CICS Transaction Server for z/OS

CICSPlex SM Managing Resource Usage

Version 3 Release 1

SC34-6466-04

CICS Transaction Server for z/OS

CICSPlex SM Managing Resource Usage

Version 3 Release 1

SC34-6466-04

Note!

Before using this information and the product it supports, be sure to read the general information under “Notices” on page 191.

This edition applies to Version 3 Release 1 of CICS Transaction Server for z/OS, program number 5655-M15, and to all subsequent versions, releases, and modifications until otherwise indicated in new editions. Make sure you are using the correct edition for the level of the product.

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Preface

This book provides administration information for CICSPlex® System Manager for CICS® Transaction Server for z/OS®. It describes how to establish and maintain the CICSPlex SM definitions necessary to perform real-time analysis and resource monitoring.

Who this book is for

This book is for the individual responsible for administering the CICS systems in your enterprise.

What you need to know

It is assumed that you have read:

CICSPlex SM User Interface Guide
For information about using the ISPF user interface to CICSPlex SM.

CICSPlex SM Concepts and Planning
For an introduction to CICSPlex SM and the CICSPlex SM Starter Set.

Note: Many of the views in this book are based on the Starter Set. For useful examples of the definitions and programs described in this book, explore the Starter Set itself. The Starter Set is described in *CICS Transaction Server for z/OS Installation Guide*

Notes on terminology

In the text of this book, the term **CICSPlex SM** (spelled with an uppercase letter 'P') means the IBM® CICSPlex System Manager element of CICS Transaction Server for z/OS The term **CICSplex** (spelled with a lowercase letter 'p') means the largest set of CICS systems to be managed by CICSPlex SM as a single entity.

Other terms used in this book are:

CICS The CICS element of the CICS Transaction Server for z/OS.

MVS™ The operating system, which is a base element of z/OS.

The phrase *issue the command* is used in this book to mean that a command may be either typed in the COMMAND field of an Information Display panel or invoked by pressing the PF key to which it is assigned. When the location of the cursor affects command processing, this phrase also means that you can do one of the following:

- Type the command in the COMMAND field, place the cursor on the appropriate field, and press Enter.
- Move the cursor to the appropriate field and press the PF key to which the command is assigned.

Syntax notation and conventions used in this book

The syntax descriptions of the CICSPlex SM commands use the following symbols:

- Braces { } enclose two or more alternatives from which one must be chosen.
- Square brackets [ ] enclose one or more optional alternatives.
- The OR symbol | separates alternatives.

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The following conventions also apply to CICSPlex SM syntax descriptions:

- Commands and keyword parameters are shown in uppercase characters. If a command or parameter may be abbreviated, the minimum permitted abbreviation is in uppercase characters; the remainder is shown in lowercase characters and may be omitted.
- Variable parameters are shown in lowercase characters. You must replace them with your own information.
- Parameters that are not enclosed by braces { } or brackets [ ] are required.
- A default parameter value is shown like this: KEYWORD. It is the value that is assumed if you do not select one of the optional values.
- Punctuation symbols, uppercase characters, and special characters must be coded exactly as shown.

  Note: A semicolon ; is shown as the command delimiter in examples using multiple commands. For information about using and changing the command delimiter, see the *CICSPlex SM User Interface Guide*.
- The ellipsis ... means that the immediately preceding parameter can be included one or more times.

CICS system connectivity

This release of CICSPlex SM can be used to control CICS systems that are directly connected to it.

For this release of CICSPlex SM, the connectable CICS systems are:

- CICS Transaction Server for z/OS 3.1
- CICS Transaction Server for z/OS 2.3
- CICS Transaction Server for z/OS 2.2
- CICS Transaction Server for OS/390® 1.3

You can use this release of CICSPlex SM to control systems running supported releases of CICS that are connected to, and managed by, your previous release of CICSPlex SM. However, if you have any directly-connectable release levels of CICS, as listed above, that are connected to a previous release of CICSPlex SM, you are strongly recommended to migrate them to the current release of CICSPlex SM, to take full advantage of the enhanced management services. See the *CICS Transaction Server for z/OS Migration from CICS TS Version 2.3* for information on how to do this.

Table 1 shows which supported CICS systems can be directly connected to which releases of CICSPlex SM.

Table 1. Directly-connectable CICS systems by CICSPlex SM release

CICS system	CICSPlex SM component of CICS TS 3.1	CICSPlex SM component of CICS TS 2.3	CICSPlex SM component of CICS TS 2.2	CICSPlex SM component of CICS TS 1.3
CICS TS 3.1	Yes	No	No	No
CICS TS 2.3	Yes	Yes	No	No
CICS TS 2.2	Yes	Yes	Yes	No
CICS TS 1.3	Yes	Yes	Yes	Yes
TXSeries 4.3.0.4	No	Yes	Yes	No
TXSeries 5.0	No	Yes	Yes	No

Summary of changes

This book is based on the CICSPlex SM for CICS Transaction Server for z/OS, Version 2 Release 3 edition. It has been updated to incorporate changes made for CICSPlex SM for CICS Transaction Server for z/OS Version 3 Release 1.

Changes made since the last edition are marked by vertical bars in the left margin.

Changes for CICSPlex SM for CICS Transaction Server for z/OS Version 3 Release 1

The following changes have been made to this book for CICS Transaction Server for z/OS Version 3 Release 1:

- Tables, tasks and examples have been updated or rewritten, where appropriate, to give greater prominence to the use of CICSPlex SM Web User Interface (WUI) views and menus. Reference information continues to be largely based on the TSO end user interface.

CICSPlex SM support for the CICS for Windows component of IBM TXSeries (also known as Windows NT 4.3 and Windows NT 5.0) is no longer provided in CICS Transaction Server for z/OS, Version 3 Release 1.

However, you can continue to use the CICS Transaction Server Version 2.3 or Version 2.2 for CICSPlex SM support of TXSeries.

Changes for CICSPlex SM for CICS Transaction Server for z/OS, Version 2 Release 3

This edition contains no significant changes.

Changes for CICSPlex SM for CICS Transaction Server for z/OS, Version 2 Release 2

The following changes have been made to this book for CICS Transaction Server for z/OS, Version 2 Release 2:

- The CICSPlex SM interface to the NetView Resource Object Data Manager (RODM) has been removed.

There has been a change in CICSPlex SM field naming conventions in this release. Data set name fields such as DSNAME, file name fields such as LOCFILE and REMFILE, and transient data queue name fields such as EXTRATDQ and INTRATDQ are now case-sensitive. When entering data set and file names into the CICSPlex SM interfaces (EUI, API and WUI), ensure that you enter the data in the correct case. In previous releases of CICSPlex SM, the data set names and file names are automatically converted to upper case.

Changes for CICSPlex SM for CICS Transaction Server for z/OS, Version 2 Release 1

There are no changes to this book for CICS Transaction Server for z/OS, Version 2 Release 1.

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Changes for CICSPlex SM for CICS Transaction Server for OS/390, Version 1 Release 3

The following changes have been made to this book for CICS Transaction Server for OS/390, Version 1 Release 3.

- The information on using the end user interface has been removed from this book. For details, see the *CICSPlex SM User Interface Guide*.
- The information in Appendix A, “Customizing programs that monitor status,” on page 171 has been expanded and clarified.

Part 1. Introduction

This part provides an introduction to the real-time analysis and resource monitoring administration tasks described in the remainder of the book.

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Chapter 1. Using real-time analysis and resource monitoring views

This chapter identifies the administration views that you can use to establish and maintain the real-time analysis, and resource monitoring activity at your enterprise.

This chapter describes:
- "Views for managing real time analysis definitions"
- "Views for managing definitions" on page 4

Views for managing real time analysis definitions

Table 2 shows the views you can use to create real time analysis administration definitions. The views are grouped by CICSPlex SM function. They also indicate the information you can display and the actions you can perform using these views. To access these views in the Web User Interface (WUI), click **Administration views**. The resource monitoring view menus are listed under the heading **Real Time Analysis (RTA) views**.

Table 2. Views to create and maintain real-time analysis administration definitions

WUI view name (in menu)	WUI menu	EUI view name	Actions Supported
Action definitions	System availability monitoring	ACTNDEF (see26)	• Create, browse, update, and remove an action definition.
Analysis definitions	System availability monitoring	RTADEF (see42)	• Create, browse, remove, and update an analysis definition. • Add an association between an analysis definition and an analysis group. • Install an analysis definition in an analysis point specification or in a CICS system or CICS system group.
Analysis groups	MAS resource monitoring	RTAGROUP (see48)	• Create or remove an analysis group. • Change the description of an analysis group. • Add an association between an analysis group and an analysis specification. • Install an analysis group in an analysis point specification or in a CICS system or CICS system group.
Action definitions in groups	MAS resource monitoring	RTAINGRP (see56)	• Add or remove the association between an analysis or status definition and an analysis group.
Analysis point specifications	Analysis point monitoring	APSPEC (see30)	• Create and remove an analysis point specification. • Change the description of an analysis point specification. • Add an association between an analysis point specification and a CMAS.

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Table 2. Views to create and maintain real-time analysis administration definitions (continued)

WUI view name (in menu)	WUI menu	EUI view name	Actions Supported
Analysis point specifications in primary CMASs	Analysis point monitoring	APCMAS (see29)	• Create (WUI only) or remove an analysis point specification and CMAS association.
Analysis point specifications in secondary CMASs	Analysis point monitoring	APCMAS (see29)	• Create (WUI only) or remove an analysis point specification and CMAS association.
Analysis groups in analysis point specifications	Analysis point monitoring	RTAINAPS (see54)	• Create or remove an association between an analysis group and an analysis point specification.
Analysis specifications	System availability monitoring	RTASPEC (see64)	• Create, browse, remove, or update an analysis specification. • Add an association between an analysis specification and a CICS system or CICS system group.
Analysis groups in analysis specifications	MAS resource monitoring	RTAINSPC (see59)	• Add or remove an association between an analysis specification and an analysis group.
CICS systems associated with analysis specifications	MAS resource monitoring	RTASCOPE (see60)	• Change or remove the association between an analysis specification and a CICS system.
CICS system groups associated with analysis specifications	MAS resource monitoring	RTASCOPE (see60)	• Change or remove the association between an analysis specification and a CICS system group.
Evaluation definitions	MAS resource monitoring	EVALDEF (see33)	• Create, browse, update, and remove an evaluation definition.
User status probe definitions	MAS resource monitoring	STATDEF (see68)	• Create, browse, remove, or update a status definition. • Add an association between a status definition and an analysis group. • Install a status definition in a CICS system or CICS system group.

Views for managing definitions

When a CICS system is active, you can use the views identified in Table 3 on page 5 to display information about and control their use of real-time analysis. To access these view from Web User Interface main menu, click **Real Time Analysis (RTA) views**.

For a detailed description of the EUI views, see Chapter 4, “Analysis definitions,” on page 73.

Note: When you discard or deactivate an administration definition, it is removed from the active CICS system. It is not removed from the data repository. Thus, the next time the CICS system starts or the appropriate time period is reached, the definition is available for use.

Table 3. Views to manage real-time analysis administration definitions

WUI view name (on menu)	EUI view and command syntax	Use
Installed analysis definitions associated with an analysis point specification	`APACTV [apspec [rtadef [ACTIVE|PENDING]]]` The defaults are: **apspec** All analysis point specifications. **rtadef** All analysis definitions for the analysis point specification. **ACTIVE|PENDING** All analysis definitions.	• Display information about analysis definitions associated with an analysis point specification. • Deactivate or discard installed analysis definitions.
Real time analysis (RTA) outstanding events	`EVENT [event [eventsys [severity [eventtype]]]]` The defaults are: **event** All events. **eventsys** All CICS systems. **severity** All levels. **eventtype** All types.	• Display information about outstanding changes in the status of a CICSplex or one of its CICS systems.
Real time analysis (RTA) installed analysis and status definitions	`RTAACTV [defname [ACTIVE|PENDING].]` The defaults are: **defname** All definitions. **ACTIVE|PENDING** All analysis and status definitions, regardless of status.	• Display information about the analysis and status definitions associated with active CICS systems. • Deactivate or discard an analysis or status definition.

Views for managing resource monitoring administrative definitions

Table 4 shows the views you can use to create resource monitoring administration definitions. The views are grouped by CICSPlex SM function. They also indicate the information you can display and the actions you can perform using these views. To access these views in the Web User Interface (WUI), click **Administration views—>Monitor administration views**.

Table 4. Views to create and maintain resource monitoring administration definitions

WUI view name (on menu)	EUI view name	Actions supported
Monitor definitions	MONDEF (“MONDEF (Monitor definitions)” on page 133)	• Create, remove, or change a monitor definition. • Add an association between a monitor definition and a monitor group. • Install a monitor definition into a CICS system or CICS system group.
Monitor groups	MONGROUP (140)	• Create or remove a monitor group definition. • Change the description of a monitor group. • Add an association between a monitor group and a monitor specification. • Install monitor definitions associated with the monitor group into a CICS system or CICS system group. • Replace all installed monitor definitions with those associated with a monitor group.

Table 4. Views to create and maintain resource monitoring administration definitions (continued)

WUI view name (on menu)	EUI view name	Actions supported
Monitor definitions in groups	MONINGRP (144)	• Add or remove a monitor definition to monitor group association. • Change the time period associated with a monitor definition.
Monitor specifications	MONSPEC (152)	• Create, browse, remove, or update a monitor specification. • Add an association between a monitor specification and a CICS system or CICS system group.
Monitor groups in monitor specifications	MONINSPC (146)	• Add and remove a monitor group to monitor specification association.
CICS systems associated with monitor specifications	MONSCOPE (148)	• Add and remove the association between a monitor specification and a CICS system.
CICS system groups associated with monitor specifications	MONSCOPE (148)	• Add and remove the association between a monitor specification and a CICS system group.

To display information about and control the use of resource monitoring, you can use the **Active monitor specifications** view identified in Table 5. To access this and other resource monitoring views, click **Monitoring views** on the WUI main menu.

In the EUI, you can use the MONACTV view to display information about and control the use of resource monitoring. For a detailed description of the MONACTV view, see Chapter 4, “Analysis definitions,” on page 73.

Note: When you discard or deactivate an administration definition, it is removed from the active CICS system. It is not removed from the data repository. Thus, the next time the CICS system starts or the appropriate time period is reached, the definition is available for use.

Table 5. Views to manage resource monitoring administration definitions

WUI view name	EUI View name and command syntax	Use
Active monitor specifications	`MONACTV [mondef [ACTIVE|PENDING]]`The defaults are: **`mondef`** All monitor definitions. **`ACTIVE|PENDING`** All monitor definitions, regardless of status.	• Display information about monitor definitions installed in CICS systems known to the CICSplex identified as the context. • Deactivate or discard an installed monitor definition.

Part 2. Real-time analysis

This part describes the CICSPlex SM real-time analysis facilities and the views you can use to analyze the activity in a CICSplex. It also includes sample tasks to help you establish real-time analysis at your enterprise.

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Chapter 2. Preparing to perform real-time analysis

This chapter describes how you can use CICSPlex SM to analyze the status of one or more CICS systems and the resource information gathered about those systems. Based on its analysis, you can have CICSPlex SM generate external notifications when a condition occurs that you want to know about. In addition, you can have CICSPlex SM modify the attributes of a resource when it is not in the desired state.

The real-time analysis (RTA) component of CICSPlex SM performs the following types of monitoring and analysis:

System availability monitoring (SAM)
: You can be notified when a CICS system is not active during its expected hours of operation. When a CICS system is active, you can also be notified if any of a variety of predefined conditions occur that could affect the systems performance.

MAS resource monitoring (MRM)
: You can be notified when CICS resources being monitored at the CICS system level meet the criteria that you establish. You can also request to be notified when the status of a user-written program meets your criteria.

Analysis point monitoring (APM)
: You can be notified when CICS resources being monitored at the CICSplex level meet your criteria.

The notification you receive can be in the form of:
- A record in the CICSPlex SM EVENT view.
- An external MVS/ESA WTO message.
- An SNA generic alert transmitted to a NetView® system.

Note: You can also use the real-time analysis functions to produce data that will help in the selection of a target region during workload management. See the example tasks in *CICSPlex SM Managing Workloads* for more information.

Defining real-time analysis attributes

In order for CICSPlex SM to analyze information about CICS systems and the CICS resources being used by those systems, you must create analysis specifications, groups, and definitions.

- An *analysis specification* associates groups of analysis definitions with a CICS system or CICS system group. Analysis specifications are used for MAS resource monitoring. They can also be used to alter the default system availability monitoring values.
- An *analysis point specification* identifies one or more CMASs involved in managing a CICSplex that is to be analyzed. Analysis point specifications are used for analysis point monitoring.
- An *analysis group* identifies the analysis definitions and status definitions that are to be associated with an analysis or analysis point specification.
- An *analysis definition* identifies the associated evaluation and action definitions.
  - *Evaluation definitions* identify the resources to be sampled, the criteria to be used in analyzing them, and, optionally, any modifications to be performed.
  - *Action definitions* identify what is to happen if a notifiable condition occurs.

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- A *status definition* identifies user-written programs that are to be evaluated at specific intervals.

Note: You can create real-time analysis definitions to be installed in multiple CICSPlex SM managed CICS systems regardless of the version of the CICS system. CICSPlex SM will determine at installation time whether the resources specified in the definitions are supported by the target system. If not, CICSPlex SM issues a warning message indicating that the definition cannot be installed because the resource is not supported. This message does not require any corrective action.

System availability monitoring

With system availability monitoring (SAM), you can be notified if a CICS system is not active at any point during its expected hours of operation. You can also be notified if any of the following conditions should start or stop:

- One or more CICS/ESA dynamic storage areas become short on storage (SOS).
- A CICS/ESA system dump (SYSDUMP) is taken. For CICS/ESA 3.3 or later, this condition indicates that an MVS SVC dump has been requested.
- A CICS/ESA transaction dump (TRANDUMP) is taken.
- The CICS system has reached the maximum number of tasks (MAXTASK) it is allowed at any one time.
- One or more resources have impacted the processing of a CICS/ESA application (STALL).

  A STALL condition occurs when resource contention impacts the processing of application tasks. Parameters you specify in the MAS startup JCL determine when a CICSPlex SM STALL message is issued. You can set the parameters conservatively, so that you receive notification while the system is still functioning, even though resource contention is having a serious impact.

  Resolution of a STALL condition may prevent a more serious situation (such as an SOS or MAXTASK) from occurring. For example, a lack of temporary storage could prevent a task from completing and trigger a STALL condition.

  For more information about the STALL parameters and a list of possible stall conditions, see *CICS Transaction Server for z/OS Installation Guide*. For more information about CICS/ESA suspend classes, see the *CICS/ESA Problem Determination Guide*.

If the CICS system becomes unavailable, or if one of the above conditions occurs, a severity level is assigned and the appropriate CICSPlex SM messages are issued. These messages, which are prefixed with EYUPN, are described in the *CICSPlex SM Messages and Codes* book.

Default notification values

This section describes the default severity levels and actions associated with each condition for which system availability monitoring produces a notification.

System unavailable
Event Yes
Event Severity
VHS (very high severe)
Event View
n/a
Priority
255

Event Text
Currently unavailable
External Message
Yes
Enter Text
Currently unavailable
Exit Text
Currently Available
Alert No
Enter Text
Currently unavailable
Exit Text
Currently Available

Short on storage (SOS)
Event Yes
Event Severity
HS (high severe)
Event View
CICSDSA
Priority
255
Event Text
`dsname` SOS at `hh:mm:ss`
External Message
Yes
Enter Text
`dsname` SOS at `hh:mm:ss`
Exit Text
`dsname` SOS at `hh:mm:ss`
Alert No
Enter Text
`dsname` SOS at `hh:mm:ss`
Exit Text
`dsname` SOS at `hh:mm:ss`

System dumps (SYSDUMP)
Event Yes
Event Severity
VHS (very high severe)
Event View
SYSDUMP
Priority
255
Event Text
`ID=dumpid tranid userid termid`
External Message
Yes
Enter Text
`ID=dumpid tranid userid termid`
Exit Text
`ID=dumpid tranid userid termid`
Alert No
Enter Text
`ID=dumpid tranid userid termid`
Exit Text
`ID=dumpid tranid userid termid`

Transaction dumps (TRANDUMP)
Event Yes
Event Severity
HW (high warning)
Event View
TRANDUMP
Priority
128
Event Text
ID=`dumpid tranid userid termid`
External Message
Yes
Enter Text
ID=`dumpid tranid userid termid`
Exit Text
ID=`dumpid tranid userid termid`
Alert No
Enter Text
ID=`dumpid tranid userid termid`
Exit Text
ID=`dumpid tranid userid termid`

Maximum number of tasks (MAXTASK)
Event Yes
Event Severity
HS (high severe)
Event View
TASK
Priority
255
Event Text
MAXTASK at `hh:mm:ss`
External Message
Yes
Enter Text
MAXTASK at `hh:mm:ss`
Exit Text
MAXTASK at `hh:mm:ss`
Alert No
Enter Text
MAXTASK at `hh:mm:ss`
Exit Text
MAXTASK at `hh:mm:ss`

System busy (STALL)
Event Yes
Event Severity
VHS (very high severe)
Event View
TASK
Priority
255
Event Text
`type` STALLED at `hh:mm:ss`
External Message
Yes

Enter Text
type STALLED at hh:mm:ss
Exit Text
type STALLED at hh:mm:ss
Alert No
Enter Text
type STALLED at hh:mm:ss
Exit Text
type STALLED at hh:mm:ss

Activating system availability monitoring

Depending on the level of system availability monitoring you want to activate, you can perform either or both of the following actions:

- To monitor system activity:
  - In the WUI, use the **CICS system definition** view. To open this view from the main menu click **Administration views—>System availability monitoring administration views—>CICS system definitions**.
  - In the EUI, use the CICSSYS view.

  These views allow you to permanently change the CICSPlex SM definition of the CICS system. You need to identify:
  - The primary CMAS. This is the CMAS that is assigned the task of monitoring the availability of the CICS system. (For additional information, see “Identifying primary CMASs” on page 18.)
  - The time period definition that identifies the hours during which you expect the CICS system to be running.
- To monitor a CICS system for the predefined conditions, use the **CICS system definition** detailed view to set the **Real time analysis status** field to either SAM or YES. In the EUI you use the CICSSYS or MAS view to set the Analysis Active field on the Analysis Attributes panel.

If any of the severity levels or actions shown in “Default notification values” on page 10 is not appropriate for your use, you can change it for a specific CICS system using the CICSSYS or MAS view. If you want the new default to apply to multiple CICS systems, you can, instead, modify the analysis specification with which the CICS systems are associated.

As illustrated in the example shown in Figure 1 on page 14, you can implement system availability monitoring by simply modifying the appropriate CICSPlex SM definition of a CICS system.

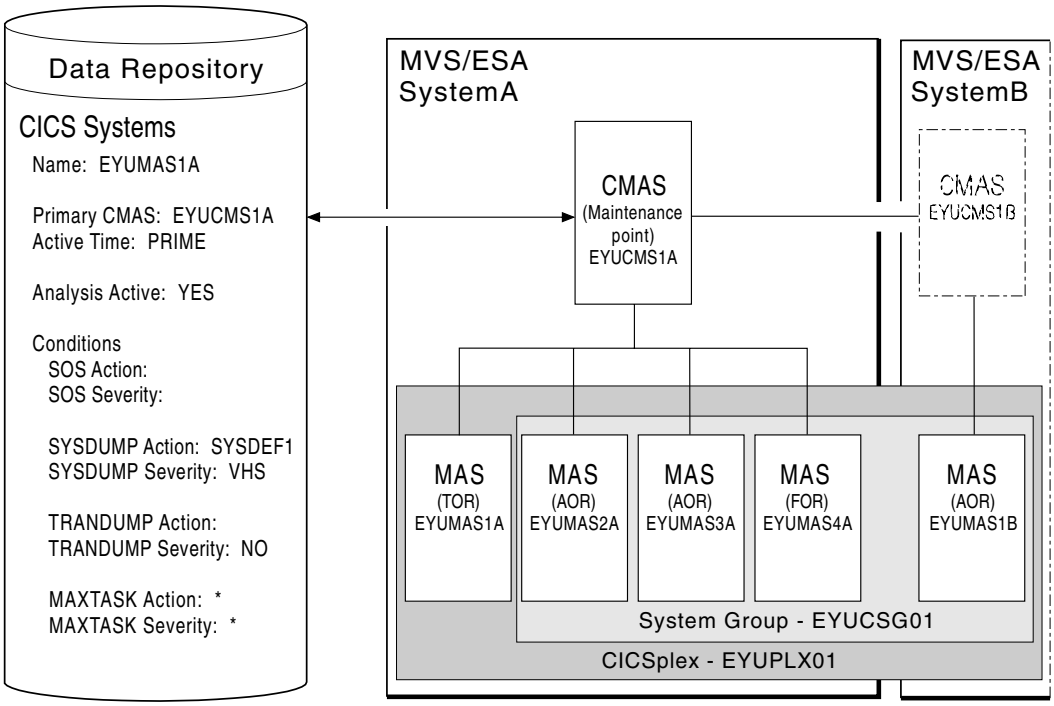

Figure 1. System availability monitoring

In this example, the definition of the CICS system named EYUMAS1A shows that:

- System activity monitoring is to occur because a primary CMAS (EYUCMS1A) and a time period definition (PRIME) are identified.
- Monitoring of predefined conditions is to occur because the Analysis Active field is set to YES.
- If the predefined condition short-on-storage (SOS) occurs, the default action and severity level are to be used.

This example also illustrates how other predefined conditions might be handled:

- For system dumps (SYSDUMP), the severity level is to be set to VHS (very high severe) and an action identified as SYSDEF1 is to be performed.
- For transaction dumps (TRANDUMP), no action is to be taken and no severity level is to be set.

MAS resource monitoring

With MAS resource monitoring (MRM), you can analyze the current status of:

- Resources.

  You can use CICSPlex SM to sample and evaluate specific resource occurrences against criteria that you define. You can also control the action taken when the criteria is met.

  When analyzing a resource occurrence, CICSPlex SM resource monitoring does not have to be active. CICSPlex SM internally generates any needed monitor definitions based on the sample interval specified in the associated evaluation definitions.
- One or more user-written programs.

  You can also use MAS resource monitoring to identify one or more programs in use within your enterprise that are to be called on a regular basis to evaluate specific conditions.

These programs must be written to respond to a CICSPlex SM status reporting call, where the programs return a value indicating their current status. For more information, see Appendix A, “Customizing programs that monitor status,” on page 171.

To use MAS resource monitoring, you need to establish analysis definitions, analysis groups, and analysis specifications.

Figure 2 illustrates the type of definitions you need in order to be notified if a specific condition should occur.

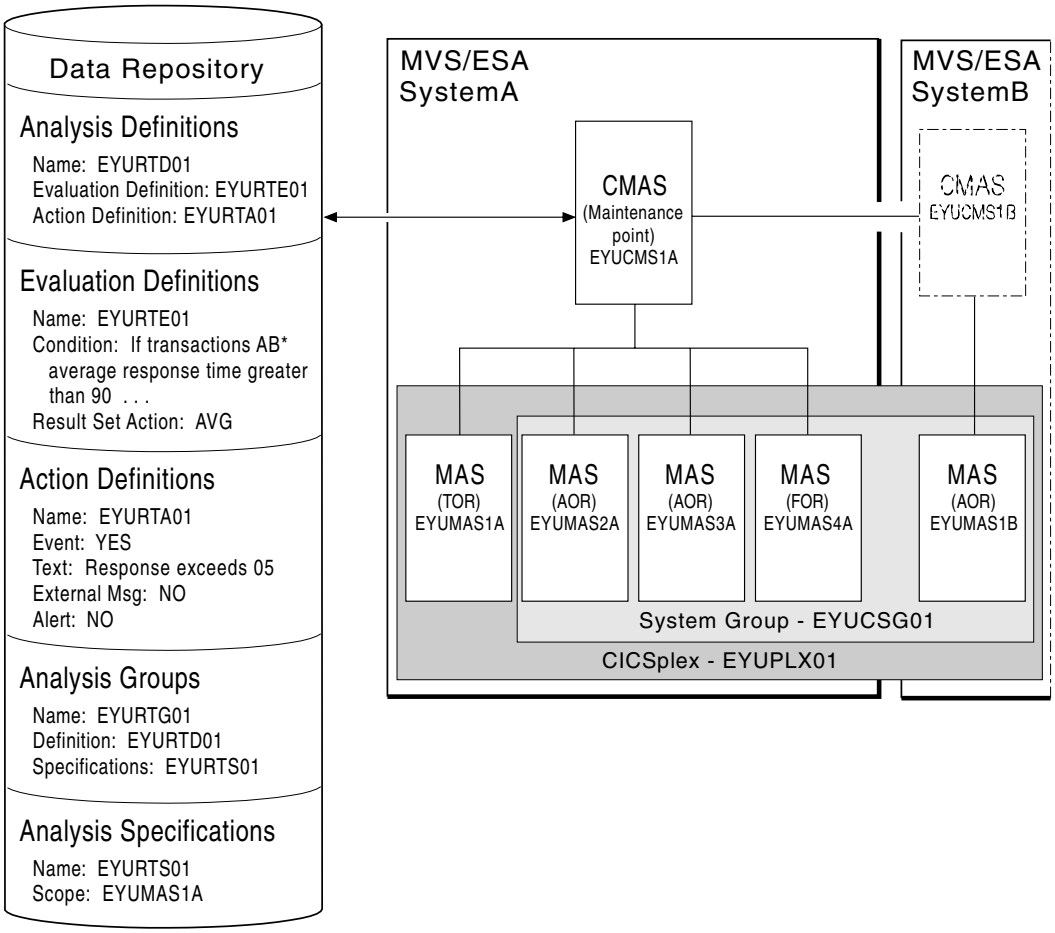

Figure 2. MAS resource monitoring (MRM)

In this illustration, all transactions starting with AB are to be evaluated. If the average response time of these transactions should be greater than 90 seconds, a CICSPlex SM event is to be generated and a record is added to the EVENT view.

Historical data

CICSPlex SM provides the ability to save and view data for completed tasks, that is historical task data. When an active task completes, its data is stored in a historical data store. The data store is made up of a number of VSAM KSDS data sets. There must be a minimum of two data sets and a maximum of twenty six data sets.

Support for historical task data builds upon CICSPlex SM MAS resource monitoring. It uses all the same definitional entities, for example MONSPECs, MONDEFs and

MONGROUPs. In particular it uses MTRAN type MONDEFs to specify transaction IDs for the transactions that you wish to save historical task data for. Whereas, for example, with MAS resource monitoring an MTRAN type MONDEF specifying a resource of FRED will cause data to be accumulated and totalled for multiple instances of transaction FRED into one record, historical task data support provides the ability to separately save the entire CICS monitoring data for each instance of transaction FRED.

Existing users of CICSPlex SM monitoring can easily start using historical task data support. Simply define the history VSAM data sets, and allocate them to the MAS region by means of DD cards. CICSPlex SM will then start collecting historical task data for all transaction IDs named on installed MONDEFs.

For more information on how to define the CICSPlex SM history data sets refer to the *CICS Transaction Server for z/OS Installation Guide*.

For those users who wish only to collect historical task data without collecting CICSPlex SM monitoring data as well, an EYUPARM called HISTORYONLY is provided. This should be set to a value of YES. The default is HISTORYONLY(NO) which means that both CICSPlex SM monitoring data and history data will be collected, assuming the appropriate MONDEFs have been installed and the VSAM data sets have been allocated to the MAS region.

Historical task data saved in the historical data store can be retrieved using the CICSPlex SM API on the HTASK resource table. For more information on the HTASK resource table, see the *CICSPlex SM Resource Tables Reference* manual. EUI views are not provided to retrieve data from the HTASK table. Similarly, the Web User Interface starter set cannot be used to retrieve data from the HTASK table. However the Web User Interface view editor can be used to create viewsets for this data.

Disabling history collection

If the EYUHISTx datasets have been allocated and history collection within the CICS region has started due to an installed MONDEF for the MTRAN class, you can disable history collection in one of the following ways:

- Temporarily disable history collection by issuing a line action DSC command from the MONACTV TSO EUI view to discard any MONDEF used for the MTRAN resources. This will also stop the collection of CPSM monitoring data.
- Permanently disable history collection by issuing a line action DIS command from the LOCFILE TSO EUI view for the EYUHISTx files within the CICS region. CPSM monitor data will continue to be collected.

  The CICS region will receive one or more error messages, the final message being:

  EYUNL0171I applid History Recorder has been terminated.

  The MAS history long running task is not restarted in this instance.

Analysis point monitoring

When you are using MAS resource monitoring to monitor multiple CICS systems and the same condition occurs in those systems, notification is generated for each system. There may be certain conditions, however, for which you do not want multiple notifications to be generated.

By using analysis point monitoring (APM), you can evaluate the resources being monitored in one or more CICS systems within a CICSplex and be notified when a condition meets your specified criteria. Should a condition then occur in multiple systems, a single notification message is generated for the CICSplex.

To use the analysis point monitoring facility, you must define analysis point specifications, analysis groups, and analysis definitions. Note that you can use the same analysis groups and analysis definitions with both analysis point monitoring and MAS resource monitoring.

Although you would probably not use analysis point monitoring and MAS resource monitoring to perform the same type of resource analysis, Figure 3 illustrates that changing the analysis specification to an analysis point specification is all that is required to change the preceding example of MAS resource monitoring to analysis point monitoring.

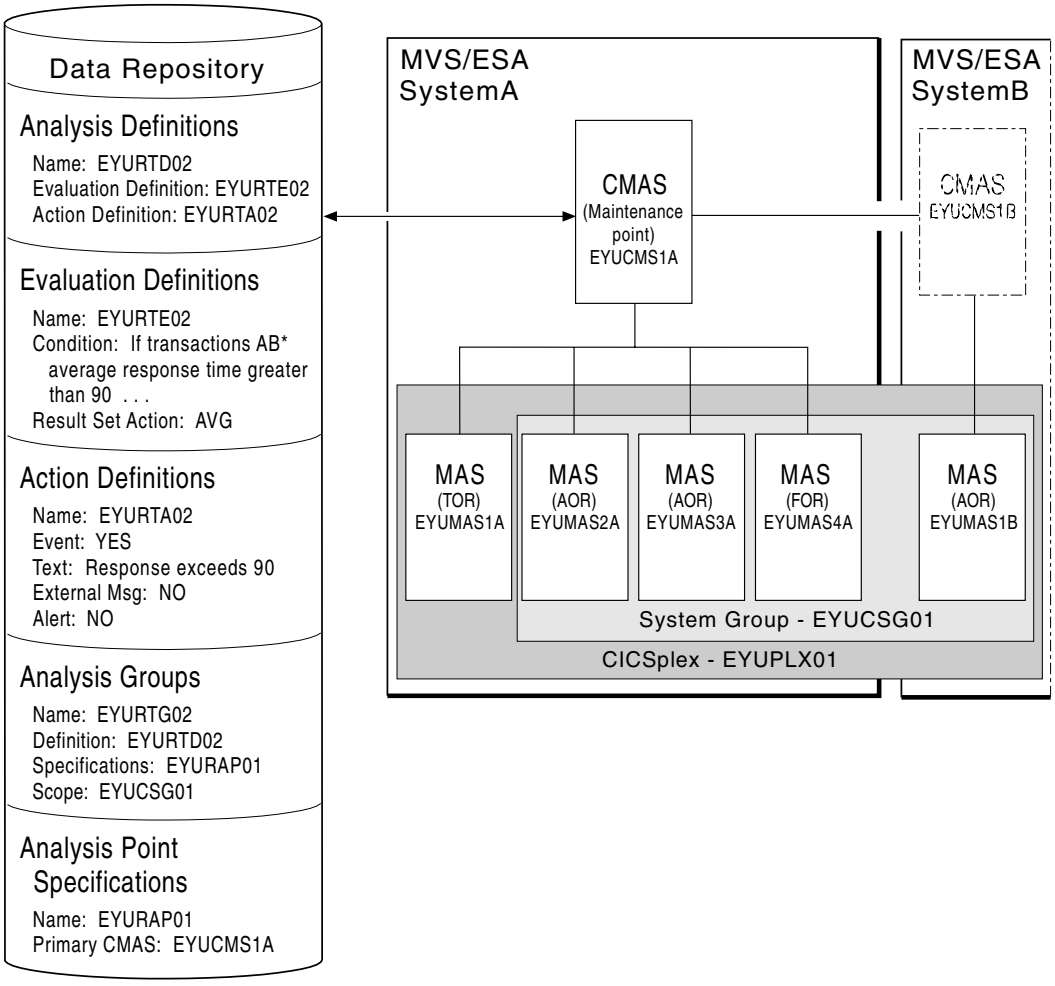

Figure 3. Analysis point monitoring (APM)

Setting intervals and controlling oscillations

Information about the resources you are analyzing is gathered at specific intervals that are set when you create an evaluation definition.

setting intervals and controlling oscillations

You can set very short evaluation intervals, frequently updating your picture of the status of a system or program, or longer intervals, smoothing out your picture of the status of the system or program.

Although short intervals might give you a clearer picture of the dynamics of the attributes you are tracking, they consume more processor time than less frequent intervals. Depending on the condition being evaluated, however, you might want to have short intervals to ensure you are notified every time a given condition should occur. For example, you might want to be notified whenever a specific connection is out of service.

In other cases, you may receive an excessive number of notifications about nonrecurring conditions when using a short interval. To prevent this from happening, CICSPlex SM uses entry and exit intervals to even out rapid activity oscillations, where:

- Entry intervals define the number of consecutive times a condition must be true before notification occurs. That is, if a condition is not true the specified number of times, no notification is generated.
- Exit intervals define the number of times, following the resolution of a condition, that the condition must be false before the notification is removed. That is, once notification is generated, it remains active until the condition causing the notification has disappeared for a specific number of intervals.

For example, assume that a condition with a severity of HW (high warning) occurs. In order for this condition to cause notification to occur, you decide that the condition must remain true for two consecutive intervals. And the notification must remain in effect until the condition has been false for three consecutive intervals. Notice that the entry and exit intervals need not be the same.

Identifying primary CMASs

You must identify a primary CMAS:

- To enable system availability monitoring.

  To do this, you must change the CICS system definition to identify the CMAS to which the CICS system normally connects. This primary CMAS is used to assist in balancing real-time analysis processing. That is, when the first CMAS involved in managing a CICSplex is started, it monitors all CICS systems comprising the CICSplex. As subsequent CMASs start, they begin monitoring the systems for which they are the primary CMAS. Over time, this helps to balance monitoring across all of the CMASs involved in the CICSplex.
- To enable analysis point monitoring.

  To do this, you can identify a primary CMAS and one or more secondary CMASs.
  - The existence of an analysis point specification causes analysis point processing to be activated when the CMAS identified as its primary CMAS is started.

    When you identify one primary CMAS, all CICSplex-level processing occurs within that CMAS. As an alternative, you can partition the CICSplex at the CMAS level. That is, each CMAS participating in the management of a CICSplex may process one or more analysis point specifications. This mode of operation allows greater flexibility when managing a CICSplex being managed by multiple CMASs. Note that this partitioning does not preclude any CMAS from acting on CICS systems attached to other CMASs.
  - Optionally, you can associate the analysis point specification with one or more secondary CMASs. This identifies the CMAS that is to take over if the primary

CMAS becomes unavailable. When the primary CMAS is inactive, the active secondary CMAS with the lowest SYSID will take control of the analysis point specification.

Modifying resources with real-time analysis

In addition to analyzing and reporting the status of CICS resources, CICSPlex SM can also modify the attributes of a resource. You can tell the real-time analysis component what modifications to perform when it determines that a resource is not in the desired state.

To have real-time analysis modify a resource, you must:

1. Define the resource attributes you want to modify and their desired values in an evaluation definition (EVALDEF), as described in “Creating an evaluation definition” on page 35.
2. Tell real-time analysis to perform the modifications when the evaluation condition becomes true in an analysis definition (RTADEF), as described in “Creating an analysis definition” on page 44.

real-time analysis performs any resource modifications that you request in addition to generating the usual external notifications for a condition. So when a notifiable condition occurs, you can have real-time analysis simply tell you about the condition, or tell you and attempt to correct it by modifying the affected resource.

Note: Using real-time analysis to modify resources is most effective for evaluations that involve a single operational value, such as ENABLED/DISABLED or OPEN/CLOSED. For evaluations that involve resource thresholds, you cannot specify different modifications for different severity levels.

Real-time analysis definitions and their related views

You can use the real-time analysis administration views to define a variety of real-time analysis attributes. Figure 4 on page 20 provides an overview of the EUI real-time analysis views based on the CICSPlex SM object model. See Table 2 on page 3 for a list of equivalent WUI views. In addition to the views shown here, you can use the views described in Table 3 on page 5 to display information about and manage the real-time analysis activity in an active CICS system. In the EUI you can also display a visual map of your real-time analysis definitions by using the MAP action command, as described in *CICSPlex SM Administration*.

Figure 7 on page 23 illustrates the relationship between analysis point monitoring (APM) and the WUI and EUI views used to establish that type of real-time analysis(the EUI view names are in brackets).

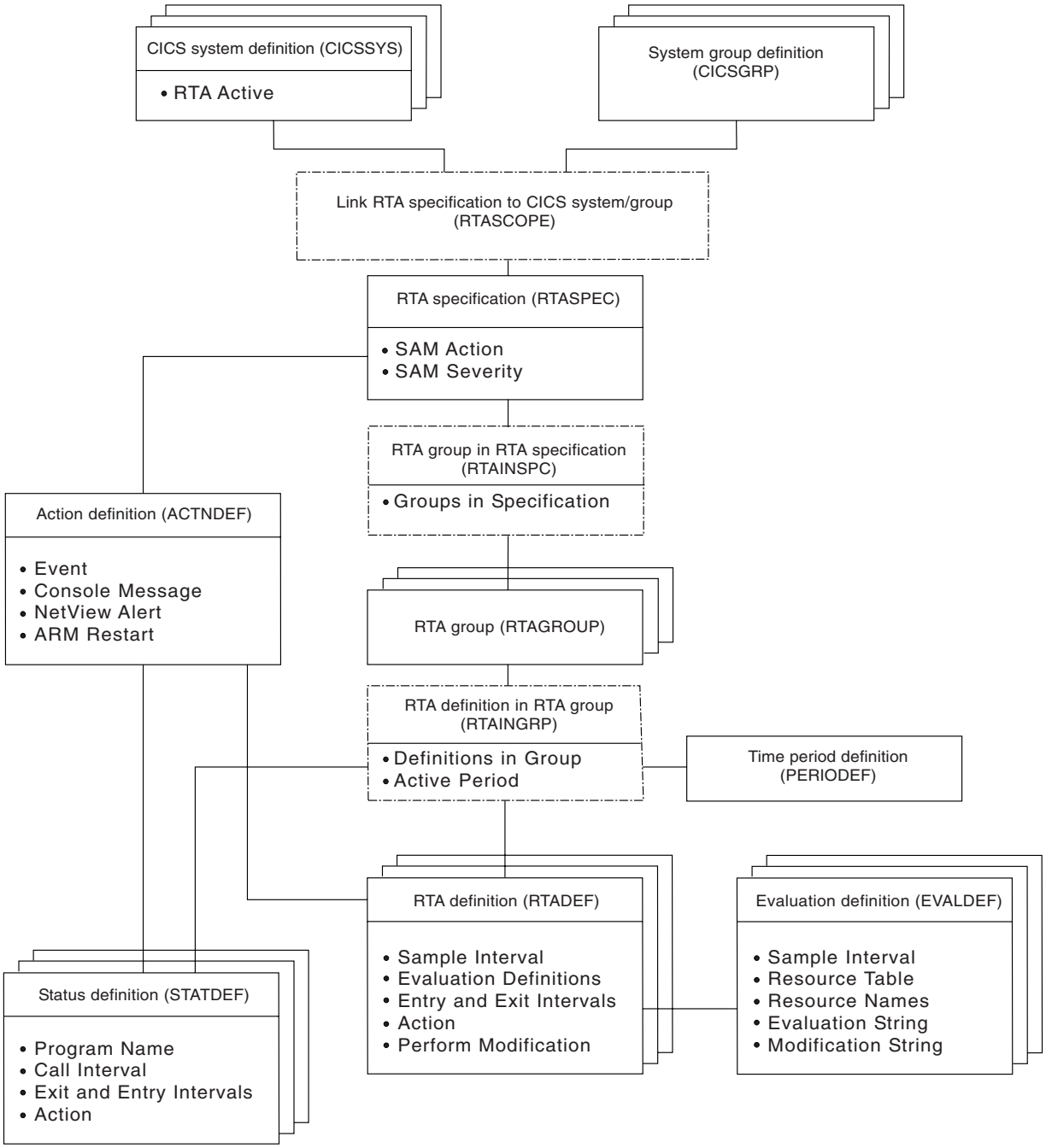

Figure 4. Views for creating real-time analysis objects and associations

Figure 5 on page 21 illustrates the relationship between system availability monitoring (SAM) and the views used to establish that type of real-time analysis in a CICSplex(EUI view names are in brackets). In this case, the**CICS system definition** (CICSSYS) view is used to change the CICS system definition. The **RTA specification** (RTASPEC) view and **Link RTA specification to CICS system** and **Link RTA specification to CICS system group** (RTASCOPE) views are used to allow multiple CICS systems to use customized action definitions, severity levels, or both.

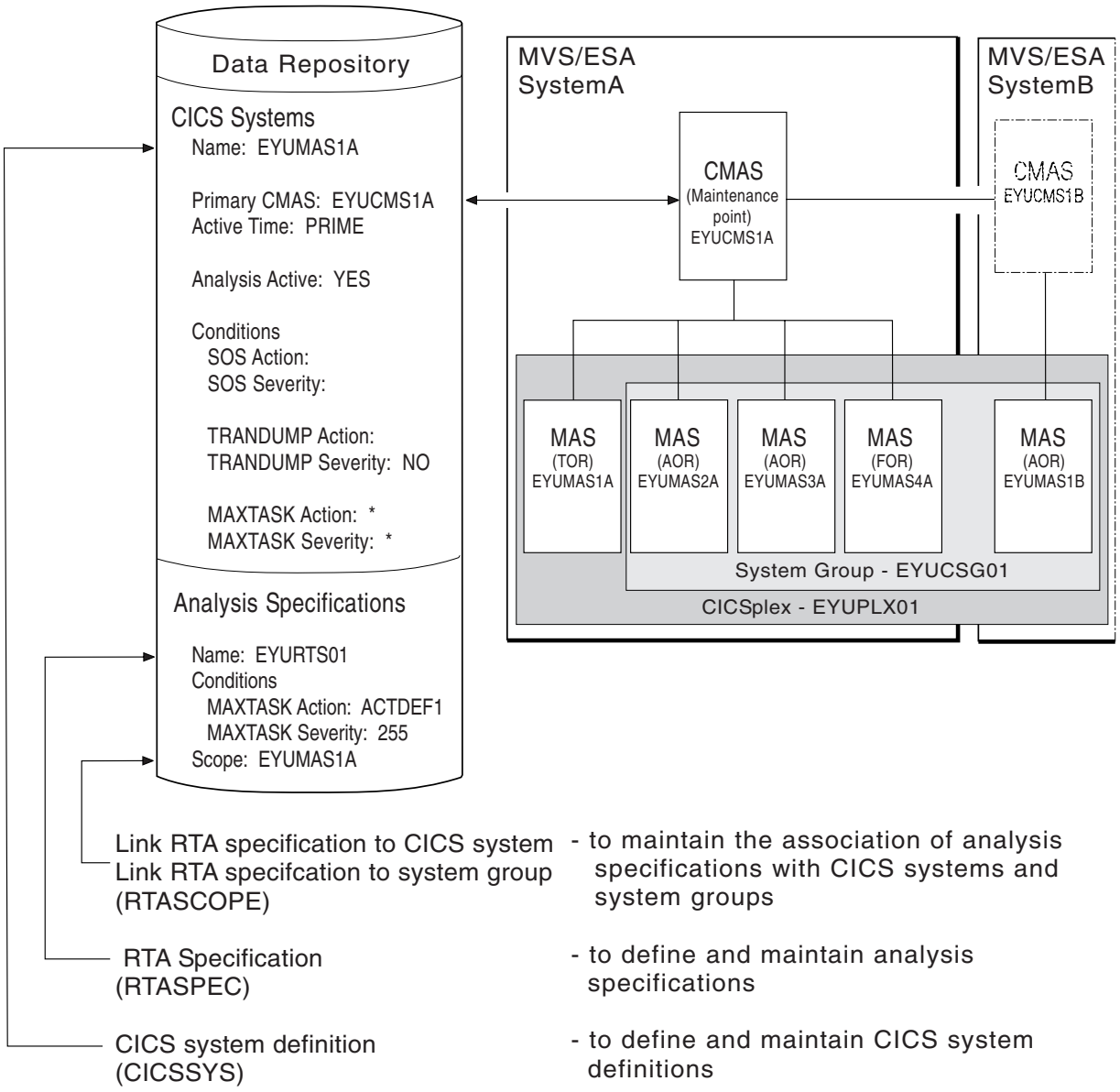

Figure 5. The relationship between SAM, the **CICS system definition** *(CICSSYS) view, and the real-time analysis views*

Figure 6 on page 22 illustrates the relationship between MAS resource monitoring (MRM) and the WUI and EUI views used to establish that type of real-time analysis (EUI views are in brackets).

real-time analysis definitions

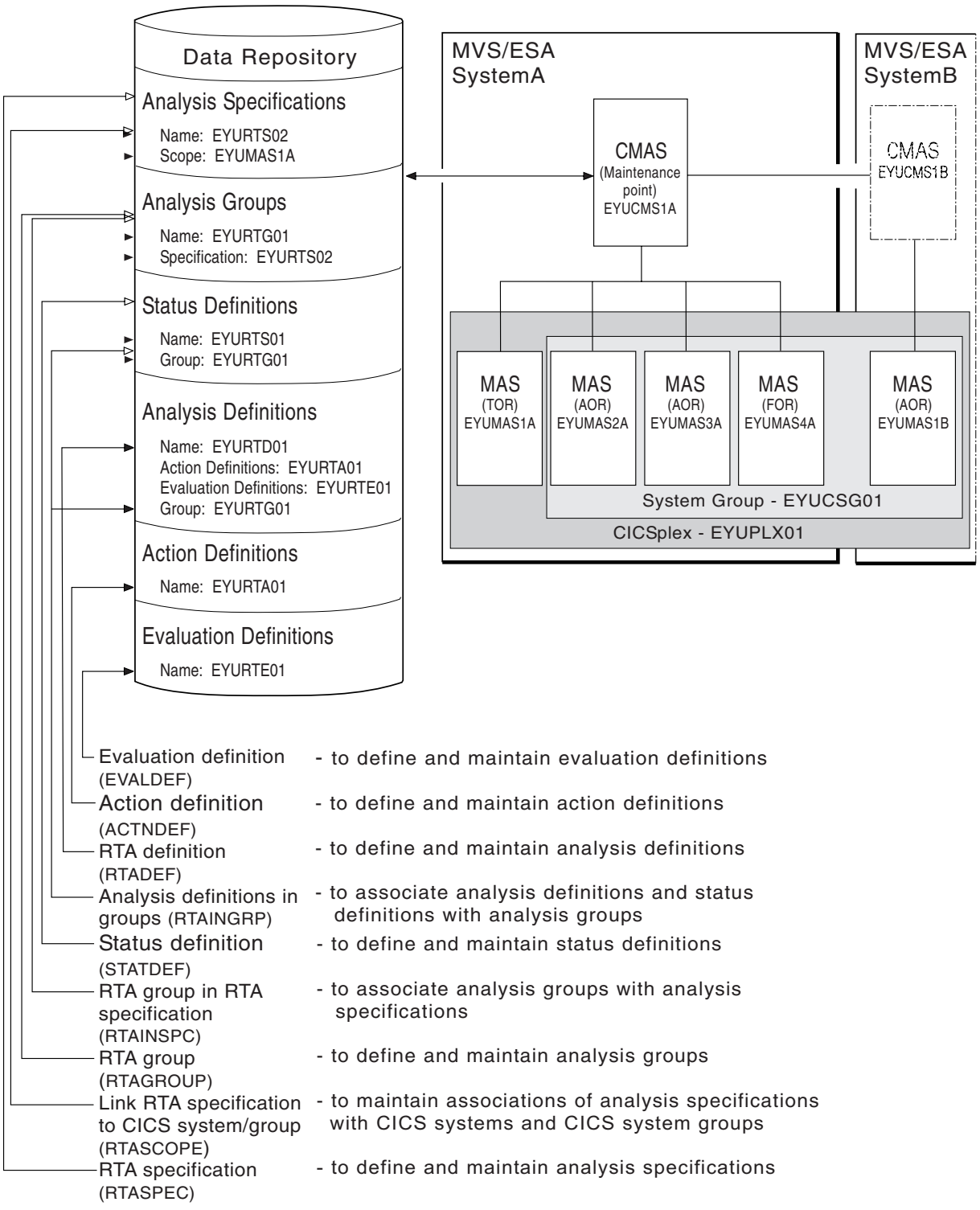

Figure 6. The relationship between MRM and the real-time analysis views

Figure 7 on page 23 illustrates the relationship between analysis point monitoring (APM) and the WUI and EUI views used to establish that type of real-time analysis (EUI views names are in brackets).

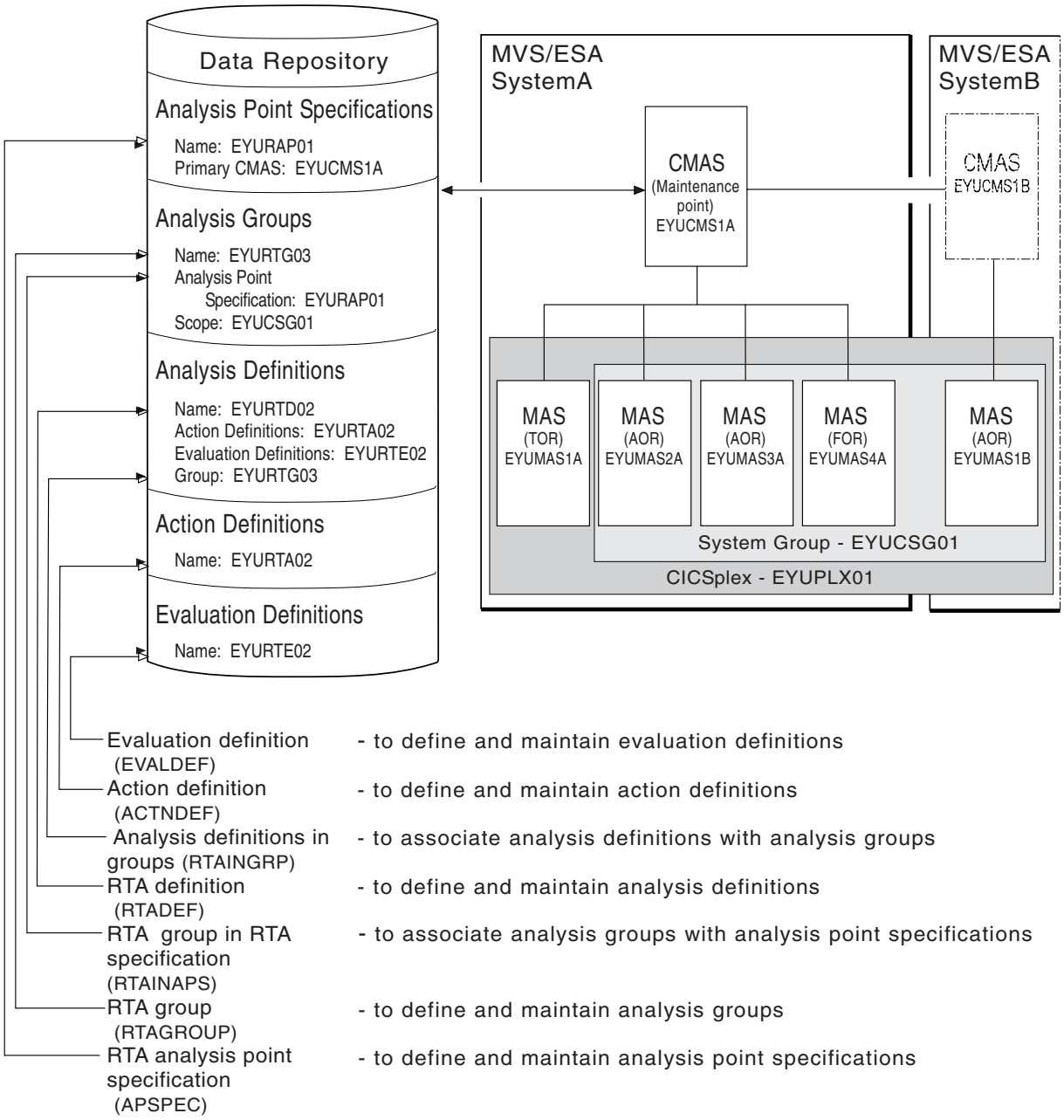

Figure 7. The relationship between APM and the real-time analysis views

Chapter 3. Real-time analysis views

This chapter contains detailed descriptions of the EUI views used to create and maintain real-time analysis definitions. See “Views for managing real time analysis definitions” on page 3 for an overview of equivalent WUI views.

You can access real-time analysis administration views by:

- Issuing the appropriate real-time analysis view command.
- Issuing one of the following menu commands and selecting a view from the menu:

  MENU ADMSAM
  For system availability monitoring (SAM) views

  MENU ADMMRM
  For MAS resource monitoring (MRM) views

  MENU ADMAPM
  For analysis point monitoring (APM) views

  (An example of the ADMMRM menu is shown in Figure 8.)
- Initiating a hyperlink from one view to another by placing the cursor on a hyperlink field and pressing Enter.

For additional information about accessing views, see *CICSPlex SM User Interface Guide*.

```
27FEB2005  16:50:48 ----------- INFORMATION DISPLAY ---------------------------
COMMAND  ===>                                                 SCROLL ===> PAGE
CURR WIN ===> 1        ALT WIN ===>
 W1 =MENU==============EYUPLX01=EYUPLX01=27FEB2005==16:50:48=CPSM=========12===
CMD Name             Description
--- -------------------------------
    ADMMRM      RTA MAS Resource Monitoring Administration Views
      RTASPEC    Analysis Specifications
      RTAGROUP   Analysis Groups
      RTADEF     Analysis Definitions
      EVALDEF    Evaluation Definitions
      STATDEF    User Status Probe Definitions
      ACTNDEF    Action Definitions
      PERIODEF   Time Period Definitions
    ==========  ================================================================
      RTASCOPE   Members Associated with Analysis Specifications
      RTAINSPC   Analysis Groups in Analysis Specifications
      RTAINGRP   Analysis and Status Definitions in Groups
```

Figure 8. The ADMMRM menu

Note: Unless noted otherwise, only the context setting is recognized when you are creating and maintaining real-time analysis definitions. For information about setting the context, see *CICSPlex SM User Interface Guide*.

The remainder of this chapter contains detailed descriptions of the real-time analysis views.

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ACTNDEF (Action definitions)

An action definition designates the type of external notification that is to occur when the condition or conditions identified in an analysis definition are true. Examples of how to use this view can be found in Chapter 5, “Example tasks: real-time analysis,” on page 81.

To display information about existing action definitions, issue the command:

```
ACTNDEF [actndef]
```

where `actndef` is the specific or generic name of an action definition. If you omit this parameter, the resulting view, illustrated in Figure 9, includes information about all action definitions for the CICSplex identified as the context.

```
 27FEB2005 11:30:30 --------- INFORMATION DISPLAY ----------------------------
COMMAND  ===>                                                SCROLL ===> PAGE
CURR WIN ===> 1         ALT WIN ===>
 W1 =ACTNDEF=============EYUPLX01==EYUCSG01==27FEB2005==11:30:30=CPSM======2===
CMD Name      Event    View    Msg  Alert  ARM  Description
--- --------  -----  --------  ---  -----  ---  --------------------------------
    EYURTA01  YES    CICSRGN   YES  YES    YES  A test action
    EYURTA02  YES    LOCFILE   YES  YES    NO   Another action
```

Figure 9. The ACTNDEF view

Action commands

Table 6 summarizes the action commands you can use with the ACTNDEF view.

Table 6. ACTNDEF view action commands

Primary command	Line command	Description
n/a	BRO	Browse an action definition in the data repository. The format of the resulting panel is similar to that shown in Figure 10 on page 27. The panel fields are not modifiable.
CREate	CRE	Create an action definition and add it to the data repository, as described on page 27. When you use the primary command CREate, some fields in the new view may contain values supplied by CICSPlex SM; you may change these values. When you enter the line command CRE next to the name of an action definition, fields in the new view contain values to be modelled (from the existing action definition).
n/a	MAP	Display a visual map of real-time analysis definitions using the specified action definition as a starting point.
n/a	REM	Remove an action definition from the data repository.
TEMPMP cmasid	n/a	Change the temporary maintenance point CMAS to a specific CMAS or display a selection list based on a generic CMAS ID.

Table 6. ACTNDEF view action commands (continued)

Primary command	Line command	Description
n/a	UPD	Update an action definition in the data repository. The format of the resulting panel is similar to the panel shown in Figure 10. You can modify the contents of any field in the panel except Action Name.

Hyperlink fields

There are no hyperlink fields on the ACTNDEF view.

Creating an action definition

Figure 10 shows the format of the panel produced when you use the create primary (CREate) or line (CRE) action command from the ACTNDEF view.

```
------------------------- Create Action for EYUPLX01 -------------------------
COMMAND  ===>

Action Name   ===> EYURTA01
 Description  ===>

 Event        ===> YES          Generate Event (Yes/No)
  Event View  ===> LOCTRAN      View for Event
  Priority    ===> 255          Event Priority (1 to 255)
  Event Text  ===> Transaction rate too great

 External Msg ===>              Generate External Message (Yes/No)
  Enter Msg   ===>
  Exit Msg    ===>

 Alert        ===>              Generate Alert (Yes/No)
  CMAS Name   ===>              CMAS to Issue Alert
  Enter Text  ===>
  Exit Text   ===>

  Restart     ===> NO           Cancel for ARM Restart (Yes/No)

Press Enter to create the Action Definition.
Type END or CANCEL to cancel without creating.
```

Figure 10. Creating an action definition

Provide the following information, as appropriate:

Action Name
Specify a 1- to 8-character name for the action definition. The name can contain alphabetic, numeric, or national characters. However, the first character must be alphabetic.

Description
(Optional.) Specify a 1- to 30-character description of the definition.

Event Specify YES or NO to indicate whether CICSPlex SM event messages are to be generated when a notification condition occurs.

If you specify YES, provide the following information, as appropriate:

Event View
(Optional.) The name of the CICSPlex SM view that is to appear in the View field of the EVENT and EVENTD views when a notification condition occurs. The view should be the one that is most frequently used to obtain information about the condition or to assist in resolving the condition.

Priority
A value between 1 and 255, inclusive. This value and the severity code associated with the condition, as described on page "Severity levels" on page 37, are used to determine the sort order of events shown in the EVENT view. The higher the priority, the higher in the list an event appears.

Event Text
A 1- to 30-character description that is to appear in the EVENT and EVENTD views if a notification condition occurs.

If the action definition is for use by a system availability monitoring condition, you can specify * (asterisk) to use the default event text for that condition. For a list of the system availability monitoring defaults, see "Default notification values" on page 10.

External Msg
Specify YES or NO to indicate whether external messages are to be generated when a notification condition occurs.

If you specify YES, provide the following information, as appropriate:

Enter Msg
A 1- to 30-character description that is to be added to the CICSPlex SM message produced when a notifiable condition occurs.

Exit Msg
A 1- to 30-character description that is to be added to the CICSPlex SM message produced when a notifiable condition ends.

Notes:

1. If the action definition is for use by a system availability monitoring condition, you can specify * (asterisk) in one or both of these fields to use the default external message text for that condition. For a list of the system availability monitoring defaults, see "Default notification values" on page 10.
2. The external message text is added to CICSPlex SM messages that are prefixed with EYUPN. For additional information about these messages, see the *CICSPlex SM Messages and Codes* book.

Alert Specify YES or NO to indicate whether an SNA generic alert is to be sent to NetView. (For more information about how CICSPlex SM uses SNA generic alerts and resolutions, see Appendix B, "Generic alert and resolution structures," on page 175.)

If you specify YES, provide the following information, as appropriate:

CMAS Name
The name of the CMAS to which the NetView system is linked.

To specify that generic NetView alerts are to be generated and passed to a CMAS residing in the same MVS image:

- Use the CMAS view, as described in the *CICSPlex System Manager Administration* book, to display the names of existing CMASs. Decide which of these CMASs is to participate in real-time analysis. That is, which of these CMASs is to record the conditions that are to be transmitted to NetView.
- Then, use the CMASD view, also described in the *CICSPlex System Manager Administration* book, to display detailed information about each appropriate CMAS. To have generic alerts transmitted to the NetView system that resides in the same MVS image as the CMAS, set the NetView PPI field to YES.The default name of the alert receiver that the CMAS will send generic alerts to is NETVALRT. This may be changed by using the CMAS only CICSPlex SM system parameter ALERTRCVR. See the *CICS Transaction Server for z/OS Installation Guide* for details.

Enter Text
A 1- to 30-character message that is to be added to the SNA generic alert when the condition causing the alert starts.

Exit Text
A 1- to 30-character message that is to be added to the SNA generic alert when the condition causing the alert ends.

If the action definition is for use by a system availability monitoring condition, you can specify * (asterisk) in one or both of the text fields to use the default alert text for that condition. For a list of the system availability monitoring defaults, see “Default notification values” on page 10.

Restart
Specify YES or NO to indicate whether CICS systems affected by the event are to be immediately cancelled and restarted using the MVS automatic restart manager (ARM). The default is NO.

For ARM restart to be successful, the CICS system must:
- Be known to CICSPlex SM as a local MAS
- Be running in an MVS image where ARM is active
- Have successfully registered with ARM during initialization
- Be eligible for restart according to current ARM policy

ARM restart is available for CICS/ESA 4.1 and later systems.

Press Enter to add this action definition to the data repository.

APCMAS (Analysis point specification and CMAS associations)

During real-time analysis initialization, the association between analysis point specifications and CMASs is used to determine which specification should be installed within the CMAS in which real-time analysis is activated.

To display information about associations between analysis point specifications and CMASs, issue the command:

```
APCMAS
```

The resulting view, illustrated in Figure 11 on page 30, includes information about all analysis point specification and CMAS associations for the CICSplex identified as the context.

```
27FEB2005  16:51:37 ----------- INFORMATION DISPLAY ---------------------------
COMMAND  ===>                                                 SCROLL ===> PAGE
CURR WIN ===> 1        ALT WIN ===>
 W1 =APCMAS============EYUPLX01=EYUPLX01=27FEB2005==16:51:37=CPSM==========2===
CMD Spec     CMAS     Type
--- Name---- Name---- ---------
    EYURAPLC EYUCMS1A PRIMARY
    EYURAP01 EYUCMS1A PRIMARY
```

Figure 11. The APCMAS view

Action commands

Table 7 summarizes the action commands you can use with the APCMAS view.

Table 7. APCMAS view action commands

Primary command	Line command	Description
n/a	BRO	Browse the association between an analysis point specification and a CMAS.
n/a	MAP	Display a visual map of real-time analysis definitions using the designated specification as a starting point.
n/a	REM	Remove the association between an analysis point specification and a CMAS.
TEMPMP cmasid	n/a	Change the temporary maintenance point CMAS to a specific CMAS or display a selection list based on a generic CMAS ID.

Hyperlink fields

Table 8 shows the hyperlink field on the APCMAS view.

Table 8. APCMAS view hyperlink field

Hyperlink field	View displayed	Description
AP Spec	APSPEC	Information about the designated analysis point specification.

APSPEC (Analysis point specifications)

An analysis point specification identifies one or more CMASs that are to be responsible for analyzing CICS systems within the CICSplex identified as the context. An example of how to use this view can be found in “Issuing one notification for multiple conditions(1)” on page 111.

To display information about existing analysis point specifications, issue the command:

```
APSPEC [apspec]
```

where `apspec` is the specific or generic name of an analysis point specification. If you omit this parameter, the resulting view, illustrated in Figure 12 on page 31, includes information about all analysis point specifications for the CICSplex identified as the context.

```
27FEB2005  16:51:44 ----------- INFORMATION DISPLAY ---------------------------
COMMAND  ===>                                                 SCROLL ===> PAGE
CURR WIN ===> 1        ALT WIN ===>
 W1 =APSPEC============EYUPLX01=EYUPLX01=27FEB2005==16:51:44=CPSM==========2===
CMD Spec     Description
--- Name---- ------------------------------
    EYURAPLC SSet - License
    EYURAP01 SSet - Analysis point 1
```

Figure 12. The APSPEC view

Action commands

Table 9 summarizes the action commands you can use with the APSPEC view. Table 10 identifies the overtype field you can modify when you use the SET action command.

Table 9. APSPEC view action commands

Primary command	Line command	Description
n/a	ADD	Add an association between an analysis point specification and a CMAS, as described on page 32.
n/a	BRO	Browse an analysis point specification in the data repository. The format of the resulting panel is similar to that shown in Figure 13 on page 32. The panel fields are not modifiable.
CREate	CRE	Create an analysis point specification and add it to the data repository, as described on page 32.
n/a	MAP	Display a visual map of real-time analysis definitions using the designated specification as a starting point.
n/a	REM	Remove an analysis point specification from the data repository.
n/a	SET	Change the description of an analysis point specification using an overtype field (see Table 10). **Note:** The value you specified in the Require Set field on the CICSPlex System Manager entry panel determines whether or not you must use the SET command when you overtype a field.
TEMPMP cmasid	n/a	Change the temporary maintenance point CMAS to a specific CMAS or display a selection list based on a generic CMAS ID.
n/a	UPD	Update an analysis point specification in the data repository. The format of the resulting panel is similar to that shown in Figure 13. You can change the Description field.

Table 10. APSPEC view overtype field

Field name	Value
Description	1- to 30-character description of the specification.

Hyperlink fields

Table 11 shows the hyperlink field on the APSPEC view.

Table 11. APSPEC view hyperlink field

Hyperlink field	View displayed	Description
Spec Name	RTAINAPS	Detailed information about the associations that exist between the designated analysis point specification and its analysis groups.

Creating an analysis point specification

Figure 13 shows the format of the panel produced when you use the create primary (CREate) or line (CRE) action command from the APSPEC view.

```
---------------------- Create Analysis Point Specification for EYUPLX01 ------
COMMAND  ===>

 AP SpecName        ===>
 Description        ===>


Press Enter to create AP Specification.
Type END or CANCEL to cancel without creating.
```

Figure 13. Creating an analysis point specification

Provide the following information, as appropriate:

AP Spec Name
Specify a 1- to 8-character name for the specification. The name can contain alphabetic, numeric, or national characters. However, the first character must be alphabetic.

Description
(Optional.) Specify a 1- to 30-character description of the specification.

Press Enter to add the analysis point specification to the data repository.

Associating an analysis point specification with a CMAS

Figure 14 illustrates the panel produced when you use the add (ADD) line action command from the APSPEC view.

```
---------------------- Add APSPEC CMAS Association for EYUPLX01  -------------
COMMAND  ===>

 AP SpecName             EYURAP01
 Description

 CMAS Name          ===>              CMAS name from CICSplex set or Generic
 Type               ===>              CMAS role (Primary/Secondary)

Press ENTER to add AP Specification to CMAS.
Type END or CANCEL to cancel without adding.
```

Figure 14. Adding a CMAS to an analysis point specification

Provide the following information:

CMAS Name
Enter the specific or generic name of a CMAS, involved in managing the CICSplex, that is to be associated with this specification. If you specify a generic value, a list of valid CMAS names is displayed.

Ensure that the CMASs you specify for the primary and secondary associations are running the highest level of CICSPlex SM currently in use in the CICSplex.

Type Indicate the type of association that is to be created. Specify:

PRIMARY
Control of the analysis definitions associated with the analysis point specification are to be passed to this CMAS when it initializes.

SECONDARY
Control of the analysis definitions associated with the analysis point specification are to be passed to this CMAS only when the primary CMAS is unavailable.

Only one primary CMAS can be associated with an analysis point specification. Multiple secondary CMASs can be associated with an analysis point specification.

Press Enter to add the designated CMAS to the analysis point specification definition in the data repository.

To remove the CMAS association, use the REM action command from the APCMAS view, as described on page 29.

EVALDEF (Evaluation definitions)

An evaluation definition identifies the resources in one or more CICS systems that are to be sampled and evaluated. (For more information about these resources, see the *CICSPlex SM Resource Tables Reference* book.) When the result of the evaluation is true, an associated analysis definition is used to determine if a notifiable condition has occurred. Examples of how to use this view can be found in Chapter 5, “Example tasks: real-time analysis,” on page 81.

To display information about existing evaluation definitions, issue the command:

```
EVALDEF [evaldef]
```

where `evaldef` is the specific or generic name of an evaluation definition. If you omit this parameter, the resulting view, illustrated in Figure 15 on page 34, includes information about all evaluation definitions for the CICSplex identified as the context.

```
27FEB2005  18:29:18 ----------- INFORMATION DISPLAY ---------------------------
COMMAND  ===>                                                 SCROLL ===> PAGE
CURR WIN ===> 1        ALT WIN ===>
 W1 =EVALDEF==========EYUPLX01=EYUPLX01=27FEB2005==18:29:18=CPSM=========10===
CMD Name     Table    Column Name  Intvl Description
--- -------- -------- ------------ ----- ------------------------------
    EYURTELC MAS                    60 SSet - Licence
    EYURTE01 CONNECT  CONNSTATUS     300 SSet - All connections
    EYURTE02 LOCFILE  ENABLESTATUS    60 SSet - Local File DFHCSD
    EYURTE16 LOCFILE  EMPTYSTATUS    300 SSet - Empty required on files
    EYURTE17 DBCTLSS  MAXTHRDCNT     300 SSet - DBCTL maxthreads
    EYURTE18 CICSRGN  DTRPROGRAM     300 SSet - DTR not set correctly
    EYURTE19 CICSRGN  MONSTAT        300 SSet - MONITORING inactive
    EYURTE20 CICSDSA  PCTFREE        300 SSet - DSA free space
    EYURTE21 EVENT                   300 SSet - Outstanding EVENTs
    EYURTE22 TRANDUMP TDMPSUPP       300 SSet - Dump suppression
```

Figure 15. The EVALDEF view

Action commands

Table 12 summarizes the action commands you can use with the EVALDEF view.

Table 12. EVALDEF view action commands

Primary command	Line command	Description
n/a	BRO	Browse an evaluation definition in the data repository. The format of the resulting panel is similar to that shown in Figure 16 on page 35. The panel fields are not modifiable.
CREate	CRE	Create an evaluation definition and add it to the data repository, as described in Creating an evaluation definition. When you use the primary command CREate, some fields in the new view may contain values supplied by CICSPlex SM; you may change these values. When you enter the line command CRE next to the name of an evaluation definition, fields in the new view contain values to be modelled (from the existing evaluation definition).
n/a	MAP	Display a visual map of real-time analysis definitions using the specified definition as a starting point.
n/a	REM	Remove an evaluation definition from the data repository.
TEMPMP cmasid	n/a	Change the temporary maintenance point CMAS to a specific CMAS or display a selection list based on a generic CMAS ID.
n/a	UPD	Update an evaluation definition in the data repository. The format of the resulting panel is similar to the panel shown in Figure 16 on page 35. You can modify the contents of any field in the panel except Name.

Hyperlink fields

There are no hyperlink fields on the EVALDEF view.

Creating an evaluation definition

When you use the create primary (CREate) or line (CRE) action command from the EVALDEF view, a sequence of two panels is produced. The first panel includes all of the fields that are required to create an evaluation definition. The second panel contains optional fields for qualifying the evaluation and defining modifications to be made when the specified condition becomes true.

Figure 16 shows the format of the first panel produced when you are creating an evaluation definition.

```
------------------- Create Evaluation Definition for EYUPLX01------------------
COMMAND  ===>

Name                  ===> EYURTE01
Description           ===> Evaluate transaction status

Sample Interval       ===> 60           Interval between samples in seconds
Table Name            ===> LOCTRAN      Resource Table Name or *
Instance Pattern      ===> *            Specific or generic pattern
Result Set Action     ===> ANY          Operation (ALL,ANY,SUM,MIN,MAX,AVG,CNT)
Separate Task         ===> NO           Run as a separate task (YES, NO)

Evaluation Column     ===> STATUS       Column name to evaluate or *
    either Operator   ===> NE           (EQ,NE,LT,GT,LE,GE)
           Value      ===> ENABLED
           Severity   ===> HS           (VLS,LS,LW,HW,HS,VHS)

    or set Thresholds:     Provide 3 low and/or 3 high values, N=Normal
VLS          LS          LW    (N)    HW          HS         VHS


View Invoked          ===> LOCTRAN      View invoked for this Evaluation


Type DOWN or UP to view other Evaluation Definition screens.
Press Enter to create Evaluation Definition.
Type END or CANCEL to cancel without creating.
```

Figure 16. Creating an evaluation definition - Page 1

Provide the following information, as appropriate.

Name Specify a 1- to 8-character name for the evaluation definition. The name can contain alphabetic, numeric, or national characters. However, the first character must be alphabetic.

Description
(Optional) Specify a 1- to 30-character description of the definition.

Sample Interval
Specify how long, in seconds, CICSPlex SM is to wait between the collection of sample data. The value must be between 1 and 86400.

If the Table Name field identifies a monitor resource table and monitoring for that resource category is active, this sample interval value is ignored. Instead, the sample interval specified for the appropriate monitor

specification is used. To prevent this from occurring, specify the equivalent operations resource table in the Table Name field, rather than the monitor table.

Table Name
Enter the specific or generic name of a CICSPlex SM resource table that identifies the resource category you want to evaluate. If you specify a generic value, a list of valid resource tables is displayed.

When specifying a table name, consider where the evaluation definition and its associated analysis definition will be installed. The definitions may be installed in a variety of CICSPlex SM managed CICS systems, however, not all resource tables are supported in all CICS systems. Therefore, when the definitions are installed, CICSPlex SM determines whether the target system supports the resource table.

Refer to the *CICSPlex SM Resource Tables Reference* book for a detailed description of each table.

Instance Pattern
Enter a specific resource name or a pattern for the resource occurrences you want to evaluate. A pattern can include the characters + (plus sign), * (asterisk), or both.

Result Set Action
Specify how the information about the resource occurrences is to be evaluated, as:

ALL Compare the information against the evaluation criteria. If the result shows all occurrences of the resource within the current sample are true, set a true condition.

This action is not supported when evaluating threshold values.

ANY Compare the information against the evaluation criteria. If the result shows any occurrence of the resource within the current sample is true, set a true condition.

This action is not supported when evaluating threshold values.

AVG Process the information and compare the resulting average value against the evaluation criteria. If the result for the current sample is true, set the condition true.

This action is available for numeric data only. If you specify this action, you cannot request a modification operation in the Modification String expression field.

CNT Compare the number of resource occurrences against the evaluation criteria. If the result for the current sample is true, set the condition true.

If you specify this action, you cannot request a modification operation in the Modification string expression field.

You cannot specify an evaluation column with CNT.

MAX Process the information and compare the resulting maximum value against the evaluation criteria. If the result for the current sample is true, set the condition true.

MIN Process the information and compare the resulting minimum value against the evaluation criteria. If the result for the current sample is true, set the condition true.

SUM Total the information and compare the sum against the evaluation criteria. If the result for the current sample is true, set the condition true.

This action is available for numeric data only. If you specify this action, you cannot request a modification operation in the Modification string expression field.

Separate Task

Specify YES or NO to indicate whether the evaluation process should run as a separate task.

The default value of NO allows the evaluation process to run under the MAS long running task (LRT). Depending on the type of evaluation and the number of resources involved, running under the LRT may prevent user tasks with the same priority (255) from running.

If you specify YES, a separate task (COIR) is started to process this evaluation definition. The priority of the task is set according to the value of the COIRTASKPRI system parameter.

Note: If COIRTASKPRI is set to 0, a separate task is not started for any evaluation definition. For a description of COIRTASKPRI, see the *CICS Transaction Server for z/OS Installation Guide* book.

Evaluation Column

Enter the specific or generic name of a column in the specified resource table that is to be part of the evaluation criteria. If you specify a generic value, a list of the columns in that resource table is displayed.

After identifying the column to be evaluated, you must determine the type of evaluation to be performed. You can specify either an evaluation value and its associated operator and severity, or evaluation threshold values. Note, however, that these two types of evaluation are mutually exclusive.

Use evaluation values when your criteria involves numeric data, keywords (such as ENABLED, OPEN, or YES), or Boolean operators. To use a value as your evaluation criteria, specify the following:

Operator

The logical operator to be used in determining if the contents of the evaluation column meet the evaluation criteria. The valid operators are:

LT Less than
LE Less than or equal to
EQ Equal to
GE Greater than or equal to
GT Greater than
NE Not equal to

Value An alphanumeric value or keyword to be used in determining if the contents of the evaluation column meet the evaluation criteria. This value must be a valid attribute value for the resource table column being evaluated. The value must be a valid output value if the attribute is a CVDA datatype.

Severity

The severity level to be assigned when the resource occurrence meets the evaluation criteria. The severity levels are:

VLS Very low severe
LS Low severe

LW Low warning
HW High warning
HS High severe
VHS Very high severe

In Figure 16 on page 35, for example, if a local transaction (LOCTRAN) is found to have a status not equal to ENABLED, the evaluation is true and a severity of high severe (HS) is assigned.

Alternatively, you can establish a range of threshold values for the resource occurrence that, if met, result in varying severity levels. To use thresholds as your evaluation criteria, specify the following:

Thresholds
A threshold value for each severity level. The value type and its format must be valid for the evaluation column you specified. Threshold values are used to assign a severity level to resource occurrences that meet the evaluation criteria.

For severity levels to the left of normal (N), the specified threshold is the upper bound. For severity levels to the right of normal (N), the specified threshold is the lower bound.

For example, if the evaluation thresholds are:

```
VLS     LS     LW    (N)    HW     HS     VHS
 1       3      5           7      9      11
```

then:
- a value of 4 produces a severity level of LW.
- a value of 6 indicates the resource is within its normal range.
- a value of 8 produces a severity level of HW.

You may specify the values in either ascending or descending numerical order.

Also, it is possible to specify unidirectional thresholds, evaluating for only a high or low condition, but not both. To use only half of the evaluation threshold range, specify threshold values either for VLS, LS, and LW or for VHS, HS, and HW. When you specify values for only half of the threshold range, the fields in the other half must be blank.

View Invoked
(Optional) Specify the name of the CICSPlex SM view that is to appear in the View field of the EVENTDTL view when a notifiable condition occurs. This field should identify the view associated with the resource table specified in the Table Name field.

If the evaluation definition is complete, press Enter to add it to the data repository. If you want to qualify the evaluation or define modifications to be made, issue the DOWN command.

Figure 17 on page 39 shows the format of the panel produced when you issue the DOWN command.

```
------------------- Create Evaluation Definition for EYUPLX01------------------
COMMAND  ===>

Name                   ===> EYURTE01

Filter string expression:  (Use FILTER command to list columns)
===> PROGRAM=AB* AND (USECOUNT>0 OR RESTARTCNT>0).
===>
===>
===>
===>
===>
===>
===>
===>
===>

Modification string expression:  (Use MODIFY command to list alterable columns)
===> STATUS=ENABLED.
===>
===>
===>

Type DOWN or UP to view other Evaluation Definition screens.
Press Enter to create Evaluation Definition.
Type END or CANCEL to cancel without creating.
```

Figure 17. Creating an evaluation definition - Page 2

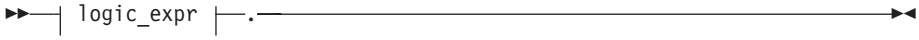
Provide the following information, as appropriate.

Filter string expression
(Optional) Identifies attributes in the specified resource table that are to be used to qualify the condition described in the Evaluation Column fields.

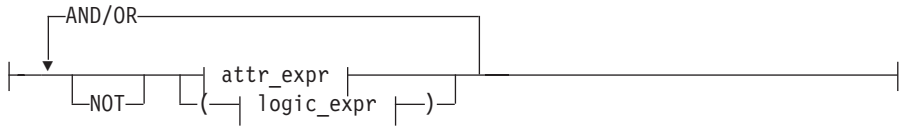
In Figure 17, for example, only those local transactions that have a first program name beginning with AB and either a use count greater than 0 or a restart count greater than 0 are evaluated.

A filter expression can be made up of one or more attribute expressions in the form:

Filter Expression



logic_expr:



attr_expr:

where:

attr Is the name of an attribute in the resource table. You can name the same attribute more than once in a filter expression.

oper Is one of the following comparison operators:

<	Less than
<=	Less than or equal to
=	Equal to
>=	Greater than or equal to
>	Greater than
¬=	Not equal to

value Is the value for which the attribute is being tested. The value must be a valid one for the attribute. The value must be a valid output value if the attribute is a CVDA datatype.

If the attribute accepts character data, this value can be a generic. Generic values can contain:

- An asterisk (*), to represent any number of characters, including zero. The asterisk must be the last or only character in the specified value. For example:

```
TRANID=PAY*
```

- A plus sign (+), to represent a single character. A + can appear in one or more positions in the specified value. For example:

```
TRANID=PAY++96
```

If the value contains imbedded blanks or special characters (such as periods, commas, or equal signs), the entire value string must be enclosed in single quotes. For example:

```
TERMID='Z AB'
```

To include a single quote or apostrophe in a value, you must repeat the character, like this:

```
DESCRIPTION='October''s Payroll'
```

AND/OR

Combines attribute expressions into compound logic expressions using the logical operators AND and OR, like this:

```
attr_expr AND attr_expr.
```

Filter expressions are evaluated from left to right. You can use parentheses to vary the meaning of a filter expression. For example, this expression:

```
attr_expr AND (attr_expr OR attr_expr).
```

has a different meaning than this one:

```
(attr_expr AND attr_expr) OR attr_expr.
```

NOT Negates one or more attribute expressions.

You can negate a single attribute expression, like this:

```
NOT attr_expr
```

You can also negate multiple attribute expressions or even a whole filter expression, like this:

```
NOT (attr_expr OR attr_expr).
```

Note that you must place parentheses around the attribute expressions (or the filter expression) to be negated.

To see a list of the attributes in the resource table, type FILTER in the COMMAND field and press Enter. Figure 18 shows the format of the panel produced when you issue the FILTER command. For more information on these attributes, see the *CICSPlex SM Resource Tables Reference* book.

```
------------------------- List of CICSplex Resources------------- Row 1 of 34
COMMAND ===>                                                     Scroll ==> PAGE
Available columns in resource table: LOCTRAN


ColumnName   Type   Len   Description
------------ ------ ----- ------------------------------
CMDSEC       CVDAS  00004 Command security
DTB          CVDAS  00004 Dynamic Trans Bacout Option
DTIMEOUT     BINARY 00004 Data Timeout
DUMPING      CVDAS  00004 Dumping Option
INDOUBTWAIT  CVDAS  00004 Transaction Indoubtwait option
ISOLATEST    CVDAS  00004 Isolation status
LOCALCNT     BINARY 00004 Times run local via DTR
PRIORITY     BINARY 00004 Priority
PROFILE      CHAR   00008 Transaction Profile
PROGRAM      CHAR   00008 First program name
PURGEABILITY CVDAS  00004 Purgability ( SPURGE )
RUNAWAY      BINARY 00004 Runaway time in milliseconds
RUNAWAYTYPE  CVDAS  00004 Runaway time type
```

Figure 18. List of attributes in a resource table

Modification string expression

(Optional) Identifies attributes in the specified resource table that are to be modified if the condition described by this evaluation definition becomes true.

Note: CICSPlex SM attempts to perform the requested modification only once. If the modification is not successful for any reason (such as the resource is in use or is not available), it is not retried. If the condition generates a CICSPlex SM event, the event remains displayed on the EVENT view, if the modification cannot be made.

A modification expression can be made up of one or more attribute expressions in the form:

Modification Expression

where:

attr Is the name of a modifiable attribute in the resource table.

value Is the value to which you want the attribute set. The following restrictions apply:

- The value must be a valid one for the attribute.
- If the value contains imbedded blanks or special characters (such as periods, commas, or equal signs), the entire value string must be enclosed in single quotes, like this:

  ```
  DESCRIPTION='Payroll.OCT'
  ```

- To include a single quote or apostrophe in a value, you must repeat the character, like this:

  ```
  DESCRIPTION='October''s Payroll'
  ```

- The value must be a valid output value if the attribute is a CVDA datatype.

To see a list of attributes in the resource table that can be modified, type MODIFY in the COMMAND field and press Enter. Figure 19 shows the format of the panel produced when you issue the MODIFY command. For more information on these attributes, see the *CICSPlex SM Resource Tables Reference* book.

```
------------------------- List of CICSplex Resources------------- Row 1 of 10
COMMAND ===>                                                    Scroll ==> PAGE

Available columns in resource table: LOCTRAN


ColumnName   Type   Len   Description
------------ ------ ----- ------------------------------
DUMPING      CVDAS  00004 Dumping Option
PRIORITY     BINARY 00004 Priority
PURGEABILITY CVDAS  00004 Purgability ( SPURGE )
RUNAWAY      BINARY 00004 Runaway time in milliseconds
RUNAWAYTYPE  CVDAS  00004 Runaway time type
SHUTDOWN     CVDAS  00004 Shutdown run status
STATUS       CVDAS  00004 Enabled Status
TRACING      CVDAS  00004 Tracing option
TRANCLASS    CHAR   00008 Transaction Class
TRANID       CHAR   00008 Name
*************************** Bottom of Data ********************************
```

Figure 19. List of modifiable attributes in a resource table

Note: You cannot specify a modification expression when:

- The resource table named in the Table Name field is EVENT or any one of the monitor tables (such as, MLOCTRAN).
- The Result Set Action field contains a value of AVG, CNT, or SUM, since the original data is no longer available once these evaluations are performed.

RTADEF (Analysis definitions)

An analysis definition identifies the evaluations to be performed on a periodic basis and the actions to be taken should a notifiable condition occur. Examples of how to use this view can be found in Chapter 5, “Example tasks: real-time analysis,” on page 81.

To display information about existing analysis definitions, issue the command:

```
RTADEF [rtadef]
```

where `rtadef` is the specific or generic name of an analysis definition. If you omit this parameter, the resulting view, illustrated in Figure 20 on page 43, includes information about all analysis definitions for the CICSplex identified as the context.

```
27FEB2005  21:02:48 ----------- INFORMATION DISPLAY ---------------------------
COMMAND  ===>                                                 SCROLL ===> PAGE
CURR WIN ===> 1        ALT WIN ===>
 W1 =RTADEF============EYUPLX01=EYUPLX01=27FEB2005==21:02:48=CPSM=========10===
CMD Name     Intv Action   Description
--- -------- ---- -------- ------------------------------
    EYURTDLC   60 EYURTALC SSet - License
    EYURTD01  300 EYURTA01 SSet - All connections
    EYURTD02  300 EYURTA02 SSet - All DFHCSD files
    EYURTD16  300 EYURTA16 SSet - Empty files
    EYURTD17  300 EYURTA17 SSet - DBCTL at maxthreads
    EYURTD18  300 EYURTA18 SSet - DTR not set correctly
    EYURTD19  300 EYURTA19 SSet - Monitoring inactive
    EYURTD20  300 EYURTA20 SSet - DSA free space %
    EYURTD21  300 EYURTA21 SSet - Outstanding EVENTs
    EYURTD22  300 EYURTA22 SSet - Dumps suppressed
```

Figure 20. The RTADEF view

Action commands

Table 13 summarizes the action commands you can use with the RTADEF view.

Table 13. RTADEF view action commands

Primary command	Line command	Description
n/a	ADD	Add an association between an analysis definition and an analysis group, as described on page 46.
n/a	AIN	Install an analysis definition in an analysis point specification, as described on page 48.
n/a	BRO	Browse an analysis definition in the data repository. The format of the resulting panel is similar to that shown in Figure 21 on page 44. The panel fields are not modifiable.
CREate	CRE	Create an analysis definition and add it to the data repository, as described in Creating an analysis definition. When you use the primary command CREate, some fields in the new view may contain values supplied by CICSPlex SM; you may change these values. When you enter the line command CRE next to the name of an analysis definition, fields in the new view contain values to be modelled (from the existing analysis definition).
n/a	INS	Install an analysis definition in a CICS system or CICS system group, as described on page 47.
n/a	MAP	Display a visual map of real-time analysis definitions using the specified definition as a starting point.
n/a	REM	Remove an analysis definition from the data repository.
TEMPMP cmasid	n/a	Change the temporary maintenance point CMAS to a specific CMAS or display a selection list based on a generic CMAS ID.

Table 13. RTADEF view action commands (continued)

Primary command	Line command	Description
n/a	UPD	Update an analysis definition in the data repository. The format of the resulting panel is similar to the panel shown in Figure 21. You can modify the contents of any field in the panel except Name.

Hyperlink fields

There are no hyperlink fields on the RTADEF view.

Creating an analysis definition

Figure 21 shows the format of the panel produced when you use the create primary (CREate) or line (CRE) action command from the RTADEF view.

```
---------------------- Create Analysis Definition for EYUPLX01 ----------------
COMMAND ==>

 Name              ===> EYURTD01
 Description       ===>
 Perform Ops       ===> NO  Perform EVALDEF operations changes (YES, NO, ALWAYS)
 Sample Interval   ===> 60  Interval between samples in seconds (1-86400)
 Action Name       ===>     Action definition name or generic

                         VLS    LS    LW    HW    HS   VHS
Entry Intervals    ===> 5     5     5     5     5     5
Exit  Intervals    ===> 2     3     1     1     1     1

Evaluation expression:
===> EYURTE01
===>
===>
===>
===>
===>
===>

Press Enter to create the Analysis Definition.
Type END or CANCEL to cancel without creating.
```

Figure 21. Creating an analysis definition

Provide the following information, as appropriate:

Name Specify a 1- to 8-character name for the analysis definition. The name can contain alphabetic, numeric, or national characters. However, the first character must be alphabetic.

Description
(Optional.) Specify a 1- to 30-character description of the definition.

Perform Ops
Specify YES, NO or ALWAYS to indicate whether any resource modifications are to be performed when the condition or conditions being analyzed are true.

Resource modifications are defined as part of the evaluation definitions (EVALDEFs) associated with this analysis definition (RTADEF).

YES CICSPlex SM attempts to perform the modification when the condition described by its evaluation definition is true. CICSPlex SM attempts to perform the requested modification only once. If the modification is not successful for any reason (for example, the resource is in use or is not available, or a CICS or CICSPlex SM error occurred when the modification was requested), it is not retried. If the condition generates a CICSPlex SM event, and the modification cannot be made, the event remains displayed on the EVENT view.

NO The modification is not performed.

ALWAYS
CICSPlex SM attempts to perform the modification when the condition described by the evaluation definition is true.

- If the modification executes without a CICS exception condition or CICSPlex SM error, and the condition generates a CICSPlex SM event, the event is cancelled. If the modification does not cause the condition to become false for any other reason (for example, the resource is in use or is not available, or the modification was not designed to modify the resource to cause a false condition), it is retried. The retry will occur at the next analysis interval, and will continue until the condition described by the evaluation definition is false.
- If the modification executes with a CICS exception condition or CICSPlex SM error, it is not retried. If the condition generates a CICSPlex SM event and the modification cannot be made, the event remains displayed on the EVENT view.

Notes:

1. When the ALWAYS option is set, the Exit Intervals option is ignored.
2. The ALWAYS option should be used where the modification string includes an expression that will cause the evaluated condition to become false, for example:

```
Resource table: LOCTRAN
Evaluation    : STATUS NE ENABLED
Modification  : STATUS=ENABLED
```

   ALWAYS would work well with this example because the modification will cause the evaluation to become false. ALWAYS should not be used if that is not the case for example:

```
Resource table: LOCTRAN
Evaluation    : STATUS NE ENABLED
Modification  : PRIORITY=255
```

   ALWAYS would not work well with this example because the modification will not cause the evaluation to become false.
3. The actions requested in an action definition (such as events or external messages) are always performed, regardless of whether any resource modification is requested.

Sample Interval
Indicate, in seconds, the interval between samples of the specific conditions being evaluated. The definition names specified in the Evaluation Expression field identify the conditions. The value must be between 1 and 86400.

Action Name
Enter the specific or generic name of an action definition that is to be associated with this definition. An action definition, as described on page 26, indicates what is to happen when the condition or conditions being analyzed are true. If you specify a generic value, a list of valid action definitions is displayed.

If the action definition cannot be located when this analysis definition is installed in a CICS system and the designated condition or conditions become true, only CICSPlex SM event notification will occur.

Entry Intervals
Indicate the number of consecutive evaluation time periods, for each severity level, during which the designated condition or conditions must be true before any action is taken. The value must be between 1 and 9999.

Exit Intervals
Indicate the number of consecutive evaluation time periods, for each severity level, during which the designated condition or conditions must be false before any action is taken. The value must be between 1 and 9999.

Evaluation Expression
Identify the evaluation definition that is to be analyzed.

Press Enter to add this analysis definition to the data repository.

Adding an association to an analysis group

Figure 22 illustrates the panel produced when you use the add (ADD) line action command from the RTADEF view.

```
------------------ Add RTADEF to Analysis Group for EYUPLX01 -----------------
COMMAND  ===>

 Name                        EYURTD01
 Description                 Sample definition

 Analysis Group       ===> EYURTG01      Analysis Group or Generic
 Active Period        ===> PRIME         Period Name or Generic

Press Enter to add RTADEF to Analysis Group.
Type END or CANCEL to cancel without adding.
```

Figure 22. Associating an analysis definition and an analysis group

Provide the following information:

Analysis Group
Enter the specific or generic name of an existing analysis group. If you specify a generic value, a list of valid analysis groups is displayed.

Active Period
(Optional) Enter the specific or generic name of a period definition that identifies the range of hours during which the analysis definition is to be active. If you specify a generic value, a list of valid period definitions is displayed.

If the name you specify is not an existing period definition, you can create that period definition later. If you leave this field blank, the analysis definition remains active for as long as the CICS system is running or until you discard it.

Press Enter to add the association to the designated analysis definition and analysis group in the data repository.

If the appropriate analysis group does not currently exist, you must first create the group, as described on page 50. Then you can add the definition to that group, using either this action command or the action command described on page 58.

To remove a definition from an analysis group, see page 57.

Installing an analysis definition

You can install an analysis definition for one or more active CICS systems that are within the CICSplex identified as the context.

An analysis definition can be automatically installed for a CICS system when that system starts. For this to occur, associate the definition with an analysis group. Then associate that group with an analysis specification that is defined to the CICS system.

Figure 23 illustrates the panel produced when you use the install (INS) line action command from the RTADEF view.

```
------------------------ Install RTADEF for EYUPLX01 --------------------------
COMMAND  ===>

 Name            EYURTD01
 Description     SSet - All connections

 Type            RTADEF

 Scope           ===>              CICS System, System Group, or Generic
 Active Period   ===>              Blank, PERIODEF, or Generic

Press Enter to install Analysis Definition.
Type END or CANCEL to cancel without installing.
```

Figure 23. Installing an analysis definition

Provide the following information:

Scope Enter the specific or generic name of a CICS system or CICS system group for which the definition is to be installed. The CICS system or CICS system group must be within the CICSplex identified as the current context. If you specify a generic value, a list of valid CICS systems and CICS system groups is displayed.

Active Period
(Optional) Enter the specific or generic name of an existing period definition that identifies the range of hours during which the analysis definition is to be active. If you specify a generic value, a list of valid period definitions is displayed.

Press Enter to install the definition in the designated CICS systems.

For an installation to succeed, the CICS system must be running and real-time analysis must be active. Additionally, associated evaluation definitions must refer to resource tables that are supported in the target CICS system. If CICSPlex SM detects otherwise, it issues a message indicating that the definitions are not installed in those systems that do not support the specified resource table.

The analysis definition becomes active either:

- Immediately, if no period definition is associated with it and the CICS system is running
- At the time designated by the associated period definition

The analysis definition remains active as long as the CICS system is running, until you discard it, or until the time designated by an associated period definition is reached.

To discard an analysis definition installed in a CICS system, use the RTAACTV view as described in Table 3 on page 5.

Installing an analysis definition into an analysis point specification

Figure 24 illustrates the panel produced when you use the install (AIN) line action command from the RTADEF view.

```
--------------------------- Install RTADEF for EYUPLX01 ----------------------
COMMAND  ===>

 Name                 EYURTD01
 Description          SSet - All connections

 Type                 RTADEF

 AP Spec Name    ===>              Active Analysis Point Spec or Generic
 Scope           ===>              CICS System, System Group, or Generic

Press Enter to install Analysis Definition.
Type END or CANCEL to cancel without installing.
```

Figure 24. Installing an analysis definition into an analysis point specification

Provide the following information:

AP Spec Name
Enter the specific or generic name of an analysis point specification to which this definition is to be added. If you specify a generic value, a list of valid analysis point specifications is displayed.

Scope (Optional.) Enter the specific or generic name of a CICS system or CICS system group that is to be evaluated by the analysis point specification when processing analysis definitions. If you specify a generic value, a list of valid CICS systems and CICS system groups is displayed. If you leave this field blank, all CICS systems in the CICSplex are evaluated.

Press Enter to install the analysis definition into the analysis point specification.

If an analysis definition is associated with an evaluation definition that refers to a resource table that is not supported in the target CICS system, CICSPlex SM issues a message indicating that the definitions are not installed because the resource is not supported.

RTAGROUP (Analysis groups)

An analysis group is used to associate one or more related analysis definitions, status definitions, or both. Examples of how to use this view can be found in:

- “Monitoring resources permanently” on page 88
- “Monitoring multiple resource types in a CICS system group (2)” on page 101

- “Issuing one notification for multiple conditions(1)” on page 111

To display information about existing analysis groups, issue the command:

```
RTAGROUP [rtagroup]
```

where `rtagroup` is the specific or generic name of an analysis group. If you omit this parameter, the resulting view, illustrated in Figure 25, includes information about all analysis groups for the CICSplex identified as the context.

```
27FEB2005  21:02:56 ----------- INFORMATION DISPLAY ---------------------------
COMMAND  ===>                                                 SCROLL ===> PAGE
CURR WIN ===> 1        ALT WIN ===>
 W1 =RTAGROUP==========EYUPLX01=EYUPLX01=27FEB2005==21:02:56=CPSM==========4===
CMD Analysis Description
--- Group--- ------------------------------
    EYURTGLC SSet - License
    EYURTG01 SSet - FOR related definitions
    EYURTG02 SSet - Plex wide definitions
    EYURTG07 SSet - TOR related definitions
```

Figure 25. The RTAGROUP view

Action commands and overtype fields

Table 14 summarizes the action commands you can use with the RTAGROUP view. Table 15 on page 50 identifies the overtype fields you can modify when you use the SET action command.

Table 14. RTAGROUP view action commands

Primary command	Line command	Description
n/a	AAP	Add an association between an analysis group and an analysis point specification, as described on page 50.
n/a	ADD	Add an association between an analysis group and an analysis specification, as described on page 51.
n/a	AIN	Install an analysis group in an active analysis point specification, as described on page 53.
n/a	ASC	Add an association between an analysis or status definition and an analysis group, as described on page 52.
n/a	BRO	Browse an analysis group in the data repository. The format of the resulting panel is similar to that shown in Figure 26 on page 50. The panel fields are not modifiable.
CREate	CRE	Create an analysis group and add it to the data repository, as described in Creating an analysis group.
n/a	INS	Install an analysis group in a CICS system or CICS system group, as described on page 52.
n/a	MAP	Display a visual map of real-time analysis definitions using the specified group as a starting point.
n/a	REM	Remove an analysis group from the data repository.
n/a	SET	Change the description of an analysis group using an overtype field (see Table 15). **Note:** The value you specified in the Require Set field on the CICSPlex System Manager entry panel determines whether or not you must use the SET command when you overtype a field.
TEMPMP cmasid	n/a	Change the temporary maintenance point CMAS to a specific CMAS or display a selection list based on a generic CMAS ID.

Table 14. RTAGROUP view action commands (continued)

Primary command	Line command	Description
n/a	UPD	Update an analysis group in the data repository. The format of the resulting panel is similar to that shown in Figure 26. You can change the Description field.

Table 15. RTAGROUP view overtype fields

Field name	Value
Description	One- to 30-character description of the analysis group.

Hyperlink fields

Table 16 shows the hyperlink field on the RTAGROUP view.

Table 16. RTAGROUP view hyperlink field

Hyperlink field	View displayed	Description
Analysis Group	RTAINGRP	Detailed information about analysis and status definitions associated with the designated analysis group.

Creating an analysis group

Figure 26 shows the format of the panel produced when you use the create primary (CREate) or line (CRE) action command from the RTAGROUP view.

```
------------------------ Create Analysis Group for EYUPLX01-----------
COMMAND  ===>

 Group Name          ===>  EYURTG02
 Description         ===>  SSet - Plex wide definitions




Press Enter to create Analysis Group.
Type END or CANCEL to cancel without creating.
```

Figure 26. Creating an analysis group

Provide the following information, as appropriate:

Name Specify a 1- to 8-character name for the group. The name can contain alphabetic, numeric, or national characters. However, the first character must be alphabetic.

Description
(Optional.) Specify a 1- to 30-character description of the group.

Press Enter to add the analysis group to the data repository.

Adding an association to an analysis point specification

Figure 27 on page 51 illustrates the panel produced when you use the add (AAP) line action command from the RTAGROUP view.

```
------------------ Add Analysis Group to AP Specification for EYUPLX01 --------
 COMMAND  ===>

  Analysis Group                     EYURTG01
  Description

  Analysis Specification Name  ===>  EYURTS02  Spec Name or Generic

  Scope                        ===>            System, Group, or Generic

Press ENTER to add Analysis Group to Specification.
Type END or CANCEL to cancel without adding.
```

Figure 27. Adding an analysis group and analysis point specification association

Provide the following information:

Analysis Specification Name
Enter the specific or generic name of an existing analysis point specification. If you specify a generic value, a list of valid analysis point specifications is displayed.

Scope (Optional.) Enter the specific or generic name of a CICS system or CICS system group that is to be evaluated by the analysis point when processing analysis definitions. If you specify a generic value, a list of valid CICS systems and CICS system groups is displayed. If you leave this field blank, all CICS systems in the CICSplex are evaluated.

Adding an association to an analysis specification

Figure 28 illustrates the panel produced when you use the add (ADD) line action command from the RTAGROUP view.

```
-------------Add Analysis Group to Analysis Specification for EYUPLX01 ---------
 COMMAND  ===>

  Analysis Group            EYURTG01
  Description               SSet - FOR related definitions

  Specification Name  ===>  EYURTS01   Specification Name or Generic


Press Enter to add RTA Group to RTA Specification.
Type END or CANCEL to cancel without adding.
```

Figure 28. Adding an association between an analysis group and specification

Provide the following information:

Specification Name
Enter the specific or generic name of an existing analysis specification. If you specify a generic value, a list of valid analysis specifications is displayed.

Press Enter to add the name of the analysis specification to the designated analysis group.

If the appropriate analysis specification does not currently exist, you must first create it, as described on page 65. Then you can add the group to that specification, using either this action command or the action command described on page 60.

To remove a group from an analysis specification, see page 59.

Associating a definition with an analysis group

Figure 29 illustrates the panel produced when you use the associate (ASC) line action command from the RTAGROUP view.

```
--------------- Add Analysis Definition to Group for EYUPLX01 -----------------
COMMAND  ===>

Analysis Group Name           EYUROG01
Description                   Sample analysis group

Analysis Definition Name ===> EYUMOD01    Analysis Definition or Generic
Active Period            ===> EYUMOD01    Period Definition or Generic


Press Enter to add Analysis Definition to Group.
Type END or CANCEL to cancel without adding.
```

Figure 29. Associating a definition with an analysis group

Provide the following information, as appropriate:

Definition Name
Enter the specific or generic name of an existing analysis or status definition that is to be associated with the analysis group. If you specify a generic value, a list of valid definitions is displayed.

Active Period
(Optional) Enter the specific or generic name of a period definition that identifies the range of hours during which the analysis or status definition is to be active. If you specify a generic value, a list of valid period definitions is displayed.

If the name you specify does not belong to an existing period definition you can create that period definition later. If you leave this field blank, the analysis or status definition remains active for as long as the CICS system is running, or until you discard it.

Press Enter to associate the analysis or status definition with the analysis group in the data repository.

Installing an analysis group

When you install an analysis group, all of the analysis definitions associated with that group are installed in the CICS systems that are using the analysis specification to which the analysis group is associated.

Note: The analysis definitions associated with an analysis group can be automatically installed in a CICS system when that system starts. For this to occur, the analysis group must be associated with an analysis specification that is defined to the CICS system.

Figure 23 on page 47 illustrates the panel produced when you use the install (INS) line action command from the RTAGROUP view.

```
----------------------- Install RTAGROUP for EYUPLX01 ------------------------
COMMAND  ===>

Name                      EYURTG02
Description               SSet - Plex wide definitions

Type                      RTAGROUP

Scope               ===>              CICS System, System Group, or Generic

Press Enter to install definitions.
Type END or CANCEL to cancel without installing.
```

Figure 30. Installing an analysis group

Provide the following information:

Scope Enter the specific or generic name of an active CICS system or CICS system group into which the analysis definitions associated with this analysis group are to be installed. The CICS system or CICS system group must be within the CICSplex identified as the current context. If you specify a generic value, a list of valid CICS systems and CICS system groups is displayed.

Press Enter to install the analysis definitions associated with the analysis group into the designated CICS system or into all of the CICS systems comprising the designated CICS system group.

For an installation to succeed, the CICS system must be running and real-time analysis must be active. The analysis definition becomes active either:

- Immediately, if no period definition is associated with it and the CICS system is running.
- At the time designated by the associated period definition.

The analysis definition remains active as long as the CICS system is running, until you discard it, or until the time designated by an associated period definition is reached.

To discard an analysis definition installed in a CICS system, use the RTAACTV view as described in Table 3 on page 5.

Installing an analysis group into an analysis point specification

Figure 31 on page 54 illustrates the panel produced when you use the install (AIN) line action command from the RTAGROUP view.

```
----------------------- Install RTAGROUP for EYUPLX01 -------------------------
COMMAND  ===>

Name                     EYURTG01
Description              SSet - FOR related definitions

Type                     RTAGROUP

AP Spec Name        ===>             Active Analysis Point Spec or Generic
Scope               ===>             CICS System, Group, or Generic

Press Enter to install definitions.
Type END or CANCEL to cancel without installing.
```

Figure 31. Installing an analysis group into an analysis point specification

Provide the following information:

AP Spec Name
Enter the specific or generic name of the analysis point specification to which the analysis definitions in this group are to be added. If you specify a generic value, a list of valid analysis point specifications is displayed.

Scope (Optional.) Enter the specific or generic name of a CICS system or CICS system group that is to be evaluated by the analysis point specification when processing analysis definitions. If you specify a generic value, a list of valid CICS systems and CICS system groups is displayed. If you leave this field blank, all CICS systems in the CICSplex are evaluated.

Press Enter to install the analysis definitions comprising the analysis group into the designated analysis point specification.

RTAINAPS (Analysis groups in analysis point specifications)

To display the names of analysis groups associated with analysis point specifications, issue the command:

```
RTAINAPS [apspec [rtagroup]]
```

where:

apspec Is a specific or generic name of an analysis point specification or * (asterisk) for all analysis point specifications.

rtagroup
Is a specific or generic name of an analysis group. If you omit this parameter, the view includes information about all analysis groups associated with the analysis point specifications.

If you do not specify any parameters, the resulting view, illustrated in Figure 32 on page 55, includes information about all analysis point specifications and the analysis groups associated with them.

```
27FEB2005  21:03:16 ----------- INFORMATION DISPLAY ---------------------------
COMMAND  ===>                                                 SCROLL ===> PAGE
CURR WIN ===> 1        ALT WIN ===>
 W1 =RTAINAPS==========EYUPLX01=EYUPLX01=27FEB2005==21:03:16=CPSM==========1===
CMD Spec     Group    Scope
--- Name---- Name---- --------
    EYURAP01 EYURTG02 EYUPLX01
```

Figure 32. The RTAINAPS view

Action commands

Table 17 summarizes the action commands you can use with the RTAINAPS view.

Table 17. RTAINAPS view action commands

Primary command	Line command	Description
n/a	ADD	Add an association between an analysis group and an analysis point specification, as described on page 55.
n/a	BRO	Browse the association between an analysis group and an analysis point specification. The format of the resulting panel is similar to that shown in Figure 33 on page 56. The panel fields are not modifiable.
n/a	MAP	Display a visual map of real-time analysis definitions using the designated specification as a starting point.
n/a	REM	Remove the association between an analysis group and an analysis point specification.
TEMPMP cmasid	n/a	Change the temporary maintenance point CMAS to a specific CMAS or display a selection list based on a generic CMAS ID.

Hyperlink fields

Table 18 shows the hyperlink fields on the RTAINAPS view.

Table 18. RTAINAPS view hyperlink field

Hyperlink field	View displayed	Description
Spec Name	APSPEC	Detailed information about the designated analysis point specification.
Group Name	RTAGROUP	Detailed information about the designated analysis group.

Adding an analysis group to an analysis point specification

Figure 33 on page 56 illustrates the panel produced when you use the add (ADD) line action command from the RTAINAPS view.

```
-------------------- Add Analysis Group to AP Specification for EYUPLX01-----
COMMAND  ===>

 Analysis group name           ===> EYURTG01   Analysis Group or Generic

 Analysis Specification Name   ===> EYURTS02   Analysis Spec or Generic

 Scope                         ===> EYUCSG01   CICS System, Group or Generic


Press Enter to add Analysis Group to Specification.
Type END or CANCEL to cancel without adding.
```

Figure 33. Adding an analysis group to an analysis point specification

Provide the following information:

Analysis Group Name
Enter the specific or generic name of an existing analysis group. If you specify a generic value, a list of valid analysis groups is displayed.

Analysis Specification Name
Enter the specific or generic name of an existing analysis point specification to which the analysis group is to be added. If you specify a generic value, a list of valid analysis point specifications is displayed.

Scope (Optional) Enter the specific or generic name of CICS system or CICS system group that is to be evaluated by the analysis point specification when processing analysis definitions. If you specify a generic value, a list of valid CICS systems and CICS system groups is displayed. If you leave this field blank, all CICS systems in the CICSplex are evaluated.

Press Enter to add the designated association to the analysis point specification and analysis group definitions in the data repository.

RTAINGRP (Analysis and status definitions in analysis groups)

To display the names of analysis groups and the analysis and status definitions associated with them, issue the command:

```
RTAINGRP [rtagroup [defname  [RTADEF|STATDEF]]]
```

where:

rtagroup
Is a specific or generic name of an analysis group or * (asterisk) for all analysis groups.

defname
Is a specific or generic name of an analysis definition, status definition, or * (asterisk) for all definitions associated with designated analysis groups.

RTADEF|STATDEF
Limits the view to only analysis or status definitions. If you omit this parameter, the view includes information about both types of definitions that are associated with the designated analysis groups and definitions.

If you do not specify any parameters, the resulting view, illustrated in Figure 34 on page 57, includes information about all analysis groups and the analysis and status definitions associated with them.

```
27FEB2005  21:03:32 ----------- INFORMATION DISPLAY ---------------------------
COMMAND  ===>                                                 SCROLL ===> PAGE
CURR WIN ===> 1        ALT WIN ===>
 W1 =RTAINGRP==========EYUPLX01=EYUPLX01=27FEB2005==21:03:31=CPSM==========6===
CMD Group    Def      Def      Active
--- Name---- Name---- Type---- Period--
    EYURTG02 EYURTD01 RTADEF
    EYURTG02 EYURTD02 RTADEF   EYUPDF01
    EYURTG02 EYURTD19 RTADEF
    EYURTG02 EYURTD20 RTADEF
    EYURTG02 EYURTD21 RTADEF
    EYURTG02 EYURTD22 RTADEF
```

Figure 34. The RTAINGRP view

Action commands

Table 19 summarizes the action commands you can use with the RTAINGRP view. Table 20 identifies the overtype field you can modify when you use the SET action command.

Table 19. RTAINGRP view action commands

Primary command	Line command	Description
n/a	ADD	Add an association between an analysis or status definition and an analysis group, as described on page 58.
n/a	BRO	Browse the association between an analysis or status definition and an analysis group. The format of the resulting panel is similar to that shown in Figure 35 on page 58. The panel fields are not modifiable.
n/a	MAP	Display a visual map of real-time analysis definitions using the specified group as a starting point.
n/a	REM	Remove the association between an analysis or status definition and an analysis group.
n/a	SET	Change the time period associated with the analysis group using an overtype field (see Table 20). **Note:** The value you specified in the Require Set field on the CICSPlex System Manager entry panel determines whether or not you must use the SET command when you overtype a field.
TEMPMP cmasid	n/a	Change the temporary maintenance point CMAS to a specific CMAS or display a selection list based on a generic CMAS ID.
n/a	UPD	Update the association between an analysis or status definition and an analysis group. The format of the resulting panel is similar to that shown in Figure 35 on page 58. You can change the Active Period field.

Table 20. RTAINGRP view overtype field

Field name	Value
Active Period	Name of a new or existing time period definition.

Hyperlink fields

Table 21 shows the hyperlink fields on the RTAINGRP view.

Table 21. RTAINGRP view hyperlink field

Hyperlink field	View displayed	Description
Group Name	RTAGROUP	Detailed information about the designated analysis group.
Def Name	RTADEF or STATDEF	Detailed information about the designated analysis or status definition.

Adding a definition to an analysis group

Figure 35 illustrates the panel produced when you use the add (ADD) line action command from the RTAINGRP view.

```
------------- Add RTA or Status Definition to Analysis Group for EYUPLX01-----
COMMAND  ===>

 Analysis Group              ===> EYURTG01     Group Name or Generic

 RTA or status definition    ===> EYURTD16     RTADEF, STATDEF or Generic

 Definition type             ===> RTADEF       (RTADEF/STATDEF)

 Active Period               ===> PRIME        Period Name, Generic, or blank


Press ENTER to add Definition to Analysis Group.
Type END or CANCEL to cancel without adding.
```

Figure 35. Adding a definition to an analysis group

Provide the following information:

Analysis Group
Enter the specific or generic name of an existing analysis group to which you are adding a definition. If you specify a generic value, a list of valid analysis groups is displayed.

RTA or Status Definition
Enter the specific or generic name of an existing analysis or status definition. If you specify a generic value, a list of valid analysis and status definitions is displayed.

Definition Type
Specify RTADEF or STATDEF to indicate the type of definition you are associating with the analysis group.

Active Period
(Optional.) Enter the specific or generic name of a period definition that identifies the range of hours during which the analysis or status definition is to be active. If you specify a generic value, a list of valid period definitions is displayed.

If the name you specify is not an existing period definition, you can create that period definition later. If you leave this field blank, the analysis definition remains active for as long as the CICS system is running or until you discard it.

Press Enter to add the association to the designated analysis group and analysis or status definition in the data repository.

RTAINSPC (Analysis groups in analysis specifications)

To display the names of analysis specifications and the analysis groups associated with them, issue the command:

```
RTAINSPC [rtaspec [rtagroup]]
```

where:

rtaspec
Is the specific or generic name of an analysis specification or * (asterisk) for all analysis specifications.

rtagroup
Is the specific or generic name of an analysis group. If you omit this parameter, the view includes information about all analysis groups associated with the analysis specifications.

If you do not specify any parameters, the resulting view, illustrated in Figure 36, includes information about all analysis specifications and the analysis groups associated with them.

```
27FEB2005  21:03:49 ----------- INFORMATION DISPLAY ---------------------------
COMMAND  ===>                                                 SCROLL ===> PAGE
CURR WIN ===> 1        ALT WIN ===>
 W1 =RTAINSPC==========EYUPLX01=EYUPLX01=27FEB2005==21:03:49=CPSM==========1===
CMD Spec     Group
--- Name---- Name----
    EYURTS01 EYURTG07
```

Figure 36. The RTAINSPC view

Action commands

Table 22 summarizes the action commands you can use with the RTAINSPC view.

Table 22. RTAINSPC view action commands

Primary command	Line command	Description
n/a	ADD	Add an association between an analysis group and an analysis specification, as described on page 60.
n/a	BRO	Browse the association between an analysis group and an analysis specification. The format of the resulting panel is similar to that shown in Figure 37 on page 60. The panel fields are not modifiable.
n/a	MAP	Display a visual map of real-time analysis definitions using the designated specification as a starting point.
n/a	REM	Remove the association between an analysis group and an analysis specification.
TEMPMP cmasid	n/a	Change the temporary maintenance point CMAS to a specific CMAS or display a selection list based on a generic CMAS ID.

Hyperlink fields

Table 23 shows the hyperlink fields on the RTAINSPC view.

Table 23. RTAINSPC view hyperlink field

Hyperlink field	View displayed	Description
Spec Name	RTASPEC	Detailed information about the designated analysis specification.
Group Name	RTAGROUP	Detailed information about the designated analysis group.

Adding an analysis group to an analysis specification

Figure 37 illustrates the panel produced when you use the add (ADD) line action command from the RTAINSPC view.

```
-------------------- Add Analysis Group to Specification for EYUPLX01--------
COMMAND  ===>

 Analysis Group Name  ===> EYURTG01    RTA Group or Generic

 Specification Name   ===> EYURTS03    RTA Specification or Generic


Press Enter to add Analysis Group to Specification.
Type END or CANCEL to cancel without adding.
```

Figure 37. Adding an analysis group to an analysis specification

Provide the following information:

Analysis Group Name
Enter the specific or generic name of an existing analysis group. If you specify a generic value, a list of valid analysis groups is displayed.

Specification Name
Enter the specific or generic name of an existing analysis specification to which the analysis group is to be added. If you specify a generic value, a list of valid analysis specifications is displayed.

Press Enter to add the designated association to the analysis specification and analysis group definitions in the data repository.

RTASCOPE (Analysis specifications assigned a scope)

To display information about the CICS systems or CICS system groups that are associated with an analysis specification, issue the command:

```
RTASCOPE [rtaspec]
```

where `rtaspec` is a specific or generic name of an analysis specification. If you omit this parameter, the resulting view, illustrated in Figure 38 on page 61, includes information about all analysis specifications, and the associated scope information, for the CICSplex identified as the context.

```
27FEB2005  21:03:56 ----------- INFORMATION DISPLAY ---------------------------
COMMAND  ===>                                                 SCROLL ===> PAGE
CURR WIN ===> 1        ALT WIN ===>
 W1 =RTASCOPE==========EYUPLX01=EYUPLX01=27FEB2005==21:03:56=CPSM==========2===
CMD RTA      Scope    Scope    Scope    Scope    Update
--- Spec---- Name---- Type---- Mode---- Link---- Option--
    EYURTS01 EYUMAS1A CICSSYS  EXPLICIT
    EYURTS03 EYUMAS4A CICSSYS  EXPLICIT
```

Figure 38. The RTASCOPE view

Action commands and overtype fields

Table 24 summarizes the action commands you can use with the RTASCOPE view. Table 25 on page 62 identifies the overtype fields you can modify when you use the SET action command.

Table 24. RTASCOPE view action commands

Primary command	Line command	Description
n/a	BRO	Browse the association between a scope and an analysis specification. The format of the resulting panel is similar to that shown in Figure 39 on page 62. The panel fields are not modifiable.
n/a	MAP	Display a visual map of real-time analysis definitions using the designated specification as a starting point.
n/a	REM	Remove the association between a scope and an analysis specification, as described on page 63.
n/a	SET	Change the association between a scope and an analysis specification using overtype fields (see Table 25 on page 62). **Note:** The value you specified in the Require Set field on the CICSPlex System Manager entry panel determines whether or not you must use the SET command when you overtype a field.
TEMPMP cmasid	n/a	Change the temporary maintenance point CMAS to a specific CMAS or display a selection list based on a generic CMAS ID.
n/a	UPD	Update the association between a scope and an analysis specification, as described in Updating scope-to-analysis specification associations.

When you change or remove the analysis specification associated with a CICS system group, you must indicate how the CICS systems comprising that group are to be affected.

Based on the value you specify, the number of entries shown in the RTASCOPE view may increase or decrease. For example, you might specify a value that causes a CICS system within a CICS system group to be explicitly associated with a specification, rather than inherit it from its CICS system group. When this happens, the resulting RTASCOPE view contains a line identifying the CICS system group and a new line identifying the CICS system that is now explicitly associated with a specification.

Table 25. RTASCOPE view overtype fields

Field name	Value
RTA Spec	1- to 8-character name of an existing analysis specification that is to be associated with the CICS system or CICS system group.
Update Option	FORCE | KEEP | NAME | NULL

Notes:

1. When the scope of the analysis specification is a CICS system group, you must indicate how the CICS systems comprising the CICS system group are to use the specification by overtyping the contents of the Update Option field.

   If the CICS system group includes other CICS system groups, all of the CICS systems, including those in the subordinate CICS system groups, are affected by the value specified in the Update Option field.
2. If you update the analysis specification for a CICS system that is already active, you must restart real-time analysis, as described in "Updating scope-to-analysis specification associations."

Hyperlink fields

Table 26 shows the hyperlink field on the RTASCOPE view.

Table 26. RTASCOPE view hyperlink field

Hyperlink field	View displayed	Description
RTA Spec	RTASPEC	Detailed information about the designated analysis specification.

Updating scope-to-analysis specification associations

Figure 39 illustrates the panel produced when you use the update (UPD) line action command from the RTASCOPE view.

```
----------- Update RTA Specification in Scope for EYUPLX01 -------------------
COMMAND  ===>

  Specification Name   ===> EYURTS01   Specification name or Generic
  Scope                     EYUCSG01
  Scope Type                SYSGROUP

  Option               ===>            FORCE, KEEP, NAME, or NULL
                                       Valid only for SYSGROUP


 Press ENTER to update.
 Type END or CANCEL to cancel without updating.
```

Figure 39. Updating the association between a scope and an analysis specification

The Option field does not appear on this panel when the scope is a CICS system (CICSSYS).

Change the following information, as appropriate:

Specification Name
Enter the specific or generic name of an existing analysis specification. If you specify a generic value, a list of valid analysis specifications is displayed.

Option

When the scope of the analysis specification is a CICS system group, you must indicate how the CICS systems comprising the CICS system group are to use the specification. To do this, specify one of the following:

FORCE
All CICS systems in the CICS system group are to inherit the new specification.

KEEP Any CICS system that inherited a specification from the CICS system group is to be explicitly assigned the old specification; all other CICS systems in the group are to be unaffected.

NAME Any CICS system that inherited a specification from the CICS system group is to be explicitly assigned the new specification; all other CICS systems in the group are to be unaffected.

NULL Any CICS system in the CICS system group that is not explicitly associated with a specification is to inherit the new specification; all other CICS systems in the group are to be unaffected.

If the CICS system group includes other CICS system groups, all of the CICS systems, including those in the subordinate CICS system groups, are affected by the value specified in the Option field.

If you update the analysis specification for a CICS system that is already active, the new specification is not immediately available. To reset real-time analysis, you must display the MAS view and use the UPD action command to do one of the following:

- If real-time analysis is not already active (as indicated by NO in the RTA Active field), specify YES in that field and press Enter to turn real-time analysis on.
- If real-time analysis is active (as indicated by YES or SAM in the RTA Active field), first specify NO in that field and press Enter to turn real-time analysis off. Then use the UPD action command again and specify YES in the RTA Active field.

Real-time analysis becomes active using the new analysis specification.

Removing scope-to-analysis specification associations

Figure 40 illustrates the panel produced when you use the remove (REM) line action command from the RTASCOPE view.

```
------------------ Confirm Removal of RTA Spec to Scope from EYUPLX01 ---------
COMMAND  ===>

  Specification Name         EYURTS02
  Scope                      EYUCSG01
  Scope Type                 SYSGROUP

  Option                ===>            KEEP or blank
                                        Valid only for SYSGROUP

  WARNING:  For this definition type, removal will cascade through
            related associations.

 Press Enter to remove.
 Type END or CANCEL to cancel without removing.
```

Figure 40. Removing the association between a scope and an analysis specification

The Option field does not appear on this panel when the scope is a CICS system (CICSSYS).

Provide the following information when the scope is a CICS system group:

Option
Indicate how the CICS systems comprising the CICS system group are to use the analysis specification associated with that CICS system group. Specify:

KEEP Those CICS systems that inherited the specification from the CICS system group are explicitly assigned that specification.

Blank Those CICS system that inherited the specification from the CICS system group are not to use that specification.

If the CICS system group includes other CICS system groups, all of the CICS systems, including those in the subordinate CICS system groups, are affected by the value specified in this field.

Press Enter to remove the scope from the designated analysis specification definition in the data repository.

RTASPEC (Analysis specifications)

An analysis specification identifies the default control attributes that are used for system availability monitoring and provides an anchor for all analysis definitions and status definitions associated with a CICS system.

Examples of how to use this view can be found in:
- “Monitoring resources permanently” on page 88
- “Monitoring multiple resource types in a CICS system group (2)” on page 101

To display information about existing analysis specifications, issue the command:

```
RTASPEC [rtaspec]
```

where `rtaspec` is the specific or generic name of an analysis specification. If you omit this parameter, the resulting view, illustrated in Figure 41, includes information about all analysis specifications for the CICSplex identified as the context.

```
27FEB2005  21:04:03 ----------- INFORMATION DISPLAY ---------------------------
COMMAND  ===>                                                SCROLL ===> PAGE
CURR WIN ===> 1        ALT WIN ===>
 W1 =RTASPEC==========EYUPLX01=EYUPLX01=27FEB2005==21:04:02=CPSM==========2===
CMD Spec     Description
--- Name---- ------------------------------
    EYURTS01 SSet - TOR groups
    EYURTS03 SSet - FOR groups
```

Figure 41. The RTASPEC view

Action commands

Table 27 on page 65 summarizes the action commands you can use with the RTASPEC view

Table 27. RTASPEC view action commands

Primary command	Line command	Description
n/a	ADD	Add an association between an analysis specification and a CICS system or CICS system group, as described on page 67.
n/a	BRO	Browse an analysis specification definition in the data repository. The format of the resulting panel is similar to that shown in Figure 42 on page 66. The panel fields are not modifiable.
CREate	CRE	Create an analysis specification and add it to the data repository, as described on page 65. When you use the primary command CREate, some fields in the new view may contain values supplied by CICSPlex SM; you may change these values. When you enter the line command CRE next to the name of an analysis specification, fields in the new view contain values to be modelled (from the existing analysis specification).
n/a	MAP	Display a visual map of real-time analysis definitions using the designated specification as a starting point.
n/a	REM	Remove an analysis specification from the data repository.
TEMPMP cmasid	n/a	Change the temporary maintenance point CMAS to a specific CMAS or display a selection list based on a generic CMAS ID.
n/a	UPD	Update an analysis specification in the data repository. The format of the resulting panel is similar to the panel shown in Figure 42. You can modify the contents of any field in the panel except RTA Spec Name.

Hyperlink fields

Table 28 shows the hyperlink field on the RTASPEC view.

Table 28. RTASPEC view hyperlink field

Hyperlink field	View displayed	Description
Spec Name	RTAINSPC	Detailed information about the associations that exist between the designated analysis specification and its analysis groups.

Creating an analysis specification

Figure 42 on page 66 shows the format of the panel produced when you use the create primary (CREate) or line (CRE) action command from the RTASPEC view.

```
----------------------- Create Analysis Specification for EYUPLX01 ------------
COMMAND  ===>

 RTA Spec Name     ===> EYURTS03
 Description       ===> SSet - FOR groups

 System availability management:

                Action or Generic    Severity
 SAM                 => NOSYSTEM  => VHS
 SOS                 => DSAINSOS  => HS
 SYSDUMP             => CICSDUMP  => HS
 TRANDUMP            => TRANDUMP  => HW
 MAXTASK             => CICSMAXT  => HS
 STALL               => CICSDEAD  => VHS

Press Enter to create the RTA Specification.
Type END or CANCEL to cancel without creating.
```

Figure 42. Creating an analysis specification

Provide the following information, as appropriate:

RTA Spec Name
Specify a 1- to 8-character name for the analysis specification. The name can contain alphabetic, numeric, or national characters. However, the first character must be alphabetic,

Description
(Optional.) Specify a 1- to 30-character description of the specification.

Action
Enter the specific or generic name of an action definition to be used when a predefined system availability monitoring condition occurs. If you specify a generic value, a list of valid action definitions is displayed. If you leave this field blank, the default action definition is used, as described in “Default notification values” on page 10.

Severity
Indicate how the predefined condition is to be handled. Specify:

severity
Identify the severity level that is to be associated with the designated condition. The severity codes are:

VLS Very low severe
LS Low severe
LW Low warning
HW High warning
HS High severe
VHS Very high severe

NO Exclude this condition from monitoring.

Press Enter to add the analysis specification to the data repository.

The severity, if not specified or N/A, will default to the default event security as described in “Default notification values” on page 10.

Adding a scope to an analysis specification

Associating an analysis specification with a scope causes the specification to be automatically installed when a CICS system associated with the scope is started. Any definitions associated with the specification through analysis groups are also automatically installed.

However, if you associate the analysis specification with a CICS system that is already active, the new specification is not immediately available. To reset real-time analysis, you must display the MAS view and use the UPD action command to do one of the following:

- If real-time analysis is not already active (as indicated by NO in the RTA Active field), specify YES in that field and press Enter to turn real-time analysis on.
- If real-time analysis is active (as indicated by YES or SAM in the RTA Active field), first specify NO in that field and press Enter to turn real-time analysis off. Then use the UPD action command again and specify YES in the RTA Active field.

Real-time analysis becomes active using the new analysis specification.

Figure 43 illustrates the panel produced when you use the add (ADD) line action command from the RTASPEC view.

```
----------------------- Add Scope for Specification for EYUPLX01 --------------
COMMAND  ===>

 Analysis Spec Name      EYURTS01
 Description             SSet - TOR groups

 Scope              ===>              CICS System, Group or Generic
 Option             ===>              FORCE, NULL, or NONE for System Group

Press Enter to add Analysis Specification Scope.
Type END or CANCEL to cancel without adding.
```

Figure 43. Adding a scope to an analysis specification

Provide the following information:

Scope Enter the specific or generic name of an existing CICS system or CICS system group that is not associated with any other analysis specification. If you specify a generic value, a list of valid CICS systems and CICS system groups is displayed.

A CICS system or CICS system group can be associated with only one analysis specification at a time. A specification, however, can be associated with any number of CICS systems and CICS system groups.

Option

(Required only when the scope is a CICS system group.) Indicate how the CICS systems comprising the CICS system group are to handle analysis specifications. Specify:

FORCE

All CICS systems in the CICS system group are to use the analysis specification. (The analysis specification attribute for each CICS system changes to INHERIT, indicating that the CICS system acquired the specification from a CICS system group.)

NULL Those CICS systems within the CICS system group that are not

associated with an analysis specification are to use this specification. (The analysis specification attribute for those CICS systems changes to INHERIT.)

NONE Only the CICS system group is to be associated with the analysis specification. The CICS systems in the CICS system group are not affected. That is, if there is not association between a CICS system and an analysis specification, none is established; if there is an association, either explicitly established or inherited from another CICS system group, it is unchanged.

When the CICS system group includes other CICS system groups, all of the CICS systems, including those in the subordinate CICS system groups, are affected by the value specified in this field.

Press Enter to add the designated scope to the analysis specification definition in the data repository.

To remove the scope association, see page 63.

STATDEF (Status definitions)

A status definition identifies a user-program that is to be called by CICSPlex SM at specific intervals.

To display information about existing status definitions, issue the command:

```
STATDEF [statdef]
```

where `statdef` is the specific or generic name of a status definition. If you omit this parameter, the resulting view, illustrated in Figure 44, includes information about all existing status definitions within the current context.

```
27FEB2005  16:17:25 ----------- INFORMATION DISPLAY ---------------------------
COMMAND  ===>                                                 SCROLL ===> PAGE
CURR WIN ===> 1        ALT WIN ===>
 W1 =STATDEF==========EYUPLX01=EYUPLX01=27FEB2005==16:17:25=CPSM==============
CMD Name     Program  Intvl Action   Description
--- -------- -------- ----- -------- ----------------------------
    EYURST06 DB2STATE    60          SSet - Probe for DB2 Appl
```

Figure 44. The STATDEF view

Action commands

Table 29 summarizes the action commands you can use with the STATDEF view.

Table 29. STATDEF view action commands

Primary command	Line command	Description
n/a	ADD	Add an association between a status definition and an analysis group, as described on page 70.
n/a	BRO	Browse a status definition in the data repository. The format of the resulting panel is similar to that shown in Figure 45 on page 69. The panel fields are not modifiable.

Table 29. STATDEF view action commands (continued)

Primary command	Line command	Description
CREate	CRE	Create a status definition and add it to the data repository, as described on page 69. When you use the primary command CREate, some fields in the new view may contain values supplied by CICSPlex SM; you may change these values. When you enter the line command CRE next to the name of a status definition, fields in the new view contain values to be modelled (from the existing status definition).
n/a	INS	Install a status definition in a CICS system or CICS system group, as described on page 71.
n/a	MAP	Display a visual map of real-time analysis definitions using the specified definition as a starting point.
n/a	REM	Remove a status definition from the data repository.
TEMPMP cmasid	n/a	Change the temporary maintenance point CMAS to a specific CMAS or display a selection list based on a generic CMAS ID.
n/a	UPD	Update a status definition in the data repository. The format of the resulting panel is similar to the panel shown in Figure 45. You can modify the contents of any field in the panel except Name.

Hyperlink fields

There are no hyperlink fields on the STATDEF view.

Creating a status definition

Figure 45 shows the format of the panel produced when you use the create primary (CREate) or line (CRE) action command from the STATDEF view.

```
 --------------------- Create Status Definition for EYUPLX01 ------------------
COMMAND ==>

 Name               ===> EYURST06
 Description        ===> SSet - Probe for DB2 Appl

 Program Name       ===> DB2STATE     Name of Status Program
 Call Interval      ===> 60           Interval Between Calls in Seconds
 Action Name        ===>              Action Definition Name or Generic
 User ID            ===>              User ID for Task
 Transaction ID     ===>              Transaction ID for Task

                         VLS    LS    LW    HW    HS   VHS
Entry Intervals     ===> 0005  0005  0005  0005  0005  0005
Exit  Intervals     ===> 0002  0003  0001  0001  0003  0002

Press Enter to create the Status Definition.
Type END or CANCEL to cancel without creating.
```

Figure 45. Creating a status definition

Provide the following information, as appropriate.

Name Specify a 1- to 8-character name for the status definition. The name can contain alphabetic, numeric, or national characters. However, the first character must be alphabetic,

Description
(Optional.) Specify a 1- to 30-character description of the definition.

Program Name
(Optional.) Specify the name of the user-written program that is to return information to CICSPlex SM.

If the program is to return status information about multiple conditions and you can create one status definition for each condition, where:

- Each definition identifies the user program. In this case, a separate task is started for each status definition that names a program.
- Only the first definition identifies the user program. In this case, one task is started for the definition that names the program.

(For more information about writing programs to monitor status, see Appendix A, “Customizing programs that monitor status,” on page 171.)

Call Interval
Specify the interval, in seconds, between calls to the status program. The value must be between 1 and 86400.

Action Name
Enter the specific or generic name of an action definition to be used if the STATDEF enters the True state. If you specify a generic value, a list of valid action definitions is displayed.

User Id
(For CICS/ESA 4.1 only. Optional.) Specify the ID of the user (defined to your external security manager) that is to be associated with the CICS status probe task running in the MAS.

Transaction Id
(Optional.) Specify the transaction identifier under which the status program is to execute in the target CICS system.

Entry Intervals
Specify the number of consecutive Call Frequency intervals, within each severity level, that must result in a *true* condition before this definition is considered true.

Exit Intervals
Specify the number of consecutive Call Frequency intervals, within each severity level, that must result in a *false* condition before this definition is considered false.

Press Enter to add the status definition to the data repository.

Adding a status definition to an analysis group

Figure 46 on page 71 illustrates the panel produced when you use the add (ADD) line action command from the STATDEF view.

```
---------------------- Add STATDEF to Analysis Group for EYUPLX01-------------
COMMAND  ===>

 Status Definition          EYURST06
 Description                SSet - Probe for DB2 Appl

  Analysis Group       ===> EYURTG10     Analysis Group or Generic
  Active Period        ===> PRIME        Period Name or Generic

Press Enter to add Status Definition to Analysis Group.
Type END or CANCEL to cancel without adding.
```

Figure 46. Adding a status definition to an analysis group

Provide the following information:

Analysis Group
: Enter the specific or generic name of an analysis group with which this definition is to be associated. If you specify a generic value, a list of valid analysis groups is displayed.

Active Period
: (Optional) Enter the specific or generic name of a period definition that identifies the range of hours during which the status definition is to be active. If you specify a generic value, a list of valid period definitions is displayed.

  If the name you specify is not an existing period definition, you can create that period definition later. If you leave this field blank, the status definition remains active for as long as the CICS system is running or until you discard it.

Press Enter to add the status definition to the designated analysis group in the data repository.

Installing a status definition

You can install a status definition in one or more active CICS systems that are within the CICSplex identified as the context.

Notes:

1. The RTA status probe program must be available for execution prior to installation of a status definition.
2. A status definition can be automatically installed in a CICS system when that system starts. For this to occur, associate the definition with an analysis group. Then associate that group with an analysis specification that is defined to the CICS system.

Figure 47 on page 72 illustrates the panel produced when you use the install (INS) line action command from the STATDEF view.

```
----------------------- Install STATDEF for EYUPLX01 -------------------------
COMMAND  ===>

 Name            EYURST06
 Description     SSet - Probe for DB2 Appl

 Type            STATDEF

 Scope           ===>              CICS System, System Group, or Generic
 Active Period   ===>              Blank, PERIODEF, or Generic

Press Enter to install Status Definition.
Type END or CANCEL to cancel without installing.
```

Figure 47. Installing a status definition

Provide the following information:

Scope Enter the specific or generic name of a CICS system or CICS system group into which the definition is to be installed. The CICS system or CICS system group must be within the CICSplex identified as the current context. If you specify a generic value, a list of valid CICS systems and CICS system groups is displayed.

Active Period
(Optional) Enter the specific or generic name of an existing period definition that identifies the range of hours during which the status definition is to be active. If you specify a generic value, a list of valid period definitions is displayed.

Press Enter to install the definition in the designated CICS systems.

For an installation to succeed, the CICS system must be running and real-time analysis must be active. The status definition becomes active either:

- Immediately, if no period definition is associated with it and the CICS system is running
- At the time designated by the associated period definition

The status definition remains active as long as the CICS system is running, until you discard it, or until the time designated by an associated period definition is reached.

To discard a status definition installed in a CICS system, use the RTAACTV view as described in Table 3 on page 5.

Chapter 4. Analysis definitions

This section describes how you can obtain information about your real-time analysis environment, using the views:

APACTV
Displays information about the current status of analysis definitions associated with an analysis point specification.

EVENT
Displays information about significant outstanding changes in the status of a CICSplex or one of its CICS systems.

EVENTD
Displays information about an outstanding change in the status of a CICSplex or one of its CICS systems.

EVENTDTD
Displays information about the current data for an evaluation definition associated with an analysis definition that has caused an event to be generated.

EVENTDTL
Displays information about evaluation definitions associated with an analysis definition that has caused an event to be generated.

RTAACTV
Displays information about the current status of analysis and status definitions associated with active CICS systems.

See “Views for managing definitions” on page 4 for an overview of equivalent WUI views.

APACTV

The APACTV view shows information about analysis definitions associated with an analysis point specification.

Issue command:

```
APACTV [apspec  [rtadef [ACTIVE|PENDING]]]
```

`apspec` Is the specific or generic name of an analysis point specification or * for all analysis point specifications.

`rtadef` Is the specific or generic name of an analysis definition or * for all analysis definitions.

`ACTIVE|PENDING` Limits the view to either active or pending definitions. If you omit this parameter, definitions are included in the view regardless of their status.

If you do not specify any parameters, the resulting view includes information about all analysis definitions associated with analysis point specifications in the current context.

Select:
APACTV from a menu of ANALYSIS views.

Figure 48 on page 74 is an example of the APACTV view.

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```
27FEB2005  16:51:29 ----------- INFORMATION DISPLAY --------------------------
COMMAND  ===>                                                SCROLL ===> PAGE
CURR WIN ===> 1        ALT WIN ===>
 W1 =APACTV============EYUPLX01=EYUPLX01=27FEB2005==16:51:29=CPSM==========7===
CMD APSPEC   CMAS     Type RTADEF   Scope    Status    Active   Rate  Action
--- Name---- Name---- ---- Name---- -------- --------- Period-- ----- --------
    EYURAPLC EYUCMS1A PRIM EYURTDLC EYUPLX01 ACTIVE                60 EYURTALC
    EYURAP01 EYUCMS1A PRIM EYURTD01 EYUPLX01 ACTIVE               300 EYURTA01
    EYURAP01 EYUCMS1A PRIM EYURTD02 EYUPLX01 ACTIVE    EYUPDF01   300 EYURTA02
    EYURAP01 EYUCMS1A PRIM EYURTD19 EYUPLX01 ACTIVE               300 EYURTA19
    EYURAP01 EYUCMS1A PRIM EYURTD20 EYUPLX01 ACTIVE               300 EYURTA20
    EYURAP01 EYUCMS1A PRIM EYURTD21 EYUPLX01 ACTIVE               300 EYURTA21
    EYURAP01 EYUCMS1A PRIM EYURTD22 EYUPLX01 ACTIVE               300 EYURTA22
```

Figure 48. The APACTV view

Action commands

Table 30 shows the action commands you can issue from the APACTV view.

Table 30. APACTV view action commands

Primary command	Line command	Description
DEActivate `apspec cmasname rtadef plexname`	DEA	Deactivates an ACTIVE analysis definition for which a time period is defined; the status of the definition changes to PENDING.
DiSCard `apspec cmasname rtadef plexname`	DSC	Discards an ACTIVE or PENDING analysis definition from the CICS system in which it is installed.

Where:

apspec
Is the specific or generic name of an analysis point specification.

cmasname
Is the specific or generic name of a CMAS.

rtadef Is the specific or generic name of an analysis definition.

plexname
Is the specific or generic name of a CICSplex.

Hyperlinks

Table 31 shows the hyperlink fields on the APACTV view.

Table 31. APACTV view hyperlink fields

Hyperlink field	View displayed	Description
APSPEC Name	APSPEC	Detailed information about the specified analysis point specifications.
RTADEF Name	RTADEF	Detailed information about the specified analysis definition.
Period	PERIODEF	Detailed information about the specified period definition.
Action	ACTNDEF	Detailed information about the specified action definition.

Usage

Deactivating or discarding an analysis definition

When an analysis definition is installed in an analysis point, its status (as illustrated by the Status field in Figure 48 on page 74) is either:

ACTIVE
The analysis definition is installed and active.

PENDING
The analysis definition is installed and ready to become active.

An analysis definition is active during the time period identified in the Period field. (When this field is blank, the definition is active as long as the analysis point in which it is installed is active.)

To change the status of an installed analysis definition, type either the DEA or DSC action command in the line command field next to the name of the definition.

- Use DEA to deactivate a definition with an ACTIVE status for which a time period is defined. (The definition remains installed; its status is changed to PENDING. The next time the end of the associated time period is reached, the definition will become active again.)
- Use DSC to discard a definition with an ACTIVE or PENDING status and to remove the definition from the analysis point in which it is installed.

Press Enter. A confirmation panel is displayed. Press Enter again to deactivate or discard the analysis definition.

EVENT

The EVENT view shows information about significant outstanding changes in the status of a CICSplex or one of its CICS systems. An example of how to use this view can be found in “Finding out why a CICSPlex SM event occurred” on page 166.

Issue command:

```
EVENT [event [eventsys  [severity [eventtype]]]]
```

`event` Is the specific or generic name of an event or * for all events.

`eventsys` Is the specific or generic name of a CICS system or CICS system group that was the target of the event, or * for all CICS systems.

`severity` Limits the view to events having the specified severity level(s). Specify a severity level or * for all severity levels. The valid severity levels are:

VHS Very high severe
HS High severe
HW High warning
LW Low warning
LS Low severe
VLS Very low severe

`eventtype` Limits the view to events of the specified type. Enter one of the following:

APM Analysis point monitoring

MRM Resource monitoring

SAM System availability monitoring

If you omit this parameter, events are included in the view regardless of their type.

If you do not specify any parameters, the resulting view includes information about all events within the CICSplex identified as the context.

Select:

EVENT from a menu of ANALYSIS views.

Figure 49 is an example of the EVENT view.

```
27FEB2005  18:29:26 ----------- INFORMATION DISPLAY ---------------------------
COMMAND  ===>                                                SCROLL ===> PAGE
CURR WIN ===> 1        ALT WIN ===>
 W1 =EVENT=============EYUPLX01=EYUPLX01=27FEB2005==18:29:26=CPSM==========2===
CMD Name     Target   Sev Pri Type Dtl Date      Time     View     Resource  Key
--- -------- -------- --- --- ---- --- --------- -------- -------- --------  ---
    !!SAMOPS EYUMAS1A VHS 255 SAM  NO  27FEB2005 09:52:10
    EYURTDLC EYUPLX01 VHS   1 APM  YES 27FEB2005 09:52:10 CICSRGN  CICSRGN  EYU
    EYURTD01 EYUPLX01 VLS   1 MRM  YES 27FEB2005 09:52:10 PROGRAM  PROGRAM  DFH
```

Figure 49. The EVENT view

Notes:

1. Scroll to the right to see the key and description associated with each event.
2. Events are sorted for display according to the contents of the following fields:
   - Severity (from VHS to VLS)
   - Priority (from 1 to 255)
   - Event Name
   - Target

Action commands

None.

Hyperlinks

Table 32 shows the hyperlink fields on the EVENT view.

Table 32. EVENT view hyperlink fields

Hyperlink field	View displayed	Description
Name	EVENTD	Detailed information about the specified event.
Dtl	EVENTDTL	General information about the evaluation definitions associated with the analysis definition that caused the event to be generated.

Note: Dtl can be used as a hyperlink field only when it contains a value of YES.

EVENTD

The EVENTD view shows information about an outstanding change in the status of a CICSplex or one of its CICS systems.

Hyperlink from:

the Name field of the EVENT view.

Figure 50 on page 77 is an example of the EVENTD view.

```
27FEB2005  18:29:49 ----------- INFORMATION DISPLAY ---------------------------
COMMAND  ===>                                                 SCROLL ===> PAGE
CURR WIN ===> 1        ALT WIN ===>
 W1 =EVENT====EVENTD===EYUPLX01=EYUPLX01=27FEB2005==18:29:26=CPSM==========1===
    Event Name..   EYURTD01
    Target......   EYUPLX01 Severity      Defin   Defin   Curr.   Curr.
    CMAS Name...   EYUCMS1A Level...      Entry    Exit Entry    Exit
                                VHS           1       1       0       0
    Event Type..        APM      HS           1       1       0       0
    Severity....        VHS      HW           1       1       0       0
    Priority....          1      LW           1       1       1       0
                                 LS           1       1       1       0
    Date........  27FEB2005      VLS          1       1       1       0
    Time........   18:16:58
    Eval Rate...        300
    Details.....        YES
    View........    CONNECT

    Action......   EYURTA01
    Resource.... CONNECTION
    Gen Ext Msg.        YES
    Gen Alert...         NO
    NetView CMAS
```

Figure 50. The EVENTD view

Action commands

None.

Hyperlinks

Table 33 shows the hyperlink field on the EVENTD view.

Table 33. EVENTD view hyperlink field

Hyperlink field	View displayed	Description
Details	EVENTDTL	General information about the evaluation definitions associated with the analysis definition that caused the event to be generated.

Note: Details can be used as a hyperlink field only when it contains a value of YES.

EVENTDTD

The EVENTDTD view shows information about an evaluation definition associated with an analysis definition that has caused an event to be generated. An example of how to use this view can be found in “Finding out why a CICSPlex SM event occurred” on page 166.

Hyperlink from:

the EVALDEF field of the EVENTDTL view.

Figure 51 on page 78 is an example of the EVENTDTD view.

```
27FEB2005   18:30:11 ----------- INFORMATION DISPLAY ---------------------------
 COMMAND  ===>                                                SCROLL ===> PAGE
 CURR WIN ===> 1        ALT WIN ===>
  W1 =EVENTDTL=EVENTDTD=EYUPLX01=EYUPLX01=27FEB2005==18:30:01=CPSM==========1===
     Event Name..     EYURTD01                            VHS value.
     EVALDEF Name     EYURTE01 Table Name...      CONNECT HS value..
     Target......     EYUPLX01 Instance Patt            * HW value..
     State.......         TRUE Eval Column..   CONNSTATUS LW value..
     Severity....          VHS Eval Operator              LS value..
     Date........    27FEB2005                            VLS value.
     Time........     18:26:58                            Eval Value
     Set Action..          ALL                            Data Value
     Sample Rate.          300                            Key.......
     View........      CONNECT
     Type........        VALUE
     Resource....      CONNECT
```

Figure 51. The EVENTDTD view

Action commands

None.

Hyperlinks

None.

EVENTDTL

The EVENTDTL view shows information about evaluation definitions associated with an analysis definition that has caused an event to be generated. An example of how to use this view can be found in “Finding out why a CICSPlex SM event occurred” on page 166.

Hyperlink from:

the Dtl field of the EVENT view or the Detail field of the EVENTD view.

Figure 52 is an example of the EVENTDTL view.

```
27FEB2005  18:30:01 ----------- INFORMATION DISPLAY ---------------------------
COMMAND  ===>                                                SCROLL ===> PAGE
CURR WIN ===> 1        ALT WIN ===>
>W1 =EVENTDTL==========EYUPLX01=EYUPLX01=27FEB2005==18:30:01=CPSM==========1===
CMD EVALDEF  Sev Table    Instance Evaluation   View     Data Value
--- -------- --- -------- -------- Column------ -------- ----------------------
    EYURTE01 VHS CONNECT  *        CONNSTATUS   CONNECT  NOTAPPLIC
```

Figure 52. The EVENTDTL view

Note: CICSPlex SM-generated events are not included in this view.

Action commands

None.

Hyperlinks

Table 34 shows the hyperlink field on the EVENTDTL view.

Table 34. EVENTDTL view hyperlink field

Hyperlink field	View displayed	Description
EVALDEF	EVENTDTD	Detailed information about the specified evaluation definition.

RTAACTV

The RTAACTV view shows information about analysis and status definitions installed in CICS systems known to the CICSplex identified as the current context.

Issue command:

`RTAACTV [defname [ACTIVE|PENDING]]`

`defname` Is the specific or generic name of an analysis or status definition, or * for all definitions.

`ACTIVE|PENDING` Limits the view to either active or pending definitions. If you omit this parameter, definitions are included in the view regardless of their status.

If you do not specify any parameters, the resulting view includes information about all analysis and status definitions within the current context.

Select:

RTAACTV from a menu of ANALYSIS views.

Figure 53 is an example of the RTAACTV view.

```
27FEB2005  21:02:41 ----------- INFORMATION DISPLAY ---------------------------
COMMAND  ===>                                                SCROLL ===> PAGE
CURR WIN ===> 1        ALT WIN ===>
 W1 =RTAACTV==========EYUPLX01=EYUPLX01=27FEB2005==21:02:41=CPSM==========3===
CMD Name     System   Status    Active   Rate  Action   Def
--- -------- -------- --------- Period-- ----- -------- Type---
    EYURTD16 EYUMAS4A ACTIVE               300 EYURTA16 RTADEF
    EYURTD17 EYUMAS4A ACTIVE               300 EYURTA17 RTADEF
    EYURTD18 EYUMAS1A ACTIVE               300 EYURTA18 RTADEF
```

Figure 53. The RTAACTV view

Action commands

Table 35 shows the action commands you can issue from the RTAACTV view.

Table 35. RTAACTV view action commands

Primary command	Line command	Description
DEActivate `defname sysname`	DEA	Deactivates an ACTIVE analysis or status definition for which a time period is defined; the status of the definition changes to PENDING.
DiSCard `defname sysname`	DSC	Discards an ACTIVE or PENDING analysis or status definition from the CICS system in which it is installed.

Table 35. RTAACTV view action commands (continued)

Primary command	Line command	Description

Where:

defname
Is the specific or generic name of an analysis definition.

sysname
Is the specific or generic name of a CICS system.

Hyperlinks

Table 36 shows the hyperlink fields on the RTAACTV view.

Table 36. RTAACTV view hyperlink fields

Hyperlink field	View displayed	Description
Name	RTADEF	Detailed information about the specified analysis definition.
Name	STATDEF	Detailed information about the specified status definition.
Active period	PERIODEF	Detailed information about the specified period definition.
Action	ACTION	Detailed information about the specified action definition.

Usage

Deactivating or discarding an analysis or status definition

When an analysis or status definition is installed in a CICS system, its status (as illustrated by the Status field in Figure 53 on page 79) is either:

ACTIVE
The definition is installed and active.

PENDING
The definition is installed and ready to become active.

An analysis or status definition is active during the time period identified in the Period field. (When this field is blank, the definition is to be active as long as the CICS system in which it is installed is active.)

To change the status of an installed analysis or status definition, type either the DEA or DSC action command in the line command field next to the name of the definition.

- Use DEA to deactivate a definition with an ACTIVE status. (The definition remains installed; its status is changed to PENDING. The next time the associated time period is reached, the definition will become active again.)
- Use DSC to discard a definition with an ACTIVE or PENDING status and to remove the definition from the CICS system in which it is installed.

Press Enter. A confirmation panel is displayed. Press Enter again to deactivate or discard the analysis or status definition.

Chapter 5. Example tasks: real-time analysis

This chapter includes several examples of typical real-time analysis setup tasks.

- The examples “Switching system availability monitoring (SAM) on for a MAS” and “Changing the default actions for system availability monitoring (SAM)” on page 82 demonstrate how easily you can activate system availability monitoring (SAM) and tailor the default actions.
- The examples “Monitoring resources temporarily” on page 84 and “Monitoring resources permanently” on page 88 show how the real-time analysis objects you create for a particular resource vary according to whether the monitoring is to be temporary or permanent.
- The examples “Reusing analysis specifications and analysis groups” on page 90 through “Monitoring multiple resource types in a CICS system group (2)” on page 101 show how a variety of real-time analysis requirements can be expressed in different evaluation definitions, action definitions, and analysis definitions.
- The examples “Updating analysis and evaluation definitions” on page 107 and “Deactivating an analysis definition” on page 107 demonstrate two tasks related to the management of real-time analysis objects.
- “Using data gathered by the resource monitoring function” on page 108 shows how real-time analysis can be used to interpret monitor data and issue appropriate warnings when resources are performing poorly.
- The examples “Issuing one notification for multiple conditions(1)” on page 111 and “Issuing one notification for multiple conditions (2)” on page 115 show how to use analysis point specifications to consolidate multiple real-time analysis notifications into one.
- “Modifying the state of a resource” on page 117 shows how real-time analysis can be used to modify a CICS resource when it is not in the desired state.

Switching system availability monitoring (SAM) on for a MAS

This example describes how to use the Web User Interface (WUI) to set up system availability monitoring (SAM) for a MAS.

CICSPlex SM’s system availability monitoring is easy to set up and is extremely useful. When system availability monitoring is activated for a particular CICS system, CICSPlex SM warns you if the system becomes unavailable, or if any of these conditions occurs: short on storage (SOS); system dumps (SYSDUMP); transaction dump (TRANDUMP); maximum number of tasks (MAXTASK); system busy (STALL).

You activate monitoring of system availability (SAMOPS!!) by telling CICSPlex SM at which hours of the day you expect the CICS system to be available. You do this by specifying the name of a valid time period definition in the **CICS system definition** detail view **Period definition name** field .

You activate monitoring of the SOS (!!SAMSOS), SYSDUMP (!!SAMSDM), TRANDUMP (!!SAMTDM), MAXTASK (!!SAMMAX), and STALL (!!SAMSTL) conditions by switching on real-time analysis for the CICS system.

In this example, you’ll see how to tell CICSPlex SM that CICS system CICSPA01, in CICSplex PLXPROD1, should be running problem-free between 09:00 and 17:30 and, if it isn’t, to warn you. You want system availability monitoring to be switched

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on permanently for CICSPA01, and to take effect immediately. The time period definition PDFSHFTA, which covers the hours from 09:00 to 17:30, has already been created.

1. Update the CICS system definition.
   a. From the WUI main menu, click **Administration views—>System availability monitoring administration views—>CICS system definitions** to open the **CICS system definition** tabular view.
   b. If the current context is not PLXPROD1, specify PLXPROD1 in the **Context** field and click **Refresh**.
   c. Select the entry for CICSPA01 and click the **Update** action button. This opens a **CICS system definition** detail view.
   d. In the **Primary CMAS name** field, type in the name of the CMAS to which CICS normally connects. For this task, type CMSSYS1.
   e. In the **Period definition name** field, type PDFSHFTA .
   f. Scroll down to the **Real time analysis status** field and select YES from the drop-down menu.

      If you wanted to activate monitoring of system availability only (and did not want the SOS, SYSDUMP, TRANDUMP, MAXTASK, and STALL conditions to be flagged), just specify SAM rather than YES in this field.
   g. Click Yes at the bottom of the screen.

      The **CICS system definition** tabular view is redisplayed. The change takes effect immediately.
2. Look at the CICSPlex SM event notifications.

   Now that system availability monitoring is switched on for CICS system CICSPA01, you can check the system's availability by clicking **Real Time Analysis (RTA) Outstanding Events** on the **General views** section of the WUI main menu. If CICSPA01 is not active, or is not problem-free, at a time that falls within the period defined in time-period definition PDFSHFTA, there will be an entry to that effect displayed in the view.

If you decide later to switch system availability monitoring off for CICS system CICSPA01, update the CICS system definition again (as described in step 1), and specify NO in the **Real time analysis status** field instead of YES.

Changing the default actions for system availability monitoring (SAM)

If you simply switch system availability monitoring (SAM) on for a particular CICS system, CICSPlex SM issues the default notifications when one of the predefined conditions occurs. That is, CICSPlex SM generates an external message and an event notification. The default values for these messages are shown in "Default notification values" on page 10. You can customize the external message and the event notification to suit local requirements. For example, you might want to change the message text for a particular condition, or change the severity of a condition, or selectively turn off parts of system availability monitoring.

This example shows you how to use the Web User Interface to modify the default system availability monitoring notifications you requested in the previous example ("Switching system availability monitoring (SAM) on for a MAS" on page 81) for CICS system CICSPA01. The changes you want to make are as follows:

- If CICSPA01 is not available between 09:00 and 17:30, an alert is to be sent to NetView by CMAS CMSSYS1, and an event notification, with a severity of HW, is to be issued. However, no external message is to be generated.
- If the system becomes short on storage (SOS), the default actions should be taken, but the priority of the event should be Very High Severe (VHS).

- No notification of system or transaction dumps is required.

1. Create an action definition.
   a. From the WUI main menu, click **Administration views—>System availability monitoring administration views—>Action definitions** to open the **Action definition** tabular view.
   b. If the current context is not PLXPROD1, specify PLXPROD1 in the **Context** field and click **Refresh**.
   c. Click the **Create**[1] action button at the bottom of the screen.
   d. Provide the following information:
      Action name
      RTAPAY01
      Description
      CICSPA01 unavailable
      Generate event option
      YES
      Action priority
      255
      Message to send when event occurs
      AOR CICSPA01 is unavailable
      Generate external message option
      NO
      Generate SNA generic alert option
      YES
      CMAS to which NetView attached
      CMSSYS1
      Message text when alert is raised
      AOR CICSPA01 is unavailable
      Message text when alert is cleared
      AOR CICSPA01 is now available
      Restart MAS option
      NO
   e. Click **Yes** at the bottom of the screen to create the definition. The **Action definition** tabular view is redisplayed.
2. Change the default system availability monitoring actions for CICSPA01.
   a. From the WUI main menu, click **Administration views—>System availability monitoring administration views—>CICS system definitions** to open the **CICS system definition** tabular view.
   b. Select the entry for CICSPA01, and click the **Update** action button.
   c. To replace the default system availability monitoring notifications with your own,
      - Type in the name of the action definition you created in step 1 (RTAPAY01) in the **Action for system availability monitoring event** field
      - In the **Severity for system availability monitoring event** field, select HW from the drop-down menu.
   d. To change the severity of the SOS event to Very High Severe, select VHS from the drop-down menu in the **Severity for short-on-storage (SOS) event** field.
   e. To switch off notification of system and transaction dumps, select NO in the severity fields for both the system dump and transaction dump events.

   The updated system availability monitoring actions take effect immediately.

1. If you want to use an existing definition as a template, select a definition from the list first.

Monitoring resources temporarily

Often, your reasons for monitoring a CICS resource are temporary. For example, a problem might arise with a particular MRO connection that you solve using real-time analysis for a limited period of time. Also, even if you know that you want monitoring of a resource to be regular and permanent, you are recommended to start by monitoring the resource temporarily, so that you can fine-tune the real-time analysis definitions and assess their results.

This example shows you how to use the Web User Interface to create real-time analysis definitions to monitor temporarily the number of DB2® thread aborts associated with particular transactions (those whose names begin with the letters AB) in particular CICS systems (CICSPA01 and CICSPA02). An external message and an event notification will be issued when the number of DB2 thread aborts goes above the number you specify.

1. Create a CICS system group.
   a. From the WUI main menu, click **Administration views—>Topology administration views—>CICS system group definitions** to open the **System group definition** tabular view.
   b. If the current context is not PLXPROD1, specify PLXPROD1 in the **Context** field and click **Refresh**.
   c. Click the **Create** action button at the bottom of the screen.
   d. Type in the following information:
      System group name
      CSGAORS1
      Description
      AORs CICSPA01 and CICSPA02
   e. Click **Yes** to confirm. The **System group definition** tabular view is redisplayed showing an entry for the new group, CSGAORS1. At this point, the group exists, but is empty.
2. Add CICS systems to the CICS system group
   a. Open the **CICS system definition** tabular view (**Administration views—>Topology administration views—>CICS system definitions**) and select the entries for CICSPA01 and CICSPA02.
   b. Click **Add to CICS system group**, and in the **Group which member will join** field, type in CSGAORS1.
   c. Click the **Yes to 2 remaining** button to confirm the operation.
3. Create an evaluation definition.

   This step, and the two that follow, show which definitions you have to create to tell CICSPlex SM about the resource condition you're interested in, and what to do when it occurs. The order in which you create the definitions isn't particularly important, though the order shown here is probably the most logical.

   Start with the evaluation definition, which tells CICSPlex SM about the resource you're interested in. Then define the action definition, which tells CICSPlex SM how to notify you when the condition you've identified occurs. Finish with the analysis definition, which is basically a link between the evaluation definition and the action definition.
   a. From the main menu, click **Administration views—>MAS resource monitoring administration views—>Evaluation definitions** to open the **Evaluation definition** tabular view.
   b. Click the **Create** action button and provide the following information:
      Evaluation definition name
      RTEPAY02

Description
DB2 thread aborts (TRANID AB*)
Sample interval
300
Resource table name
DB2THRD
Instance identifier of evaluated resource
AB*
Method of evaluating results in result set
MAX
Separate task indicator
NO
Name of field being evaluated
ABORTCNT
Lower bound of range for HW
20
Lower bound of range for HS
40
Lower bound of range for VHS
80

You can leave the remaining fields blank.

The **Sample interval** value is the interval at which CICSPlex SM must check the state of the resource. In this example, the number of DB2 thread aborts is to be checked every 300 seconds.

The evaluation threshold values (**Lower bound of range for HW**, and so on) tell CICSPlex SM which severity to apply to the event notification. In this example, when the number of DB2 thread aborts reaches 20, the severity value of the event will be HW; when it reaches 40, the severity value of the event will be HS; and when it reaches 80, the severity value of the event will be VHS.

4. Create an action definition.
   a. From the main menu, click **Administration views—>MAS resource monitoring administration views—>Action definitions** to open the **Action definition** tabular view.
   b. Click the **Create** action button and provide the following information:
      Action name
      RTAPAY02
      Description
      DB2 thread aborts — High
      Generate event option
      YES
      Name of view that may provide useful information [2]
      DB2THRD
      Action priority
      100
      Message to send when event occurs
      DB2 thread aborts too high
      Generate external message option
      YES
      External message sent when event occurs
      DB2 thread aborts too high

2. This is a TSO EUI view name

Generate SNA generic alert option
NO
Restart MAS option
NO

You can leave the other fields blank.

You will see the message “DB2 thread aborts too high” when any of the threshold values you have specified is reached. Notice that the field **External message sent when event is cleared** is left empty. This is because there is no “reverse” condition of a DB2 thread abort.

c. Click **Yes** to confirm the operation. The **Action definition** tabular view is redisplayed and includes an entry for the new definition RTAPAY02.

5. Create an analysis definition.
   a. From the main menu, click **Administration views—>MAS resource monitoring administration views—>Analysis definitions** to open the **RTA definition** tabular view.
   b. Click the **Create** action button and provide the following information:
   RTA definition name
   RTDPAY02
   Description
   DB2 thread aborts
   Execute evaluation modification string
   NO
   Analysis interval
   300
   Action definition name
   RTAPAY02

   The evaluation count fields (**Count of true evaluations before VLS raised** and so on) should all contain the default value of 1. You can leave the other fields blank.

   The **Analysis interval** (300 seconds in this example) controls how often CICSPlex SM looks at the results of the evaluation definition to determine whether the condition has occurred. This interval should not be smaller than the sample interval you specify in the evaluation definition itself, because there is nothing to be gained by assessing the results of the evaluation more frequently than the evaluation itself occurs.
   c. Click **Yes** to confirm the operation. The **RTA definition** tabular view is redisplayed and includes an entry for the new definition RTDPAY02.

   At this point, the definitions you need have all been created, but they must be activated by installing the analysis definition RTDPAY02 in the CICS system group CSGAORS1.
6. Determine whether or not CICS system CICSPAO1 is already associated with an analysis specification.

   To do this; from the WUI main menu, click **Administration views—>System availability monitoring administration views—>CICS systems associated with analysis specifications.** This opens the tabular view **Link RTA specification to CICS system**, which lists the associations between CICS systems and RTA specifications.

   If CICSPAO is not associated with an analysis specification, complete steps 8 and 9. If CICSPAO1 is associated with an analysis specification, go to step 10.
7. Create an analysis specification.

a. From the WUI main menu, click **Administration views—>System availability monitoring administration views—>Analysis specifications** to open the **RTA specification** tabular view
b. Click the **Create** action button and type in the following information
RTA specification name
RTSPAY02
Description
DB2 thread aborts

You can leave the remaining fields blank.
c. Click **Yes** to confirm. The **RTA specification** tabular view is redisplayed and includes an entry for RTSPAY02.

8. Set the scope of the analysis specification.

The next step is to identify the CICS systems that are to use this specification.

a. Select the entry for RTSPAY02 in the **RTA specification** tabular view and click **Associate CICS group**.
b. In the **CICS system group** field, type CSGAORS1, and select **Force** to make all systems in CICS system group CSGAORS1 use this analysis specification.
c. Click **Yes** to confirm.

9. Verify that real-time analysis is active.

Before you install the definitions, verify that the CICS systems defined in the CICS system group CSGAORS1 have real-time analysis active.

a. From the main menu, click **Administration views—>System availability monitoring administration views—>CICS system definitions** to open the **CICS system definition** tabular view.
b. Click on the entry for for CICSPAO1:
- If the **Real Time Analysis status** field specifies YES or MRM, skip the next step.
- If the **Real Time Analysis status** field specifies NO or SAM, return to the **CICS system definition** tabular view, select the CICS system and click the **Update** action button. In the **Real Time Analysis status** field, type YES or MRM and click **Yes** to confirm.

Repeat this step for system CICSPAO2.

10. Install the analysis definition manually.

a. From the WUI main menu, click **Administration views—>MAS resource monitoring administration views—>Analysis definitions** to open the **RTA definition** tabular view.
b.
c. Select the entry for RTDPAY02 and click the **Install** action button.
d. In the **Scope value** field type in the name of the CICS system group (CSGAORS1, in this example). The analysis definition takes immediate effect in any of the CICS systems in the group that are currently running.

If you want to check where the analysis definition is currently active, go back to the WUI main menu and click **Real Time Analysis (RTA) views—>Real Time Analysis (RTA) installed analysis and status definitions**. This view lists the analysis definitions that are currently installed in the CICS systems of the current scope.

The analysis definition you've just installed will remain active until you deactivate it, or until the CICS systems stop. If you decide, perhaps after some fine-tuning of intervals, that you're happy with the output you're getting from this analysis

definition, you might want to install it automatically, so that it takes effect at CICS system-startup time and you don't have to install it manually again. How to do this is described in the next example.

Monitoring resources permanently

This example is a development of the previous example ("Monitoring resources temporarily" on page 84) in which you saw how to monitor the number of DB2 thread aborts in a CICS system group on a temporary basis. In this example, you will again use the WUI to create the real-time analysis definitions required to make this monitoring regular and permanent.

Assume that you want the analysis definition RTDPAY02 to be in effect every day in CICS system group CSGAORS1, but only during prime shift (09:00 through 17:30). You have decided this because, outside of prime shift, you have few problems with DB2.

1. Create a time period definition.
   a. From the main menu, click **Administration views—>System availability monitoring administration views—>Time period definitions** to open the **Time period definition** tabular view.
   b. Click the **Create** action button and type in the following information:
      Period definition name
      PDFPRIME
      Description
      Prime shift (0900 — 1730)
      Start time
      09:00
      End time
      17:30
      Time zone
      U
      Time zone adjustment factor
      0

      You have to give the time period definition a name (PDFPRIME, in this example), say when it starts and when it ends, and specify the time zone. The description isn't mandatory, but you'll probably find it useful when you're looking at a list of period definitions and need to distinguish one from another. You can reuse this definition within the CICSplex any number of times, and for any of the CICSPlex SM functions.
   c. Click **Yes** to confirm.
2. Create an analysis specification.

   To get an analysis definition installed in a CICS system automatically, you have to create both an analysis specification and an analysis group. Begin with the analysis specification, though the order isn't important.
   a. Create an analysis specification.
      1) From the WUI main menu, click **Administration views—>System availability monitoring administration views—>Analysis specifications** to open the **RTA specification** tabular view
      2) Click the **Create** action button and type in the following information
         RTA specification name
         RTSPAY02
         Description
         Install RTDPAY02 in CSGAORS1

         You can leave the remaining fields blank.

3) Click **Yes** to confirm. The **RTA specification** tabular view is redisplayed and includes an entry for RTSPAY02.

3. Set the scope of the analysis specification.

   The next step is to identify the CICS systems that are to use this specification.

   a. Select the entry for RTSPAY02 in the **RTA specification** tabular view and click **Associate CICS group**.

   b. In the **CICS system group** field, type CSGAORS1, and select **Force** to make all systems in CICS system group CSGAORS1 use this analysis specification.

   c. Click **Yes** to confirm.

4. Create an analysis group.

   a. From the WUI main menu, click **Administration views—>MAS resource monitoring administration views—>Analysis groups** to open the **RTA group** tabular view

   b. Click the **Create** action button and type in the following:
   RTA group name
   RTGPAY02
   Description
   Install RTDPAY02

   c. Click **Yes** to confirm.

5. Associate the analysis group with the analysis specification.

   a. Select the for RTGPAY02 entry in the **RTA group** view, and click **Add to RTA specification**.

   b. In the **RTA specname** field, type in RTSPAY02.

   If you want to check that the analysis group has been added to the analysis specification, from the main menu click **Administration views—>MAS resource monitoring administration views—>Analysis groups in analysis specifications** to open the **RTA group in RTA specification** tabular view. This view shows an entry for analysis specification RTSPAY02 with analysis group RTGPAY02.

6. Associate the analysis definition with the analysis group.

   a. From the main menu click **Administration views—>MAS resource monitoring administration views—>Analysis definitions** to open the **RTA definition** tabular view.

   b. Select the entry for RTDPAY02 entry, and click **Add to RTA group**.

   c. In the **Resource group name** field, type in RTGPAY02. In the **Period Definition name** field, type in PDFPRIME.

   d. Click **Yes** to confirm.

   Note: For a description of the EUI RTADEF view, see “RTADEF (Analysis definitions)” on page 42.

   If you want to check that the analysis definition has been successfully added to the analysis group, from the main menu click **Administration views—>MAS resource monitoring administration views—>Analysis definitions in groups** to open the **RTA definition in RTA group** tabular view. An entry is listed for RTA group RTGPAY02 with RTA definition RTDPAY02 for period PDFPRIME.

The newly installed analysis definition takes effect in any CICS system that belongs to group CSGAORS1 when that CICS system next starts. (You can also activate a new analysis definition immediately from the MAS view by switching real-time analysis off and back on again.)

Reusing analysis specifications and analysis groups

In this example you will use the WUI to see how to use an analysis specification and an analysis group for more than one type of resource checking. This example is an extension of the previous example (“Monitoring resources permanently” on page 88), in which you saw how to monitor the number of DB2 thread aborts in CICS system group CSGAORS1 on a regular basis. In this example, you'll be monitoring files in the same CICS system group, CGSAORS1. The details are as follows:

- Files PAYFILA1, PAYFILA2, and PAYFILB1 are all used by an application that must be available during prime shift, which starts at 09:00. The application can run in either of the regions CICSPA01 and CICSPA02. The files are owned by region CICSPF01.

  Files PAYFILA1 and PAYFILA2 are the only remote files with names of the format PAYFILA* defined to CICSPA01 and CICSPA02. However, a *local* file PAYFILA9 and a remote file PAYFILB9 are also defined in CICSPA02. Because of this, two evaluation definitions will be required:

  – The first evaluation definition will check on remote files whose names begin with the characters PAYFILA. The file PAYFILA9 will not be checked by this definition because it is a local file in CICSPA02, and CICSPlex SM distinguishes between local and remote files.

  – The second evaluation definition will check on the single remote file PAYFILB1. A generic name cannot be used in this definition, because the file PAYFILB9, which you do not want to monitor, is also remote.
- To ensure that the application can be used when required, CICSPlex SM will check that the files are available in CICSPA01 and CICSPA02 from 08:00, one hour before prime shift starts. The checking will continue for the first 30 minutes of prime shift.
- An external message and an event notification (severity VHS) are to be issued if any of the files is not ENABLED between 08:00 and 09:30.

1. Create a time period definition.
   a. From the main menu, click **Administration views—>System availability monitoring administration views—>Time period definitions** to open the **Time period definition** tabular view.
   b. Click the **Create** action button and type in the following information:
      Period definition name
      PDFCHECK
      Description
      Prime shift lead in
      Start time
      08:00
      End time
      09:30
      Time zone
      U
      Time zone adjustment factor
      0
   c. Click **Yes** to confirm.
2. Create the first evaluation definition.
   a. From the main menu, click **Administration views—>MAS resource monitoring administration views—>Evaluation definitions** to open the **Evaluation definition** tabular view.
   b. Click the **Create** action button and provide the following information:

Evaluation definition name
RTEPAY12
Description
REMFILE PAYFILA* enabling
Sample interval
60
Resource table name
REMFILE
Instance identifier of evaluated resource
PAYFILA*
Method of evaluating results in result set
ANY
Separate task indicator
NO
Name of field being evaluated
ENABLESTATUS
Evaluation logic operator
NE
Evaluation data value
ENABLED
Severity assigned when result meets criteria
VHS

You can leave the remaining fields blank.

3. Create the second evaluation definition.
   a. In the **Evaluation definition** tabular view, select the entry for RTEPAY12 and click the **Create** action button. This opens the **Evaluation definition** create panel showing the values you entered when creating RTEPAY12.
   b. Update the name, description, and instance values as follows:
   Evaluation definition name
   RTEPAY13
   Description
   REMFILE PAYFILB1* enabling
   Instance identifier of evaluated resource
   PAYFILB1

   The other fields can remain the same as for RTEPAY12.
4. Create an action definition.
   a. From the main menu, click **Administration views—>MAS resource monitoring administration views—>Action definitions** to open the **Action definition** tabular view.
   b. Click the **Create** action button and provide the following information:
   Action name
   RTAPAY12
   Description
   Prime shift files not ENABLED
   Generate event option
   YES
   Name of view that may provide useful information [3]
   REMFILE
   Action priority
   255

3. This is a TSO EUI view name

Message to send when event occurs
Prime shift files not ready
Generate external message option
YES
External message sent when event occurs
Prime shift files not ready
External message sent when event is cleared
Prime shift files now ENABLED
Generate SNA generic alert option
NO
Restart MAS option
NO

You can leave the other fields blank.

c. Click **Yes** to confirm the operation. The **Action definition** tabular view is redisplayed and includes an entry for the new definition RTAPAY12.

5.

Note: For a description of the EUI ACTNDEF view, see "ACTNDEF (Action definitions)" on page 26.

6. Create the analysis definition.
   a. From the main menu, click **Administration views—>MAS resource monitoring administration views—>Analysis definitions** to open the **RTA definition** tabular view.
   b. Click the **Create** action button and provide the following information:
   RTA definition name
   RTDPAY12
   Description
   Application file check
   Execute evaluation modification string
   NO
   Analysis interval
   60
   Action definition name
   RTAPAY12
   Evaluation expression
   RTEPAY12 | RTEPAY13

   The evaluation count fields (**Count of true evaluations before VLS raised** and so on) should all contain the default value of 1. You can leave the other fields blank.
   c. Click **Yes** to confirm the operation. The **RTA definition** tabular view is redisplayed and includes an entry for the new definition RTDPAY02.

   The Evaluation Expression causes CICSPlex SM to issue a notification if either evaluation returns a true condition.

   Note: For a description of the EUI RTADEF view, see "RTADEF (Analysis definitions)" on page 42.

7. Associate the new analysis definition with the existing analysis group.
   a. In the **RTA definition** tabular view, select the entry for RTDPAY12, and click **Add to RTA group**.
   b. In the **Resource group name** field, type in RTGPAY02, and in the **Period Definition name** field, type PDFCHECK.
   c. Click **Yes** to confirm.

The Analysis Group RTGPAY02 already exists (you created it in the previous example) and it has already been associated with the analysis specification RTSPAY02. Therefore, analysis definition RTDPAY12 is installed automatically in the CICS systems in group CSGAORS1 when those systems are next started, for the period of time defined in PDFCHECK.

Monitoring a resource type in a single CICS system

In this example, you'll see how to get CICSPlex SM to monitor the LU 6.2 connections in CICS system CICSPT02, which has recently been experiencing LU 6.2 problems. Both an external message and an event notification are to be issued whenever any connection is found to be in RELEASED status. The monitoring will not be limited to specific hours of the day, but will be continuous.

The task is fundamentally the same as the one shown in the example "Monitoring resources permanently" on page 88. The interesting differences arise in the creation of the evaluation definition, the action definition, and the analysis definition. Those steps are shown here:

1. Create an evaluation definition.

   From the current view, issue the EVALDEF command. From the EVALDEF view, issue the CRE command. Complete the first Create Evaluation Definition panel as shown here:

```
 ------------------- Create Evaluation Definition for PLXPROD1------------------
 COMMAND  ===>

 Name                  ===> RTEPAY03
 Description           ===> Connections in CICSPT02

 Sample Interval       ===> 30            Interval between samples in seconds
 TableName             ===> CONNECT       Resource Table Name or *
 Instance Pattern      ===> *             Specific or generic pattern
 Result Set Action     ===> ANY           Operation(ALL,ANY,SUM,MIN,MAX,AVG,CNT)
 Separate Task         ===> NO            Run as a separate task (YES, NO)

 Evaluation Column     ===> CONNSTATUS    Column name to evaluate or *
     either Operator   ===> EQ            (EQ,NE,LT,GT,LE,GE)
            Value      ===> RELEASED
            Severity   ===> VHS           (VLS,LS,LW,HW,HS,VHS)
     or set Thresholds:     Provide 3 low and/or 3 high values, N=Normal

VLS          LS          LW   (N)    HW          HS         VHS


 View                  ===> CONNECT       View invoked for this Evaluation

 Type DOWN or UP to view other Evaluation Definition screens.
 Press Enter to create Evaluation Definition.
 Type END or CANCEL to cancel without creating.
```

   In this example:

   - The Evaluation values define the type of check to be made.
   - The Result Set Action value ensures that, if the condition is true of any single connection that's being monitored, the evaluation returns a severity of VHS.

   Issue the DOWN command and complete the second Create Evaluation Definition panel as shown here:

```
------------------- Create Evaluation Definition for EYUPLX01------------------
COMMAND  ===>

Name                  ===> EYURTE01

Filter string expression:  (Type FILTER to list columns)
===> TYPE=LU62.
===>
===>
===>
===>
===>
===>
===>
===>

Modification string expression:  (Type MODIFY to list modifiable columns)
===>
===>
===>
===>

Type DOWN or UP to view other Evaluation Definition screens.
Press Enter to create Evaluation Definition.
Type END or CANCEL to cancel without creating.
```

In this example, the filter string limits the checking to LU 6.2 connections.

Note: For a complete description of the EVALDEF view, see “EVALDEF (Evaluation definitions)” on page 33.

2. Create an action definition.

   From the current view, issue the command ACTNDEF. From the ACTNDEF view, issue the command CRE. Complete the Create Action Definition panel as shown here, and press Enter:

```
-------------------- Create Action Definition for PLXPROD1 --------------------
COMMAND  ===>

Action Name   ===> RTAPAY03
 Description  ===> Connections lost in CICSPT02

 Event        ===> YES          Generate Event (Yes/No)
  Event View  ===> CONNECT      View for Event
  Priority    ===> 255          Event Priority (1 to 255)
  Event Text  ===> Connections lost in CICSPT02

 External Msg ===> YES          Generate External Message (Yes/No)
  Enter Msg   ===> Connections lost in CICSPT02
  Exit Msg    ===> CICSPT02 connections now OK

 Alert        ===> NO           Generate Alert (Yes/No)
  CMAS Name   ===>              CMAS to Issue Alert
  Enter Text  ===>
  Exit Text   ===>

  Restart     ===> NO           Cancel for ARM Restart (Yes/No)

Press Enter to create the Action Definition.
Type END or CANCEL to cancel without creating.
```

This action definition tells CICSPlex SM that you want both an event notification and an external message to be issued.

Note: For a complete description of the ACTNDEF view, see “ACTNDEF (Action definitions)” on page 26.

3. Create an analysis definition.

   Issue the command RTADEF from the current view. From the RTADEF view, issue the command CRE. Complete the Create Analysis Definition panel as shown here, and press Enter:

```
------------------------ Create Analysis Definition for PLXPROD1 --------------
COMMAND ==>

 Name              ===> RTDPAY03
 Description       ===> Connections in CICSPT02
 Perform Ops       ===> NO        Perform EVALDEF operations changes (YES, NO)
 Sample Interval   ===> 30        Interval between samples in seconds (1-86400)
 Action Name       ===> RTAPAY03  Action definition name or generic

                         VLS    LS    LW    HW    HS   VHS
Entry Intervals    ===> 0001  0001  0001  0001  0001  0001
Exit  Intervals    ===> 0001  0001  0001  0001  0001  0001

Evaluation expression:
===> RTEPAY03
===>
===>
===>
===>
===>

Press Enter to create the Analysis Definition.
Type END or CANCEL to cancel without creating.
```

   (You can allow the Entry Intervals and the Exit Intervals to default to 0001.) CICSPlex SM will evaluate the results of the evaluation definition (defined in RTEPAY03) every 30 seconds.

   You would install the analysis definition in the CICS system CICSPT02 by specifying CICSPT02 as the scope of the analysis specification.

   Note: For a complete description of the RTADEF view, see “RTADEF (Analysis definitions)” on page 42.

Monitoring a resource type throughout the CICSplex

In this example, you will see how to monitor the availability of all MRO connections throughout CICSplex PLXPROD1. Whenever such a connection goes out of service, an event notification (but no external message) is to be generated, and its severity is to be VHS. Thus, if three connections are lost, three event notifications will be issued. The monitoring is to be continuous. A CICS system group (CSGPLX01), which includes every CICS system in PLXPROD1, has already been created.

As in the previous example, the steps involved in the creation of the evaluation definition, the action definition, and the analysis definition are of most interest:

1. Create an evaluation definition.

   From the current view, issue the command EVALDEF. From the EVALDEF view, issue the command CRE. Complete the first Create Evaluation Definition panel as shown here:

```
------------------- Create Evaluation Definition for PLXPROD1------------------
COMMAND  ===>

Name                  ===> RTEPAY04
Description           ===> All MRO connections in PLXPROD1

Sample Interval       ===> 30            Interval between samples in seconds
TableName             ===> CONNECT       Resource Table Name or *
Instance Pattern      ===> *             Specific or generic pattern
Result Set Action     ===> ANY           Operation(ALL,ANY,SUM,MIN,MAX,AVG,CNT)
Separate Task         ===> NO            Run as a separate task (YES, NO)

Evaluation Column     ===> SERVSTATUS    Column name to evaluate or *
    either Operator   ===> NE            (EQ,NE,LT,GT,LE,GE)
           Value      ===> INSERVICE
           Severity   ===> VHS           (VLS,LS,LW,HW,HS,VHS)
    or set Thresholds:     Provide 3 low and/or 3 high values, N=Normal

VLS          LS          LW   (N)    HW          HS         VHS


View                  ===> CONNECT       View invoked for this Evaluation

Type DOWN or UP to view other Evaluation Definition screens.
Press Enter to create Evaluation Definition.
Type END or CANCEL to cancel without creating.
```

In this example:

- The Evaluation values define the type of check to be made.
- The Result Set Action value ensures that, if the condition is true of any connection that's being monitored, the evaluation returns a severity of VHS.

Issue the DOWN command and complete the second Create Evaluation Definition panel as shown here:

```
------------------- Create Evaluation Definition for EYUPLX01------------------
COMMAND  ===>

Name                  ===> EYURTE01

Filter string expression:  (Type FILTER to list columns)
===> TYPE=MRO.
===>
===>
===>
===>
===>
===>
===>
===>
===>

Modification string expression:  (Type MODIFY to list modifiable columns)
===>
===>
===>
===>

Type DOWN or UP to view other Evaluation Definition screens.
Press Enter to create Evaluation Definition.
Type END or CANCEL to cancel without creating.
```

In this example, the filter string limits the checking to MRO connections.

Note: For a complete description of the EVALDEF view, see “EVALDEF (Evaluation definitions)” on page 33.

2. Create an action definition.

   From the current view, issue the command ACTNDEF. From the ACTNDEF view, issue the command CRE. Complete the Create Action Definition panel as shown here, and press Enter:

```
-------------------- Create Action Definition for PLXPROD1 --------------------
COMMAND  ===>

Action Name   ===> RTAPAY04
 Description  ===> Connections lost in PLXPROD1

 Event        ===> YES          Generate Event (Yes/No)
  Event View  ===> CONNECT      View for Event
  Priority    ===> 120          Event Priority (1 to 255)
  Event Text  ===> Connections lost in PLXPROD1

 External Msg ===> NO           Generate External Message (Yes/No)
  Enter Msg   ===>
  Exit Msg    ===>

 Alert        ===> NO           Generate Alert (Yes/No)
  CMAS Name   ===>              CMAS to Issue Alert
  Enter Text  ===>
  Exit Text   ===>

  Restart     ===> NO           Cancel for ARM Restart (Yes/No)

Press Enter to create the Action Definition.
Type END or CANCEL to cancel without creating.
```

   The Priority value of 120 means that other VHS events with a priority greater than 120 will appear higher in the EVENT view.

   Note: For a complete description of the ACTNDEF view, see “ACTNDEF (Action definitions)” on page 26.

3. Create an analysis definition.

   From the current view, issue the command RTADEF. From the RTADEF view, issue the command CRE. Complete the Create Analysis Definition panel as shown here, and press Enter:

```
------------------------ Create Analysis Definition for PLXPROD1 --------------
COMMAND ==>

 Name              ===> RTDPAY04
 Description       ===> MRO connections in PLXPROD1
 Perform Ops       ===> NO        Perform EVALDEF operations changes (YES, NO)
 Sample Interval   ===> 30        Interval between samples in seconds (1-86400)
 Action Name       ===> RTAPAY04  Action definition name or generic

                         VLS    LS    LW    HW    HS   VHS
Entry Intervals    ===> 0001  0001  0001  0001  0001  0001
Exit  Intervals    ===> 0001  0001  0001  0001  0001  0001

Evaluation expression:
===> RTEPAY04
===>
===>
===>
===>
===>
===>

Press Enter to create the Analysis Definition.
Type END or CANCEL to cancel without creating.
```

The Entry Intervals and Exit Intervals can be allowed to default to 0001.

Note: For a complete description of the RTADEF view, see “RTADEF (Analysis definitions)” on page 42.

You would install the analysis definition in the CICS system group CSGPLX01 by specifying CSGPLX01 as the scope of the analysis specification.

Monitoring multiple resource types in a CICS system group (1)

This example shows how to monitor both the CDSA and the UDSA free sizes for two CICS systems, CICSPA01 and CICSPA02, which have already been defined as the only members of CICS system group CSGAORS1. When either the CDSA or UDSA free size falls below a specified value, an external message and an event notification are to be issued. The severity of the event notification will increase as the DSA free size reduces.

Because you are monitoring two resources in this example (UDSA and CDSA), two evaluation definitions are required. Here are the relevant steps:

1. Create the first evaluation definition.

   From the current view, issue the command EVALDEF. From the EVALDEF view, issue the command CRE. Complete the first Create Evaluation Definition panel as shown here, and press Enter:

```
------------------- Create Evaluation Definition for PLXPROD1------------------
COMMAND  ===>

Name                  ===> RTEPAY05
Description           ===> Check CDSA free size

Sample Interval       ===> 60            Interval between samples in seconds
TableName             ===> CICSDSA       Resource Table Name or *
Instance Pattern      ===> CDSA          Specific or generic pattern
Result Set Action     ===> MAX           Operation(ALL,ANY,SUM,MIN,MAX,AVG,CNT)
Separate Task         ===> NO            Run as a separate task (YES, NO)

Evaluation Column     ===> STGFSIZE      Column name to evaluate or *
    either Operator   ===>               (EQ,NE,LT,GT,LE,GE)
           Value      ===>
           Severity   ===>               (VLS,LS,LW,HW,HS,VHS)
    or set Thresholds:     Provide 3 low and/or 3 high values, N=Normal

VLS          LS          LW   (N)    HW          HS         VHS
70000        85000       95000

View                  ===> CICSDSA       View invoked for this Evaluation

Type DOWN or UP to view other Evaluation Definition screens.
Press Enter to create Evaluation Definition.
Type END or CANCEL to cancel without creating.
```

The Evaluation Threshold values are based on a CDSA cushion size of 64KB. Increasingly severe conditions will be flagged as the free storage drops closer to the cushion value. (An alternative approach would have been to use percentage measurements (PCTFREE) rather than absolute measures (STGFSIZE).) The resource will be sampled once every 60 seconds.

When you press Enter, the EVALDEF view is redisplayed, showing an entry for RTEPAY05.

Note: This example does not make use of the second Create Evaluation Definition panel. For a complete description of the EVALDEF view and the panels you use to create one, see “EVALDEF (Evaluation definitions)” on page 33.

2. Create the second evaluation definition.

   From the EVALDEF view, tab to the entry for RTEPAY05, and issue CRE from the line-command field. The Create Evaluation Definition panel is displayed, showing the values you entered when you created RTEPA05. Overtype the Name, Description, Instance Pattern, and Evaluation Threshold values as shown here, and press Enter:

```
------------------- Create Evaluation Definition for PLXPROD1------------------
COMMAND  ===>

Name                  ===> RTEPAY06
Description           ===> Check UDSA free size

Sample Interval       ===> 60           Interval between samples in seconds
TableName             ===> CICSDSA      Resource Table Name or *
Instance Pattern      ===> UDSA         Specific or generic pattern
Result Set Action     ===> MAX          Operation(ALL,ANY,SUM,MIN,MAX,AVG,CNT)
Separate Task         ===> NO           Run as a separate task (YES, NO)

Evaluation Column     ===> STGFSIZE     Column name to evaluate or *
    either Operator   ===>              (EQ,NE,LT,GT,LE,GE)
           Value      ===>
           Severity   ===>              (VLS,LS,LW,HW,HS,VHS)
    or set Thresholds:     Provide 3 low and/or 3 high values, N=Normal

VLS          LS          LW   (N)    HW          HS         VHS
70000        80000       90000

View                  ===> CICSDSA      View invoked for this Evaluation

Type DOWN or UP to view other Evaluation Definition screens.
Press Enter to create Evaluation Definition.
Type END or CANCEL to cancel without creating.
```

As for the CDSA evaluation definition, the Evaluation Threshold values are based on a cushion size of 64KB.

3. Create an action definition.

   From the current view, issue the command ACTNDEF. From the ACTNDEF view, issue the command CRE. Complete the Create Action Definition panel as shown here, and press Enter:

```
-------------------- Create Action Definition for PLXPROD1 --------------------
COMMAND  ===>

Action Name   ===> RTAPAY05
 Description  ===> DSA free size low below 16MB

 Event        ===> YES          Generate Event (Yes/No)
  Event View  ===> CICSDSA      View for Event
  Priority    ===> 255          Event Priority (1 to 255)
  Event Text  ===> Free DSA below 16MB dropping

 External Msg ===> YES          Generate External Message (Yes/No)
  Enter Msg   ===> Free DSA below 16MB dropping
  Exit Msg    ===> Free DSA below 16MB climbing

 Alert        ===> NO           Generate Alert (Yes/No)
  CMAS Name   ===>              CMAS to Issue Alert
  Enter Text  ===>
  Exit Text   ===>

  Restart     ===> NO           Cancel for ARM Restart (Yes/No)

Press Enter to create the Action Definition.
Type END or CANCEL to cancel without creating.
```

   Note: For a complete description of the ACTNDEF view, see “ACTNDEF (Action definitions)” on page 26.

4. Create an analysis definition.

From the current view, issue the command RTADEF. From the RTADEF view, issue the command CRE. Complete the Create Analysis Definition panel as shown here, and press Enter:

```
----------------------- Create Analysis Definition for PLXPROD1 --------------
COMMAND ==>

 Name             ===> RTDPAY05
 Description      ===> DSA free below 16MB
 Perform Ops      ===> NO        Perform EVALDEF operations changes (YES, NO)
 Sample Interval  ===> 300       Interval between samples in seconds (1-86400)
 Action Name      ===> RTAPAY05  Action definition name or generic

                       VLS    LS    LW    HW    HS   VHS
Entry Intervals   ===> 0002  0002  0002  0001  0001  0001
Exit  Intervals   ===> 0002  0002  0002  0001  0001  0001

Evaluation expression:
===> RTEPAY05|RTEPAY06
===>
===>
===>
===>
===>

Press Enter to create the Analysis Definition.
Type END or CANCEL to cancel without creating.
```

The Entry and Exit intervals are used to smooth out fluctuations in the values being seen. For example, an LW condition is not flagged until a severity of at least LW has been seen for two consecutive samples. Each condition is cleared after two, less severe samples have been seen in succession.

The Evaluation expression value tells CICSPlex SM that either of the two evaluation definitions can identify a condition that is to be flagged. The action is the same for both evaluation definitions, and is defined in RTAPAY05.

Note: For a complete description of the RTADEF view, see “RTADEF (Analysis definitions)” on page 42.

You would install the analysis definition RTDPAY05 in the CICS system group CSGAORS1 by specifying CSGAORS1 as the scope of the analysis specification.

Monitoring multiple resource types in a CICS system group (2)

In the previous example (“Monitoring multiple resource types in a CICS system group (1)” on page 98), you saw how to monitor two types of resource (CDSA and UDSA) in a group of CICS systems. You created a single action definition, so that the same notifications were issued, regardless of which of the two types of resource was having problems.

In this example, you will see how to monitor those same resources (CDSA and UDSA), but with these differences:

- The message text of the external message and the event notification will identify whether UDSA or CDSA is having problems. This will require two action definitions rather than one.
- The monitoring will be activated every day, from 10:00 through 11:30 and from 14:00 to 16:00, but not outside those times. This will require two analysis groups

to be created, one of which will be installed from 10:00 through 11:00, and one of which will be installed from 14:00 through 16:00.

The CICS system group CSGAORS1, containing CICS systems CICSPA01 and CICSPA02, has already been created, as have the two time-period definitions PDFBUSY1 (for the period 10:00 through 11:30) and PDFBUSY2 (for the period 14:00 through 16:00). You can reuse the two evaluation definitions (RTEPAY05 and RTEPAY06) from the previous example.

1. Create the first action definition.

   From the current view, issue the command ACTNDEF. From the ACTNDEF view, issue the command CRE. The Create Action Definition panel is displayed. Complete the panel as shown here, and press Enter:

```
-------------------- Create Action Definition for PLXPROD1 --------------------
COMMAND  ===>

Action Name   ===> RTAPAY07
 Description  ===> CDSA free size low below 16MB

 Event        ===> YES          Generate Event (Yes/No)
  Event View  ===> CICSDSA      View for Event
  Priority    ===> 255          Event Priority (1 to 255)
  Event Text  ===> Free CDSA below 16MB dropping

 External Msg ===> YES          Generate External Message (Yes/No)
  Enter Msg   ===> Free CDSA below 16MB dropping
  Exit Msg    ===> Free CDSA below 16MB climbing

 Alert        ===> NO           Generate Alert (Yes/No)
  CMAS Name   ===>              CMAS to Issue Alert
  Enter Text  ===>
  Exit Text   ===>

  Restart     ===> NO           Cancel for ARM Restart (Yes/No)

Press Enter to create the Action Definition.
Type END or CANCEL to cancel without creating.
```

   The ACTNDEF view is redisplayed.

2. Create the second action definition.

   In the ACTNDEF view, tab to the entry for RTAPAY07, and issue CRE from the line-command field. The Create Action Definition panel is displayed, showing the values you entered while creating RTAPAY07. Update the panel as shown here, and press Enter:

```
-------------------- Create Action Definition for PLXPROD1 --------------------
COMMAND  ===>

Action Name   ===> RTAPAY08
 Description  ===> UDSA free size low below 16MB

 Event        ===> YES          Generate Event (Yes/No)
  Event View  ===> CICSDSA      View for Event
  Priority    ===> 255          Event Priority (1 to 255)
  Event Text  ===> Free UDSA below 16MB dropping

 External Msg ===> YES          Generate External Message (Yes/No)
  Enter Msg   ===> Free UDSA below 16MB dropping
  Exit Msg    ===> Free UDSA below 16MB climbing

 Alert        ===> NO           Generate Alert (Yes/No)
  CMAS Name   ===>              CMAS to Issue Alert
  Enter Text  ===>
  Exit Text   ===>

  Restart     ===> NO           Cancel for ARM Restart (Yes/No)

Press Enter to create the Action Definition.
Type END or CANCEL to cancel without creating.
```

Notice that the messages generated by action definitions RTAPAY07 and RTAPAY08 differentiate between problems with CDSA and problems with UDSA.

3. Create the first analysis definition.

   From the current view, issue the command RTADEF. From the RTADEF view, issue the command CRE. Complete the Create Analysis Definition panel as shown here, and press Enter:

```
----------------------- Create Analysis Definition for PLXPROD1 --------------
COMMAND ==>

 Name             ===> RTDPAY07
 Description      ===> CDSA free size
 Perform Ops      ===> NO        Perform EVALDEF operations changes (YES, NO)
 Sample Interval  ===> 60        Interval between samples in seconds (1-86400)
 Action Name      ===> RTAPAY07  Action definition name or generic

                       VLS    LS    LW    HW    HS   VHS
Entry Intervals   ===> 0002  0002  0002  0001  0001  0001
Exit  Intervals   ===> 0002  0002  0002  0001  0001  0001

Evaluation expression:
===> RTEPAY05
===>
===>
===>
===>
===>
===>

Press Enter to create the Analysis Definition.
Type END or CANCEL to cancel without creating.
```

This analysis definition is basically the same as the one you created in the previous example (“Monitoring multiple resource types in a CICS system group (1)” on page 98), except that it names only one evaluation definition in the Evaluation expression field, has a shorter sample interval, and triggers the CDSA-specific action definition, RTAPAY07.

When you press Enter, the RTADEF view is redisplayed.

4. Create the second analysis definition.

   In the RTADEF view, tab to the entry for RTDPAY07, and issue CRE from the line command field. The Create Analysis Definition panel is displayed, showing the values you entered when creating RTDPAY07. Update the panel as shown here, and press Enter:

```
------------------------ Create Analysis Definition for PLXPROD1 --------------
COMMAND ==>

 Name             ===> RTDPAY08
 Description      ===> UDSA free size
 Perform Ops      ===> NO        Perform EVALDEF operations changes (YES, NO)
 Sample Interval  ===> 60        Interval between samples in seconds (1-86400)
 Action Name      ===> RTAPAY08  Action definition name or generic

                       VLS    LS    LW    HW    HS   VHS
Entry Intervals   ===> 0002  0002  0002  0001  0001  0001
Exit  Intervals   ===> 0002  0002  0002  0001  0001  0001

Evaluation expression:
===> RTEPAY06
===>
===>
===>
===>
===>
===>

Press Enter to create the Analysis Definition.
Type END or CANCEL to cancel without creating.
```

   The RTADEF view is redisplayed.

5. Create the first analysis group.

   From the current view, issue the command RTAGROUP. From the RTAGROUP view, issue the command CRE. Complete the Create Analysis Group panel as shown here, and press Enter:

```
------------------------ Create Analysis Group for PLXPROD1-----------
COMMAND  ===>

 Group Name          ===>  RTGPAY07
 Description         ===>  Peak time DSA health - a.m.




Press Enter to create Analysis Group.
Type END or CANCEL to cancel without creating.
```

   Note: For a complete description of the RTAGROUP view, see “RTAGROUP (Analysis groups)” on page 48.

6. Create the second analysis group.

   In the RTAGROUP view, tab to the entry for RTGPAY07, and issue CRE from the line-command field. The Create Analysis Group panel is displayed, showing the values you entered while creating RTGPAY07. Update the panel as shown here, and press Enter:

```
------------------------- Create Analysis Group for PLXPROD1-----------
COMMAND  ===>

 Group Name           ===>  RTGPAY08
 Description          ===>  Peak time DSA health - p.m.




Press Enter to create Analysis Group.
Type END or CANCEL to cancel without creating.
```

7. Add analysis definitions to analysis group RTGPAY07.
   a. From the current view, issue the command RTADEF.
   b. In the RTADEF view, tab to the entry for RTDPAY07, and issue ADD from the line-command field. The Add RTADEF to Analysis Group panel is displayed. Complete the panel as shown here, and press Enter:

```
------------------ Add RTADEF to Analysis Group for PLXPROD1 -----------------
COMMAND  ===>

 Name                       RTDPAY07
 Description

 Analysis Group       ===> RTGPAY07      Analysis Group or Generic
 Active Period        ===> PDFBUSY1      Period Name or Generic

Press Enter to add RTADEF to Analysis Group.
Type END or CANCEL to cancel without adding.
```

   When you press Enter, the RTADEF view is redisplayed.

   Repeat step 7b to add analysis definition RTDPAY08 to RTGPAY07, specifying Active Period PDFBUSY1.

8. Add analysis definitions to analysis group RTGPAY08.

   Repeat step 7 to add analysis definitions RTDPAY07 and RTDPAY08 to analysis group RTGPAY08, but specifying time-period definition PDFBUSY2.

   (To check that analysis definitions have been added successfully to both analysis groups, issue the command RTAINGRP from the current view. The RTAINGRP view is displayed, showing entries for analysis definitions RTDPAY07 and RTDPAY08 in each of the analysis groups RTGPAY07 and RTGPAY08.)

9. Create an analysis specification.

   From the current view, issue the command RTASPEC. From the RTASPEC view, issue the command CRE. The Create Analysis Specification panel is displayed. Complete the panel as shown here, and press Enter:

```
----------------------- Create Analysis Specification for PLXPROD1 ------------
COMMAND  ===>

 RTA Spec Name     ===> RTSPAY07
 Description       ===> General health checks

 System availability management:

                Action or Generic    Severity
 SAM                 =>           =>
 SOS                 =>           =>
 SYSDUMP             =>           =>
 TRANDUMP            =>           =>
 MAXTASK             =>           =>
 STALL               =>           =>

Press Enter to create the RTA Specification.
Type END or CANCEL to cancel without creating.
```

When you press Enter, the RTASPEC view is redisplayed.

Note: For a complete description of the RTASPEC view, see “RTASPEC (Analysis specifications)” on page 64.

10. Set the scope of the analysis specification.

    In the RTASPEC view, tab to the entry for RTSPAY07 and issue ADD from the line-command field. The Add Scope for Specification panel is displayed. Complete the panel as shown here, and press Enter:

```
----------------------- Add Scope for Specification for PLXPROD1 --------------
COMMAND  ===>

 Analysis Spec Name      RTSPAY07
 Description             General health checks

 Scope              ===> CSGAORS1     CICS System, Group or Generic
 Option             ===> FORCE        FORCE, NULL, or NONE for System Group

Press Enter to add Analysis Specification Scope.
Type END or CANCEL to cancel without adding.
```

    The RTASPEC view is redisplayed.

11. Add the analysis groups to the analysis specification.
    a. From the current view, issue the command RTAGROUP.
    b. In the RTAGROUP view, tab to the entry for RTGPAY07, and issue ADD from the line-command field. The Add Analysis Group to Analysis Specification panel is displayed.
    c. In the Specification Name field of the Add Analysis Group to Analysis Specification panel, type RTSPAY07 and press Enter. The RTAGROUP view is redisplayed.

    Repeat this step to add analysis group RTGPAY08 to analysis specification RTSPAY07. The analysis definitions take effect for any CICS system in group CSGAORS1 when that system is next started. If any of the CICS systems in group CSGAORS1 is already active, you can make the analysis definitions take immediate effect as described in “Adding a scope to an analysis specification” on page 67.

Updating analysis and evaluation definitions

This example shows how to update the evaluation definition and the analysis definition you used for the CDSA resource in the previous example. Assume that you want to reduce the sample intervals in both definitions from 60 seconds to 30 seconds.

1. If the current context isn't PLXPROD1, issue the command CON PLXPROD1 from the current view.
2. Update the evaluation definition RTEPAY05.
   a. From the current view, issue the command EVALDEF.
   b. In the EVALDEF view, tab to the entry for RTEPAY05 and issue UPD from the line-command field. The Update Evaluation Definition panel is displayed.
   c. Overtype the Sample Interval (currently set to 60) with 30, and press Enter. The EVALDEF view is redisplayed.

   Note: For a complete description of the EVALDEF view, see "EVALDEF (Evaluation definitions)" on page 33.
3. Update the analysis definition RTDPAY07.
   a. Issue the command RTADEF from the current view.
   b. In the RTADEF view, tab to the entry for RTDPAY07, and issue UPD from the line-command field. The Update Analysis Definition panel is displayed.
   c. Overtype the Sample Interval (currently set to 60) with 30, and press Enter. The RTADEF view is redisplayed.

   Note: For a complete description of the RTADEF view, see "RTADEF (Analysis definitions)" on page 42.

   Although you have updated the relevant definitions, any active CICS system in which those definitions are installed will not pick up the changes until those systems are next started. If you want to make the changes take effect immediately, you must reinstall the analysis definition "manually".
4. Install the changed analysis definition.
   a. In the RTADEF view, tab to the entry for RTDPAY07, and issue INS from the line-command field. The Install RTADEF panel is displayed.
   b. In the Scope field of the Install RTADEF panel, enter CSGAORS1. The RTADEF view is redisplayed.

   To check that the updated definition has been installed, issue the command RTAACTV from the current view. The RTAACTV view, showing the current sample interval for installed analysis definitions, is displayed.

Deactivating an analysis definition

This example shows you how to deactivate an analysis definition, installed for a specific period of time, before that time has elapsed. Assume that the analysis definition RTDPAY02 (from the example "Monitoring resources permanently" on page 88) is now being installed automatically from 09:00 through 17:30 every day in CICS systems CICSPA01 and CICSPA02. The time-period definition that controls installation of RTDPAY02 is PDFPRIME. The current time is 14:45, and you want to deactivate the definition in CICSPA02.

1. If the current context isn't PLXPROD1, issue the command CON PLXPROD1 from the current view.
2. Display a list of active analysis definitions.

Issue the command RTAACTV from the current view. The RTAACTV view is displayed, showing an entry for analysis definition RTDPAY02 in CICS systems CICSPA01 and CICSPA02. The Active Period is PDFPRIME, and the Status is ACTIVE.

3. Deactivate an analysis definition.

   Tab to the entry for RTDPAY02 in CICSPA02, and issue DEA from the line-command field. The RTAACTV view is redisplayed, showing the Status as PENDING. The analysis definition RTDPAY02 will become active again in CICSPA02 when the start of time-period PDFPRIME is next reached.

Using data gathered by the resource monitoring function

This example shows you how the real-time analysis functions of CICSPlex SM can interpret data from another CICSPlex SM function—resource monitoring—and issue appropriate notifications when problems occur.

Assume that a key transaction (PAY8) is experiencing poor response times, and that the cause is unclear. Transaction PAY8 is initiated from TOR CICSPT02 in CICSplex PLXPROD1. Appropriate monitoring definitions have been created to monitor the response time of transaction PAY8 at 5-minute intervals. (An example of how to do this is provided in “Monitoring transaction response times” on page 161.) CICSPlex SM’s real-time analysis function will examine the data gathered by the resource monitoring function, and will issue an event notification and an external message when the response time is poor. The severity of the event notification will increase in line with the degradation in response times.

Analysis of PAY8’s response times is not a permanent requirement, but is necessary only until the problem is solved. Because of this, the analysis definition is installed manually in TOR CICSPT02 on request.

1. If the current context isn’t PLXPROD1, issue the command CON PLXPROD1 from the current view.
2. Create an evaluation definition.

   From the current view, issue the command EVALDEF. From the EVALDEF view, issue the command CRE. Complete the first Create Evaluation Definition panel as shown here, and press Enter:

```
------------------- Create Evaluation Definition for PLXPROD1------------------
COMMAND  ===>

Name                  ===> RTEPAY09
Description           ===> PAY8 response times check

Sample Interval       ===> 300           Interval between samples in seconds
TableName             ===> MREMTRAN      Resource Table Name or *
Instance Pattern      ===> PAY8          Specific or generic pattern
Result Set Action     ===> MAX           Operation(ALL,ANY,SUM,MIN,MAX,AVG,CNT)
Separate Task         ===> NO            Run as a separate task (YES, NO)

Evaluation Column     ===> CURAVGRESP    Column name to evaluate or *
    either Operator   ===>               (EQ,NE,LT,GT,LE,GE)
           Value      ===>
           Severity   ===>               (VLS,LS,LW,HW,HS,VHS)
    or set Thresholds:     Provide 3 low and/or 3 high values, N=Normal

VLS          LS          LW   (N)    HW          HS          VHS
                                       1.5         3           4

View                  ===> MREMTRAN      View invoked for this Evaluation

Type DOWN or UP to view other Evaluation Definition screens.
Press Enter to create Evaluation Definition.
Type END or CANCEL to cancel without creating.
```

The Evaluation Threshold values are response times in seconds. Thus, an average response time of 4 in any one sampling, for example, will be flagged as VHS. (Note that, although a Result Set Action value has been specified, it has no particular effect in this example. It is most useful when multiple resources are being evaluated, rather than one. For example, if you had specified an instance pattern of PAY* and a Result Set Action value of MAX, the *maximum* average response time of transactions PAY* would be used by CICSPlex SM in determining whether to flag a condition.

Note: This example does not make use of the second Create Evaluation Definition panel. For a complete description of the EVALDEF view and the panels you use to create one, see “EVALDEF (Evaluation definitions)” on page 33.

3. Create an analysis definition.

   From the current view, issue the command RTADEF. From the RTADEF view, issue the command CRE. Complete the Create Analysis Definition panel as shown here, and press Enter:

```
------------------------ Create Analysis Definition for PLXPROD1 --------------
COMMAND ==>

 Name              ===> RTDPAY09
 Description       ===> PAY8 response times high
 Perform Ops       ===> NO        Perform EVALDEF operations changes (YES, NO)
 Sample Interval   ===> 300       Interval between samples in seconds (1-86400)
 Action Name       ===> RTAPAY09  Action definition name or generic

                        VLS    LS    LW    HW    HS   VHS
Entry Intervals    ===> 0001  0001  0001  0001  0001  0001
Exit  Intervals    ===> 0001  0001  0001  0001  0001  0001

Evaluation expression:
===> RTEPAY09
===>
===>
===>
===>
===>
===>

Press Enter to create the Analysis Definition.
Type END or CANCEL to cancel without creating.
```

Note: For a complete description of the RTADEF view, see “RTADEF (Analysis definitions)” on page 42.

4. Create an action definition.

   From the current view, issue the command ACTNDEF. From the ACTNDEF view, issue the command CRE. Complete the Create Action Definition panel as shown here, and press Enter:

```
-------------------- Create Action Definition for PLXPROD1 --------------------
COMMAND  ===>

Action Name   ===> RTAPAY09
 Description  ===> PAY8 response times high

 Event        ===> YES          Generate Event (Yes/No)
  Event View  ===> MREMTRAN     View for Event
  Priority    ===> 255          Event Priority (1 to 255)
  Event Text  ===> PAY8 response times too high

 External Msg ===> YES          Generate External Message (Yes/No)
  Enter Msg   ===> PAY8 response times climbing
  Exit Msg    ===> PAY8 response times falling

 Alert        ===> NO           Generate Alert (Yes/No)
  CMAS Name   ===>              CMAS to Issue Alert
  Enter Text  ===>
  Exit Text   ===>

  Restart     ===> NO           Cancel for ARM Restart (Yes/No)

Press Enter to create the Action Definition.
Type END or CANCEL to cancel without creating.
```

Note: For a complete description of the ACTNDEF view, see “ACTNDEF (Action definitions)” on page 26.

5. Explicitly install the analysis definition.

From the current view, issue the command RTADEF. In the RTADEF view, tab to the entry for RTDPAY09, and issue INS from the line-command field. The Install RTADEF panel is displayed. In the Scope field of the Install RTADEF panel type CICST02 and press Enter. The RTADEF view is redisplayed.

Issuing one notification for multiple conditions(1)

In the real-time analysis examples you've seen so far, CICSPlex SM has monitored one or more instances of a resource in one or more CICS systems, and each occurrence of a notifiable condition has caused an external message or an event notification to be issued. So, for example, if the CDSA falls too low in three AORs, you see three sets of notifications. However, there are occasions when a single notification for a group of CICS systems, or even for the entire CICSplex, would be preferable.

To implement this "consolidated" reporting, you create an analysis point specification, in which you identify a single CMAS as the primary CMAS for analysis point monitoring (APM). The primary CMAS consolidates results from all the systems being checked to give a single result.

In this example, you will see how to monitor the number of current tasks throughout the CICSplex PLXPROD1. When the average number of current tasks in PLXPROD1 goes above a specified number, a single event notification will be issued, and an alert will be issued to NetView. The checking will occur from 09:30 through 11:30, for which period a time-period definition (PDFEARLY) has already been created. Also, the CICS system group CSGPLX01, which contains every CICS system in PLXPROD1, has been created.

1. If the current context isn't PLXPROD1, issue the command CON PLXPROD1 from the current view.
2. Create an evaluation definition.

   From the current view, issue the command EVALDEF. From the EVALDEF view, issue the command CRE. Complete the first Create Evaluation Definition panel as shown here, and press Enter:

```
------------------- Create Evaluation Definition for PLXPROD1------------------
COMMAND  ===>

Name                  ===> RTEPAY10
Description           ===> Current tasks in PLXPROD1

Sample Interval       ===> 60            Interval between samples in seconds
TableName             ===> CICSRGN       Resource Table Name or *
Instance Pattern      ===> *             Specific or generic pattern
Result Set Action     ===> AVG           Operation(ALL,ANY,SUM,MIN,MAX,AVG,CNT)
Separate Task         ===> NO            Run as a separate task (YES, NO)

Evaluation Column     ===> CURRTASKS     Column name to evaluate or *
    either Operator   ===>               (EQ,NE,LT,GT,LE,GE)
           Value      ===>
           Severity   ===>               (VLS,LS,LW,HW,HS,VHS)
    or set Thresholds:     Provide 3 low and/or 3 high values, N=Normal

VLS          LS          LW   (N)    HW          HS         VHS
                                     50          65          70

View                  ===> CICSRGN       View invoked for this Evaluation

Type DOWN or UP to view other Evaluation Definition screens.
Press Enter to create Evaluation Definition.
Type END or CANCEL to cancel without creating.
```

The current number of tasks is to be checked every 60 seconds. An average of 50 or higher will be notified, and the severity of the notification will increase as the average number of current tasks increases.

Note: This example does not make use of the second Create Evaluation Definition panel. For a complete description of the EVALDEF view and the panels you use to create one, see “EVALDEF (Evaluation definitions)” on page 33.

3. Create an action definition.

   From the current view, issue the command ACTNDEF. From the ACTNDEF view, issue the command CRE. Complete the Create Action Definition panel as shown here, and press Enter:

```
-------------------- Create Action Definition for PLXPROD1 --------------------
COMMAND  ===>

Action Name   ===> RTAPAY10
 Description  ===> High task load in PLXPROD1

 Event        ===> YES          Generate Event (Yes/No)
  Event View  ===> CICSRGN      View for Event
  Priority    ===> 255          Event Priority (1 to 255)
  Event Text  ===> High task load in PLXPROD1

 External Msg ===> NO           Generate External Message (Yes/No)
  Enter Msg   ===>
  Exit Msg    ===>

 Alert        ===> YES          Generate Alert (Yes/No)
  CMAS Name   ===> CMSSYS1      CMAS to Issue Alert
  Enter Text  ===> Task load climbing in PLXPROD1
  Exit Text   ===> Task load falling in PLXPROD1

  Restart     ===> NO           Cancel for ARM Restart (Yes/No)

Press Enter to create the Action Definition.
Type END or CANCEL to cancel without creating.
```

The ACTNDEF view is redisplayed.

Note: For a complete description of the ACTNDEF view, see “ACTNDEF (Action definitions)” on page 26.

4. Create an analysis definition.

   From the current view, issue the command RTADEF. From the RTADEF view, issue the command CRE. Complete the Create Analysis Definition panel as shown here, and press Enter:

```
------------------------ Create Analysis Definition for PLXPROD1 --------------
COMMAND ==>

 Name             ===> RTDPAY10
 Description      ===> Average current tasks
 Perform Ops      ===> NO        Perform EVALDEF operations changes (YES, NO)
 Sample Interval  ===> 60        Interval between samples in seconds (1-86400)
 Action Name      ===> RTAPAY10  Action definition name or generic

                       VLS    LS    LW    HW    HS   VHS
Entry Intervals   ===> 0001  0001  0001  0004  0003  0002
Exit  Intervals   ===> 0001  0001  0001  0002  0002  0002

Evaluation expression:
===> RTEPAY10
===>
===>
===>
===>
===>
===>

Press Enter to create the Analysis Definition.
Type END or CANCEL to cancel without creating.
```

CICSPlex SM will sample the results of its evaluations every 60 seconds. An HW condition will be flagged when a severity of at least HW has been seen in four successive samples. An HS condition will be flagged when a severity of at least HS has been seen in three successive samples. A VHS condition will be

flagged when a severity of VHS has been seen in two successive samples. Each of the conditions will be cleared only when two, less severe samples are seen in succession.

Note: For a complete description of the RTADEF view, see "RTADEF (Analysis definitions)" on page 42.

5. Create an analysis group.

   From the current view, issue the command RTAGROUP. From the RTAGROUP view, issue the command CRE. Complete the Create Analysis Group panel as shown here, and press Enter:

```
------------------------- Create Analysis Group for PLXPROD1-----------
COMMAND  ===>

 Group Name          ===>  RTGPAY10
 Description         ===>  AP - CICSplex health checks




Press Enter to create Analysis Group.
Type END or CANCEL to cancel without creating.
```

   The RTAGROUP view is redisplayed.

   Note: For a complete description of the RTAGROUP view, see "RTAGROUP (Analysis groups)" on page 48.

6. Add the analysis definition to the analysis group.

   From the current view, issue the command RTADEF. In the RTADEF view, tab to the entry for RTDPAY10, and issue ADD from the line-command field. The Add RTADEF to Analysis Group panel is displayed. In the Analysis Group field, type RTGPAY10. In the Time Period field, type PDFEARLY. Press Enter. The RTADEF view is redisplayed.

   You can check that this step has worked by looking at the RTAINGRP view.

7. Create an analysis point specification.

   From the current view, issue the command APSPEC. From the APSPEC view, issue the command CRE. Complete the Create Analysis Point Specification panel as shown here, and press Enter:

```
----------------------- Create Analysis Point Specification for PLXPROD1 ------
COMMAND  ===>

 AP SpecName        ===> RAPPAY10
 Description        ===> Analysis point for PLXPROD1


Press Enter to create AP Specification.
Type END or CANCEL to cancel without creating.
```

   The APSPEC view is redisplayed.

   Note: For a complete description of the APSPEC view, see "APSPEC (Analysis point specifications)" on page 30.

8. Add the analysis group to the analysis point specification.

From the current view, issue the command RTAGROUP. In the RTAGROUP view, tab to the entry for RTGPAY10, and issue AAP from the line-command field. The Add Analysis Group to AP Specification panel is displayed. In the Specification Name field, type RAPPAY10. In the Scope field, type CSGPLX01. Press Enter. The RTAGROUP view is redisplayed.

You can check that this step has succeeded by looking at the RTAINAPS view.

9. Identify the primary CMAS.

   From the current view, issue the command APSPEC. In the APSPEC view, tab to the entry for RAPPAY10, and issue ADD from the line-command field. The Add APSPEC CMAS Association panel is displayed. In the CMAS Name field, type CMSSYS1. In the Type field, type PRIMARY and press Enter. The APSPEC view is redisplayed.

   When you identify the primary CMAS, the analysis point specification, and any analysis groups and analysis definitions associated with it, are installed automatically. For this reason, you should create the analysis definitions and analysis groups before you identify the primary CMAS.

10. Identify a secondary CMAS (optional).

    In the APSPEC view, tab to the entry for RAPPAY10 again, and issue ADD from the line-command field. The Add APSPEC CMAS Association panel is displayed. In the CMAS Name field, type CMSSYS2. In the Type field, type SECONDARY and press Enter. The APSPEC view is redisplayed.

    When you identify a secondary CMAS (which is optional), that CMAS assumes the role of the primary CMAS if it ever loses contact with the primary CMAS. That is, the secondary CMAS monitors resources in those CICS systems it can communicate with until its contact with the primary CMAS is restored.

    You can check that primary and secondary CMASs have been successfully identified by looking at the APCMAS view.

Issuing one notification for multiple conditions (2)

This example is a variation on the previous example (“Issuing one notification for multiple conditions(1)” on page 111), in which you saw how to obtain a single set of notifications when the average number of current tasks in a CICSplex is high. In this example, you'll see how to monitor the availability of transactions whose names begin with the letters ETR throughout the CICSplex. (A transaction is not available if its status is DISABLED in any AOR in which it is locally defined.) An event notification and an alert will be issued if any ETR* transaction is unavailable in one or more AORs.

How to create the evaluation definition, the action definition, and the analysis definition is described here. The remaining steps (such as creating an analysis group and creating the analysis point specification) are as described in step 5 on page 114 through step 9 of the previous example.

1. Create an evaluation definition.

   From the current view, issue the command EVALDEF. From the EVALDEF view, issue the command CRE. Complete the first Create Evaluation Definition panel as shown here, and press Enter:

```
------------------- Create Evaluation Definition for PLXPROD1------------------
COMMAND  ===>

Name                 ===> RTEPAY11
Description          ===> Key transaction check

Sample Interval      ===> 300          Interval between samples in seconds
TableName            ===> LOCTRAN      Resource Table Name or *
Instance Pattern     ===> ETR*         Specific or generic pattern
Result Set Action    ===> ANY          Operation(ALL,ANY,SUM,MIN,MAX,AVG,CNT)
Separate Task        ===> NO           Run as a separate task (YES, NO)

Evaluation Column    ===> STATUS       Column name to evaluate or *
    either Operator  ===> EQ           (EQ,NE,LT,GT,LE,GE)
           Value     ===> DISABLED
           Severity  ===> HS           (VLS,LS,LW,HW,HS,VHS)
    or set Thresholds:    Provide 3 low and/or 3 high values, N=Normal

VLS          LS          LW   (N)    HW          HS         VHS


View                 ===> LOCTRAN      View invoked for this Evaluation

Type DOWN or UP to view other Evaluation Definition screens.
Press Enter to create Evaluation Definition.
Type END or CANCEL to cancel without creating.
```

2. Create an action definition.

   From the current view, issue the command ACTNDEF. From the ACTNDEF view, issue the command CRE. Complete the Create Action Definition panel as shown here, and press Enter:

```
------------------- Create Action Definition for PLXPROD1 --------------------
COMMAND  ===>

Action Name   ===> RTAPAY11
 Description  ===> Key application unavailable

 Event        ===> YES          Generate Event (Yes/No)
  Event View  ===> LOCTRAN      View for Event
  Priority    ===> 255          Event Priority (1 to 255)
  Event Text  ===> Key application unavailable

 External Msg ===> NO           Generate External Message (Yes/No)
  Enter Msg   ===>
  Exit Msg    ===>

 Alert        ===> YES          Generate Alert (Yes/No)
  CMAS Name   ===> CMSSYS1      CMAS to Issue Alert
  Enter Text  ===> Key application unavailable
  Exit Text   ===> Key application available again

  Restart     ===> NO           Cancel for ARM Restart (Yes/No)

Press Enter to create the Action Definition.
Type END or CANCEL to cancel without creating.
```

   Notice that the Event View value is LOCTRAN. Although the event notification issued in this example is not specific (that is, it doesn't identify the transactions, nor does it tell you in which AORs they are unavailable), you can look at the LOCTRAN view to find out which transactions are DISABLED, and in which AORs they are locally defined.

3. Create an analysis definition.

   From the current view, issue the command RTADEF. From the RTADEF view, issue the command CRE. Complete the Create Analysis Definition panel as shown here, and press Enter:

```
------------------------ Create Analysis Definition for PLXPROD1 --------------
COMMAND ==>

 Name             ===> RTDPAY11
 Description      ===> Key application check
 Perform Ops      ===> NO        Perform EVALDEF operations changes (YES, NO)
 Sample Interval  ===> 300       Interval between samples in seconds (1-86400)
 Action Name      ===> RTAPAY11  Action definition name or generic

                        VLS    LS    LW    HW    HS   VHS
Entry Intervals   ===> 0001  0001  0001  0001  0001  0001
Exit  Intervals   ===> 0001  0001  0001  0001  0001  0001

Evaluation expression:
===> RTEPAY11
===>
===>
===>
===>
===>
===>

Press Enter to create the Analysis Definition.
Type END or CANCEL to cancel without creating.
```

Modifying the state of a resource

In this example you'll see how to use an evaluation definition and an analysis definition to modify a CICS resource when it is not in the desired state. This example is an extension of the example in "Reusing analysis specifications and analysis groups" on page 90, in which you saw how to monitor files in the CICS system group called CGSAORS1. You will be using the Time Period Def (PDFCHECK) and the Action Def (RTAPAY12) from that example.

1. Create the evaluation definition.

   From the current view, issue the command EVALDEF. From the EVALDEF view, issue the command CRE. Complete the first Create Evaluation Definition panel as shown here:

```
------------------- Create Evaluation Definition for PLXPROD1------------------
COMMAND  ===>

Name                  ===> RTEPAY12
Description           ===> REMFILE PAYFILA* enabling

Sample Interval       ===> 60            Interval between samples in seconds
TableName             ===> REMFILE       Resource Table Name or *
Instance Pattern      ===> PAYFILA*      Specific or generic pattern
Result Set Action     ===> ANY           Operation(ALL,ANY,SUM,MIN,MAX,AVG,CNT)
Separate Task         ===> NO            Run as a separate task (YES, NO)

Evaluation Column     ===> ENABLESTATUS  Column name to evaluate or *
    either Operator   ===> NE            (EQ,NE,LT,GT,LE,GE)
           Value      ===> ENABLED
           Severity   ===> VHS           (VLS,LS,LW,HW,HS,VHS)
    or set Thresholds:     Provide 3 low and/or 3 high values, N=Normal

VLS          LS          LW   (N)    HW          HS         VHS


View                  ===> REMFILE       View invoked for this Evaluation

Type DOWN or UP to view other Evaluation Definition screens.
Press Enter to create Evaluation Definition.
Type END or CANCEL to cancel without creating.
```

Issue the DOWN command and complete the second Create Evaluation Definition panel as shown here:

```
------------------- Create Evaluation Definition for EYUPLX01------------------
COMMAND  ===>

Name                  ===> EYURTE01

Filter string expression:  (Type FILTER to list columns)
===>
===>
===>
===>
===>
===>
===>
===>
===>
===>

Modification string expression:  (Type MODIFY to list modifiable columns)
===> ENABLESTATUS=ENABLED, OPENSTATUS=OPEN.
===>
===>
===>

Type DOWN or UP to view other Evaluation Definition screens.
Press Enter to create Evaluation Definition.
Type END or CANCEL to cancel without creating.
```

In this example, the modification string expression modifies the ENABLESTATUS and OPENSTATUS attributes to make the specified files available.

2. Create the analysis definition.

   From the current view, issue the command RTADEF. From the RTADEF view, issue the command CRE. Complete the Create Analysis Definition panel as shown here, and press Enter:

```
------------------------ Create Analysis Definition for PLXPROD1 --------------
COMMAND ==>

 Name              ===> RTDPAY14
 Description       ===> Appl file check and modify
 Perform Ops       ===> YES       Perform EVALDEF operations changes (YES, NO)
 Sample Interval   ===> 60        Interval between samples in seconds (1-86400)
 Action Name       ===> RTAPAY12  Action definition name or generic

                         VLS    LS    LW    HW    HS   VHS
Entry Intervals    ===> 0001  0001  0001  0001  0001  0001
Exit  Intervals    ===> 0001  0001  0001  0001  0001  0001

Evaluation expression:
===> RTEPAY12
===>
===>
===>
===>
===>
===>

Press Enter to create the Analysis Definition.
Type END or CANCEL to cancel without creating.
```

The Perform Ops field indicates that the resource modification defined in the evaluation definition should be performed when the evaluation condition is true.

Note: For a complete description of the RTADEF view, see “RTADEF (Analysis definitions)” on page 42.

3. Associate the new analysis definition with the existing analysis group.

   In the RTADEF view, tab to the entry for RTDPAY14, and issue ADD from the line-command field. The Add RTADEF to Analysis Group panel is displayed.

   In the Analysis Group field, specify RTGPAY02. In the Active Period field, specify PDFCHECK.

The Analysis Group RTGPAY02 already exists and it has already been associated with the analysis specification RTSPAY02. Therefore, analysis definition RTDPAY14 is installed automatically in the CICS systems in group CSGAORS1 when those systems are next started, for the period of time defined in PDFCHECK.

Part 3. Resource monitoring

This part describes the CICSPlex SM resource monitoring facilities and the views you can use to monitor the resources in a CICSplex. It also includes sample tasks to help you establish resource monitoring at your enterprise.

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Chapter 6. Preparing to monitor resources

This chapter describes how CICSPlex SM can be used to monitor the resources in a CICSplex. The primary purpose of these resource monitoring facilities is to provide data to the real-time analysis component. As part of real-time analysis processing, monitor definitions are automatically created to support the types of analysis you request. The data is used by real-time analysis to evaluate the status of a resource. Data can be collected for any or all resource types.

You can request additional monitoring of specific resources in your CICSplex. However, be aware that resource monitoring is implemented by a periodic sampling process that can add significant overhead to your environment.

When resource monitoring is active, either because real-time analysis requires it or you requested it, you can use the WUI monitoring views to display the collected data. To access these views, open the **Monitoring views** menu by clicking on **Monitoring views** on the WUI main menu. Alternatively you can use the EUI MONITOR view commands described in *CICSPlex SM Monitor Views Reference*.

Defining resource monitoring attributes

When you define the attributes of resource monitoring, you are telling CICSPlex SM exactly which occurrences of one or more resource types are to be monitored and when this monitoring is to occur. The resource monitoring attributes are based on information provided in monitor specifications, monitor definitions, and, optionally, monitor groups.

- A *monitor specification* identifies the types of resources to be monitored and how frequently information about these resources is to be gathered. After you associate a monitor specification with a CICS system, that specification is automatically installed every time the CICS system starts.
- A *monitor definition* qualifies the resource type identified by a monitor specification. For example, after creating a monitor specification that indicates the program resource type is to be monitored, you might create a monitor definition that causes all programs to be monitored or only those programs with names starting with PAY.

  A monitor definition also indicates which resources should be identified to the resource status facility.

  You can install a monitor definition either manually or automatically. To be automatically installed, a monitor definition must be part of a monitor group. Monitor definitions that are not part of a monitor group must be manually installed.
- A *monitor group* is a collection of monitor definitions that are treated as a single entity. This means that you can install all of the monitor definitions associated with a monitor group either by:
  - Associating the monitor group with a monitor specification. When a CICS system using that specification starts, the specification and all monitor definitions associated with it through the monitor group are automatically installed.
  - Manually installing the monitor group. Monitor definitions installed this way are known to the CICS system as long as the CICS system is running or until you discard the definitions.

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You might want to create a monitor group that is not associated with a monitor specification for those resource types that you want to monitor only occasionally.

Note: A monitor definition can be installed in variety of CICSPlex SM managed CICS systems. However, not all resource types are supported in all of those systems. Therefore, CICSPlex SM verifies that the resource to be monitored is supported in the target system prior to installing the definition. If it is not, CICSPlex SM issues a message indicating the definition cannot be installed because the resource is not supported. This message is informative in nature and does not require any corrective action.

Figure 54 on page 125 illustrates the attributes of resource monitoring. In this example:

- Monitor specification EYUMOS01 designates that the CICS region, program, and transaction resource types are to be monitored, using the monitor definitions associated with the monitor groups EYUMOG01, EYUMOG02, and EYUMOG03.
- Monitor groups, such as EYUMOG01, activate resource monitoring during the designated range of hours identified by the time period definition.
- Monitor definitions, such as EYUMOD01 and EYUMOD02, qualify the specific resource information to be gathered. That is, the monitor definition EYUMOD01 indicates that only the program named PAYX is to be monitored; while EYUMOD02 indicates that any transaction identifiers starting with PAY are to be monitored.

  Monitor definitions such as EYUMOD09 are not associated with any monitor group and must, therefore, be manually installed. These definitions are useful when you have a very specific resource occurrence you want to monitor occasionally.

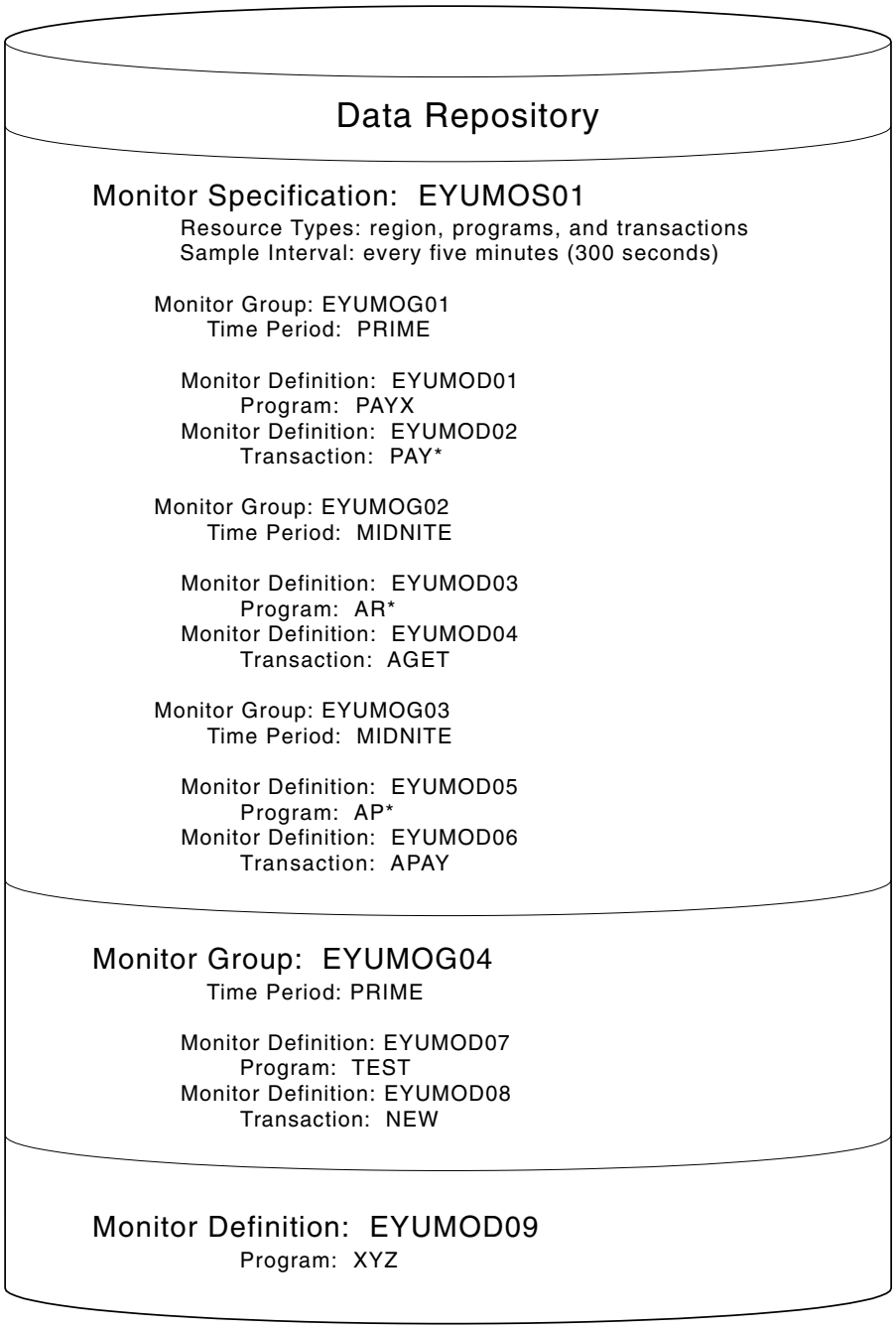

Figure 54. An example of resource monitoring attributes

Activating resource monitoring

For resource monitoring to occur for a particular CICS system, you must:

1. Associate a monitor specification with the CICS system, using the **Monitor specifications** view. To open this view from the WUI main menu, click **Administration views—>Monitor administration views—>Monitor specifications**. Alternatively you can use the EUI MONSPEC view, as described on page 155.
2. Activate resource monitoring for the CICS system. There are two ways you can do this:

- Use the **CICS system definition** WUI view (click **Administration views—>Topology administration views—>Monitor specifications—>CICS system definitions**) or the EUI view CICSSYS to change the CICS system definition in the data repository.
- Use the **Runtime MAS display** WUI view (click **CICSPlex SM operations views—>Status of MASs known to CICSplex**), or the EUI view MAS to temporarily activate resource monitoring for an active CICS system.

3. Set the resource sample interval greater than 0. (The sample interval can be set from the associated monitor specification or from the CICS system definition.)

Monitor definitions that are associated with a monitor specification via monitor groups are automatically installed when that CICS system starts. As long as the CICS system remains active, additional monitor definitions can be manually installed in the CICS system.

Installed monitor definitions become active:

- At the time designated by the associated period definition.
- Immediately, when no period definition is associated with the definition, or if the CICS system is activated during the defined time period.

Monitor definitions remain active as long as the CICS system is running, until you discard them, or until the end of the time designated by the period definition is reached. To determine the current status of installed monitor definitions, you can use the **Active monitor specifications** WUI view (click **Monitoring views—>Active monitor specifications** or the EUI MONACTV view, as indicated in Table 5 on page 6.

Once resource monitoring is active, any changes you make to monitor definitions are noted in the data repository. To apply these changes to an active CICS system, you must manually install or discard the definitions.

Overriding resource monitoring attributes

The monitor specification associated with a CICS system determines:

- Whether resource monitoring is to be active when the CICS system starts
- How long collected data is to be retained after monitoring stops
- The sample interval to be used for one or more resource types

You can override any of the attributes defined in a monitor specification by changing the definition of the CICS system that is to use that specification. This might occur when, for example, multiple CICS systems are using the same monitor specification and you want the data retention period to be different for one of those systems. To override the monitor specification for a specific CICS system, you can use the views:

CICS system definition (CICSSYS)
To permanently override part or all of a monitor specification. Values changed via this view are stored in the data repository and used every time the CICS system starts. (For additional information about using this EUI view command, see the *CICSPlex System Manager Administration* book.)

Runtime MAS display (MAS)
To temporarily override all or part of the monitor specification currently being used by an active CICS system. Values affected by this view remain in effect as long as the CICS system is running or until you change them. (For additional information about the EUI MAS view command, see the *CICSPlex System Manager Administration* book.)

Understanding resource monitoring times

When you define your resource monitoring attributes, you must identify a monitor interval, period definition, and sample interval, where:

Monitor interval
The number of minutes during which data is to be collected and accumulated. At the end of an interval, the statistics counters are automatically reset.

A monitor interval is associated with a CICSplex and applies to all CICS system and CICS system groups comprising that CICSplex. To create or display the monitor intervals associated with the CICSplex, use the **CICSplex definition** view or the CPLEXDEF EUI view, as described in *CICSPlex SM Administration*.

When a CICS system starts, it determines how much of the current interval has elapsed for its CICSplex and begins from there. Thus, the interval for a CICS system may be less than the defined interval. For example, if the monitor interval for a CICSplex is 60 minutes and a CICS system associated with that CICSplex starts at 09:15:00, the first monitor interval for that CICS system is 45 minutes. Subsequent intervals will be 60 minutes in length.

Period definition
The range of hours during which resource monitoring is to be active for a CICS system.

A time period definition can be associated with a monitor definition when you assign the monitor definition to a monitor group, as illustrated in Figure 54 on page 125. If no time period definition is associated with the monitor group, resource monitoring is active as long as the CICS system using the monitor definitions in that monitor group is active.

When a monitor definition is not associated with a monitor group, no period definition is associated with the monitor definition. In this case, the monitor definition becomes active when you manually install it in a CICS system. It remains active as long as the CICS system is active or until you discard the definition. To display information about existing time period definitions or create new ones, use the **Time period definition** WUI view or PERIODEF EUI view, as described in *CICSPlex SM Administration*.

Sample interval
The number of seconds between the collection of sample data for a resource type; the data is reported in monitoring views as the current sample.

A sample interval is associated with a resource type via a monitor specification, as illustrated in Figure 54 on page 125.

Note: One full sample interval must elapse before information about the resources being monitored is included in a monitoring view. This ensures that enough time has elapsed for meaningful data to be collected. Depending on when a CICS system starts, more than a full interval may elapse.

Figure 55 on page 128 identifies the monitor-related time periods and illustrates their relationship to each other. In this case, the period during which resource monitoring is to be active(the period definition), is between 09:00:00 and 12:00:00. Resource data is to be collected every 15 minutes (900 seconds) (the sample

interval). During each monitor interval of 60 minutes, resource data is to be accumulated and reported as an average. After each 60 minute interval, the statistics counters containing the accumulated statistics are to be reset to zero.

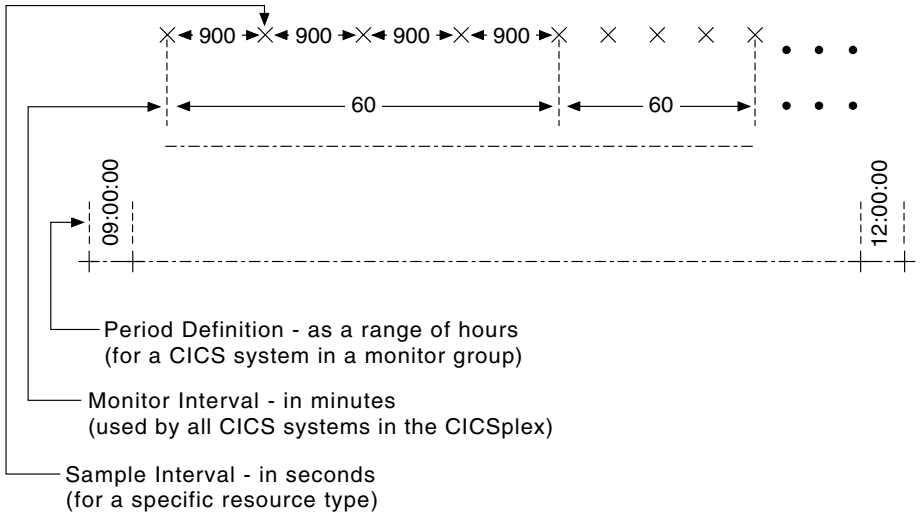

Figure 55. Resource monitoring time periods

Understanding resource monitoring statistics

When resource monitoring is active, CICSPlex SM collects data about the specified resources as frequently as indicated by the sample interval. This data reflects:

- The type of information available via the CICS COLLECT STATISTICS command.
- CICSPlex SM *derived values*. A derived value is a rate, average, or percentage that results from CICSPlex SM processing of CICS statistics.

All of the data collected about the monitored resources is available via the monitoring views (EUI monitor views are described in *CICSPlex SM Monitor Views Reference*).

Important

In order for CICSPlex SM to gather certain task-related data shown in WUI transaction monitoring views and the EUI views MLOCTRAD, MLOCTRA2, MREMTRAD, and TASKD, the CICS monitoring facility (CMF) must be active and you must be collecting performance class data. For an active system, you can open the CICS system definition (WUI) view or CICSRGN2 (EUI) view and overtype these fields with the specified values:

Field Value
Monitoring Status
ON
Perf Class (EUI only)
PERF

This has the same effect as issuing the following EXEC CICS commands:
- EXEC CICS SET MONITOR STATUS(ON)
- EXEC CICS SET MONITOR PERFCLASS(PERF)

However, these changes remain in effect only while the CICS system is active. To permanently activate CICS performance class data monitoring, use the CICS system initialization parameters `MN=ON` and `MNPER=ON` .You can choose to collect this data for use by CICSPlex SM, but not have it written to an SMF data set. For information on suppressing CMF records, see the discussion of system parameters in *CICS Transaction Server for z/OS Installation Guide*.

Data retention

When resource monitoring of a particular resource type is active, data is collected and accumulated until:

- The current monitor interval ends. At that time, the statistics counters are reset.
- The *retention period* has expired. A retention period is associated with a monitor specification. The period indicates the number of minutes accumulated data is to be retained after either the CICS system using that specification stops or you manually stop resource monitoring for that CICS system. At that time, the statistics counters are cleared.
- You explicitly initialize the statistics counters or remove the accumulated data. You can do this using the monitoring views (EUI MONITOR views are described in *CICSPlex SM Monitor Views Reference*).

A comparison of CICSPlex SM and CICS monitoring

With CICS, you can collect data about the performance of all user- and CICS-supplied transactions. These records are written to an MVS System Management Facility (SMF) data set as type 110 records. These records can then be used for offline analysis. (If statistics records are also to be written to the SMF data set, you can process the statistics and monitoring records together to obtain resource and system information that complements the transaction data produced by CICS monitoring.)

With CICSPlex SM, you can collect data about all resource types. That is, you can obtain information about one or more:
- Transactions
- Terminals

- Files
- Transient data queues
- Journals
- Connections
- Programs

You can also get information about CICS systems, dynamic storage areas (DSAs), transaction classes, local shared resource (LSR), and temporary storage.

Resource monitoring definitions and their related views

You can use the resource monitoring administration views to define a variety of resource monitoring attributes. Figure 56 on page 131 provides an overview of the resource monitoring views based on the CICSPlex SM object model.

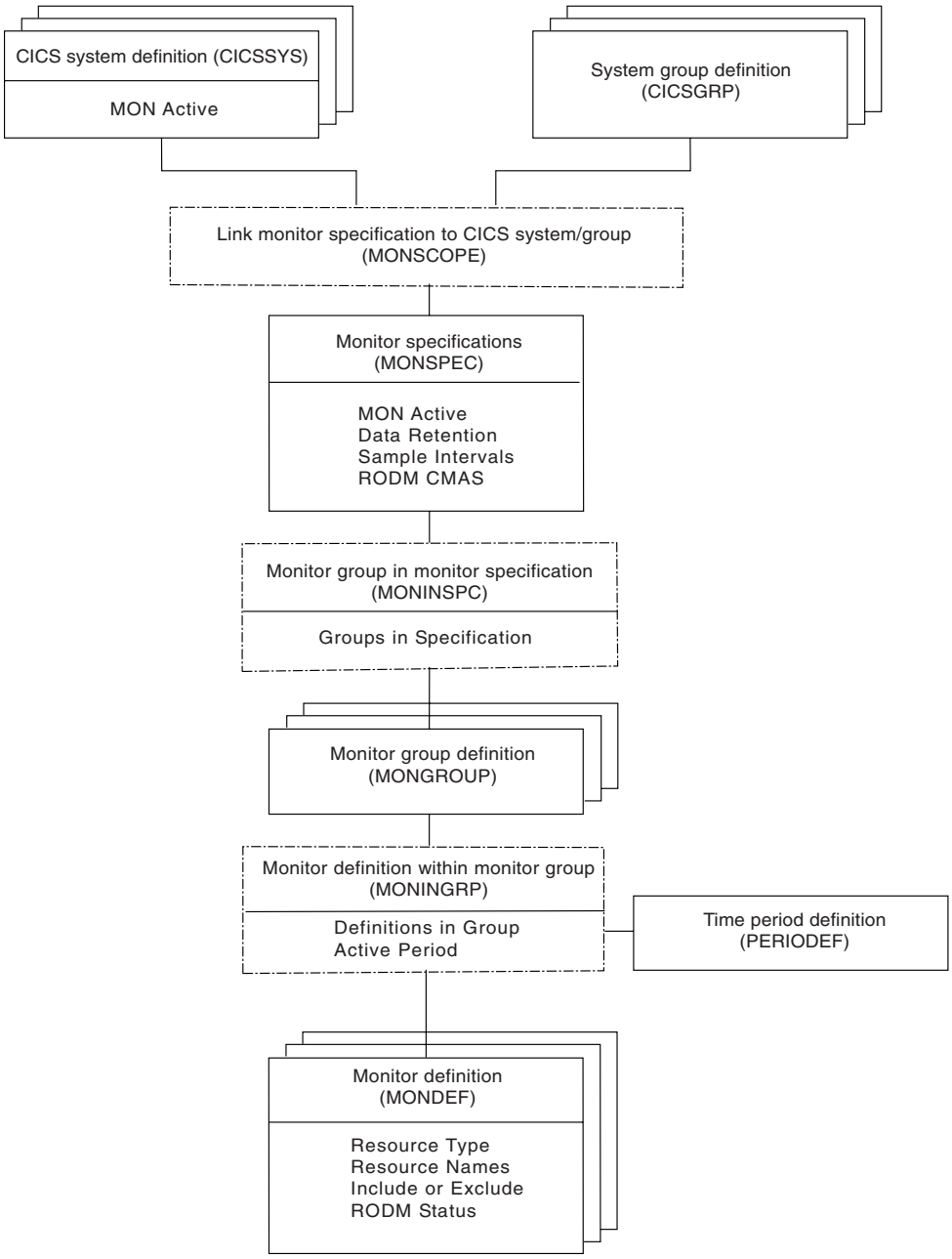

Figure 56. Views for creating resource monitoring objects and associations

In addition to the views shown here, you can use the **Active monitor specifications** WUI view (or the EUI MONACTV view, as described in Table 5 on page 6), to display information about and manage the resource monitoring activity in an active CICS system. In the EUI you can also display a visual map of your resource monitoring definitions by using the MAP action command, as described in *CICSPlex SM Administration*.

Figure 57 on page 132 illustrates the relationship between resource monitoring in a CICSplex and the views used to define resource monitoring attributes.

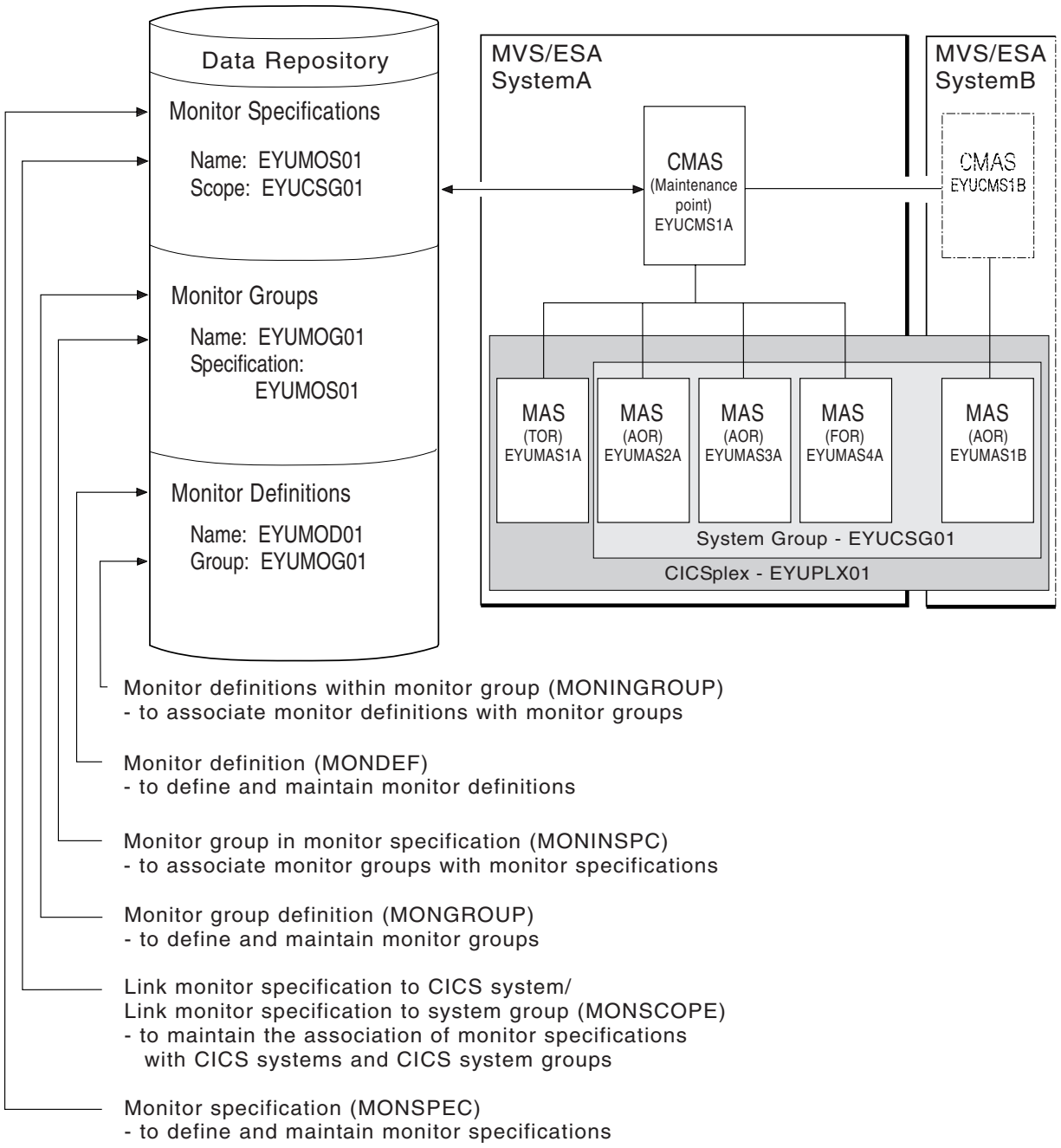

Figure 57. The relationship between resource monitoring definitions and their views

Chapter 7. Resource monitoring views

This chapter contains detailed descriptions of the EUI views used to create and maintain resource monitoring definitions. See “Views for managing resource monitoring administrative definitions” on page 5 for a summary of equivalent WUI views.

You can access resource monitoring administration views by:

- Issuing the appropriate resource monitoring view command.
- Issuing the MENU ADMMON command and selecting a view from the menu. (An example of this menu is shown in Figure 58.)
- Initiating a hyperlink from one view to another by placing the cursor on a hyperlink field and pressing Enter.

```
27FEB2005  16:50:55 ----------- INFORMATION DISPLAY --------------------------
COMMAND  ===>                                                 SCROLL ===> PAGE
CURR WIN ===> 1        ALT WIN ===>
 W1 =MENU==============EYUPLX01=EYUPLX01=27FEB2005==16:50:55=CPSM========9=====
CMD Name             Description
--- ------------------------------
    ADMMON      Monitor Administration Views
      MONSPEC     Monitor Specifications
      MONGROUP    Monitor Groups
      MONDEF      Monitor Definitions
      PERIODEF    Time Period Definitions
      ========    ============================================================
      MONSCOPE    Members Associated with Monitor Specifications
      MONINSPC    Monitor Groups in Specifications
      MONINGRP    Monitor Definitions in Groups
```

Figure 58. The ADMMON menu

For additional information about accessing views, see *CICSPlex SM User Interface Guide*.

Unless noted otherwise, only the context setting is recognized when you are creating and maintaining resource monitoring definitions. For information about setting the context, see *CICSPlex SM User Interface Guide*.

The remainder of this chapter contains detailed descriptions of the resource monitoring views.

MONDEF (Monitor definitions)

A monitor definition qualifies a resource type identified in a monitor specification by indicating the occurrences of the resource that are to be included in or excluded from monitoring. A monitor definition also identifies which resources are to be reported to the resource status facility.

Examples of how to use this view can be found in:

- “Monitoring transaction response times” on page 161
- “Monitoring programs in multiple CICS systems” on page 163

To display information about existing monitor definitions, issue the command:

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```
MONDEF [mondef]
```

where mondef is a specific or generic monitor definition name. If you omit this parameter, the view, illustrated in Figure 59, includes information about all existing monitor definitions within the current context.

```
27FEB2005  19:33:23 ----------- INFORMATION DISPLAY ---------------------------
COMMAND  ===>                                                 SCROLL ===> PAGE
CURR WIN ===> 1        ALT WIN ===>
 W1 =MONDEF============EYUPLX01=EYUPLX01=27FEB2005==19:33:23=CPSM=========11===
CMD Def      Resource Resource Include Res  Monitor Definition
--- Name---- Name---- Type---  Data--- Stat Description------------------
    EYUMOD01 *        MCONN    YES     YES  SSet - All Connections
    EYUMOD02 CO*      MTRAN    YES     NO   SSet - All CO* Transactions
    EYUMOD03 CO*      MTDQS    YES     NO   SSet - TDQs CO*
    EYUMOD04 EQ*      MTDQS    NO      YES  SSet - TDQs EQ*
    EYUMOD05 DFHCSD   MFILE    YES     YES  SSet - DFHCSD Files
    EYUMOD06 *        MJRNL    YES     YES  SSet - All Journals
    EYUMOD07 SP*      MTERM    YES     YES  SSet - All SP* Terminals
    EYUMOD08 CEMT     MTRAN    YES     YES  SSet - CEMT Transaction
    EYUMOD09 EYUF*    MFILE    YES     YES  SSet - EYUF* files
    EYUMOD10 ET*      MTRAN    YES     YES  SSet - ET* Transations
    EYUMOD11 EYU*     MPROG    YES     YES  SSet - EYU* Programs
```

Figure 59. The MONDEF view

Action commands and overtype fields

Table 37 summarizes the action commands you can use with the MONDEF view. Table 38 on page 135 identifies the overtype fields you can modify when you use the SET action command.

Table 37. MONDEF view action commands

Primary command	Line command	Description
n/a	ADD	Add an association between a monitor definition and a monitor group, as described on page 137.
n/a	BRO	Browse a monitor definition in the data repository. The format of the resulting panel is similar to that shown in Figure 60 on page 135. The panel fields are not modifiable.
CREate	CRE	Create a monitor definition and add it to the data repository, as described on page 135. When you use the primary command CREate, some fields in the new view may contain values supplied by CICSPlex SM; you may change these values. When you enter the line command CRE next to the name of a monitor definition, fields in the new view contain values to be modelled (from the existing monitor definition).
n/a	INS	Install a monitor definition into a CICS system or CICS system group, as described on page 138.
n/a	MAP	Display a visual map of resource monitoring definitions using the specified definition as a starting point.
n/a	REM	Remove a monitor definition from the data repository.
n/a	SET	Change a monitor definition using overtype fields (see Table 38). **Note:** The value you specified in the Require Set field on the CICSPlex System Manager entry panel determines whether or not you must use the SET command when you overtype a field.
TEMPMP cmasid	n/a	Change the temporary maintenance point CMAS to a specific CMAS or display a selection list based on a generic CMAS ID.

Table 37. MONDEF view action commands (continued)

Primary command	Line command	Description
n/a	UPD	Update a monitor definition in the data repository. The format of the resulting panel is similar to that shown in Figure 60. You can change the contents of any field in the panel except Definition Name.

Table 38. MONDEF view overtype fields

Field name	Value
Resource Name	Specific or generic name of a resource occurrence.
Resource Type	Type of resource to be monitored.
Include Data	YES|NO **Note:** YES is the default.
Res Stat	YES|NO
Description	1- to 30-character description of the definition.

Hyperlink fields

There are no hyperlink fields in the MONDEF view.

Creating a monitor definition

There must be one or more monitor definitions for each resource type identified in a monitor specification. You create the appropriate monitor definitions for all resource types except Region, Global, and DB2/DBCTL. CICSPlex SM automatically generates and maintains monitor definitions for the Region, Global, and DB2/DBCTL resource types.

Figure 60 shows the format of the panel produced when you use the create primary (CREate) or line (CRE) action command from the MONDEF view.

```
------------------------ Create Monitor Definition for EYUPLX01 ---------------
COMMAND  ===>

Definition Name ===>
Description     ===> Monitor all files

Resource Definition:
 Name              ===> *      Resource Name
 Type              ===> MFILE  MCONN/MFILE/MJRNL/MPROG/MTDQS/MTERM/MTRAN
 Include           ===> YES    Include for monitoring (NO, YES)
 Resource Status                 Operational status for resource
        Facility   ===> NO         status facility (NO, YES)

Press Enter to create Monitor Definition.
Type END or CANCEL to cancel without creating.
```

Figure 60. Creating a monitor definition

Provide the following information, as appropriate.

Definition Name

Specify a 1- to 8-character name for the monitor definition. The name can contain alphabetic, numeric, or national characters. However, the first character must be alphabetic.

Description
(Optional.) Specify a 1- to 30-character description of the resource occurrence that is to be monitored.

Name Indicate the specific or generic name of a resource occurrence.

Table 39 shows the alphabetic, numeric, and special characters that you can use to identify a resource occurrence. In addition to these characters, you may also include the generic characters + (plus sign), * (asterisk), or both.

Table 39. Resource occurrence naming standards

Resource type	A-Z	0-9	@ # $	_	. / % & ? ! " =, : < > ¬ ¢
MCONN	Yes	Yes	Yes		
MFILE	Yes	Yes	Yes		
MJRNL		Yes			
Note: If the monitor definition is to be installed in a system running the CICS TS, all of these characters are valid in the journal name.					
MPROG	Yes	Yes	Yes		
MTDQS	Yes	Yes	Yes	Yes	
MTERM	Yes	Yes	Yes	Yes	Yes
MTRAN	Yes	Yes	Yes	Yes	Yes

Type Specify the type of resource to be monitored, where:

Type	Means
MCONN	Connections and LU 6.2 modenames
MFILE	Files
MJRNL	Journals
MPROG	Programs
MTERM	Terminals
MTRAN	Transactions
	Note: If the MAS has history datasets (EYUHISTx) available, an MTRAN MONDEF will also include or exclude (depending on the MONDEFs 'Include' attribute) historical task (HTASK) data collection for the transactions specified on the 'Name' attribute.
MTDQS	Transient data queues

Note: When specifying a resource type, consider the CICS systems in which this monitor definition will be installed. Not all resource types are supported in all of the CICSPlex SM managed CICS systems. You may specify any resource type in the monitor definition. However, prior to installing the definition, CICSPlex SM verifies that the resource type is supported in each target CICS system. For those systems that do not support the resource type, CICSPlex SM issues a message indicating that the definition is not installed.

Include
Specify YES or NO to indicate whether the designated resource is to be included in or excluded from CICSPlex SM monitoring.

You can use this field to tailor resource monitoring. For example, to monitor all transactions except those with transaction identifiers starting with PAY, you would define two monitor definitions, where one definition includes all transactions in resource monitoring and the other definition identifies the generic group of transactions to be excluded, as in:

```
Definition ===> DEF1

  Name         ===> *
  Type         ===> MTRAN
  Include      ===> Yes

Definition ===> DEF2

  Name         ===> PAY*
  Type         ===> MTRAN
  Include      ===> No
```

Alphabetic characters take precedence over special characters when CICSPlex SM is determining whether the name of a specific resource occurrence matches a monitor definition. Thus, you must be careful when identifying a resource occurrence. For example, suppose you created the following two monitor definitions.

```
Definition ===> DEF3

  Name         ===> +++R*
  Type         ===> MFILE
  Include      ===> No

Definition ===> DEF4

  Name         ===> PAY*
  Type         ===> MFILE
  Include      ===> Yes
```

With these definitions, files containing an R in the fourth position of their names will be excluded from monitoring. However, because alphabetic characters have precedence, any file name starting with PAY, including PAYR, will be included in monitoring. To prevent this from happening, you must create another monitor definition that explicitly excludes file names starting with PAYR.

Resource status facility
Specify YES or NO to indicate whether the designated resource should be identified to the resource status facility.

Press Enter to add the monitor definition to the data repository.

Adding an association to a monitor group

Figure 61 on page 138 illustrates the panel produced when you use the add (ADD) line action command from the MONDEF view.

```
------------------ Add Monitor Definition to Group for EYUPLX01 ---------------
COMMAND  ===>

 Definition Name         EYUMON01
 Description             Programs
 Type                    MPROG
 Resource Name           *
 Include                 YES
 Resource Status
      Facility           NO

 Monitor Group Name ===>              Monitor Group or Generic
 Active Period      ===>              Period Definition or Generic


Press Enter to add Monitor Definition to Group.
Type END or CANCEL to cancel without adding.
```

Figure 61. Adding an association between a monitor group and a monitor definition

Provide the following information, as appropriate.

Monitor Group Name
Enter the specific or generic name of an existing monitor group. If you specify a generic value, a list of valid monitor groups is displayed.

Active Period
(Optional) Enter the specific or generic name of a period definition that identifies the range of hours during which the monitor definition is to be active. If you specify a generic value, a list of valid period definitions is displayed.

If the name you specify does not belong to an existing period definition, you can create that period definition later. If you leave this field blank, the monitor definition remains active for as long as the CICS system is running, or until you discard it.

To add the monitor group and interval to the designated monitor definition, press Enter.

You can use the MONINGRP view, as described on page 144, to remove a monitor definition from a monitor group.

If an appropriate monitor group does not currently exist, you must first create the group, as described on page 141. Then you can add the monitor definition to it using either that ADD action command, or the ADD action command described in “Adding a monitor definition to a monitor group” on page 146.

Installing a monitor definition

You can install a monitor definition into one or more active CICS systems that are within the CICSplex identified as the context. You can do this whether or not the monitor definition is associated with a monitor group that is also associated with a monitor specification. However, before attempting to install a monitor definition, you should review the requirements described in “Activating resource monitoring” on page 125.

A monitor definition can be automatically installed in a CICS system when that system starts. For this to occur, associate the definition with a monitor group. Then associate that monitor group with a monitor specification that is associated with the CICS system.

Figure 62 illustrates the panel produced when you use the install (INS) line action command from the MONDEF view.

```
------------------- Install Monitor Definition for EYOPLX01 -------------------
COMMAND  ===>

 Definition Name      EYUMON02
 Description          Monitor all files
 Type                 MFILE
 Resource Name        *
 Include              YES
 Resource Status
   Facility Status    NO


 Scope           ===>           System Group, CICS System, or Generic
 Active Period   ===>           Blank, PERIODEF, or Generic

Press Enter to install Monitor Definition.
Type END or CANCEL to cancel without installing.
```

Figure 62. Installing a monitor definition

Provide the following information:

Scope Enter the specific or generic name of a CICS system or CICS system group for which the monitor definition is to be installed. The CICS system or CICS system group must be within the CICSplex identified as the current context. If you specify a generic value, a list of valid CICS systems and CICS system groups is displayed.

Active Period
(Optional) Enter the name of an existing period definition or a generic name that identifies the range of hours during which the monitor definition is to be active. If you specify a generic value, a list of valid period definitions is displayed.

If you leave this field blank, the monitor definition remains active for as long as the CICS system is running, or until you discard it.

To install the monitor definition into the designated CICS system or into all of the CICS systems associated with the designated CICS system group, press Enter.

When the monitor definition you install:

- Has the same name as a previously installed definition, the new definition replaces the old definition.
- Identifies the same occurrence names and resource types as a previously installed definition, the new definition replaces the old one.
- Specifies a resource type that is not supported in a target CICS system, CICSPlex SM issues a message indicating that the definition cannot be installed.

If you install a monitor definition that specifies a 1- to 8-character journal name (for use in a system running the CICS TS) in a system that does not support such journal names, monitoring does not occur, as the specified journal will not exist.

You can use the MONACTV view, as described in Table 3 on page 5, to deactivate an installed monitor definition.

MONGROUP (Monitor groups)

A monitor group is used to associate one or more related monitor definitions. An example of how to use this view can be found in “Monitoring programs in multiple CICS systems” on page 163.

To display information about existing monitor groups, issue the command:

```
MONGROUP [mongroup]
```

where `mongroup` is a specific or generic name of a monitor group. If you omit this parameter, the view, illustrated in Figure 63, includes information about all monitor groups within the current context.

```
27FEB2005  19:33:31 ----------- INFORMATION DISPLAY ---------------------------
COMMAND  ===>                                                SCROLL ===> PAGE
CURR WIN ===> 1        ALT WIN ===>
 W1 =MONGROUP==========EYUPLX01=EYUPLX01=27FEB2005==19:33:31=CPSM==========6===
CMD Monitor  Monitor Group
--- Group--- Description-------------------
    EYUMOG01 SSet - All Connections
    EYUMOG02 SSet - CO* , TDQs, CSD, JRNLs
    EYUMOG03 SSet - All SP* term, CEMT tran
    EYUMOG04 SSet - EYUF* files
    EYUMOG05 SSet - ET* transactions
    EYUMOG06 SSet - EYU* programs
```

Figure 63. The MONGROUP view

Action commands and overtype fields

Table 40 summarizes the action commands you can use with the MONGROUP view. Table 41 on page 141 identifies the overtype field you can modify when you use the SET action command.

Table 40. MONGROUP view action commands

Primary command	Line command	Description
n/a	ADD	Add an association between a monitor group and a monitor specification, as described on page 142.
n/a	ASC	Add an association between a monitor definition and a monitor group, as described on page 143.
n/a	BRO	Browse a monitor group in the data repository. The format of the resulting panel is similar to that shown in Figure 64 on page 142. The panel fields are not modifiable.
CREate	CRE	Create a monitor group and add it to the data repository, as described on page 141.
n/a	INS	Install the monitor definitions associated with a monitor group into a CICS system or CICS system group, as described on page 143.
n/a	MAP	Display a visual map of resource monitoring definitions using the specified group as a starting point.
n/a	REM	Remove a monitor group from the data repository. (Any associations that exist between monitor definitions and that monitor group are also removed.)

Table 40. MONGROUP view action commands (continued)

Primary command	Line command	Description
n/a	REP	Replace all installed monitor definitions with those associated with a monitor group. The format of the resulting panel is similar to the one produced by the INS action command, as illustrated in Figure 67 on page 144. REP causes a two-step operation to be performed. First, all installed monitor definitions are discarded and all accumulated monitoring data relating to those monitor definitions is deleted. Then, CICSPlex SM attempts to install the monitor definitions associated with the designated monitor group.
n/a	SET	Change a monitor group description using an overtype field (see Table 41). **Note:** The value you specified in the Require Set field on the CICSPlex System Manager entry panel determines whether or not you must use the SET command when you overtype a field.
TEMPMP cmasid	n/a	Change the temporary maintenance point CMAS to a specific CMAS or display a selection list based on a generic CMAS ID.
n/a	UPD	Update a monitor group in the data repository. The format of the resulting panel is similar to that shown in Figure 64 on page 142. You can change the Description field.

Table 41. MONGROUP view overtype field

Field name	Value
Monitor Group Description	One- to 30-character description of the monitor group.

Hyperlink fields

Table 42 shows the hyperlink field on the MONGROUP view.

Table 42. MONGROUP view hyperlink field

Hyperlink field	View displayed	Description
Monitor Group	MONINGRP	Detailed information about the associations that exist between the designated monitor group and monitor definitions.

Creating a monitor group

Figure 64 on page 142 shows the format of the panel produced when you use the create primary (CREate) or line (CRE) action command from the MONGROUP view.

```
----------------------- Create Monitor Group for EYUPLX01 ---------------------
COMMAND  ===>

Group Name    ===>
Description   ===> Test monitor group


Press Enter to create Monitor Group.
Type END or CANCEL to cancel without creating.
```

Figure 64. Creating a monitor group

Provide the following information, as appropriate:

Group Name
Specify a 1- to 8-character name for the monitor group. The name can contain alphabetic, numeric, or national characters. However, the first character must be alphabetic,

Description
(Optional) Specify a 1- to 30-character description of the monitor group.

Press Enter to add the monitor group to the data repository.

Adding an association to a monitor specification

Figure 65 illustrates the panel produced when you use the add (ADD) line action command from the MONGROUP view.

```
----------------------- Add Group to Specification for EYUPLX01 ---------------
COMMAND  ===>

Monitor Group Name      EYUMOG01
Description             Sample monitor group

Specification name ===> EYUMOS01      Specification Name or Generic


Press Enter to add Monitor Group to Specification.
Type END or CANCEL to cancel without adding.
```

Figure 65. Associating a monitor group with a monitor specification

Provide the following information:

Specification name
Enter the specific or generic name of an existing monitor specification. If you specify a generic value, a list of valid monitor specifications is displayed.

Press Enter to associate a monitor group with the designated monitor specification in the data repository.

If a monitor specification appropriate for this monitor group does not currently exist, you must first create one, as described on page 154. You can then use the ADD action command described on page 148 to associate the monitor group with that specification.

Associating a monitor definition with a monitor group

Figure 66 illustrates the panel produced when you use the associate (ASC) line action command from the MONGROUP view.

```
---------------- Add Monitor Definition to Group for EYUPLX01 -----------------
COMMAND  ===>

Monitor Group Name           EYUMOG01
Description                  Sample monitor group

Monitor Definition Name ===> EYUMOD01    Monitor Definition or Generic
Active Period           ===> EYUMOD01    Period Definition or Generic


Press Enter to add Monitor Definition to Group.
Type END or CANCEL to cancel without adding.
```

Figure 66. Associating a monitor definition with a monitor group

Provide the following information, as appropriate:

Monitor Definition Name
Enter the specific or generic name of an existing monitor definition that is to be associated with the monitor group. If you specify a generic value, a list of valid monitor definitions is displayed.

Active Period
(Optional.) Enter the specific or generic name of a period definition that identifies the range of hours during which the monitor definition is to be active. If you specify a generic value, a list of valid period definitions is displayed.

If the name you specify does not belong to an existing period definition, you can create that period definition later. If you leave this field blank, the monitor definition remains active for as long as the CICS system is running, or until you discard it.

Press Enter to associate the monitor definition with the monitor group in the data repository.

Installing a monitor group

When you install a monitor group, all of the monitor definitions associated with that group are installed in the CICS systems that are using the monitor specification to which the monitor group is associated. Before attempting to install a monitor group, you should review the requirements described in “Activating resource monitoring” on page 125.

The monitor definitions associated with a monitor group can be automatically installed in a CICS system when that system starts. For this to occur, the monitor group must be associated with a monitor specification that is defined to the CICS system.

Figure 67 illustrates the panel produced when you use the install (INS) line action command from the MONGROUP view.

```
---------------------- Install Monitor Group for EYUPLX01 ----------------------
COMMAND  ===>

Name                     EYUMOG01
Description              Sample monitor group

Scope               ===>              CICS System, Group or Generic

Press Enter to install definitions.
Type END or CANCEL to cancel without installing.
```

Figure 67. Installing a monitor group

Provide the following information:

Scope Enter the specific or generic name of an active CICS system or CICS system group into which the monitor definitions associated with this monitor group are to be installed. The CICS system or CICS system group must be within the CICSplex identified as the current context. If you specify a generic value, a list of valid CICS systems and CICS system groups is displayed.

Press Enter to install the monitor definitions associated with the monitor group into the designated CICS system or into all of the CICS systems associated with the designated CICS system group.

When one or more monitor definitions associated with the monitor group you install:

- Have the same names as previously installed definitions, the new definitions take the place of the old definitions.
- Identify the same resource occurrence names and resource types as previously installed definitions, the new definitions take the place of the old ones.
- Specify a resource type that is not supported in a target CICS system, CICSPlex SM issues a message indicating that the definition cannot be installed because the resource is not supported.

Finally, you can use the MONACTV view, as indicated in Table 3 on page 5, to deactivate an installed monitor definition.

MONINGRP (Monitor definitions in monitor groups)

To display the names of monitor groups, the monitor definitions associated with them, and the time period during which the monitor definitions are to be active, issue the command:

```
MONINGRP [mongroup [mondef]]
```

where:

mongroup
Is a specific or generic name of a monitor group, or a blank or an * (asterisk) for all monitor groups.

mondef Is a specific or generic name of a monitor definition. If you omit this parameter, the view includes information about all monitor definitions associated with the designated monitor group.

If you do not specify any parameters, the view, as illustrated in Figure 68 on page 145, includes information about all monitor groups and their associated monitor

definitions within the current context.

```
27FEB2005  19:33:42 ----------- INFORMATION DISPLAY ---------------------------
COMMAND  ===>                                                 SCROLL ===> PAGE
CURR WIN ===> 1        ALT WIN ===>
 W1 =MONINGRP==========EYUPLX01=EYUPLX01=27FEB2005==19:33:42=CPSM==========1===
CMD Monitor  Def      Active
--- Group--  Name---- Period--
    EYUMOG01 EYUMOD01 EYUPDF01
```

Figure 68. The MONINGRP view

Action commands and overtype field

Table 43 summarizes the action commands you can use with the MONINGRP view. Table 44 identifies the overtype field you can modify when you use the SET action command.

Table 43. MONINGRP view action commands

Primary command	Line command	Description
n/a	ADD	Add an association between a monitor definition and a monitor group, as described on page 146.
n/a	BRO	Browse the association between a monitor definition and a monitor group. The format of the resulting panel is similar to that shown in Figure 69 on page 146. The panel fields are not modifiable.
n/a	MAP	Display a visual map of resource monitoring definitions using the specified group as a starting point.
n/a	REM	Remove the association between a monitor definition and a monitor group.
n/a	SET	Change the period definition associated with a monitor definition using an overtype field (see Table 44). **Note:** The value you specified in the Require Set field on the CICSPlex System Manager entry panel determines whether or not you must use the SET command when you overtype a field.
TEMPMP cmasid	n/a	Change the temporary maintenance point CMAS to a specific CMAS or display a selection list based on a generic CMAS ID.
n/a	UPD	Update the association between a monitor definition and a monitor group. The format of the resulting panel is similar to that shown in Figure 69 on page 146. You can change the Active Period field.

Table 44. MONINGRP view overtype field

Field name	Value
Period	Name of a period definition or blank. (Setting the field to blanks causes the monitor definition to be active as long as the CICS system using that definition is active.)

Hyperlink fields

Table 45 shows the hyperlink fields on the MONINGRP view.

Table 45. MONINGRP view hyperlink fields

Hyperlink field	View displayed	Description
Monitor Group	MONGROUP	Detailed information about the designated monitor group.
Def Name	MONDEF	Detailed information about the designated monitor definition.

Adding a monitor definition to a monitor group

Figure 69 illustrates the panel produced when you use the add (ADD) line action command from the MONINGRP view.

```
------------------ Add Monitor Definition to Group for EYUPLX01 ---------------
COMMAND  ===>

 Monitor group name  ===> EYUMOG02    Monitor Group or Generic

 Definition name     ===> EYUMOD01    Monitor Definition or Generic
 Active Period       ===> PRIME       Period Definition or Generic

Press Enter to add Definition to Group.
Type END or CANCEL to cancel without adding.
```

Figure 69. Adding a monitor definition to a monitor group

Provide the following information, as appropriate:

Monitor group name
Specify the name of an existing monitor group.

Definition name
Enter the specific or generic name of an existing monitor definition that is to be associated with the monitor group. If you specify a generic value, a list of valid monitor definitions is displayed.

Active Period
(Optional.) Enter the specific or generic name of a period definition that identifies the range of hours during which the monitor definition is to be active. If you specify a generic value, a list of valid period definitions is displayed.

If the name you specify does not belong to an existing period definition, you can create that period definition later. If you leave this field blank, the monitor definition remains active for as long as the CICS system is running, or until you discard it.

Press Enter to add the monitor definition to the monitor group in the data repository.

MONINSPC (Monitor groups in monitor specifications)

To display the names of monitor specifications and the monitor groups associated with them, issue the command:

```
MONINSPC [monspec [mongroup]]
```

where:

monspec
Is a specific or generic name of a monitor specification, or a blank or an * (asterisk) for all monitor specifications.

mongroup
Is a specific or generic name of a monitor group. If you omit this parameter, the view includes information about all monitor groups associated with the designated monitor specifications.

If you do not specify any parameters, the view, illustrated in Figure 70, included information about all monitor specifications and their associated monitor groups within the current context.

```
27FEB2005  19:34:01 ----------- INFORMATION DISPLAY ---------------------------
COMMAND  ===>                                                 SCROLL ===> PAGE
CURR WIN ===> 1        ALT WIN ===>
 W1 =MONINSPC==========EYUPLX01=EYUPLX01=27FEB2005==19:34:01=CPSM==========4===
CMD Spec     Group
--- Name---- Name----
    EYUMOS01 EYUMOG01
    EYUMOS01 EYUMOG02
    EYUMOS01 EYUMOG03
    EYUMOS01 EYUMOG05
```

Figure 70. The MONINSPC view

Action commands

Table 46 summarizes the action commands you can use with the MONINSPC view.

Table 46. MONINSPC view action commands

Primary command	Line command	Description
n/a	ADD	Add an association between a monitor group and a monitor specification, as described on page 148.
n/a	BRO	Browse the association between a monitor group and a monitor specification. The format of the resulting panel is similar to that shown in Figure 71 on page 148. The panel fields are not modifiable.
n/a	MAP	Display a visual map of resource monitoring definitions using the designated specification as a starting point.
n/a	REM	Remove the association between a monitor group and a monitor specification. (Any associations that exist between the designated monitor group and monitor definitions are also removed when you perform this action.)
TEMPMP cmasid	n/a	Change the temporary maintenance point CMAS to a specific CMAS or display a selection list based on a generic CMAS ID.

Hyperlink fields

Table 47 shows the hyperlink fields on the MONINSPC view.

Table 47. MONINSPC view hyperlink fields

Hyperlink field	View displayed	Description
Spec Name	MONSPEC	Detailed information about the designated monitor specification.
Group Name	MONGROUP	Detailed information about the designated monitor group.

Adding a monitor group to a monitor specification

Figure 71 illustrates the panel produced when you use the add (ADD) line action command from the MONINSPC view.

```
-------------------- Add Monitor Group to Specification for EYUPLX01 ----------
COMMAND  ===>

Specification Name ===> EYUMOS01   Spec Name or Generic

Monitor Group Name ===> EYUMOG01   Group Name or Generic


Press Enter to add Monitor Group to Specification.
Type END or CANCEL to cancel without adding.
```

Figure 71. Adding a monitor group to a monitor specification

Provide the following information, as appropriate:

Specification Name
Enter the specific or generic name of an existing monitor specification. If you specify a generic value, a list of valid monitor specifications is displayed.

Monitor Group Name
Enter the specific or generic name of an existing monitor group. If you specify a generic value, a list of valid monitor groups is displayed.

Press Enter to add the monitor group to the monitor specification in the data repository.

MONSCOPE (Monitor specifications assigned a scope)

To display information about the CICS systems or CICS system groups that are associated with a monitor specification, issue the command:

```
MONSCOPE [monspec]
```

where `monspec` is a specific or generic name of a monitor specification. If you omit this parameter, the view, illustrated in Figure 72 on page 149, includes information about all monitor specifications, and the associated scope information, for the CICSplex identified as the context.

```
27FEB2005  19:34:15 ----------- INFORMATION DISPLAY ---------------------------
COMMAND  ===>                                                 SCROLL ===> PAGE
CURR WIN ===> 1        ALT WIN ===>
 W1 =MONSCOPE==========EYUPLX01=EYUPLX01=27FEB2005==19:34:15=CPSM==========8===
CMD Monitor  Scope    Scope    Scope    Scope    Update
--- Spec---- Name---- Type---- Link---- Mode---- Option
    EYUMOS01 EYUMAS1A CICSSYS           EXPLICIT
    EYUMOS02 EYUCSG03 SYSGROUP
    EYUMOS02 EYUCSG04 SYSGROUP
    EYUMOS02 EYUCSG05 SYSGROUP
    EYUMOS02 EYUMAS1B CICSSYS  EYUCSG03 INHERIT
    EYUMOS02 EYUMAS2A CICSSYS  EYUCSG04 INHERIT
    EYUMOS02 EYUMAS3A CICSSYS  EYUCSG05 INHERIT
    EYUMOS03 EYUMAS4A CICSSYS           EXPLICIT
```

Figure 72. The MONSCOPE view

Action commands and overtype fields

Table 48 summarizes the action commands you can use with the MONSCOPE view. Table 49 on page 150 identifies the overtype fields you can modify when you use the SET action command.

Table 48. MONSCOPE view action commands

Primary command	Line command	Description
n/a	BRO	Browse the association between a scope and a monitor specification. The format of the resulting panel is similar to that shown in Figure 73 on page 150. The panel fields are not modifiable.
n/a	MAP	Display a visual map of resource monitoring definitions using the designated specification as a starting point.
n/a	REM	Remove the association between a scope and a monitor specification, as described on page 151.
n/a	SET	Change the association between a scope and a monitor specification using overtype fields (see Table 49). **Note:** The value you specified in the Require Set field on the CICSPlex System Manager entry panel determines whether or not you must use the SET command when you overtype a field.
TEMPMP cmasid	n/a	Change the temporary maintenance point CMAS to a specific CMAS or display a selection list based on a generic CMAS ID.
n/a	UPD	Update the association between a scope and a monitor specification, as described on page 150.

When you change or remove the monitor specification associated with a CICS system group, you must indicate how the CICS systems comprising that group are to be affected.

Based on the value you specify, the number of entries shown in the MONSCOPE view may increase or decrease. For example, you might specify a value that causes a CICS system within a CICS system group to be explicitly associated with a specification, rather than inherit it from its CICS system group. When this happens, the resulting MONSCOPE view contains a line identifying the CICS system group and a new line identifying the CICS system that is now explicitly associated with a specification.

Table 49. MONSCOPE view overtype fields

Field name	Value
Monitor Spec	1- to 8-character name of an existing monitor specification that is to be associated with the CICS system or CICS system group.
Update Option	FORCE | KEEP | NAME | NULL

Notes:

1. When the scope of the monitor specification is a CICS system group, you must indicate how the CICS systems comprising the CICS system group are to use the specification by overtyping the contents of the Update Option field.

   If the CICS system group includes other CICS system groups, all of the CICS systems, including those in the subordinate CICS system groups, are affected by the value specified in the Update Option field.
2. If you update the monitor specification for a CICS system that is already active, you must restart resource monitoring, as described in "Updating scope-to-monitor specification associations."

Hyperlink fields

Table 50 shows the hyperlink field on the MONSCOPE view.

Table 50. MONSCOPE view hyperlink fields

Hyperlink field	View displayed	Description
Monitor Spec	MONSPEC	Detailed information about the designated monitor specification.

Updating scope-to-monitor specification associations

Figure 73 illustrates the panel produced when you use the update (UPD) line action command from the MONSCOPE view.

```
--------- Update Monitor Specification to Scope for EYUPLX01 -----------------
COMMAND  ===>

  Specification Name   ===> EYUMOS01   Specification Name or Generic
  Scope                     EYUCSG01
  Scope Type                SYSGROUP

  Option               ===>            FORCE, KEEP, NAME, or NULL



 Press ENTER to update Specification Link.
 Type END or CANCEL to cancel without updating.
```

Figure 73. Updating the association between a scope and a monitor specification

The Option field does not appear on this panel when the scope is a CICS system (CICSSYS).

Change the following information, as appropriate:

Specification Name
: Enter the specific or generic name of an existing monitor specification. If you specify a generic value, a list of valid monitor specifications is displayed.

Option

When the scope of the monitor specification is a CICS system group, you must indicate how the CICS systems comprising the CICS system group are to use the specification. To do this, specify one of the following:

FORCE
All CICS systems in the CICS system group are to inherit the new specification.

KEEP Any CICS system that inherited a specification from the CICS system group is to be explicitly assigned the old specification; all other CICS systems in the group are to be unaffected.

NAME Any CICS system that inherited a specification from the CICS system group is to be explicitly assigned the new specification; all other CICS systems in the group are to be unaffected.

NULL Any CICS system in the CICS system group that is not explicitly associated with a specification is to inherit the new specification; all other CICS systems in the group are to be unaffected.

If the CICS system group includes other CICS system groups, all of the CICS systems, including those in the subordinate CICS system groups, are affected by the value specified in the Option field.

If you update the monitor specification for a CICS system that is already active, the new specification is not immediately available. To reset resource monitoring, you must display the MAS view and use the UPD action command to do one of the following:

- If resource monitoring is not already active (as indicated by NO in the MON Active field), specify YES in that field and press Enter to turn resource monitoring on.
- If resource monitoring is active (as indicated by YES in the MON Active field), first specify NO in that field and press Enter to turn resource monitoring off. Then use the UPD action command again and specify YES in the MON Active field.

Resource monitoring becomes active using the new monitor specification.

Removing scope-to-monitor specification associations

Figure 74 on page 152 illustrates the panel produced when you use the remove (REM) line action command from the MONSCOPE view.

```
-------------- Confirm Removal of Specification Link from EYUPLX01 ------------
COMMAND  ===>

Specification Name       EYUMOS01
Scope                    EYUMAS1A
Scope Type               CICSSYS

Option             ===>            KEEP or blank
                                   Valid only for SYSGROUP

WARNING: For this definition type, removal will cascade through
         related associations.

Press Enter to remove Specification Link.
Type END or CANCEL to cancel without removing.
```

Figure 74. Removing the association between a scope and a monitor specification

The Option field does not appear on this panel when the scope is a CICS system (CICSSYS).

Provide the following information when the scope is a CICS system group:

Option

Indicate how the CICS systems comprising the CICS system group are to use the monitor specification associated with the CICS system group. Specify:

KEEP Those CICS systems that inherited the specification from the CICS system group are explicitly assigned that specification.

Blank Those CICS systems that inherited the specification from the CICS system group are not to use that specification.

If the CICS system group identified as the scope includes other CICS system groups, all of the CICS systems, including those in the subordinate system group, are affected by the value specified in the Option field.

Press Enter to remove the scope from the designated monitor specification in the data repository.

MONSPEC (Monitor specifications)

A monitor specification identifies one or more CICS resource types that are to be monitored by CICSPlex SM. Examples of how to use this view can be found in:

- “Monitoring transaction response times” on page 161
- “Monitoring programs in multiple CICS systems” on page 163

To display information about existing monitor specifications, issue the command:

```
MONSPEC [monspec]
```

where `monspec` is a specific or generic monitor specification name. If you omit this parameter, the view, illustrated in Figure 75 on page 153, includes information about all existing monitor specifications within the current context.

```
27FEB2005  19:33:51 ----------- INFORMATION DISPLAY ---------------------------
COMMAND  ===>                                                 SCROLL ===> PAGE
CURR WIN ===> 1        ALT WIN ===>
 W1 =MONSPEC===========EYUPLX01=EYUPLX01=27FEB2005==19:33:51=CPSM==========3===
CMD Monitor  Monitor Specification         Res Stat
--- Spec---  Description------------------ CMAS----
    EYUMOS01 SSet - For EYUMAS1A           EYUCMS01
    EYUMOS02 SSet - For EYUMAS2A/3A/1B
    EYUMOS03 SSet - For EYUMAS4A
```

Figure 75. The MONSPEC view

Action commands

Table 51 summarizes the action commands you can use with the MONSPEC view.

Table 51. MONSPEC view action commands

Primary command	Line command	Description
n/a	ADD	Add an association between a monitor specification and a scope (CICS system or CICS system group) as described on page 155.
n/a	BRO	Browse a monitor specification in the data repository. The format of the resulting panel is similar to that shown in Figure 76 on page 154. The panel fields are not modifiable.
CREate	CRE	Create a monitor specification and add it to the data repository, as described on page 154.
n/a	MAP	Display a visual map of resource monitoring definitions using the designated specification as a starting point.
n/a	REM	Remove a monitor specification from the data repository. (When a monitor specification is removed, associations with monitor groups and the CICS system or CICS system group identified as the scope are lost.)
TEMPMP cmasid	n/a	Change the temporary maintenance point CMAS to a specific CMAS or display a selection list based on a generic CMAS ID.
n/a	UPD	Update a monitor specification in the data repository. The format of the resulting panel is similar to that shown in Figure 76. You may overtype the contents of any field in the panel except Monitor Spec Name. Changes to a monitor specification that is currently installed in a CICS system take effect the next time you start the CICS system.

Hyperlink fields

Table 52 shows the hyperlink field on the MONSPEC view.

Table 52. MONSPEC view hyperlink field

Hyperlink field	View displayed	Description
Monitor Spec	MONINSPC	Detailed information about the associations that exist between the designated monitor specification and its monitor groups.

Creating a monitor specification

Figure 76 shows the format of the panel displayed when you use the create primary (CREate) or line (CRE) action command from the MONSPEC view.

```
------------------ Create Monitor Specification for EYUPLX01 ------------------
COMMAND ===>

 Monitor Spec Name   ===> EYUMOS03
 Description         ===> SSet - For EYUMAS4A
 Monitor Status      ===> ACTIVE     Monitor Status (Active/Inactive)
 Retention Period    ===> 5          Minutes to retain data after termination
 Res Stat CMAS       ===>            Resource status facility name

 Sample Intervals                    Seconds between samples (0 for none)
   Resource Name   Interval      Resource Name   Interval   Class Name
   -------------  ----------     -------------   ---------- ----------
   Region        ==> 300           Transaction    ==> 300       MTRAN
   Global        ==> 300           Terminal       ==> 0         MTERM
   DB2           ==> 300           File           ==> 300       MFILE
                                   Transient Data ==> 300       MTDQS
                                   Journal        ==> 500       MJRNL
                                   Connection     ==> 300       MCONN
                                   Program        ==> 0         MPROG

Press ENTER to create Monitor Specification.
Type END or CANCEL to cancel without creating.
```

Figure 76. Creating a monitor specification

Provide the following information, as appropriate.

Monitor Spec Name
Specify a 1- to 8-character name for the monitor specification. The name can contain alphabetic, numeric, or national characters. However, the first character must be alphabetic.

Description
(Optional) Specify a 1- to 30-character description of the monitor specification.

Monitor Status
Specify ACTIVE or INACTIVE to indicate whether resource monitoring is to be in effect when a CICS system associated with this monitor specification is started.

If the comparable field in the definition of the CICS system that will be using this specification contains YES or NO (indicating whether resource monitoring is on or off), the value you specify here will be overridden by that value. If the comparable field contains * (asterisk), the value specified in *this* field is used.

Retention Period
Specify the number of minutes collected data is to be kept after resource monitoring stops. (Resource monitoring stops when the CICS system stops or when the MAS view command is used to stop resource monitoring for the CICS system.) The value must be:
- Between 1 and 1440, when collected data is to be retained.
- 0, when collected data is not to be retained.

Res Stat CMAS
(Optional) Specify the CMAS that is to convey resource information to the

resource status facility. The specified CMAS must be on the MVS image where NetView is running. If you specify a CMAS name, all of the CICS systems associated with this monitor specification are identified to the resource status facility.

If you plan to use the CICSPlex SM API or an automation product to access information provided by the resource status facility, you must specify a CMAS in this field.

Sample Intervals

For each type of resource you want to monitor, specify how long, in seconds, CICSPlex SM is to wait between the collection of sample data. You can specify a sample interval for:

- Resource types for which you created a monitor definition (such as connections or files).
- CICS Region, Global, or DB2 resources, which do not require a monitor definition.

  These types provide monitoring of the following resources:

  CICS Region
  CICS regions and dynamic storage areas

  Global
  Transient data queue usage, temporary storage queue usage, LSR pools, transaction classes, and FEPI connections

  DB2 DB2 threads

The sample interval must be:

- Between 1 and 86400 and evenly divisible into the monitor interval value, when converted to seconds. (If you specify a value that is not evenly divisible, you are prompted for one that is.)

  The lower you set the sample interval, the greater the impact on both processor and teleprocessing overhead.
- 0, when no resource monitoring is to occur.

Press Enter to add the monitor specification to the data repository.

Adding a scope to a monitor specification

Associating a monitor specification with a scope causes the specification to be automatically installed when a CICS system associated with the scope is started. Any monitor definitions associated with the specification through monitor groups are also automatically installed.

However, if you associate the monitor specification with a CICS system that is already active, the new specification is not immediately available. To turn resource monitoring on, you must display the MAS view and use the UPD action command. Specify YES in the MON Active field and press Enter; resource monitoring becomes active using the new monitor specification.

Figure 77 on page 156 illustrates the panel produced when you use the add (ADD) line action command from the MONSPEC view.

```
------------------ Add Scope for Specification for EYUPLX01 -------------------
COMMAND  ===>

Monitor Spec Name        EYUMOS01
Description              Test specification 1

Scope               ===>              CICS System, Group, or Generic
Option              ===>              FORCE, NULL, or NONE for System Group

Press Enter to add Monitor Specification to Scope.
Type END or CANCEL to cancel without adding.
```

Figure 77. Adding a scope to a monitor specification

Provide the following information, as appropriate.

Scope Enter the specific or generic name of an existing CICS system or CICS system group that is not associated with any other monitor specification. If you specify a generic value, a list of valid CICS systems and CICS system groups is displayed.

A CICS system or CICS system group can be associated with only one monitor specification at a time. A specification, however, can be associated with any number of CICS systems and CICS system groups.

Option

(Required when the scope is a CICS system group.) Indicate how the CICS systems comprising the CICS system group are to handle monitor specifications. Specify:

FORCE
All CICS systems in the CICS system group are to use the monitor specification. (The monitor specification attribute for each CICS system changes to INHERIT, indicating that the CICS system acquired the specification from a CICS system group.)

NULL Those CICS systems within the CICS system group that are not associated with a monitor specification are to use this specification. (The monitor specification attribute for those CICS systems changes to INHERIT.)

NONE Only the CICS system group is to be associated with the monitor specification. The CICS systems in the CICS system group are not affected. That is, if there is no association between a CICS system and monitor specification, none is established; if there is an association, either explicitly established or inherited from another CICS system group, it is unchanged.

When the CICS system group includes other CICS system groups, all of the CICS systems, including those in the subordinate CICS system groups, are affected by the value specified in this field.

Press Enter to add the designated scope to the monitor specification in the data repository.

Chapter 8. Monitor definitions

This section describes how you can obtain information about your resource monitoring environment using the EUI MONACTV view. See “Views for managing resource monitoring administrative definitions” on page 5 for a description of the equivalent WUI view **Active monitor specifications**.

MONACTV

The MONACTV view shows information about monitor definitions installed in CICS systems known to the CICSplex identified as the current context. An example of how to use this view can be found in “Finding out which resources are being monitored in a CICS system” on page 166.

Issue command:

```
MONACTV [mondef [ACTIVE|PENDING]]
```

`mondef` Is the specific or generic name of a monitor definition or * for all monitor definitions.

`ACTIVE|PENDING` Limits the view to either active or pending definitions. If you omit this parameter, monitor definitions are included in the view regardless of their status.

If you do not specify parameters, the view includes information about all monitor definitions within the current context and scope.

Select:

MONACTV from a menu of MONITOR views.

Figure 78 is an example of the MONACTV view.

```
27FEB2005  19:33:12 ----------- INFORMATION DISPLAY ---------------------------
COMMAND  ===>                                                SCROLL ===> PAGE
CURR WIN ===> 1        ALT WIN ===>
 W1 =MONACTV==========EYUPLX01=EYUPLX01=27FEB2005==19:33:12=CPSM=========42===
CMD Def      CICS     Status     Active   Resource Resource Include Res
--- Name---- System-- ---------- Period-- Name---- Type---  ------- Stat
    *0000000 EYUMAS4A ACTIVE              *        MCICS    YES     YES
    *0000001 EYUMAS4A ACTIVE              *        MGLBL    YES     YES
    *0000002 EYUMAS4A ACTIVE              *        MDBX     YES     NO
    *0000003 EYUMAS1A ACTIVE              *        MCICS    YES     YES
    *0000004 EYUMAS1A ACTIVE              *        MGLBL    YES     YES
    *0000005 EYUMAS2A ACTIVE              *        MCICS    YES     YES
    *0000006 EYUMAS2A ACTIVE              *        MGLBL    YES     YES
    *0000007 EYUMAS3A ACTIVE              *        MCICS    YES     YES
    *0000008 EYUMAS3A ACTIVE              *        MGLBL    YES     YES
    EYUMOD01 EYUMAS1A ACTIVE     EYUPDF01 *        MCONN    YES     NO
    EYUMOD01 EYUMAS2A ACTIVE     EYUPDF01 *        MCONN    YES     NO
    EYUMOD01 EYUMAS3A ACTIVE     EYUPDF01 *        MCONN    YES     NO
    EYUMOD02 EYUMAS1A ACTIVE     EYUPDF01 CO*      MTRAN    YES     YES
    EYUMOD02 EYUMAS2A ACTIVE     EYUPDF01 CO*      MTRAN    YES     YES
    EYUMOD02 EYUMAS3A ACTIVE     EYUPDF01 CO*      MTRAN    YES     YES
    EYUMOD02 EYUMAS4A ACTIVE     EYUPDF01 CO*      MTRAN    YES     YES
```

Figure 78. The MONACTV view

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Default monitor definitions

When you specify a sample rate for the Region, Global, or DB2/DBCTL resource type in a monitor specification, CICSPlex SM automatically creates a corresponding monitor definition. The first few monitor definitions shown in Figure 78 on page 157 are examples of these monitor definitions. Notice that:

- The Def Name field contains a unique name that begins with an asterisk (*) and is followed by seven digits.
- The Period field is blank, which means the monitor definition is to be active as long as the CICS system in which it is installed is active.
- The Resource Name field contains *, which means all occurrences of this resource type are to be monitored.
- The Resource Type field contains MCICS, MGBL, or MDBX for the resource types of Region, Global and DB2/DBCTL, respectively.
- The Include field contains YES, which means the specified resource occurrences are to be included in monitoring.
- For the Region and Global resource types, the Res Stat field contains YES, which means the specified resource occurrences are to be tracked for the resource status facility.

Monitor definitions created by CICSPlex SM are automatically installed when a CICS system using the associated specification is started. You cannot update or remove these monitor definitions.

Action commands

Table 53 shows the action commands you can issue from the MONACTV view.

Table 53. MONACTV view action commands

Primary command	Line command	Description
DEActivate `mondef sysname`	DEA	Deactivates an ACTIVE monitor definition for which a time period is defined; the status of the definition changes to PENDING.
DiSCard `mondef sysname`	DSC	Discards an ACTIVE or PENDING monitor definition from the CICS system in which it is installed.

Where:

mondef
Is the specific or generic name of a monitor definition.

sysname
Is the specific or generic name of a CICS system.

Hyperlinks

Table 54 shows the hyperlink field on the MONACTV view.

Table 54. MONACTV view hyperlink field

Hyperlink field	View displayed	Description
Def Name	MONDEF	Detailed description of the specified monitor definition.

Note: This hyperlink field is not valid for monitor definitions created by CICSPlex SM, which have names beginning with an asterisk (*); there is no entry for them in the MONDEF view.

Usage

Deactivating or discarding a monitor definition

When a monitor definition is installed, its status (as illustrated by the Status field in Figure 78 on page 157) is either:

ACTIVE
The definition is installed and active.

PENDING
The definition is installed and ready to become active.

The definition is active during the time period identified in the Period field. (When this field is blank, the monitor definition is to be active as long as the CICS system in which it is installed is running.)

To change the status of an installed monitor definition, type either the DEA or DSC action command in the line command field next to the name of the definition.

- Use DEA to deactivate a definition with an ACTIVE status. (The definition remains installed; its status is changed to PENDING. The next time the associated time period is reached, the definition will become active again.)
- Use DSC to discard a definition with an ACTIVE or PENDING status and to remove the definition from the CICS system in which it is installed. (If the definition is associated with a monitor specification, via a monitor group, the definition will be automatically installed the next time the CICS system using the specification starts. If the definition is not associated with a monitor specification, you must manually install the definition in order to use it again.)

Press Enter. A confirmation panel is displayed. Press Enter again to deactivate or discard the monitor definition.

Notes:

1. You cannot deactivate or discard a monitor definition created by CICSPlex SM. These definitions have names that consist of an asterisk (*) followed by seven digits.
2. Changes that you make to monitor definitions may be overridden by RTA. If RTA needs a definition that you are attempting to deactivate or had previously deactivated, an error message to that effect is issued and your deactivation is overridden.
3. Deactivating a monitor definition does not remove the data that has been collected and accumulated up to this point in the current monitor interval. The data continues to be displayed in the appropriate monitor views, whether or not the data is being updated. If you know that the data will not be updated by any other active monitor definitions, you can remove it from the view by using the remove (REM) action command, as described in *CICSPlex SM Administration*.
4. If there are multiple monitor definitions, the data for discarded definitions continues to be displayed unless and until all of the definitions are discarded.
5. While DEA and DSC prevent monitoring of the specific resource occurrence identified in the monitor definition, other active monitor definitions may continue to cause information about that resource occurrence to be gathered. To illustrate, suppose the following monitor definitions are active:
   - EYUMOD01, which identifies all file names beginning with PAY
   - EYUMOD02, which identifies all file names beginning with P

   Discarding EYUMOD01 has no affect on monitoring since EYUMOD02 includes all file names beginning with P. However, discarding EYUMOD02 means that file names beginning with PAY continue to be monitored.

6. Issuing a DSC or DEA command for a MONDEF for the MTRAN class will result in no more history collection for those transactions.

Chapter 9. Example tasks: resource monitoring

This chapter provides some examples of typical tasks you perform to set up CICSPlex SM resource monitoring.

- "Monitoring transaction response times" shows how to use the WUI to monitor temporarily the response times of a single transaction as it is used in a single CICS system.
- "Monitoring programs in multiple CICS systems" on page 163 shows how to use the WUI to monitor, on a permanent basis, the activity of a set of programs in a CICS system group.
- "Finding out which resources are being monitored in a CICS system" on page 166 shows how to use the WUI to retrieve data from CICSPlex SM relating to current resource monitoring activity.
- "Finding out why a CICSPlex SM event occurred" on page 166 shows how to use the EUI to determine the reason a CICSPlex SM occurred.

Monitoring transaction response times

This example shows you how to use the WUI to monitor the response times of a particular transaction (PAY1), in a single CICS system (CICSPA01), which is a local MAS in CICSplex PLXPROD1. In this example, the monitoring is temporary: that is, it is started in response to a particular problem, and stopped again when enough monitor data has been gathered. The CICS system CICSPA01 is currently running.

1. Ensure that both CICS monitoring and CICS performance class monitoring are active in CICS system CICSPA01.

   CICSPlex SM can gather detailed, transaction-related monitor data only if CICS monitoring and performance class monitoring are switched on. You can check whether they are active using the **CICS region** view as follows:
   a. From the WUI main menu, click **CICS regions** to open the **CICS regions** tabular view.
   b. If the current context is not PLXPROD1, specify PLXPROD1 in the **Context** field and click **Set**.
   c. Click on CICSSPA01 to open a detailed view showing the current trace, dump, and statistics settings for of this region. Scroll down to the **Monitor status** field and ensure that it is set to ON. If it is not, change the setting using the drop down menu.
   d. Scroll to the bottom of this screen and click on **Monitoring, dump and trace details**. Scroll down to the **Performance class monitoring status** field, which you will find in the **Monitoring values** section, and ensure that it is set to PERF. If it is not, change it.
   e. If you have changed either of the values, click the **Apply changes** button at the bottom of the creen
2. Create a monitor definition.
   a. From the main menu, click **Administration views—>Monitor administration views—>Monitor definitions** to open the **Monitor definition** tabular view.
   b. Click the **Create**[4] action button at the bottom of the screen.
   c. Provide the following information:
      Monitor definition name
      MODPAY01

4. If you want to use an existing definition as a template, select a definition from the list first.

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Description
Transaction PAY1
Name or generic name of resource being monitored
PAY1
Monitoring resource class
MTRAN
Inclusion in CPSM monitoring option
YES
Resource status facility population
NO

d. Click **Yes** to confirm. The **Monitor definition** tabular view is redisplayed showing an entry for the monitor definition MODPAY01.

Note: For a description of the MONDEF EUI view, see "MONDEF (Monitor definitions)" on page 133.

3. Create a monitor specification.
   a. From the main menu, click **Administration views—>Monitor administration views—>Monitor specifications** to open the **Monitor specification** tabular view.
   b. Click the **Create**[5] action button at the bottom of the screen.
   c. Provide the following information:
      Specification name
      MOSPAY01
      Description
      Payroll resources
      Monitor activation status
      ACTIVE
      Data retention period
      30
      Sample for transaction monitoring
      120

      You can leave the remaining fields blank or accept the defaults.

      Transactions are to be sampled every 120 seconds. The resource sample interval (that is, 120 seconds), when converted to minutes, should be evenly divisible into the monitor interval for the CICSplex. [6]
   d. Click **Yes** to confirm. The **Monitor specification** tabular view is redisplayed, showing an entry for monitor specification MOSPAY01.

Note: For a description of the EUI MONSPEC view, see "MONSPEC (Monitor specifications)" on page 152.

4. Associate the monitor specification with the CICS system.
   a. In the **Monitor specification** view, select the entry for MOSPAY01, and click **Associate CICS system**.
   b. In the CICS system field, type in CICSPA01, and click **Yes** to confirm.
5. Ensure that CICSPlex SM monitoring is switched on in the CICS system.
   a. From the WUI main menu, click **CICSPlex SM operations views—>Status of MASs known to CICSplex** to open the **Runtime MAS display** view.
   b. Click on the entry for CICSPA01 and check the **Monitoring status** field:

5. If you want to use an existing definition as a template, select a definition from the list first.

6. You can look at the monitor interval for the CICSplex by opening the **CICSplex definition** view (**Administration views—>CMAS configuration administration views—>CICSplex definitions**) and clicking on the entry for PLXPROD1.

- If this field is set to YES, you need to deactivate and then reactivate monitoring so that the new monitor specification takes effect. To do this, set the field to NO and click **Apply changes**, then repeat the process setting the field back to YES.
- If this field is set to NO, you need activate monitoring. To do this, set the field to YES and click **Apply changes**.

If you don't set the MON Active value to YES, no monitoring will occur because the CICS system's MON Active value overrides the **Monitoring status** value in the monitor specification.

6. Look at the monitor data.

   After a short time has elapsed (for this example, at least two minutes, which is the resource sample interval) you can look at the data that CICSPlex SM is gathering. To do this, from the WUI main menu, click **Monitoring views—>Transaction monitoring views—>Monitor data for transactions** and click on the entry for PAY1. This opens a detailed view showing information (including response times) for transaction PAY1 in CICS system CICSPA01.

   Whenever you click **Refresh**, the view is redisplayed, though the frequency with which the data actually changes is determined by the resource sample interval. The monitor data is also written to an SMF data set (unless production of CMF records has been suppressed).

7. Deactivate monitoring of transaction PAY1.

   Monitoring of transaction PAY1 continues until CICSPA01 stops, unless you switch it off before then.

   If you want to stop monitoring at any time, click **Monitoring views—>Active monitor specifications**, select the entry for MODPAY01 and click the **Remove** button. The monitor definition MODPAY01 is removed from CICS system CICSPA01, though it still exists in the data repository, and can be reinstalled at any time. The data gathered during monitoring of transaction PAY1 in CICSPA01 is kept for 30 minutes after you deactivate MODPAY01. (Remember that 30 minutes is the length of the retention period you specified in the monitor specification MOSPAY01.)

Monitoring programs in multiple CICS systems

This example uses the WUI to shows how to monitor the activity of a set of programs (programs whose names begin with the letters PAY) as they are used in a group of CICS systems (AORs CICSPA01, CICSPA02, and CICSPA03) in CICSplex PLXPROD1. In this example, the monitoring is to be regular: that is, it will be activated, for each CICS system, from 0800 hours to 1700 hours. CICS systems CICSPA01 and CICSPA03 are running. For none of the three CICS systems is monitoring currently switched on.

1. Create a CICS system group.
   a. From the WUI main menu, click **Administration views—>Topology administration views—>CICS system group definitions** to open the **System group definition** tabular view.
   b. If the current context is not PLXPROD1, specify PLXPROD1 in the **Context** field and click **Refresh**.
   c. Click the **Create** action button and type in the following information:
      System group name
      CSGAORS1
      Description
      AORs PA01, PA02, PA03
   d. Click **Yes** to confirm. The **System group definition** tabular view is redisplayed and includes an entry for CSGAORS1.

2. Add CICS systems to the CICS system group.
   a. Click **Administration views—>Topology administration views—>CICS system definitions** to open the **CICS system definition** tabular view.
   b. Select the entries for CICSPA01, CICSPA02 and CICSPA03 and click **Add to CICS system group**.
   c. In the **Group which member will join** field, type in CSGAORS1 and click **Yes to 3 remaining**.
3. Create a time period definition.

   Create a time period definition.
   a. From the main menu, click **Administration views—>Topology administration views—>Time period definitions** to open the **Time period definition** tabular view.
   b. Click the **Create** action button and type in the following information:
      Period definition name
      PDFPRIME
      Description
      Prime shift
      Start time
      08:00
      End time
      17:00
      Time zone
      A
      Time zone adjustment factor
      0
   c. Click **Yes** to confirm. The **Time period definition** tabular view is redisplayed and includes an entry for PDFPRIME.
4. Create a monitor definition.
   a. From the main menu, click **Administration views—>Monitor administration views—>Monitor definitions** to open the **Monitor definition** tabular view showing any monitor definitions already created in CICSplex PLXPROD1
   b. Click the **Create**[7] action button at the bottom of the screen.
   c. Provide the following information:
      Monitor definition name
      MODPAY02
      Description
      Programs PAY*
      Name or generic name of resource being monitored
      PAY*
      Monitoring resource class
      MPROG
      Inclusion in CPSM monitoring option
      YES
      Resource status facility population
      NO
   d. Click **Yes** to confirm. The **Monitor definition** tabular view is redisplayed showing an entry for the monitor definition MODPAY02.

   Note: For a description of the MONDEF EUI view, see “MONDEF (Monitor definitions)” on page 133.
5. Create a monitor group.

7. If you want to use an existing definition as a template, select a definition from the list first.

a. From the main menu, click **Administration views—>Monitor administration views—>Monitor groups** to open the **Monitor group definition** tabular view showing any monitor definitions already created in CICSplex PLXPROD1
b. Click the **Create** button and type in the following:
Monitor group name
MOGPAY01
Description
Payroll resources
c. Click **Yes** to confirm. The **Monitor group definition** tabular view is redisplayed and includes an entry for MOGPAY01.

Note: For a description of the MONGROUP EUI view, see "MONGROUP (Monitor groups)" on page 140.

6. Add the monitor definition to a monitor group.

Because you want the monitor definition MODPAY01 to be installed automatically whenever any of the CICS systems in group CSGAORS1 starts, you must add MODPAY01 to a monitor group.
a. Open the **Monitor definition** tabular view, select the entry for MODPAY02 and click **Add to Monitor group**.
b. In the **Monitor definition name** field, type MOGPAY01. In the **Period Definition name** field, type PDFPRIME (the name of the time-period definition you created in step 3 on page 164).
c. Click **Yes** to confirm.

7. Add the monitor group to a monitor specification.
a. Open the **Monitor group definition** screen, select the entry for MOGPAY01, and click **Add to Monitor specification**.
b. In the Specification name field, type in MOSPAY01.
c. Click **Yes** to confirm.

You'll notice that the monitor specification MOSPAY01 is the one you created in the previous example ("Monitoring transaction response times" on page 161). Instead of creating a new monitor specification for this example, you can reuse an existing specification. (This is important, because a CICS system or CICS system group can be associated with only one monitor specification at a time.) However, you still need to update monitor specification MOSPAY01.

8. Update the monitor specification.
a. From the main menu, click **Administration views—>Monitor administration views—>Monitor specifications** to open the **Monitor specification** tabular view.
b. Select the entry for MOSPAY01 and click the **Update** action button at the bottom of the screen.
c. In the **Sample for program monitoring**, type in a value of 300. Programs are to be sampled every 300 seconds. Leave the other fields unchanged. You do not have to alter the transaction sample interval, because it takes effect only when a monitor definition, identifying which transactions are to be monitored, is installed in a CICS system. If no such definition is installed, no monitoring of transactions occurs.
d. Click **Yes** to confirm. The **Monitor specification** tabular view is redisplayed.

9. Associate the monitor specification with the CICS system group.
a. In the **Monitor specification** tabular view, select the entry for MOSPAY01, and click **Associate CICS group**.

b. Type in CSGAORS1 in the **CICS system group** field and select the FORCE option. (The option value FORCE means that all CICS systems in the group CSGAORS will use this monitor specification.)
c. Click **Yes** to confirm

10. Switch CICSPlex SM monitoring on in the CICS systems.
    a. From the WUI main menu, click **Administration views—>Topology administration views—>CICS system definitions** to open the **CICS system definition** view showing CICS systems in CICSplex PLXPROD1.
    b. Select the entries for CICSPA01, CICSPA02 and CICSPA03 and click the **Update** button. This opens a detailed view for system CICSPA01.
    c. Scroll down to the **Monitoring status** field and change the value to YES.
    d. Click the button **Yes to 3 remaining** to change the monitoring status of all three systems to YES.

    Any change you make to the CICS system definitions with the **CICS system definition** view takes effect when those CICS systems are next started. However, CICS systems CICSPA01 and CICSPA03 are currently running. To switch monitoring on for those systems immediately, you must also update their definitions with the **Runtime MAS display** view. (How to do this is shown in the previous example, in step 5 on page 162).

    Note: when you switch monitoring on using the **Runtime MAS display** view, it remains on until the CICS system stops or until you switch monitoring off. The time-period definition PDFPRIME has no effect.

11. Look at the monitor data.

    You can look at the data that CICSPlex SM is gathering by looking at the **Program monitoring** views. From the main menu, click **Monitoring views—>Program monitoring views—>Monitor data for programs** and clicking on the entry for PAY* . This opens a view showing detailed information (such as usage counts and average fetch times), about programs PAY* in CICS system group CSGAORS1. Whenever you click **Refresh**, the data in the view is redisplayed. However the frequency with which the data changes is dictated by the resource sample interval. In this example, the data changes at most every five minutes.

Finding out which resources are being monitored in a CICS system

This example shows you how to use the WUI to find out which types of resource are being monitored in CICS system CICSPA01.

1. From the WUI main menu, click **Monitoring views—>Active monitor specifications**.
2. If the current context is not PLXPROD1, specify PLXPROD1 in the **Context** field.
3. In the scope field type in CICSPA01 and click **Refresh**.

   The **Active monitor specifications** view now displays the active monitor definitions in CICS system CICSPA01.

Finding out why a CICSPlex SM event occurred

This example shows you how to use the EUI to investigate what caused a real-time analysis event notification to be issued.

1. If the current context isn't PLXPROD1, issue the command CON PLXPROD1 from the current view.
2. Display a list of events.

From the current view, issue the command EVENT. The EVENT view, showing outstanding events in the current scope, is displayed:

```
COMMAND  ===>                                                SCROLL ===> PAGE
CURR WIN ===> 1        ALT WIN ===>
 W1=EVENT=============PLXPROD1=PLXPROD1=26MAR1999==18:29:26=CPSM======= ===2===
CMD Name     Target   Sev Pri Type Dtl View     Resource   Key
--- -------- -------- --- --- ---- --- -------- ---------- --------------------
    RTDPAY01 CICSPT01 VHS   1 MRM  YES CONNECT
    RTDPAY02 CICSPT01 VHS   1 MRM  YES CONNECT
```

3. Display the details of the event you are interested in.

   Suppose that you are interested in event RTDPAY01. Move the cursor to the Dtl column for event RTDPAY01, and press Enter. The EVENTDTL view is displayed:

```
26MAR1999  16:50:35 ----------- INFORMATION DISPLAY ---------------------------
COMMAND  ===>                                                SCROLL ===> PAGE
CURR WIN ===> 1        ALT WIN ===>
>W1 =EVENTDTL==========PLXPROD1=PLXPROD1=26MAR1999==16:50:35=CPSM==========1===
CMD EVALDEF  Sev Table    Instance Evaluation   View     Data Value
--- -------- --- -------- -------- Column------ -------- ----------------------
    RTEPAY01 VHS CONNECT  *        CONNSTATUS   CONNECT  RELEASED
```

   From the Evaluation Column, you can see that the CONNSTATUS value of this connection has triggered the event, and that its current value is RELEASED. This might tell you all you need to know. If it doesn't, you can investigate further as described in the remaining steps of this example.

4. Look at the associated evaluation definition.

   To get more information about the evaluation definition that has triggered this event, move the cursor to the RTEPAY01 entry in the EVALDEF column and press Enter. The EVENTDTD view is displayed:

```
26MAR1999  17:13:48 ----------- INFORMATION DISPLAY ---------------------------
COMMAND  ===>                                                SCROLL ===> PAGE
CURR WIN ===> 1        ALT WIN ===>
>W1 =EVENTDTL=EVENTDTD=PLXPROD1=PLXPROD1=29MAR1999==17:13:46=CPSM==========1===
    Event Name..     RTDPAY01                            VHS value.
    EVALDEF Name     RTEPAY01 Table Name...      CONNECT HS value..
    Target......     PLXPROD1 Instance Patt            * HW value..
    State.......         TRUE Eval Column..   CONNSTATUS LW value..
    Severity....          VHS Eval Column..           NE LS value..
    Date........    26MAR1999                            VLS value.
    Time........     17:13:39                            Eval Value
    Set Action..          ANY                            Data Value
    Sample Rate.           30                            Key.......
    View........      CONNECT
    Type........        VALUE
    Resource....      CONNECT
```

   From the EVENTDTD view, you can see that event RTDPAY01 is triggered when the value of the CONNSTATUS column in the CONNECT table is not ACQUIRED. (The Eval Operator value is NE (meaning "not equal to"); the Eval Value is ACQUIRED; and the Eval Column is CONNSTATUS).

   Next, you could look at the CONNECT view. However, it's a good idea to open another window first, so that you can see the CONNECT view and the EVENTDTD view at the same time.

5. Open a second window.

To open a second window, type HS in the COMMAND field, move the cursor approximately halfway down the screen, and press Enter. Window T2 appears, and the current window is now window 2:

```
26MAR1999  17:13:48 ----------- INFORMATION DISPLAY ---------------------------
COMMAND  ===>                                              SCROLL ===> PAGE
CURR WIN ===> 2        ALT WIN ===>
>W1 -EVENTDTL-EVENTDTD-PLXPROD1-PLXPROD1-26MAR1999--17:13:46-CPSM----------1---
    Event Name..     RTDPAY01                            VHS value.
    EVALDEF Name     RTEPAY01 Table Name...      CONNECT HS value..
    Target......     PLXPROD1 Instance Patt            * HW value..
    State.......         TRUE Eval Column..   CONNSTATUS LW value..
    Severity....          VHS Eval Operator           NE LS value..
    Date........    29MAR1999                           VLS value.
    Time........     17:13:39                           Eval Value
    Set Action..          ANY                           Data Value
    Sample Rate.           30                           Key.......
    View........      CONNECT
    Type........        VALUE
    Resource....      CONNECT

 T2 ==============================================================================
```

6. Set the scope of the second window.

   Issue the command SCO CICSPT01 to set the scope of window 2 to CICS system CICSPT01.

7. Display a list of connections for CICS system CICSPT01.

   Issue the command CONNECT *. The CONNECT view, showing all connections defined to CICSPT01, is displayed in window 2:

```
26MAR1999  17:13:48 ----------- INFORMATION DISPLAY ---------------------------
COMMAND  ===>                                              SCROLL ===> PAGE
CURR WIN ===> 2        ALT WIN ===>
>W1 -EVENTDTL-EVENTDTD-PLXPROD1-PLXPROD1-26MAR1999--17:13:46-CPSM----------1---
    Event Name..     RTDPAY01                            VHS value.
    EVALDEF Name     RTEPAY01 Table Name...      CONNECT HS value..
    Target......     PLXPROD1 Instance Patt            * HW value..
    State.......         TRUE Eval Column..   CONNSTATUS LW value..
    Severity....          VHS Eval Operator           NE LS value..
    Date........    26MAR1999                           VLS value.
    Time........     17:13:39                           Eval Value
    Set Action..          ANY                           Data Value
    Sample Rate.           30                           Key.......
    View........      CONNECT
    Type........        VALUE
    Resource....      CONNECT

 W2 =CONNECT===========PLXPROD1=CICSPT01=26MAR1999==17:27:27=CPSM==========2===
CMD Conn CICS     CONN Netname  Connect    Service    Pending
--- ID-- System-- Type -------- Status---- Status---- Status----
    AA01 CICSPT01 LU62 CICSPA01 RELEASED   INSERVICE  NOTPENDING
    AA02 CICSPT01 LU62 CICSPA02 ACQUIRED   INSERVICE  NOTPENDING
    AA03 CICSPT01 LU62 CICSPA03 ACQUIRED   INSERVICE  NOTPENDING
```

From the CONNECT view in window 2, you can see that connection AA01 is RELEASED, and that this triggered event RTDPAY01.

Part 4. Appendixes

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Appendix A. Customizing programs that monitor status

This appendix contains Product-sensitive Programming Interface Information.

User-written programs can be invoked by real-time analysis (RTA) to determine the status of CICS user applications. Status definitions created using the **Status definition** WUI view (click **Administration views—>MAS resource monitoring administration views—>User status probe definitions)** or the EUI STATDEF view (as described in "STATDEF (Status definitions)" on page 68) establish the interval between calls from CICSPlex SM to a status monitoring program. When the user-written program determines that an abnormal condition exists for an application or resource, an RTA event notification can be issued. The user-written program can run in a local MAS on any supported CICS system.

Creating a status program

Once RTA determines (by issuing an EXEC CICS INQ) that your program is available, RTA issues a status call (which uses the CICS/ESA format of DFHCOMMAREA) to the program. When RTA invokes your program, the DFHEICAP field of the DFHEISTG DSECT contains the address of the COMMAREA. The COMMAREA contains data mapped by the CICSPlex SM EYURPESC DSECT.

390 Assembler

The EYURPESC DSECT format is as follows:

```
RTA STATUS CALL DFHCOMMAREA
PESC_HEADER     DS   CL20    EYURPESC block header
PESC_CONTEXT    DS   CL8     CICSplex name
PESC_SCOPE      DS   CL8     CICS system name
PESC_COUNT      DS   F       Number of NAME/STATUS pairs (between
                             1 and 64)

PESC_NAME       DS   CL8     Name of status definition (STATDEF)
PESC_STATUS     DS   F       Status token of:

PESC-NORMAL     EQU  0000      Normal
PESC_VLS        EQU  0001      Very low severe
PESC_LS         EQU  0002      Low severe
PESC_LW         EQU  0003      Low warning
PESC_HW         EQU  0004      High warning
PESC_HS         EQU  0005      High severe
PESC_VHS        EQU  0006      Very high severe
```

Windows C

The EYURPESC format for Windows C is:

```
typedef struct
{
  char    HEADER[20];    /* EYU block header (fixed length) */
  char    CONTEXT[8];    /* CICSplex name (fixed length) */
  char    SCOPE[8];      /* MAS name (fixed length) */
  int     COUNT;         /* Number of elements; 1-64 (32 bit)   */
  struct
  {
    char  NAME[8];       /* Name of STATDEF (fixed length) */
    int   STATUS;        /* RTA Status token (32 bit) */
  }       ELEMENT[64];

} EYURPESC;
```

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```
/* - - Defined values for element STATUS field - - - - - - - - - - - - - - -*/

#define EYURPESC_STATUS_NORMAL  0   /* Normal          */
#define EYURPESC_STATUS_VLS     1   /* Very low severe */
#define EYURPESC_STATUS_LS      2   /* Low severe      */
#define EYURPESC_STATUS_LW      3   /* Low warning     */
#define EYURPESC_STATUS_HW      4   /* High warning    */
#define EYURPESC_STATUS_HS      5   /* High severe     */
#define EYURPESC_STATUS_VHS     6   /* Very high severe*/
```

The character arrays within EYURPESC are fixed length strings, filled to the right with spaces. They are not terminated with a null character.

Explanation

For each status definition for which you wish to return status, your program must enter into the appropriate fields of EYURPESC both the NAME and the associated STATUS value. The value provided in the STATUS field indicates that the condition of the application or resource is normal or, if it is abnormal, it indicates the severity of the condition. The number of status definition entries in EYURPESC can be between 1 and 64; the number must be specified in the COUNT field as a fullword binary integer value.

The name of the status definition which caused the status call is supplied by RTA in the NAME field of the first entry to be returned. Therefore, NAME need not be supplied for the first entry in the table. The associated STAT US must be provided by your program. All subsequent status definition NAMEs (and the STATUS for each) must also be specified by your program.

Note: The CICSPlex SM API cannot be used from within a program that is invoked through the **Status definition** or STATDEF view. Where access to the API is required, you must start another task and invoke the API from the new task.

Installing a status program

390 Assembler

To install your status program:

1. Assemble and link edit the status program. Be sure the program resides in a DFHRPL concatenated load library.
2. Define (using either BAS PROGDEF or CEDA DEFINE PROGRAM) a program definition (PPT entry) for your program in each MAS that will contain installed status definitions.

   Note: (For CICS 3.3 and above.) Be sure the Data location field in the program definition specifies the correct addressing mode for the program. The Execkey field in the program definition must be set to ‘CICS’.
3. If a transaction ID other than ‘COIE’, or blanks, was specified in the Transaction ID field of the RTA status definition, you must define (using either BAS TRANDEF or CEDA DEFINE TRANSACTION) a transaction definition (PCT entry) for the transaction in each MAS that will have this status definition installed. The program name in the transaction definition must be EYU9XLOP.

   Note: (For CICS 3.3 and above.) Be sure the TASKDATALOC field in the transaction definition specifies the correct addressing mode for the task. The TASKDATAKEY field must be set to ‘CICS’.

4. Use either BAS or the CEDA transaction to install into the active MASs:
   - Your program
   - The transaction specified in the Transaction ID field of the status definition (only if specified)

Defining a status definition to CICSPlex SM

To define the status definition to CICSPlex SM:

1. From CICSPlex SM, issue the STATDEF view command. Use the CREATE action command to define an RTA status definition. Specify:
   - The name of a status definition
   - The name of the program to be called
   - A valid transaction ID (Optional)
   - A valid user ID (Optional)
   - The interval at which the user-written program is to be called
   - Entry and exit clock values

   Notes:

   a. If the Transaction ID field is left blank, the user-written program will execute as part of the CICSPlex SM COIE transaction.

   b. For CICS 3.3, the User ID field is not processed by RTA. For CICS 4.1, the User ID field is Optional.
2. Use the INS line action command to install the appropriate status definitions into their respective MASs.
3. Use the ADD line action command to add the status definition to an RTAGROUP that is associated with a MAS via RTASPEC. This will allow the status definition to be installed automatically during MAS initialization.

Appendix B. Generic alert and resolution structures

This appendix describes the structure of SNA generic alerts and resolutions as they are used by CICSPlex SM. The general structures of SNA alerts and resolutions are defined in the *SNA LU6.2 Reference: Peer Protocols* book, in the section describing SNA/MS Encodings.

The generic alert structure

The CICSPlex SM Alert MS major vector contains the following:

"Generic Alert Data" (X'92') MS subvector
This identifies the Alert Description code as "IMPENDING PROBLEM: THRESHOLD HAS BEEN REACHED" (X'4012').

"Probable Causes" (X'93') MS subvector
This identifies a single code point specifying "PERFORMANCE DEGRADED" (X'4000').

"Cause Undetermined" (X'97') MS subvector
This contains:

- A "Recommended Actions" (X'81') common subfield. This identifies one code point specifying "REVIEW" (X'00A1').
- Two "Detailed Data" (X'82') common subfields containing:
  1. Data ID of "THRESHOLD PARAMETER" (X'7111'), with EBCDIC encoding. The contents are dependant on the ALERTVER CMAS System Parameter (EYUPARM) used by the CMAS identified in the ACTNDEF associated with the event.

     ALERTVER(0) and ALERTVER(1) records contain the following characters:

     0-2 Creator (SAM] MRM] APM)

     3-5 RTA Event Severity (VLS | VLW | LW | HW | HS | VHS)

     6-13 RTA Event name (RTADEF name |STATDEF name | !!SAMxxx)
  2. Data ID of "PROBLEM DATA" (X'F511'), with EBCDIC encoding, containing the following characters:

     0-29 The text of the "Enter Msg" from the action definition (ACTNDEF)

     ALERTVER(1) records also contain the following:

     14-16 Alert Version (001)

     17-19 Priority (001-255)

     20-27 Sequence

     28-29 Evaluation Logical Operator (GT | GE | EQ | NE | LE | LT)
     – Data is only available for RTADEF events. The field contains spaces for STATDEF and SAM events.

     30-32 Evaluation Type (VAL | THR) - VALuation or THReshold.
     – Data is only available for RTADEF events. The field contains spaces for STATDEF and SAM events.

     33-44 Evaluation Resource Table Attribute

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– Data is only available for RTADEF events. The field contains spaces for STATDEF and SAM events.

45-88 Evaluation Data
– Data is only available for RTADEF events which have an Evaluation Type of VAL. The field contains spaces for all other events.

89-132
Evaluation Last Evaluated Data
– Data is only available for RTADEF events. The field contains spaces for STATDEF and SAM events.

"Product Set ID" (X'10') MS common subvector
a "Product ID" (X'11') common subvector that identifies the product as IBM Software (X'04') and contains:

- A "Product Number" (X'08') Product ID subfield that identifies the product number as 5655M15.
- A "Product Common Name" (X'06') Product ID subfield that identifies the common name as CICSPLEX.SM.
- A "Product Common Level" (X'04') Product ID subfield that identifies the version, release, and modification levels.

"Hierarchy/Resource List" (X'05') MS common subvector
This contains:

- A "Hierarchy Name List" (X'10') Hierarchy/Resource List subfield, which contains the following list elements:

Element	Resource Type	Resource Name
1	Service point (X'81')	RTA CONTEXT
2	Unspecified device (X'00')	RTA SCOPE
3	Unspecified device (X'00')	RTA RESOURCE TYPE or SAM EVENT NAME

- An "Associated Resource List" (X'11') subfield, which contains a 16-character EBCDIC resource name that identifies either the event name or the instance key from the CICSPlex SM resource table associated with the event. For SAM events the "Associated Resource List" will be set as follows:

  !!SAMMAX or !!SAMOPS
  blank

  !!SAMSDM
  The 6-character system dump code

  !!SAMSOS
  The character DSA name or SOS location

  !!SAMSTL
  The character stall reason

  !!SAMTDM
  CCCCTTTTUUUUUUUU, where CCCC is the 4-character transaction dump code, TTTT is the 4-character transaction dump name and UUUUUUUU is the User Id associated with the dumping task.

“Incident Identification” (X'4A') MS common subvector
This contains an “Incident Identification” (X'01') Incident Identification subfield. This uses encoding type X'01'. The fields are as follows:

Field Contents; Length

Netid: Periods; 8 characters

Network addressable unit:
APPLID of the originating CMAS; 8 characters

Application name:
CICSplex name; 8 characters

Unique id:
CMAS name concatenated with GMT timestamp; 16 characters

The resolution structure

The Resolution (X'0002') MS major vector has the same structure as the Alert MS major vector, except that:

- the first "Detailed Data" common subfield of the “Cause Undetermined” MS subvector will always contain spaces in the “Evaluation Last Evaluated Data” (89-132) field of the ALERTVER(1) version of the record.
- the second of the two “Detailed Data” common subfields of the “Cause Undetermined” MS subvector contains the text of the “Exit Msg” from the action definition rather than the “Enter Msg” text.

Bibliography

The CICS Transaction Server for z/OS library

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The following publications contain further information about CICS, but are not provided as part of CICS Transaction Server for z/OS, Version 3 Release 1.

Designing and Programming CICS Applications	SR23-9692
CICS Application Migration Aid Guide	SC33-0768
CICS Family: API Structure	SC33-1007
CICS Family: Client/Server Programming	SC33-1435
CICS Transaction Gateway for z/OS Administration	SC34-5528
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Accessibility

Accessibility features help a user who has a physical disability, such as restricted mobility or limited vision, to use software products successfully.

You can perform most tasks required to set up, run, and maintain your CICSPlex SM system in one of these ways:

- using a 3270 emulator connected to CICSPlex SM
- using a 3270 emulator logged on to CICS
- using a 3270 emulator logged on to TSO
- using a 3270 emulator as an MVS system console
- using the CICSPlex SM web user interface.

IBM Personal Communications (Version 5.0.1 for Windows 95, Windows 98, Windows NT and Windows 2000; version 4.3 for OS/2) provides 3270 emulation with accessibility features for people with disabilities. You can use this product to provide the accessibility features you need in your CICSPlex SM system.

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Product Number: 5655-M15

SC34-6466-04

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Version 3
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