sorted by the time at which the alert was generated. You can also display alert details sorted in other ways, as follows

- Select **Ordered by Queue Name** from EZALERT to display the ALERTSQ view.
- Select **Ordered by Priority** from EZALERT to display the ALERTSP view.

## Priority Level of Alerts

Each alert has a specific priority level that is represented by a specific color in the Alert Detail views. The following list shows the colors associated with each priority level:

Priority Level	Color
Critical	Red reverse video
Major	Pink reverse video
Minor	Yellow reverse video
Warning	Blue reverse video
Informational	Green reverse video
Clearing	Green

## Available Actions

The following primary command actions are available on the Alert Detail views:

**SORTTime** Orders the alerts by time (the default).

**SORTQueue** Orders the alerts by queue name.

**SORTPriority** Orders the alerts by priority.

The following line command actions are available:

**DEL** Deletes an alert.

**H** Displays user help for an alert.

To invoke the follow-up MAINVIEW AutoOPERATOR EXEC associated with an alert, enter appropriate text into the **Rsp** field and press **Enter**. The data entered in the Rsp field is appended, along with a leading blank, to the follow-up EXEC text. The complete follow-up EXEC text, including parameters, is then invoked in the MAINVIEW AutoOPERATOR subsystem identified as the Query AOSS.

To invoke the MAINVIEW AutoOPERATOR PCMD (primary command), hyperlink from the text in the **Ind** field when the text contains a C.

## Using Alert Summary Views

On the EZALERT menu under Alert Summary, position the cursor on **Summarized by Target** and press **Enter**.

The ALERTQSZ view is displayed, as shown in Figure 4-3.

**Figure 4-3 ALERTQSZ View - Alerts Summarized by Target**

```

ddmmmyyyy hh:mm:ss ----- MAINVIEW WINDOW INTERFACE (Rv.r.mm)-----
COMMAND ==>                                SCROLL ==> PAGE
CURR WIN ==> 1          ALT WIN ==>
>W1 =ALERTQSZ=====SJCDAVM=*=====ddmmmyyyy=hh:mm:ss===MVALERT==D===6
Cmd
--- TGT Queue Crit. Major Minor Warn. Info Clrng. Total Size Avg
CSTR HELPDESK 0 0 0 0 1 0 1 385 38
DM6A ***** 0 0 0 0 11 0 11 3336 19
MH61 ***** 3 0 0 0 1 0 4 1319 20
OLTV ***** 0 0 0 1 5 0 6 1788 32
SN62 MAIN 0 0 0 0 0 0 0 0 0
TC6D MAIN 3 0 0 0 0 0 0 3 1054 35

```

The ALERTQSZ view presents alert information summarized by the target of the alert. You can also display alert information summarized by queue name. Select **Summarized by Queue** from EZALERT to display the ALERTQQZ view.

## Hyperlinking to Product Views

When you set up an alarm definition, MAINVIEW Alarm Manager sets up and saves hyperlink information in the ALMACT01 form automatically. By default, if there is a C in the **Ind** field of an Alert Detail view, you can place the cursor on that field and press **Enter**. Alert Management takes you to the product view whose data element values generated the alert. If the alert was generated in a previous interval, Alert Management automatically sets the date and time to display the view as it looked when the alert was generated.

## Exiting Alert Management

To exit Alert Management, type **QUIT** on the COMMAND line of any Alert Management screen and press **Enter**. The Alerts and Alarms Menu is displayed. To return to the MAINVIEW Selection Menu, press the End key.

---

# Chapter 5 Understanding Alarm Groups and Definitions

This chapter provides detailed information about alarm groups and alarm definitions. The following topics are covered:

- understanding alarm groups
- understanding alarm definitions
- understanding variables
- understanding status values

## Understanding Alarm Groups

Alarm groups contain the definitions for one or more alarms. Each alarm group is a separate member in your user parameter library (*hilevel*.UBBPARM by default). These members are named BBHTMN $xx$ , where  $xx$  is a two-character group ID. MAINVIEW Alarm Manager contains a starter alarm group with the group ID of 00. Group 00 is distributed in *hilevel*.BBPARM member BBHTMN00.

Any number of alarm groups may be active at the same time. You can choose to keep all of your alarms in a single group or you can create multiple groups to separate your alarms according to user, product, or any other criteria that you need.

**Note:** Only one user at a time can edit alarms in a particular group. If multiple users are creating or editing alarms, each user should be assigned a unique alarm group ID.

To display a list of all alarm groups from EZALARM, place your cursor on the **List Alarm Groups** field and press **Enter**.

The ALGLST01 view is displayed, as shown in Figure 5-1.

**Figure 5-1 List of Alarm Groups (ALGLST01)**

```

ddmmmyyyy hh:mm:ss ----- MAINVIEW WINDOW INTERFACE (Rv.r.mm)-----
COMMAND ==> SCROLL ==> CSR
CURR WIN ==> 1 ALT WIN ==>
>W1 =ALGLST01=====SYSD=====*=====ddmmmyyyy==hh:mm:ss====MVALARM==D==1
C Grp #Of Runtime Admin Library Description Update
- ID Def Status-- Status-- Status-- ----- Date
00 1 Active Installed Active Alarm Group 00 definition ddmmmyyyy
    
```

The first time that MAINVIEW Alarm Manager is used, Group 00 and any other product-distributed alarm groups appear in this view. To learn how to add a new alarm group, see Chapter 6, “Working with Alarm Groups and Definitions.”

## Alarm Group Line Commands

From the ALGLST01 view (as shown in Figure 5-1), you can add, browse, copy, delete, edit, or rename groups. In addition, you can display the list of alarm definitions within the group. For some commands, you simply type the command in the line command field next to the group identifier. For other commands, you must also enter an operand by typing over the value in the Grp ID field.

Table 5-1 shows the line commands that are available from the ALGLST01 view.

**Table 5-1 Line Commands for Alarm Groups**

<b>A xx</b>	To add an alarm group, type <b>A</b> in any line command field and type over the alarm group name with the name of the alarm group that you want to add. When you press <b>Enter</b> , the ALGLST01 view lists the new group ID. The new alarm group is empty.
<b>B</b>	To browse an alarm group, type <b>B</b> in the line command field next to the group that you want to browse. When you press <b>Enter</b> , the ALGBRO01 view is displayed in BROWSE mode.
<b>C xx</b>	To copy an existing alarm group, type <b>C</b> in the line command field next to the group that you want to copy. Then type over the existing group ID with the new ID that you want to use. When you press <b>Enter</b> , the ALGLST01 view lists two alarm groups that have the same alarm definitions, but different group IDs.
<b>D</b>	To delete an alarm group, first make sure that the group is empty and that its Runtime Status is Inactive. Then, type <b>D</b> in the line command field next to the group that you want to delete. If the alarm group contains one or more alarm definitions, do not use the D line command; use the F line command instead.

**Table 5-1 Line Commands for Alarm Groups**

<b>E</b>	To edit an alarm group, type <b>E</b> in the line command field next to the group that you want to edit. When you press <b>Enter</b> , the ALGEDIO1 view is displayed in EDIT mode. From ALGEDIO1, you can change the description of a group or change its Runtime or Library status. See “Understanding Status Values” on page 5-15 for information about using the status fields in ALGEDIO1 to control the alarm group install status.
<b>F</b>	To force the deletion of an alarm group and all of the alarm definitions within the group, first make sure that the group’s Runtime Status is Inactive. Then, type <b>F</b> in the line command field next to the group that you want to delete.
<b>L</b>	To list the alarm definitions in an alarm group, type <b>L</b> in the line command field next to the group that you want to review. When you press <b>Enter</b> , the ALMLST02 view is displayed in BROWSE mode.
<b>R xx</b>	To rename an existing alarm group, type <b>R</b> in the line command field next to the group that you want to rename. Then type over the existing group ID with the new ID that you want to use. When you press <b>Enter</b> , the ALGLST01 view shows the alarm group with its new group ID. Even if the renamed group was previously installed, you must reinstall it with the new group name.
<b>S</b>	To select an alarm group and display the alarm definitions that it contains, type <b>S</b> in the line command field next to the group that you want to select. When you press <b>Enter</b> , the ALMLST01 view is displayed in EDIT mode. See “Understanding Alarm Definitions” on page 5-3 for more information about alarm definitions.

## Understanding Alarm Definitions

Within each alarm group, you can create alarm definitions. Each alarm definition describes alarms for a single combination of view, product, and context. You can control alarm definition features such as

- threshold conditions to be met before an alarm is issued
- how multiple threshold conditions are combined when determining whether an alarm is issued
- message ID and the message text issued by the alarm
- actions (such as hyperlinks to specific MAINVIEW product views)
- frequency that MAINVIEW Alarm Manager checks to see if an alarm should be generated
- time period during which an alarm definition is active

You can browse an existing alarm definition to learn about some of the MAINVIEW Alarm Manager features.

**Step 1** From the EZALARM menu, select **List Alarm Groups** to display the ALGLST01 view.

**Step 2** Type **S** (Select) in the line command field next to Group 00.

The ALMLST01 view is displayed, as shown in Figure 5-2.

**Figure 5-2 ALMLST01 View**

```

ddmmmyyyy hh:mm:ss ----- MAINVIEW WINDOW INTERFACE (Rv.r.mm)-----
COMMAND ==>                                     SCROLL ==> CSR
CURR WIN ==> 1          ALT WIN ==>
>W1 =ALMLST01=====SYSD=====*(          /00 EDIT )====MVALARM=D====1
C AlarmDef Runtime Admin Library View Product Context Descripti
- Name----- Status-- Status-- Status-- -----
  TGTCHK Enabled Installed Enabled TGTACT PLEXMGR * Check tar
    
```

**Step 3** Type **B** in the line command field next to TGTCHK and press **Enter**.

The ALMBRO01 view is displayed, as shown in Figure 5-3.

**Figure 5-3 ALMBRO01 View**

```

ddmmmyyyy hh:mm:ss ----- MAINVIEW WINDOW INTERFACE (Rv.r.mm)-----
COMMAND ==>                                     SCROLL ==> CSR
CURR WIN ==> 1          ALT WIN ==>
W1 =ALMBRO01=====SYSD=====*(TGTCHK /00 BRWSE)====MVALARM=D====1
-Identification-                                -Definitions-
Alarm Def Name.. TGTCHK                          Conditions... Defined
Group ID..... 00                                Thresholds. 2
Description.... Check target status              Filters..... NotDefined
Runtime Status.. Enabled                          Filters.... 0
Admin Status.... Installed                        Where Text.
Library Status.. Enabled                          Expressions.. Defined
                                                    Messages.... Defined
                                                    Actions..... Defined
                                                    Frequency... Defined

-----Source-----
Product..... PLEXMGR
Context..... *
View..... TGTACT
Scope..... *

-Last Update-
Date..... ddmmmyyyy
Time..... hh:mm:ss
UserId..... BMVTR2
System..... SYSD
    
```

The window information line shows that you are in **BROWSE** mode for alarm definition TGTCHK in Group 00.

In browse mode, you can look at information that you might want to include in alarm definitions:

- threshold conditions
- filters
- expressions for each severity
- messages
- actions
- frequency

**Step 4** Position the cursor on **Thresholds** and press **Enter**.

The ALMTHR01 form is displayed, as shown in Figure 5-4.

**Figure 5-4 ALMTHR01 Form**

```

ddmmmyyyy hh:mm:ss ----- MAINVIEW WINDOW INTERFACE (Rv.r.mm)-----
COMMAND ==>
                                SCROLL ==> CSR
CURR WIN ==> 1          ALT WIN ==>
>W1 =ALMBRO01=ALMTHR01=SYSD====*=====(TGTCHK /00 BRWSE)====MVALARM==D====1
C Cond Element Sum Op Info      Warning  Minor   Major   Critical Descriptio
- Id-- Name---- Typ  -- -----
C1  STATUS  ___  =  _____  _____  _____  _____  INACTIVE _____  TargetStat

```

ALMTHR01 displays all of the threshold conditions that exist for TGTCHK in Group 00. Multiple conditions may exist, and can be ANDed or ORed together in the ALMEXP01 form. Threshold conditions for an alarm definition include the element name, an operator, and the threshold values for Informational, Warning, Minor, Major, and Critical severities. Each condition is for a particular element in the view that you are monitoring. An alarm requires at least one condition, but you can set as many conditions as you like, up to the number of elements in the view that you are monitoring.

**Step 5** Press **PF3** to return to ALMBRO01 and look at filters next.

Filters that appear in an alarm definition are copied over from the product automatically when you use the SETALARM command to build the alarm definition. To display the filters that were set in your product view, use the SHOWFILT primary command in that view.

The TGTCHK alarm definition does not contain any filters, but to show what you would see if it did contain a filter, you can look at the TAPEMTP alarm definition in Group M0.

**Step 6** From the ALMBRO01 view showing the TAPEMTP alarm definition, place the cursor on **Filters** and press **Enter**.

The ALMFLT01 form is displayed, as shown in Figure 5-5.

**Figure 5-5 ALMFLT01 Form**

```

ddmmmyyyy hh:mm:ss ----- MAINVIEW WINDOW INTERFACE (Rv.r.mm)-----
COMMAND ==>                                     SCROLL ==> CSR
CURR WIN ==> 1          ALT WIN ==>
W1 =ALMBRO01=ALMFLT01=DXTSTH==*=====(TAPEMTP /M0 BRWSE)====MVALARM==D==1
C Cond Element  Sum Op Value          Description          Status
- Id-- Name---- Typ -- -----
F1  DXGTYPC  ___ = '34*'              Type                Enabled
    
```

ALMFLT01 displays all of the filters that were found in the TDEVR product view and sent to TAPEMTP. These filters include the element name, an operator, and the filter value. Each filter is for a particular element in the view that you are monitoring. Filters can also be added directly to this view.

**Step 7** Press **PF3** to return to ALMBR001, and then hyperlink on **Expressions**.

The ALMEXP01 form is displayed, as shown in Figure 5-6.

**Figure 5-6 ALMEXP01 Form**

```

ddmmmyyyy hh:mm:ss ----- MAINVIEW WINDOW INTERFACE (Rv.r.mm)-----
COMMAND ==>                                     SCROLL ==> CSR
CURR WIN ==> 1          ALT WIN ==>
>W1 =ALMBRO01=ALMEXP01=SYSD==*=====(TGTCHK /00 BRWSE)====MVALARM==D====3
Severity Status      Max Msg Expression
-----
Template Defaulted  n/a n/a &C1
Info... Template    999 No _____
Warning. Template   999 No _____
Minor... Template   999 No _____
Major... Template   999 No (STATUS = INACTIVE)
Critical Template   999 No _____
    
```

This form shows the expression used for combining multiple thresholds and filters. It also shows the template used to form an expression. By default (if multiple conditions exist), the conditions are separated by AND, which means that both conditions must be present for MAINVIEW Alarm Manager to issue an alarm.

You can change the AND to OR in the template or for any of the five severity levels. To change any of the expressions at a particular severity level (when in EDIT mode), just hyperlink on the severity to display the ALMSEV.xx form.

**Step 8** If you hyperlink on **Major**, the ALMSEV02 form is displayed, as shown in Figure 5-7.

**Figure 5-7 ALMSEV02 Form**

```

ddmmmyyyy hh:mm:ss ----- MAINVIEW WINDOW INTERFACE (Rv.r.mm)-----
COMMAND ==>                               SCROLL ==> CSR
CURR WIN ==> 1          ALT WIN ==>
>W1 =ALMBRO01=ALMSEV02=DXTSTH==*=====(TGTCHK /00 BRWSE)===MVALARM==D===1
Severity Status      Max Expression
-----
Major... Template   999 (STATUS = INACTIVE)

```

If you were in EDIT mode, you could change the values here by simply typing over them. Then the status field would be changed to Modified. To cause the expression to use the template again, just type **T** in the **Status** field.

**Step 9** Press **PF3** to return to ALMBRO01, and then hyperlink on **Messages**.

The ALMMSG01 form is displayed, as shown in Figure 5-8.

**Figure 5-8 ALMMSG01 Form**

```

ddmmmyyyy hh:mm:ss ----- MAINVIEW WINDOW INTERFACE (Rv.r.mm)-----
COMMAND ==>                               SCROLL ==> CSR
CURR WIN ==> 1          ALT WIN ==>
>W1 =ALMBRO01=ALMMSG01=SYSD==*=====(NEWMON00/00 BRWSE)===MVALARM==D===1
Alarm..Message Id Message Text
Start. TGTCHKS00 + &APPLID.V is &STATUS.V ON Sys:&SYSTEM.V, Cntxt:&CONTEXT.V

End.... TGTCHKE00 + &APPLID.V is no longer &STATUS.V

Alarm... Destination Messages ordered by:
View... Yes          +
Console No

```

This form enables you to see the message text that will be issued if threshold values set off this particular alarm.

When you issue the SETALARM command, two types of default messages are generated automatically:

- Start messages

The message ID defaults to *alarmdefinitionnameSgroupid*.

The message text defaults to *&elementname.H: &elementname.V &thresholdelementname.H operator &thresholdelementname.T*, where

- *&elementname.H* resolves to the column header associated with the element name for the first (leftmost) field of the view that was sent to MAINVIEW Alarm Manager when the SETALARM or SENDT command was issued

**Note:** When you use SETALARM or SENDT with an element that does not have a column header, the message does not resolve this variable.

- *&elementname.V* resolves to the actual value for the first (leftmost) field when the alarm was issued

- *&thresholdelementname.H* resolves to the column header of the element on which the threshold is set

- *operator* resolves to the operator that was used in the threshold condition (for example >=)

- *&thresholdelementname.T* resolves to the actual threshold value

- End messages

The message ID resolves to *alarmdefinitionnameEgroupid*.

The message text defaults to *&elementnameH: &elementnameV End of Alarm Condition*, where

- *&elementname.H* resolves to the column header associated with the element name for the first (leftmost) field of the view

- *&elementname.V* resolves to the actual value for the first (leftmost) field

You can change these values in the ALMMSG01 view (when you are in EDIT mode) by typing over them, or you can return to the default values by making the field blank.

- Step 10** From the ALMMSG01 view (Figure 5-8 on page 5-7), hyperlink on **Messages Ordered By**.

The ALMSRT01 form is displayed, as shown in Figure 5-9.

**Figure 5-9 ALMSRT01 Form**

```

ddmmmyyyy hh:mm:ss ----- MAINVIEW WINDOW INTERFACE (Rv.r.mm)-----
COMMAND ==>                                     SCROLL ==> CSR
CURR WIN ==> 1          ALT WIN ==>
>W1 =ALMBRO01=ALMSRT01=SYSD====*=====(TGTCHK /00 BRWSE)====MVALARM==D====3
C Cond Element  Sum Sort Sort Description
- Id-- Name---- Typ  Levl  Ord  -----
  C1  STATUS   ___   _   _ Target Status

```

From ALMSRT01, you can specify a summarization type for messages and sort them by a particular condition in either ascending or descending order.

The sort order specified here does not really affect the order in which the alarm messages appear in the ALARM and ALARMH views. It does, however, affect the order in which write-to-operator (WTO) messages are displayed and the order in which the alarm messages are sent to MAINVIEW AutoOPERATOR. For more information about sorting messages, refer to “Specifying Actions for an Alarm Definition” on page 6-18.

- Step 11** Press **PF3** to return to ALMBRO01, and then hyperlink from **Actions**.

The ALMACT01 form is displayed, as shown in Figure 5-10.

**Figure 5-10 ALMACT01 Form**

```

ddmmmyyyy hh:mm:ss ----- MAINVIEW WINDOW INTERFACE (Rv.r.mm)-----
COMMAND ==>                                     SCROLL ==> CSR
CURR WIN ==> 1          ALT WIN ==>
W1 =ALMEDI01=ALMACT01=DXTSTH====*=====(TGTCHK /00 EDIT )====MVALARM==D====1
Hyperlink... CONTEXT * PLEXMGR; VIEW TGTACT; TIME Z Z 1I &ALMZN
: TS
: _____
: _____
: _____
Helplink...
Topic      : _____
Subtopic   : _____
AutoOPERATOR
UserId     : _____
Queue     : MAIN
PCMD..... TRANSFER * PLEXMGR;TGTACT;TIME Z Z 1I &ALMZNTS
: _____
: _____
: _____

```

From this form, you can specify

- a hyperlink path to be taken from the Message ID field in the ALARM and ALARMH views
- a user-written help topic that users can link to from the HLP IND field in the ALARM and ALARMH views
- a user ID and queue name for the resulting alert
- a command to be executed if the Ind field of the Alert Management ALERTS view contains a C.

The default is to hyperlink to the view that generated the alert.

**Step 12** Press **PF3** to return to ALMBRO01, and then hyperlink from **Frequency**.

The ALMFRQ01 form is displayed, as shown in Figure 5-11.

**Figure 5-11 ALMFRQ01 Form**

```

ddmmmyyyy hh:mm:ss ----- MAINVIEW WINDOW INTERFACE (Rv.r.mm)-----
COMMAND ==>
CURR WIN ==> 1 ALT WIN ==>
>W1 =ALMBRO01=ALMFRQ01=SYSD=====*(TGCHK /00 BRWSE)===MVALARM==D===1
Monitor Cycle: 60 seconds (Time MvAlarm waits between monitoring cycles)

---Schedule---      Start      Stop
Everyday           : Yes  00:00   23:59
Mondays            : No   00:00   00:00
Tuesdays          : No   00:00   00:00
Wednesdays       : No   00:00   00:00
Thursdays        : No   00:00   00:00
Fridays           : No   00:00   00:00
Saturdays         : No   00:00   00:00
Sundays           : No   00:00   00:00
    
```

From here, you can see how often this alarm definition checks the elements that it is monitoring. By default, the monitor definition checks the threshold conditions every 60 seconds every day, 24 hours a day.

## Alarm Definition Line Commands

From the ALMLST01 view (as shown in Figure 5-2 on page 5-4), you can browse, copy, delete, edit, or rename an alarm definition. In addition, you can recover an alarm definition that has been deleted. For some commands, you simply type the command in the line command field next to the alarm definition name. For other commands, you must also enter an operand by typing over the value in the AlarmDef Name field.

Table 5-2 shows the line commands that are available from the ALMLST01 view.

**Table 5-2 Line Commands for Alarm Definitions**

<b>A</b>	To add an alarm definition, type <b>A</b> in any line command field and type over the alarm definition name with the name of the alarm definition that you want to add. To have the system generate a default name, leave the alarm definition name blank. When you press <b>Enter</b> , the ALMADD01 view is displayed in ADD mode.
<b>B</b>	To browse an alarm definition, type <b>B</b> in the line command field next to the definition that you want to browse. When you press <b>Enter</b> , the ALMBRO01 view is displayed in BROWSE mode.
<b>C xxxxxxxx</b>	To copy an existing alarm definition, type <b>C</b> in the line command field next to the definition that you want to copy. Then type over the existing name with the new name that you want to use. When you press <b>Enter</b> , ALMLST01 displays two identical alarm definitions with different names.
<b>D</b>	To delete an alarm definition, first make sure that the definition's Runtime Status is Disabled. If the Runtime Status is Enabled, you can disable it by typing over the Enabled value in the Runtime Status field of the ALMLST01 view with Disabled. When the Runtime Status is set to Disabled, type <b>D</b> in the line command field next to the definition that you want to delete. When you press <b>Enter</b> , the message BBHAA830I Alarm Definition (MONITOR1/00 DELETE successful) is displayed. Press <b>Enter</b> again to redisplay ALMLST01. The Library Status of the alarm definition is now Deleted.
<b>E</b>	To edit an alarm definition, type <b>E</b> in the line command field next to the definition that you want to edit. When you press <b>Enter</b> , the ALMEDI01 view is displayed in EDIT mode.
<b>R xxxxxxxx</b>	To rename an existing alarm definition, type <b>R</b> in the line command field next to the definition that you want to rename. Then type over the existing name with the new name that you want to use. When you press <b>Enter</b> , ALMLST01 displays two lines for the alarm definition: <ul style="list-style-type: none"> <li>• The alarm definition with the old name, which now has a Library Status of Deleted.</li> <li>• The alarm definition with the new name, which has the same Library Status that the renamed alarm definition had before it was renamed. The Runtime Status of the renamed alarm definition is NotFound.</li> </ul> The first character of an alarm definition name must be alphabetic.
<b>U</b>	You can undelete an alarm definition that has been deleted, as long as it is still displayed in the ALMLST01 view with the status Deleted. Type <b>U</b> in the line command field next to the definition that you want to recover. When you press <b>Enter</b> , the status of that alarm definition returns to whatever status it had before it was deleted.

### Example – Copy an Alarm Definition

To copy alarm definition TGTCHK, type **C** in the line command field next to TGTCHK. Then type over TGTCHK with the name **MONITOR1**. When you press **Enter**, you will see both TGTCHK and MONITOR1 in the ALMLST01 view.

### Example – Delete an Alarm Definition

To delete the new alarm definition called MONITOR1, type **D** in the line command field next to MONITOR1. When you press **Enter**, the following message is displayed:

```
BBHAA830I Alarm definition (MONITOR1/00) DELETE
successful
```

Press **Enter** again to return to ALMLST01. The Library Status and Admin Status fields for MONITOR1 show the value Deleted.

**Note:** A monitor definition can only be deleted if its Runtime Status is Disabled.

If the ALMLST01 view shows a deleted alarm definition, you must type **SAVE** on the command line and press **Enter** to save your change.

### Example – Undelete an Alarm Definition

To undelete the MONITOR1 alarm definition, type **U** in the line command field next to MONITOR1. When you press **Enter**, the following message is displayed:

```
BBHAA831I Alarm definition (MONITOR1/00) UNDELETE
successful
```

Press **Enter** again to return to ALMLST01. The Runtime Status value of MONITOR1 is now Disabled.

## Alarm Definition Primary Commands

The primary commands shown in Table 5-3 can be entered on the COMMAND line of the indicated views, regardless of whether a form is imposed on the view.

**Table 5-3 Primary Commands for Alarm Definitions**

SAVE	The SAVE primary command can be used with the ALMADD01 or ALMEDI01 views. It updates the parameter library PDS member that contains the alarm group to which the alarm definition belongs.
CANCEL	The CANCEL primary command can be used with the ALMADD01 or ALMEDI01 views. It discards the alarm definition being created with the ALMADD01 view or the changes being made with the ALMEDI01 view without updating any alarm group.
INSTALL	The INSTALL primary command can be used with the ALMADD01 or ALMEDI01 views. The alarm definition is copied to the MAINVIEW Alarm Manager runtime environment where it is processed according to the defined runtime status and schedule.
VERIFY	The VERIFY primary command can be used with the ALMADD01, ALMEDI01, or ALMBRO01 views. It displays any error messages for the alarm definition.
EDIT	The EDIT primary command can be used with the ALMBRO01 view. It terminates the ALMBRO01 view that provides BROWSE access and invokes the ALMEDI01 view that provides EDIT access for the same alarm definition.

## Understanding Variables

The alarm message, hyperlink text, and MAINVIEW AutoOPERATOR PCMD text in an alarm definition can be made up of literal text and text substituted from variables. Two types of variables are available: system and element-related.

There are five system variables:

PRIORITY	The severity of the alarm message, from 1 through 5.
SEV	A synonym for PRIORITY.
ALMDATE	The date that the alarm message was generated.
ALMTIME	The time of day that the alarm message was generated.
ALMZNTS	The date and time that the alarm message was generated, expressed as a zone-normalized time stamp. It is intended for system use only.

Variables are preceded by an ampersand (&) in the text. Element-related variables always end with one of three suffixes:

.H	The header or description of the element is substituted for the variable.
.T	The threshold value, associated with alarm message severity, is substituted for the variable.
.V	The element's value is substituted for the variable.

Additionally, element-related variables can specify a summarization type. The summarization type, if present, is located between the element name and the suffix. Elements with summarization types are used in conjunction with summarized views. Summarization types are separated from the element name with a colon.

For example, the average of the values of the element containing the delay percentage would be substituted for `&ASIDLYP:AVG.V`.

There are seven summarization types:

SUM	The total value of the summarized elements.
AVG	The average value of the summarized elements.
MAX	The maximum value of the summarized elements.
MIN	The minimum value of the summarized elements.
COU	The number (count) of summarized elements.
PER	The total value of the summarized elements expressed as a percentage of all elements returned for the query.
ANY	The last encountered summarized element.

## Understanding Status Values

Two copies of an alarm definition exist within MAINVIEW Alarm Manager:

### **Library copy**

The library copy is stored in the BBHTMNxx member of your user parameter library. This copy contains all group information and the information about each alarm definition within the group. Every time you type SAVE, any changes that you make are saved to the library copy.

### **Runtime copy**

The runtime copy contains information about the alarm definition that is currently generating alarm messages. When you first install an alarm definition, the library and runtime copies are identical. However, when you update and save an alarm definition, these changes are not automatically passed on to the runtime copy. The runtime copy continues to generate alarm messages based on the information in the previous version of the alarm definition (before it was saved).

To update the runtime copy, use the **I** (Install) line command. This command copies the library copy to the runtime copy so that the two copies are again identical.

## Changing a Status Value

The status values for an alarm definition appear on the ALMADD01, ALMEDI01, and ALMBRO01 views. To change the value in a particular status field (on ALMADD01 or ALMEDI01) you can

- type over the value
- perform an action – such as saving changes or using the Install command – that causes one or more values to change dynamically

The remainder of this section explains the values for the various types of status.

## Runtime Status Values

Runtime Status tells you the status of alarm groups and alarm definitions that are currently in the runtime environment. These values can be changed by typing over the value in the Runtime Status field.

### Group Runtime Status

The possible values for alarm group Runtime Status are as follows:

**Active**            The group is installed in the runtime environment, and alarm definitions within the group are able to issue alarm messages.

**Inactive**           The group is installed in the runtime environment, but alarm definitions within the group are prevented from issuing alarm messages.

**NotFound**          The group was not installed either automatically at PAS initialization or after the PAS was started.

A group is installed automatically when the PAS starts only if the group ID is included in the ALRMSFX parameter of BBPARAM member MVAPRM00. ALRMSFX=\* will cause all groups to be installed.

**Incomplete**        The group was installed without any alarm definitions.

## Alarm Definition Runtime Status

The possible values for alarm definition Runtime Status are as follows:

<b>Enabled</b>	The alarm definition is installed in the runtime environment and is able to issue messages.
<b>Disabled</b>	The alarm definition is installed in the runtime environment but is prevented from issuing messages.
<b>NotFound</b>	The alarm definition was not installed either automatically at PAS initialization or after the PAS was started.  A definition is installed automatically when the PAS starts only if the group ID of the group it belongs to is included in the ALRMSFX parameter of BBPARM member MVAPRM00. ALRMSFX=* will cause all groups to be installed.
<b>Incomplete</b>	The alarm definition was installed without any conditions.
<b>Error</b>	The alarm definition produced an error in the runtime environment.

## Library Status Values

The Library Status fields let you know what will happen when the library copy of an alarm group or alarm definition is copied into the runtime environment.

### Group Library Status

The possible values for alarm group Library Status are as follows:

<b>Active</b>	When the group is installed into the runtime environment, alarm definitions in the group are able to issue messages.
<b>Inactive</b>	When the group is installed into the runtime environment, definitions in the group are prevented from issuing messages.
<b>Incomplete</b>	The group does not contain any alarm definitions.
<b>Error</b>	The <i>hilevel</i> .UBBPARM BBHTMN $xx$ member for the group contains an error.

## Alarm Definition Library Status

The possible values for alarm definition Library Status are as follows:

<b>Enabled</b>	When the group is installed into the runtime environment, the alarm definition is able to issue messages.
<b>Disabled</b>	When the group is installed into the runtime environment, the alarm definition is prevented from issuing messages.
<b>Incomplete</b>	The alarm definition is missing information that is needed to issue alarms.
<b>Deleted</b>	The alarm definition has been deleted but can be restored by using the U (Undelete) line command.
<b>Error</b>	The alarm definition contains an error that prevents installation.

## Admin Status Values

You cannot type over the value in the Admin Status field. The value changes dynamically to reflect the difference between the library and runtime copies.

## Group Admin Status

The possible values for alarm group Admin Status are as follows:

<b>Installed</b>	The runtime copy of the group is identical to the library copy.
<b>NotInstall</b>	The group was not installed either automatically at PAS initialization or after the PAS was started.  A group is installed automatically when the PAS starts only if the group ID is included in the ALRMSFX parameter of BBPARM member MVAPRM00. ALRMSFX=* will cause all groups to be installed.
<b>Modified</b>	The runtime copy of the group is different from the library copy.
<b>Error</b>	The group contains an error that prevents installation.

## Alarm Definition Admin Status

The possible values for alarm definition Admin Status are as follows:

<b>Installed</b>	The runtime copy of the alarm definition is identical to the library copy.
<b>NotInstall</b>	The definition was not installed either automatically at PAS initialization or after the PAS was started.  A definition is installed automatically when the PAS starts only if the group ID of the group it belongs to is included in the ALRMSFX parameter of BBPARAM member MVAPRM00. ALRMSFX=* will cause all groups to be installed.
<b>Modified</b>	The runtime copy of the alarm definition is different from the library copy.
<b>Error</b>	The alarm definition contains an error that prevents installation.

## Controlling When Alarms Are Triggered

Sometimes you want all alarm definitions working all the time. At other times, you might want to prevent an alarm definition or group from issuing messages. You can control when alarms are triggered by using the Library Status and Runtime Status fields for alarm groups or alarm definitions. Table 5-4 shows what status an alarm group or definition should have for each circumstance.

**Table 5-4 Controlling When Alarms Are Issued**

To Issue Alarms	Group Library Status	Group Runtime Status	Alarm Definition Library Status	Alarm Definition Runtime Status
Whenever the PAS is active	Active	Active	Enabled	Enabled
While the PAS is active, but not after the PAS restarts	Inactive	Active	Disabled	Enabled
Only after the PAS is restarted or the alarm group or definition is installed	Active	Inactive	Enabled	Disabled
Never	Inactive	Inactive	Disabled	Disabled



---

---

# Chapter 6 Working with Alarm Groups and Definitions

This chapter explains some of the basic procedures you will use when you are working with alarm groups and alarm definitions.

The examples in this chapter cover the following topics:

- accessing alarm definitions and groups
- enabling distributed alarm definitions
- copying an existing alarm group
- copying alarm definitions within a group
- creating a new alarm group
- adding an alarm definition to a new group
- specifying actions in a definition
- sorting alarm messages

**Note:** Because alarm groups are members of the UBBPARM data set, only one person at a time can be working in a group. If several people are going through these examples, create a different group ID for each person (such as YY, WW, and so on).

## Accessing Alarm Definitions and Groups

There are several direct navigational paths that are available in EZALARM by using List Alarm Groups, List Alarm Definitions, and the Advanced Options.

This section covers the following direct access methods:

- edit and browse access
- advanced user access

### Edit and Browse Access

The MAINVIEW Alarm Manager administrative views provide either edit or browse access to the alarm group. During the time that you have edit access, other users do not have access to the alarm group in edit mode.

The window information line shows the type of access, the accessed alarm group, and the alarm definition. Edit-mode views have more actions available than browse-mode views. For instance, the ALMLST01 and ALMLST02 views display identical alarm definition information. And both views provide navigational links to the ALMADD01, ALMEDI01, and ALMBRO01 views. But the ALMLST01 view has edit access, so the content of the alarm group can be changed. An alarm group cannot be changed in ALMLST02 because it provides browse access only.

To access the ALMLST01 view, use the **S** line command from the ALGLST01 (group list) view. To access ALMLST02, use the **L** line command from the ALGLST01 view.

### Advanced User Access

Other navigational paths are available when the group ID and alarm name are known. By using the known group IDs and alarm names, alarm group administration can be accomplished by using a more direct path through the ALMKEY01 and ALMKEY02 views.

**Shortcut to the List of Alarm Definitions in a Group**

**Step 1** From EZALARM, place the cursor on **List Alarm Definitions** and press **Enter**.

The ALMKEY02 view is displayed with a **Group ID** entry field, as shown in Figure 6-1.

**Figure 6-1 ALMKEY02 View**

```

ddmmmyyyy hh:mm:ss ----- MAINVIEW WINDOW INTERFACE (Rv.r.mm)-----
COMMAND ==>                                     SCROLL ==> CSR
CURR WIN ==> 1                                ALT WIN ==>
W1 =ALMKEY02=====CXTSTH==*=====ddmmmyyyy==hh:mm:ss====MVALARM==D====1

      Set Up/Modify Alarms                                Advanced Options

. List Alarm Groups          Curr Selection: List      . Add Alarm Definition
. List Alarm Definitions     Group ID      > 00      . Edit Alarm Definition
. All Alarm Definitions

Alerts                                                Alarm Diagnostics

. Alert Management                                                . Current Alarms
                                                                    . Alarm History
                                                                    . Alarm Summary
    
```

**Step 2** Type an alarm group ID and press **Enter**.

In this example, group ID 00 was entered to display the ALMLST01 view for alarm group 00. The ALMLST01 view has edit access. You can edit alarm group definitions in this view or hyperlink to ALMADD01, ALMEDI01, or ALMBRO01 by using line commands.

For a description of the available line commands and their functions, refer to “Alarm Definition Line Commands” on page 5-10.

## Shortcut to Adding a New Alarm Definition to a Group

**Step 1** From EZALARM, place the cursor on **Add Alarm Definition** and press **Enter**.

The ALMKEY01 view is displayed with **Group ID** and **Alarm Name** entry fields, as shown in Figure 6-2.

**Figure 6-2 ALMKEY01 View - Add Selection**

```

ddmmmyyyy hh:mm:ss ----- MAINVIEW WINDOW INTERFACE (Rv.r.mm)-----
COMMAND ==>                                     SCROLL ==> CSR
CURR WIN ==> 1                                ALT WIN ==>
W1 =ALMKEY01=====CXTSTH==*=====ddmmmyyyy==hh:mm:ss====MVALARM==D====1

      Set Up/Modify Alarms                                Advanced Options

. List Alarm Groups                                Curr Selection: Add      . Add Alarm Definition
. List Alarm Definitions                          . Edit Alarm Definition
. All Alarm Definitions  Group ID      > 00      . View Alarm Definition
                                Alarm Name  > JOBDELAY

Alerts                                            Alarm Diagnostics

. Alert Management                                . Current Alarms
                                                    . Alarm History
                                                    . Alarm Summary
    
```

**Step 2** Type an alarm group ID and an alarm name to identify the new alarm that you want to add, and then press **Enter**.

The ALMADD01 view is displayed with the group ID and alarm name that is to be added. You can set up and install the new alarm definition.

**Note:** Entering the alarm name in ALMKEY01 is optional. If an alarm name is not provided, the system generates a default name. The default name can be changed in the ALMADD01 view.

## Shortcut to Editing an Alarm Definition

**Step 1** From EZALARM, place the cursor on **Edit Alarm Definition** and press **Enter**.

The ALMKEY01 view is displayed with **Group ID** and **Alarm Name** entry fields, as shown in Figure 6-3.

**Figure 6-3 ALMKEY01 View - Edit Selection**

```

ddmmmyyyy hh:mm:ss ----- MAINVIEW WINDOW INTERFACE (Rv.r.mm)-----
COMMAND ==>                                     SCROLL ==> CSR
CURR WIN ==> 1                                ALT WIN ==>
W1 =ALMKEY01=====CXTSTH==*=====ddmmmyyyy==hh:mm:ss====MVALARM==D====1

      Set Up/Modify Alarms                                Advanced Options

. List Alarm Groups          Curr Selection: Edit      . Add Alarm Definition
. List Alarm Definitions                                     . Edit Alarm Definition
. All Alarm Definitions      Group ID      > RR          . View Alarm Definition
                              Alarm Name   > JCSA

Alerts                                                    Alarm Diagnostics

. Alert Management                                                . Current Alarms
                                                                    . Alarm History
                                                                    . Alarm Summary

```

**Step 2** Type an alarm group ID and an alarm name to identify the alarm definition that you want to edit, and then press **Enter**.

The ALMEDI01 view is displayed with the group ID and alarm name that is to be edited. You can view, edit, and update the alarm definition as needed.

### Shortcut to Browsing an Alarm Definition

**Step 1** From EZALARM, place the cursor on **View Alarm Definition** and press **Enter**.

The ALMKEY01 view is displayed with **Group ID** and **Alarm Name** entry fields, as shown in Figure 6-4.

**Figure 6-4 ALMKEY01 View - View Selection**

```

ddmmmyyyy hh:mm:ss ----- MAINVIEW WINDOW INTERFACE (Rv.r.mm)-----
COMMAND ==>                                     SCROLL ==> CSR
CURR WIN ==> 1                                ALT WIN ==>
W1 =ALMKEY01=====CXTSTH==*=====ddmmmyyyy==hh:mm:ss====MVALARM==D====1

      Set Up/Modify Alarms                                Advanced Options

. List Alarm Groups          Curr Selection: View      . Add Alarm Definition
. List Alarm Definitions
. All Alarm Definitions      Group ID      > RR          . Edit Alarm Definition
                               Alarm Name   > JIOR          . View Alarm Definition

Alerts                                                    Alarm Diagnostics

. Alert Management                                                  . Current Alarms
                                                                    . Alarm History
                                                                    . Alarm Summary
    
```

**Step 2** Type an alarm group ID and an alarm name to identify the alarm definition that you want to browse, and then press **Enter**.

The ALMBRO01 view is displayed with the group ID and alarm name that you specified.

## Enabling Distributed Alarm Definitions

Distributed alarm definitions usually have an initial Library Status of Disabled. For example, the MAINVIEW for OS/390 alarm definitions in alarm group M0 are all Disabled.

To enable each distributed alarm definition, follow this procedure:

**Step 1** From the EZALARM menu, hyperlink on **List Alarm Groups** to display the ALGLST01 view.

**Step 2** From the ALGLST01 view, hyperlink on group M0.

The ALMLST01 view is displayed, as shown in Figure 6-5.

**Figure 6-5** MAINVIEW for OS/390 Distributed Alarm Definitions

```

ddmmmyyyy hh:mm:ss ----- MAINVIEW WINDOW INTERFACE (Rv.r.mm)-----
COMMAND ==>
CURR WIN ==> 1          ALT WIN ==>
>W1 =ALMLST01=====DXTSTH==*=====( *          /M0 EDIT )===MVALARM==D==11
C AlarmDef Runtime  Admin   Library  View      Product  Context Descript
- Name---- Status-- Status--- Status-- -----
E AUXSHORT Disabled  Installed Disabled PGDSTAT  MVMVS   *      Auxiliar
CPUHIGH  Disabled  Installed Disabled SYSINFO  MVMVS   *      High CPU
CSAMAX   Disabled  Installed Disabled CSASUM   MVMVS   *      CSA Max
CSFRAMES Disabled  Installed Disabled STORAGE  MVMVS   *      Central
DEVRESP  Disabled  Installed Disabled DEVSTATR MVMVS   *      Device R
ECSAMAX  Disabled  Installed Disabled CSASUM   MVMVS   *      ECSA Max
JOBBCPU  Disabled  Installed Disabled JCPU     MVMVS   *      Job CPU
JOBDELAY Disabled  Installed Disabled JOVER    MVMVS   *      Jobs del
PAGERESP Disabled  Installed Disabled PGDSTAT  MVMVS   *      Paging I
SLOTBAD  Disabled  Installed Disabled PGDSTAT  MVMVS   *      Bad Page
TAPEMTP  Disabled  Installed Disabled TDEVR    MVMVS   *      Tape Mou

```

**Step 3** From the ALMLST01 view, enter **E** (Edit) in the line command field next to the AUXSHORT alarm definition, and then press **Enter**.

The ALMEDI01 view is displayed.

**Step 4** In the ALMEDI01 view, type over Disabled with **Enabled** in the **Library Status** field.

**Step 5** Type **INSTALL** on the COMMAND line of the ALMEDI01 view, and then press **Enter**.

The AUXSHORT alarm definition is reinstalled in the runtime environment with a status of Enabled.

**Step 6** Type **SAVE** on the **COMMAND** line of the **ALMEDI01** view, and then press **Enter**.

The changes to the **AUXSHORT** definition are saved, and the message **BBHAA817I Your changes have been successfully saved** is displayed.

**Step 7** Press **Enter** to return to the **ALMLST01** view.

**Step 8** Repeat this procedure for each alarm definition that you want to enable.

## Copying an Existing Alarm Group

Group 00 and your product-specific alarm groups already exist in **MAINVIEW Alarm Manager**. To add a new alarm group by copying one of these groups, follow this procedure:

**Step 1** From the **EZALARM** menu, hyperlink on **List Alarm Groups**.

**ALGLST01** is displayed with groups 00 and M0 (for **MAINVIEW** for **OS/390** users), as shown in Figure 6-6.

**Figure 6-6 Copying an Alarm Group**

```

ddmmmyyyy hh:mm:ss ----- MAINVIEW WINDOW INTERFACE (Rv.r.mm)-----
COMMAND ===>                                SCROLL ===> CSR
CURR WIN ===> 1                            ALT WIN ===>
>W1 =ALGLST01=====SYSD=====*=====ddmmmyyyy==hh:mm:ss====MVALARM==D===2
C Grp #Of Runtime Admin Library Description Update
- ID Def Status-- Status-- Status-- ----- Date
  00 1 Active Installed Active Alarm Group 00 definition ddmmmyyyy
C M0 11 Active Installed Active MVMVS Alarm Definitions ddmmmyyyy
    
```

**Step 2** Type **C** in the line command field next to group **M0**, and type over **M0** with the two-character ID of the group that you want to add. In this example, type over **M0** with **ZZ**, and then press **Enter**.

The **ALGLST01** view is redisplayed with the new group ID, as shown in Figure 6-7 on page 6-9.

**Figure 6-7 ALGLST01 View with Groups 00, M0, and ZZ**

```

ddmmmyyyy hh:mm:ss ----- MAINVIEW WINDOW INTERFACE (Rv.r.mm)-----
COMMAND ===>
CURR WIN ===> 1          ALT WIN ===>
>W1 =ALGLST01=====SYSD=====*=====ddmmmyyyy==hh:mm:ss====MVALARM==D===3
C Grp #Of Runtime  Admin      Library  Description              Update
- ID  Def Status--  Status--  Status--  ----- Date
  00   1 Active    Installed Active    Alarm Group 00 definition ddmmmyyyy
  ZZ  11 NotFound  NotInstall Active    MVMVS Alarm Definitions  ddmmmyyyy
C M0   11 Active    Installed Active    MVMVS Alarm Definitions  ddmmmyyyy

```

The new group (group ZZ) contains exactly the same alarm definitions as group M0. However, the definitions in group ZZ will not generate any alarm messages because they have not yet been installed into the runtime environment.

## Copying Alarm Definitions within a Group

To create a new alarm definition by copying an existing one in group ZZ, follow this procedure:

- Step 1** Type S (Select) in the line command field next to group ZZ, and then press **Enter**.

The ALMLST01 view is displayed, listing all of the alarm definitions contained in Group ZZ, as shown in Figure 6-8.

**Figure 6-8 ALMLST01 View**

```

ddmmmyyyy hh:mm:ss ----- MAINVIEW WINDOW INTERFACE (Rv.r.mm)-----
COMMAND ===>
CURR WIN ===> 1          ALT WIN ===>
>W1 =ALMLST01=====DXTSTH=====*( * /ZZ EDIT )====MVALARM==D==11
C AlarmDef Runtime  Admin      Library  View      Product  Context  Descript
- Name---- Status-- Status--  Status--  -----
AUXSHORT  NotFound  NotInstall Enabled   PGDSTAT   MVMVS    *        Auxiliar
CPUHIGH   NotFound  NotInstall Disabled  SYSINFO   MVMVS    *        High CPU
CSAMAX    NotFound  NotInstall Disabled  CSASUM    MVMVS    *        CSA Max
CSFRAMES  NotFound  NotInstall Disabled  STORAGE   MVMVS    *        Central
DEVRESP   NotFound  NotInstall Disabled  DEVSTATR  MVMVS    *        Device R
ECSAMAX   NotFound  NotInstall Disabled  CSASUM    MVMVS    *        ECSA Max
JOBBCPU   NotFound  NotInstall Disabled  JCPU      MVMVS    *        Job CPU
JOBDELAY  NotFound  NotInstall Disabled  JOVER     MVMVS    *        Jobs del
PAGERESP  NotFound  NotInstall Disabled  PGDSTAT   MVMVS    *        Paging I
SLOTBAD   NotFound  NotInstall Disabled  PGDSTAT   MVMVS    *        Bad Page
TAPEMTP   NotFound  NotInstall Disabled  TDEVR     MVMVS    *        Tape Mou

```

Notice that the Library Status of the AUXSHORT alarm definition is Enabled, but the Runtime Status is NotFound, and the Admin Status is NotInstall because the alarm definition is not yet installed. You enabled the AUXSHORT alarm definition in “Enabling Distributed Alarm Definitions” on page 6-7.

**Step 2** Type **C** (Copy) in the line command field next to the alarm definition named DEVRESP, but *do not* press **Enter** yet.

**Step 3** Type over the name DEVRESP with a new name, such as **RESPDEV**, and then press **Enter**, as shown in Figure 6-9.

**Figure 6-9 Copying and Renaming an Alarm Definition**

```
ddmmmyyyy hh:mm:ss ----- MAINVIEW WINDOW INTERFACE (Rv.r.mm)-----
COMMAND ==>
CURR WIN ==> 1          ALT WIN ==>
>W1 =ALMLST01=====DXTSTH==*=====( *      /ZZ EDIT )===MVALARM==D==11
C AlarmDef Runtime  Admin   Library  View    Product  Context Descript
- Name---- Status-- Status--- Status-- -----
  CSFRAMES NotFound NotInstall Disabled STORAGE MVMVS *      Central
c respdev  NotFound NotInstall Disabled DEVSTATR MVMVS *      Device R
  ECSAMAX  NotFound NotInstall Disabled CSASUM  MVMVS *      ECSA Max
```

The new alarm definition RESPDEV is added to the ALMLST01 view alphabetically, as shown in Figure 6-10. Notice that it is not enabled or installed.

**Figure 6-10 RESPDEV Added to the ALMLST01 View**

```
ddmmmyyyy hh:mm:ss ----- MAINVIEW WINDOW INTERFACE (Rv.r.mm)-----
COMMAND ==>
CURR WIN ==> 1          ALT WIN ==>
>W1 =ALMLST01=====DXTSTH==*=====( *      /ZZ EDIT )===MVALARM==D==12
C AlarmDef Runtime  Admin   Library  View    Product  Context Descript
- Name---- Status-- Status--- Status-- -----
  CSFRAMES NotFound NotInstall Disabled STORAGE MVMVS *      Central
  DEVRESP  NotFound NotInstall Disabled DEVSTATR MVMVS *      Device R
  ECSAMAX  NotFound NotInstall Disabled CSASUM  MVMVS *      ECSA Max
  JOBCPU   NotFound NotInstall Disabled JCPU    MVMVS *      Job CPU
  JOBDELAY NotFound NotInstall Disabled JOVER   MVMVS *      Jobs del
  PAGERESP NotFound NotInstall Disabled PGDSTAT MVMVS *      Paging I
  RESPDEV  NotFound NotInstall Disabled DEVSTATR MVMVS *      Device R
```

**Step 4** Type **SAVE** on the COMMAND line and press **Enter** to save the new alarm definition.

**Step 5** Type **E** (Edit) in the line command field next to RESPDEV, and then press **Enter**.

The ALMEDI01 view is displayed, showing the details of the alarm definition RESPDEV, as shown in Figure 6-11.

**Figure 6-11 ALMEDI01 View**

```

ddmmmyyyy hh:mm:ss ----- MAINVIEW WINDOW INTERFACE (Rv.r.mm)-----
COMMAND ==>
CURR WIN ==> 1          ALT WIN ==>
Wl =ALMEDI01=====DXTSTH==*======(RESPDEV /ZZ EDIT )====MVALARM==D==1
-Identification-
Alarm Def Name.. RESPDEV
Group ID..... ZZ
Description.... Device Response Time Exceptions
Runtime Status.. NotFound
Admin Status... NotInstall
Library Status.. Disabled

-----Source-----
Product..... MVMVS
Context..... *
View..... DEVSTATR
Scope..... *

-Definitions-
Conditions... Defined
Thresholds.. 2
Filters..... Defined
Filters.... 2
Where Text.. NotDefined
Expressions..
Messages.... Defined
Actions.... Defined
Frequency... Defined

-Last Update-
Date..... ddmmmyyyy
Time..... hh:mm:ss
UserId.... tsoid
System.... sysid

```

You can hyperlink to other MAINVIEW Alarm Manager views from any highlighted field. You can also type over highlighted characters in the Description, Runtime Status, Library Status, Product, Context, and View fields.

- Step 6** Move the cursor to the **Description** field and type over the current description with a new one, such as **Response time for Devices**.
- Step 7** In the **Library Status** field, type over Disabled with **Enabled** so that, when RESPDEV is saved, it is enabled.
- Step 8** Type **SAVE** on the COMMAND line to save the updated definition.

You are returned to the ALMLST01 view.

## Changing the Monitoring Frequency

Now you can change one of the alarm definition parameters.

- Step 1** Type **E** (Edit) in the line command field next to RESPDEV, and then press **Enter**.

The ALMEDI01 view is displayed.

**Step 2**    Hyperlink on the **Frequency** field.

The ALMFRQ01 form is displayed. The ALMFRQ01 form enables you to specify how often MAINVIEW Alarm Manager checks to see if the thresholds on the elements in the alarm definition have been met in order to determine if a message needs to be generated. Notice that the characters in the Monitor Cycle and Schedule fields are input fields (highlighted) that can be changed by typing over the existing values.

**Step 3**    Move the cursor to the **Monitor Cycle** field and type over the default of 60 seconds with **10**.

By default, the Monitor Cycle field is set at 60 seconds, which means that MAINVIEW Alarm Manager checks the elements every 60 seconds and generates the appropriate Start and End messages based on that information. MAINVIEW Alarm Manager supports a monitor frequency value between 5 and 9999 seconds.

**Step 4**    Move the cursor to the **Everyday** field and type over Yes with **No**.

**Step 5**    Select specific days of the week and times of the day during which monitoring takes place:

**5.A**    Move the cursor to the **Wednesdays** field and type over No with **Yes**.

**5.B**    Then type over the **Start** field with **08:00** and type over the **Stop** field with **15:00**.

This means that RESPDEV will monitor device response times between 8:00 A.M. and 3:00 P.M. on Wednesday, as shown in Figure 6-12. By default, MAINVIEW Alarm Manager monitors the elements every day, 24 hours a day. You can change any start or stop time by typing over the existing value with the value that you want.

**Figure 6-12    Specifying Monitor Frequency**

```
ddmmmyyyy hh:mm:ss ----- MAINVIEW WINDOW INTERFACE (Rv.r.mm)-----
COMMAND ===>                               SCROLL ===> PAGE
CURR WIN ===> 1          ALT WIN ===>
>W1 =ALMEDI01=ALMFRQ01=DXTSTH==*=====(RESPDEV/ZZ E MOD)====MVALARM==D===1
Monitor Cycle:  10 seconds (Time MVALarm waits between monitoring cycles)

---Schedule---      Start      Stop
Everyday      : No      00:00      23:59
Mondays       : No      00:00      00:00
Tuesdays     : No      00:00      00:00
Wednesdays   : Yes     08:00      15:00
Thursdays    : No      00:00      00:00
Fridays       : No      00:00      00:00
Saturdays     : No      00:00      00:00
Sundays       : No      00:00      00:00
```

Press **PF3** to return to the ALMEDI01 view.

**Step 6** Type **SAVE** on the COMMAND line to save the new monitoring frequency.

## Using the Install Line Command

At this time, your alarm definition RESPDEV and the alarm group ZZ are not installed.

To install the alarm definition from the ALMLST01 view, type **I** (Install) next to RESPDEV and press **Enter**.

RESPDEV is now actively monitoring JCPUR, even though the rest of the alarm definitions in group ZZ are still inactive, as shown in Figure 6-13.

**Figure 6-13 Activating an Alarm Definition and Group**

```

ddmmmyyyy hh:mm:ss ----- MAINVIEW WINDOW INTERFACE (Rv.r.mm)-----
COMMAND ==>
CURR WIN ==> 1 ALT WIN ==>
>Wl =ALMLST01=====DXTSTH====*( * /ZZ EDIT )===MVALARM==D==12
C AlarmDef Runtime Admin Library View Product Context Descript
- Name---- Status-- Status--- Status-- -----
JOBDELAY NotFound NotInstall Disabled JOVER MVMVS * Jobs del
PAGERESP NotFound NotInstall Disabled PGDSTAT MVMVS * Paging I
RESPDEV Enabled Installed Enabled DEVSTATR MVMVS * Response
SLOTBAD NotFound NotInstall Disabled PGDSTAT MVMVS * Bad Page
TAPEMTP NotFound NotInstall Disabled TDEVR MVMVS * Tape Mou
    
```

## Creating a New Alarm Group

To create a new alarm group, follow this procedure:

**Step 1** From the EZALARM menu, hyperlink on **List Alarm Groups**.

ALGLST01 is displayed with group 00 and a product-specific group (M0).

**Figure 6-14 Adding an Alarm Group**

```

ddmmmyyyy hh:mm:ss ----- MAINVIEW WINDOW INTERFACE (Rv.r.mm)-----
COMMAND ==>
CURR WIN ==> 1 ALT WIN ==>
>Wl =ALGLST01=====DXTSTH====*=====ddmmmyyyy==hh:mm:ss====MVALARM==D===2
C Grp #Of Runtime Admin Library Description Update
- ID Def Status-- Status-- Status-- ----- Date
a gg 1 Active Installed Active Alarm Group 00 definition ddmmmyyyy
M0 12 Active Installed Active MVMVS Alarm Definitions ddmmmyyyy
    
```

- Step 2** Type **A** in the line command field next to group 00, and then type over the 00 with the two-character ID of the group that you want to add. In this example, type over 00 with **GG**, and then press **Enter**.

The ALGLST01 view is redisplayed with the new group ID, as shown in Figure 6-15.

**Figure 6-15 New Group GG Added to ALGLST01**

```

ddmmmyyyy hh:mm:ss ----- MAINVIEW WINDOW INTERFACE (Rv.r.mm)-----
COMMAND ==>                               SCROLL ==> CSR
CURR WIN ==> 1                            ALT WIN ==>
>W1 =ALGLST01=====DXTSTH====*=====ddmmmyyyy==hh:mm:ss====MVALARM==D===2
C Grp #Of Runtime Admin Library Description Update
- ID Def Status-- Status-- Status-- ----- Date
  00  1 Active  Installed Active Alarm Group 00 definition ddmmmyyyy
  GG  0 NotFound NotInstall Incomplete Alarm Group 00 definition ddmmmyyyy
  M0 12 Active  Installed Active MVMVS Alarm Definitions ddmmmyyyy

```

The new group (GG) is currently empty, as indicated by the value of 0 in the #Of Def field.

## Adding an Alarm Definition to a New Group

Now that a new group has been created, you can add an alarm definition to it. You can use a procedure similar to the one described in Chapter 3, “Setting Up an Alarm Definition Quickly.”

To add an alarm definition for MAINVIEW for OS/390, follow this procedure:

- Step 1** Type the following on the COMMAND line of the ALGLST01 view, and then press **Enter**:

```
CONtext *LOCAL MVMVS;EZMVS
```

The EZMVS menu is displayed.

- Step 2** From EZMVS, type **JCPUR** on the COMMAND line and press **Enter**.
- Step 3** In the JCPUR view, type **SETALARM GG** on the COMMAND line, but *do not* press **Enter** yet.
- Step 4** Position the cursor in the **%Dly CPU** column and press **Enter**.







## Specifying Actions for an Alarm Definition

This section shows you how to specify actions for an alarm definition. To specify actions, perform the following steps:

- Step 1** From EZALARM, place the cursor on **List Alarm Groups** and press **Enter** to display the ALGLST01 view.
- Step 2** Type **S** (Select) in the line command field next to Group 00 and press **Enter** to display the ALMLST01 view.
- Step 3** Type **B** (Browse) in the line command field next to TGTCHK and press **Enter** to display the ALMBRO01 view.
- Step 4** Position the cursor in the **Actions** field and press **Enter**.

The ALMACT01 form is displayed, as shown in Figure 6-19.

**Figure 6-19**     **Displaying Actions**

```

ddmmmyyyy hh:mm:ss ----- MAINVIEW WINDOW INTERFACE (Rv.r.mm)-----
COMMAND ==>                               SCROLL ==> PAGE
CURR WIN ==> 1          ALT WIN ==>
W1 =ALMBRO01=ALMACT01=DXTSTH==*======(TGTCHK /00 BRWSE)====MVALARM==D==1
Hyperlink... CONTEXT * PLEXMGR; VIEW TGTACT; TIME Z Z 1I &ALMZN
           : TS_____
           : _____
           : _____
           : _____
Helplink...
Topic     : TARGETS_____
Subtopic  : PRODUCTS_____

AutoOPERATOR
UserId    : _____
Queue    : MAIN_____

PCMD..... TRANSFER * PLEXMGR;TGTACT;TIME Z Z 1I &ALMZNTS
           : _____
           : _____
           : _____
           : _____
    
```

From ALMACT01, the following actions can be specified for an alarm definition:

- Hyperlink** Defines the hyperlink path to be taken from the Message ID field in the ALARM and ALARMH views. The default is to hyperlink to the view containing the data that generated the alert.
- Helplink** Identifies a user-written help topic to which users can hyperlink from the HLP IND field in the ALARM and ALARMH views.

**AutoOPERATOR** Identifies a user ID, queue, and command to be passed to Alert Management and MAINVIEW AutoOPERATOR.

All alarms generated by the alarm definition are automatically sent to MAINVIEW AutoOPERATOR and Alert Management, if they are installed on the same MVS image as the MAINVIEW Alarm Manager PAS.

In the case of MAINVIEW AutoOPERATOR, the alarms are processed by two rules: ALRMSTRT for Start messages and ALRMSTOP for End messages. Both of these rules are in the AAORUL00 rule set and are shipped disabled. These rules, which convert the alarms to MAINVIEW AutoOPERATOR alerts, must be enabled to process MAINVIEW Alarm Manager alarms.

In the case of Alert Management, the alarms are passed automatically to that component.

By filling in the UserId, Queue, and PCMD fields, you can set specific attributes for MAINVIEW AutoOPERATOR and Alert Management alerts. See your MAINVIEW AutoOPERATOR administrator for information about how to fill in these fields.

## Sorting Alarm Messages

The order of alarm messages is determined by the product providing the data (such as MAINVIEW for OS/390), if no ordering specifications are made on the ALMSRT01 view.

The ALMSRT01 view allows you to control

- the order in which WTO messages are displayed on the console if the Console option on the Messages form (ALMMSG01) is changed to Yes
- the order in which messages are sent to MAINVIEW AutoOPERATOR
- which messages will be generated and which messages will be discarded, if a maximum number of messages generated for a severity type has been specified on the ALMEXP01 form

To access ALMSRT01 from the ALMMSG01 form, hyperlink from the **Messages Ordered By** field. The ALMSRT01 form is displayed, as shown in Figure 6-20.

**Figure 6-20 Message Sort Form (ALMSRT01)**

```

ddmmmyyyy hh:mm:ss ----- MAINVIEW WINDOW INTERFACE (Rv.r.mm)-----
COMMAND ==>
CURR WIN ==> 1          ALT WIN ==>
W1 =ALMEDI01=ALMSRT01=DXTSTH==*======(RESPDEV /ZZ EDIT )===MVALARM==D===2
Cond Element  Sum Sort Sort Description
Id-- Name---- Typ  Lev1 Ordr -----
C1  DXLSRVAT  ___  ___  -   Response Time
F3  DXGTYPC  ___  ___  -   Tape Device Unit Address
    
```

## Specifying a Sort Level

If an alarm definition has multiple conditions, you can tell MAINVIEW Alarm Manager to sort the messages in hierarchical order. You can specify a sort level for each condition by typing a number in the **Sort Lev1** field of ALMSRT01, as shown in Figure 6-21. When you press **Enter**, the new levels of sorting criteria are displayed.

**Figure 6-21 Sorting Messages by Hierarchy**

```

ddmmmyyyy hh:mm:ss ----- MAINVIEW WINDOW INTERFACE (Rv.r.mm)-----
COMMAND ==>
CURR WIN ==> 1          ALT WIN ==>
W1 =ALMEDI01=ALMSRT01=DXTSTH==*======(RESPDEV /ZZ EDIT )===MVALARM==D===2
Cond Element  Sum Sort Sort Description
Id-- Name---- Typ  Lev1 Ordr -----
C1  DXLSRVAT  ___  1___ -   Response Time
F3  DXGTYPC  ___  2___ -   Tape Device Unit Address
    
```

In this example, response time is the primary sort criteria (sort level 1), and tape device unit address is the secondary sort criteria (sort level 2). If several instances with duplicate response times occur, those instances will be grouped together, then further sorted by the tape device unit address within that group.

**Note:** You can also specify the sort order at the same time that you are specifying the sort level. Pressing **Enter** records all of your entries.

## Changing the Sort Order

You can change the sort order of messages by typing over the characters in the **Sort Ord** field of ALMSRT01. Specify **A** for ascending or **D** for descending.

For example, in Figure 6-22, if several messages with duplicate response times occur, those messages will be grouped together and the groups will be sorted in descending order (D) by response time. Individual messages in a response-time group will be sorted in ascending order (A) by tape device unit address.

**Figure 6-22**      **Sorting Messages by Order**

```

ddmmmyyyy hh:mm:ss ----- MAINVIEW WINDOW INTERFACE (Rv.r.mm)-----
COMMAND ==>                                     SCROLL ==> CSR
CURR WIN ==> 1                                ALT WIN ==>
W1 =ALMEDI01=ALMSRT01=DXTSTH==*=====(RESPDEV /ZZ EDIT )===MVALARM==D===2
Cond Element  Sum Sort Sort Description
Id-- Name---- Typ Lev1 Ordr -----
C1  DXLSRVAT  ___ 1___ D   Response Time
F3  DXGTYPC  ___ 2___ A   Tape Device Unit Address

```



---

# Appendix A Controlling the MAINVIEW Alarm Manager PAS

To control and query the MAINVIEW Alarm Manager PAS, use the MODIFY command from an MVS console. To execute a command, enter

```
/F mvalarm_pas,MVA=command
```

where *mvalarm\_pas* is the PAS stepname and *command* can be one of the following values:

**ACTivate *group\_name*** Changes an alarm group's runtime status to ACTIVE and changes the runtime status of all installed alarm definitions in the alarm group to ENABLED.

For example, if your PAS name is MVAPAS and you want to activate group AA, issue the following command:

```
/F MVAPAS,MVA=ACT AA
```

**CONversations** Lists the conversations used to query the data tables (for diagnostic purposes only).

**CONversations ALL** Lists the conversations used to query the data tables with the alarm definitions serviced by each conversation (for diagnostic purposes only).

---

**DISable** *group\_name def\_name*

Changes the runtime status of an alarm definition in an alarm group to DISABLED.

For example, if your PAS name is MVAPAS and you want to disable the alarm definition TGTCHK in the alarm group AA, issue the following command:

```
/F MVAPAS,MVA=DIS AA TGTCHK
```

**ENable** *group\_name def\_name*

Changes the runtime status of an alarm definition in an alarm group to ENABLED.

For example, if your PAS name is MVAPAS and you want to enable the runtime status of alarm definition TGTCHK in alarm group AA, issue the following command:

```
/F MVAPAS,MVA=ENA AA TGTCHK
```

**HELp**

Lists the MODIFY commands.

**INActive** *group\_name* Changes an alarm group's runtime status to INACTIVE and changes the runtime status of all installed alarm definitions in the alarm group to DISABLED.

For example, if your PAS name is MVAPAS and you want to make group AA inactive, issue the following command:

```
/F MVAPAS,MVA=INA AA
```

**RESet MVAAlert**

Processes BBPARM member BBOTA000, which identifies the alert repositories that provide input to Alert Management views. RESet MVAAlert enables you to modify BBOTA000 and use it without restarting the MAINVIEW Alarm Manager PAS.

**STatus**

Lists the runtime alarm groups.

**STatus ALL**

Lists the runtime alarm groups and alarm definitions.

---

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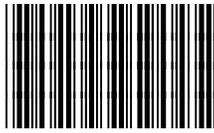
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# Notes



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