

CICS Transaction Server for z/OS  
5.5

*CICSplex SM Managing Business  
Applications*



**Note**

Before using this information and the product it supports, read the information in [“Notices” on page 307.](#)

This edition applies to the IBM® CICS® Transaction Server for z/OS® Version 5 Release 5 (product number 5655-Y04) and to all subsequent releases and modifications until otherwise indicated in new editions.

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## About this PDF

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This PDF provides administration and usage information for Business Application Services (BAS). BAS is a component of the CICSplex SM element of CICS Transaction Server for z/OS. It is intended for system programmers who are responsible for managing CICS and CICSplex SM.

For details of the terms and notation used, see [Conventions and terminology used in the CICS documentation](#) in IBM Knowledge Center.

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# Chapter 1. Administering CICSplex SM

After you have configured your CICSplex® SM environment, you can use the CICS Explorer® or Web User Interface to manage the environment.

## About this task

Both CICS Explorer and the Web User Interface provide views to work with the CICSplexes that you have defined. CICS also provides batch tools to manage the definitions in the data repository.

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## Administering CICSplex SM

After you have configured your CICSplex SM environment, you can use the CICS Explorer or Web User Interface to manage the environment.

## About this task

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## Setting the CMAS context, context and scope

You can set the context, CMAS context and scope to be used when you navigate from the current menu in the selection criteria area of a menu and the selection criteria and refresh area of a view.

To change one of these values, overwrite the required field and select the **Set** button.

Either the context or the CMAS context is used for all operations. These terms are used as follows:

- **Context**

This is the CICSplex name and is used for almost all views.

- **CMAS context**

This is the CMAS name. This is used only when you are viewing CMAS level configuration data such as CMAS status and the CICSplexes connected to a CMAS.

- **Scope**

This is a CICSplex, CICS group MAS or logical scope name. The scope is a subset of the context, and limits the effects of CICSplex SM commands to particular CICS systems or resources. If the CMAS context is being used, the scope is ignored. The scope is only used for certain resource types.

## Accessing Web User Interface administration views

To access CICSplex SM administration views from the Web User Interface main menu, click **Administration views**.

Administration views are divided into:

- General views, which include views to manage CICSplex configuration and topology
- Real time analysis views, which include views to monitor system availability and MAS resources
- CICS resource definitions using Business Application Services (BAS), which includes views to manage all types of CICS and CICSplex SM resources.

## Using the action buttons

Action buttons on the WUI views allow you to perform actions such as create, update or remove. Available actions for a particular view are displayed as buttons at the bottom of the view's work area.

To use an action button from an open view:

1. Optionally, select the record or records on which you intend to apply the action by selecting one or more record check boxes on the left of the work area, or by using the **Select all** button.
2. Click the required action button. This displays one or a succession of confirmation panels. The confirmation panel allows you to confirm or cancel the action for each selected resource, and in some cases contain additional options.
3. Complete each confirmation panel by selecting the required button or in some cases by entering parameters, selecting check boxes or selecting radio buttons.

The action is processed and the view is redisplayed showing the results of the action. If the action completed successfully, message EYUVC1230I is displayed in the message area at the top of the work area. If the action is not successful, one or more error messages are displayed.

## Actions in administration views

There are several common types of actions that you can use with the administration views.

### Create

creates a new definition and adds it to the data repository. An administration definition name can be 1 to 8 characters in length. The name can contain alphabetic, numeric, or national characters. However, the first character must be alphabetic.

### Add to ...

adds an association between two definitions. The resulting confirmation panel prompts you to identify the other definition with which you want to create an association. Adding an association creates a relationship between the definitions in the data repository. Associations can be added between definitions and groups, between groups and specifications, and between specifications and CICS systems.

### Map

To display a visual map of related definitions in the data repository , click **Map**.

### Remove

removes a definition or an association between two definitions from the data repository.

### Update

updates a definition in the data repository. The resulting panel is an editable detail view of a selected resource.

All of these actions affect the contents of the data repository and the changes are applied immediately. However most of these changes to the data repository have no effect, on CICS systems that are currently active. These changes affect a CICS system the next time the CICS system is restarted.

### Note:

1. When you use the **Time period definitions** (EYUSTARTPERIODEF) view to update definitions, the changes affect both the data repository and currently active CICS systems.
2. Changes to a currently running MAS are not included in the data repository.
3. All of these actions can also be performed using the batched repository-update facility described in [“The batched repository-update facility \(BATCHREP\)”](#) on page 12.

## Batch tools for managing data repository definitions

CICSplex SM provides batch tools for managing the data repository.

The data repository associated with each CMAS contains the definitions that establish your CICSplex SM environment. These definitions are stored as individual records. You can create and maintain these definitions by using the WUI views described in [Configuring CICSplex SM](#). However, if you have a large volume of definitions to update, for example if you are moving an application from one CMAS to another, or if there is a large element of repetition in your management tasks, it is easier to use one of the batch tools to do the job. These allow you to create and update definitions in the data repository and import and export data repository definitions including CMAS to CMAS link definitions from one CMAS to another. Two batch tools are provided:

### **The EYU9XDBT CICSplex SM definition utility**

This is an easy-to-use REXX tool using simplified terminology, predefined default information, and filtering to simplify complex management tasks. It also has enhanced debugging facilities. It is limited to data repositories at the same release level as CICSplex SM. EYU9XDBT is used during installation to set up your initial CICSplex SM environment. It is supplied with comprehensive sample JCL.

### **The batched repository-update facility (BATCHREP)**

With this tool you can perform batched update tasks by creating and editing an input file but it does not include the predefined information or samples of EYU9XDBT. It does enable you to import definitions from CMASs at earlier release levels and does not require that you have a REXX environment. You can submit BATCHREP jobs either using the CICSplex SM batched repository-update utility, the WUI, or the CICSplex SM API.

You cannot use either of these tools to create a CMAS.

### **The EYU9XDBT CICSplex SM definition utility**

The EYU9XDBT CICSplex SM definition utility uses the CICSplex SM API to specify the required CICSplex names in some simple parameters. The utility sets up the definitions for you. Unlike the BATCHREP utility, you do not manually edit an input file.

You can use this utility to perform all CMAS and CICSplex definition activities after the basic CMAS environment has been established. These activities include:

- Defining CICS regions, CICS groups, and CICSplexes to a CMAS
- Removing CICS regions, CICS groups, and CICSplexes from a CMAS
- Adding CICS regions to CICS groups
- Removing CICS regions from CICS groups
- Creating CMAS to CMAS link definitions
- Importing, printing, or exporting CICSplex SM objects defined to CMAS or CICSplex contexts.

The following samples are provided:

#### **EYUJXB0**

Contains annotated EYU9XDBT JCL syntax for use as a quick reference.

#### **EYUJXB1**

Contains sample JCL for invoking EYU9XDBT and defining a CICSplex, a CICS system group, and a CICS system definition.

#### **EYUJXB2**

Contains sample JCL for invoking EYU9XBTP and creating a CMAS-to-CMAS link definition for CMASs that are on the same MVS image and running at the same CICS TS release level.

#### **EYUJXB3**

Contains sample JCL for invoking EYU9XBTP and creating a CMAS-to-CMAS link definition for CMASs on different MVS images setting the context to the first CMAS name and importing the link to the second CMAS.

#### **EYUJXB4**

Contains sample JCL for invoking EYU9XBTP and creating a CMAS-to-CMAS link definition for CMASs on different MVS images setting the context to the second CMAS name and importing the link to the first CMAS.

### ***EYU9XDBT utility commands***

You can use a number of commands in the EYU9XDBT CICSplex SM definition utility command stream.

EYU9XDBT reads and processes all commands in the input stream sequentially. Specify the commands in the correct sequence, with commands such as OPTION DUPREC and OPTION FEEDBACK preceding the commands to which they relate and operate on. For example, OPTION DUPREC precedes the IMPORT command on which you want it to operate.

## Comments

You can include comments in the EYU9XDBT command stream. An asterisk in column 1 and a blank in column 2 indicates a comment.

## Continuation

A hyphen (-) indicates continuation. A continuation character is supported on the DEFINE and REMOVE commands. For example, the DEFINE REGION command has a number of subparameters, which can be on separate lines, shown as follows:

```
DEFINE REGION    region_name    -
             APPLID region_applid -
             SYSID  region_sysidnt
```

## Commands

### ADD TOGROUP *groupname*

Add regions or groups to a CICS group. You specify the object to be added on either a REGION or CICSGRP sub-parameter following the ADD command. For examples of the ADD command, see [“Parameters used in EYUJXBT1”](#) on page 7.

### CONTEXT {*cmas\_name* | *CICSplex\_name*}

Set the context for the commands that follow. For examples of the CONTEXT command, see [“Parameters used in EYUJXBT1”](#) on page 7.

### DEFINE *object\_type object\_name mandatory\_identifiers*<sup>+</sup>

Define the specified object, the type of which can be CICSplex, REGION, or CICSGRP. The object types, CICSplex, REGION, and CICSGRP, are synonyms for the CPLEXDEF, CSYSDEF, and CICSGRP definitions.

- To define a CICSplex, you must specify the *object\_type* as CICSplex and specify the *object\_name*; the object name is the 1- to 8-character alphanumeric name of the CICSplex that you are defining. Note that the first character of the *object\_name* must be alphabetic. There are no other mandatory identifiers associated with the CICSplex object type. The command takes the following form:

```
DEFINE CICSplex plexname
```

This command creates a CPLEXDEF in the CICSplex SM CMAS repository.

- To define a REGION, you must specify the *object\_type* as REGION, the 1- to 8-character alphanumeric name of the CICS region that you are defining as the *object\_name*, and the following mandatory identifiers: APPLID and SYSID. The command takes the following form:

```
DEFINE REGION region_name    -
             APPLID region_applid -
             SYSID  region_sysidnt
```

This command creates a CSYSDEF in the CICSplex SM CMAS repository.

- To define a CICSGRP, you must specify the *object\_type* as CICSGRP and specify the *object\_name*; the object name is the 1- to 8-character alphanumeric name of the CICS system group that you are defining. Note that the first character of the *object\_name* must be alphabetic. There are no other mandatory identifiers associated with the CICSGRP object type. The command takes the following form:

```
DEFINE CICSGRP group_name
```

This command creates a CICSGRP in the CICSplex SM CMAS repository.

For examples of the DEFINE command, see [“Parameters used in EYUJXBT1”](#) on page 7.

### DELETE *object\_type object\_name*

Delete the specified object, the type of which can be one of CICSplex, REGION, or CICSGRP. You can specify an asterisk in *object\_name* as a wildcard character.

### **EXPORT DDname resource\_type resource\_id**

Write all the definitions of the specified type and identifier in the current context to the specified output file. For *resource\_type*, specify in full one of the CICSplex SM resource types or an asterisk, \*, for all resource types. The valid resource types are any resources that are written to the CICSplex SM data repository, including all BAS objects, WLM definitions, RTA definitions, topology definitions, or monitor definitions. BAS RESINGRP resource records can't be exported, however each BAS resource definition has an equivalent XXXINGRP resource record that can be exported. You can specify an asterisk in *resource\_id* as a generic (wildcard) character. If you set both the resource type and the resource identifier to asterisks, EYU9XDBT exports all the definitions within the current context.

**Note:** Trailing blanks are treated as trailing wildcard characters, so EXPORT *DDname* exports all the definitions in the *DDname* context.

### **IMPORT DDname resource\_type resource\_id**

Import into the repository, in the current context, all the definitions of the specified type and identifier from the input file defined on the named DD statement. For *resource\_type*, specify in full one of the CICSplex SM resource types or an asterisk for all resource types. The valid resource types are any resources that are written to the CICSplex SM data repository, including all BAS objects, WLM definitions, RTA definitions, topology definitions, or monitor definitions. BAS RESINGRP resource records can't be imported, however each BAS resource definition has an equivalent XXXINGRP resource record that can be imported. You can specify an asterisk in *resource\_id* as a wildcard character. If you set both the resource type and the resource identifier to asterisks, EYU9XDBT imports all the definitions it finds in the input data set.

Note the following rules for imported files:

- The input records should be 80 bytes records and the data will be truncated to 72 bytes.
- Double quotation marks (") in the import file are used as string delimiters. Therefore, if you want to include a double quotation mark character in the input file, you must use a consecutive pair of double quotation marks in the text string. For example the following string in the import file, "double" "quote" "example" becomes double"quote"example when the file is imported into the CICSplex SM object.
- Continuation lines are used in import files to represent lines that would otherwise exceed the maximum length. The following example uses the program definition of a JVM class, which is represented as a 255 byte string, to show how continuation lines are represented in an import file:

```
PROGDEF_JVMCLASS = "AAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAA";
PROGDEF_JVMCLASS = PROGDEF._JVMCLASS || "AAAAAAAAAAAAAAAAABBBBBBBB";
PROGDEF_JVMCLASS = PROGDEF._JVMCLASS || "BBBBBBBBBBBBBBBBBBBBBBBB";
PROGDEF_JVMCLASS = PROGDEF._JVMCLASS || "BBBBBBBBBCCCCCCCCCCCCCCC";
PROGDEF_JVMCLASS = PROGDEF._JVMCLASS || "ZZZZZ";
```

The program definition statement, PROGDEF\_JVMCLASS = "AAA . . ." overflows the first line and continues on each successive line by appending the next section of the definition to the previous one. The REXX syntax for a stem variable, . , is used to indicate that a line is a continuation line. In this example, PROGDEF\_JVMCLASS is replaced with PROGDEF.\_JVMCLASS for each continuation line. The REXX concatenation bars, ||, on the continuation line append the next section of the string to the existing string.

### **OPTION [DUPREC | FEEDBACK | REPORT]**

Request the action that EYU9XDBT is to take during command processing. This request can be DUPREC, FEEDBACK, or REPORT. To request more than one action, specify each one on separate OPTION command statements. The DUPREC, FEEDBACK, and REPORT actions each have options that you can select:

#### **DUPREC {ABORT | REJECT | SKIP | UPDATE}**

DUPREC specifies the action you want EYU9XDBT to take in the event of a duplicate record being found during import processing. This command must precede the IMPORT or DEFINE statement to which it refers. Permitted options are:

- **ABORT:** If there is duplication of the name of an object being defined and the name of an existing repository definition when processing a DEFINE or IMPORT command, the duplicate name being defined or imported is skipped and the data repository is not changed. The ABORT option is treated as an unrecoverable error: EYU9XDBT writes a message to the job log and raises return code 12. The job is stopped immediately.
- **REJECT:** If there is duplication of the name of an object being defined and the name of an existing repository definition when processing a DEFINE or IMPORT command, the duplicate name being defined or imported is skipped and the data repository is not changed. The REJECT option is handled as an error and EYU9XDBT writes a message to the job log. EYU9XDBT raises return code 8 for a REJECT error. REJECT is the default option.
- **SKIP:** If the name of an object being defined is the same as the name of an existing repository definition when processing a DEFINE or IMPORT command, the new definition is skipped, and the data repository is not changed. This is handled as normal (return code 0).
- **UPDATE:** If there is duplication of the name of an object being defined and the name of an existing repository definition when processing a DEFINE or IMPORT command, the existing definition is updated with the attributes of the record being defined or imported. If the existing definition cannot be updated by modifying specific attributes, it is deleted and recreated from the DEFINE or IMPORT command. This action is handled as normal (return code 0).

**Note:**

- When importing CPLXCMAS records that associate a CICSplex name to the Maintenance Point CMAS in an **OPTION DUPREC UPDATE** scenario, the command response will always be Record skipped. One CPLXCMAS record is created implicitly whenever a CPLEXDEF record is imported to a CMAS. These records may only be removed implicitly when their corresponding CPLEXDEF records are deleted.
- For CICS resource definitions, the full name and version must both match to be considered a duplicate.

**FEEDBACK {QUIET | VERBOSE}**

FEEDBACK specifies how EYU9XDBT handles exception condition reporting if an error is returned from the CICSplex SM API. Permitted options are as follows:

- **QUIET:** EYU9XDBT writes only a basic EYU9XDBT message to the job log. QUIET is the default FEEDBACK option.
- **VERBOSE:** In addition to the standard message reporting response and reason codes, EYU9XDBT writes any associated CICSplex SM feedback data to the destination specified on the SYSTSPRT DD statement.

**REPORT {FULL | SUMMARY}**

- **FULL:** This is the default option, and the current reporting state before this change. When the program processes a PRINT, IMPORT, EXPORT, or DELETE command for an EYUDREP object, all attributes of that object are printed in the report. For large data repositories, this report option can generate many thousands of line of data.
- **SUMMARY:** This restricts the printed resource table content to just the key field identifiers for the PRINT, IMPORT, EXPORT, and DELETE commands.

You can use the OPTION REPORT command consecutively in a command stream, so that some processes list all attribute data, and others just summarize attribute data. For example:

```
* Set the context to my CICSplex
CONTEXT myplex01
* Specify that duplicates are to be updated
OPTION DUPREC UPDATE
* Specify that I only want record identifiers printed
OPTION REPORT SUMMARY
* Now import my CSYSDEF records
IMPORT CPSMIO1 CSYSDEF * *
* Now do a detailed print of what was just imported ...
OPTION REPORT FULL
```



```
* ... and print all CSYSDEF details.  
PRINT CSYSDEF * *
```

### **PRINT *resource\_type resource\_id***

Print definitions in the current context from CMAS repository. For *resource\_type*, specify in full one of the CICSplex SM resource types or an asterisk for all resource types. You can specify an asterisk in *resource\_id* as a wildcard character. If you specify two asterisks for the resource type and resource identifier, EYU9XDBT prints all definitions within the current context.

### **REMOVE FROMGROUP *groupname***

Remove the specified object from the named group. You specify the object on either a REGION or CICSGRP sub-parameter following the REMOVE command.

### **Data sets used by the EYU9XDBT utility**

To define CICSplexes, CICS regions, and CICS groups, the EYU9XDBT CICSplex SM definition utility uses some predefined information supplied in the SEYUPARM library.

The following DD statements reference this information:

#### **EYUCPDEF**

This DD statement references the member called EYUCPDEF, which provides default values in support of the DEFINE CICSplex command. You can modify the CPLEXDEF in it to suit your own installation requirements.

#### **EYUCSDEF**

This DD statement references the member called EYUCSDEF, which provides default values in support of the DEFINE REGION command. You can modify the CSYSDEF in it to suit your own installation requirements.

#### **EYUCSGRP**

This DD statement references the member called EYUCSGRP, which provides default values in support of the DEFINE CICSGRP command. You can modify the CSYSGRP in it to suit your own installation requirements.

### **Parameters used in EYUJXBTP**

EYUJXBTP is a JCL procedure used by the samples EYUJXBTP1, EYUJXBTP2, EYUJXBTP3 and EYUJXBTP4 to invoke the EYU9XDBT program.

For descriptions of data sets used, see [“Data sets used by the EYU9XDBT utility”](#) on page 7.

### **Parameters used in EYUJXBTP1**

The EYUJXBTP1 JCL sample provides the initial definition of a CICSplex, the association of the CICSplex with a CMAS as the maintenance point, and the association, and grouping, of CICS systems with that CICSplex.

The CMAS that owns the repository in which you are creating definitions must be active when you run the EYUJXBTP1 job. Also, the EYUJXBTP1 job must run in the same z/OS image as the CMAS. The EYUJXBTP1 JCL does not have a data set definition (DD) statement for the repository because all access to the repository is through the CMAS, using the API.

EYUJXBTP1 has the following parameters, which you edit to specify your own names:

#### **CONTEXT**

Sets the CICSplex SM context in which the utility is to operate. Define the context as the CMAS only when you are defining a CICSplex. For actions that operate on an existing CICSplex, such as defining extra regions, or importing or exporting objects, set the context to the CICSplex.

The EYUJXBTP1 job uses this parameter twice. The first use is to enable the utility to locate and communicate with your CMAS, (see below for the second use). The format of the parameter to set the CMAS context is:

```
CONTEXT masname
```

where *masname* is the name of the CMAS that will be the maintenance point for the CICSplex.

## DEFINE CICSplex

Specifies the name of your CICSplex. When you define the CICSplex, the CMAS named on the CONTEXT parameter becomes the maintenance point for the CICSplex.

The format of this parameter is:

```
DEFINE CICSplex plexname
```

Choose a 1- to 8-character name for your CICSplex, perhaps using a naming convention that allows you to define more than one CICSplex. For example:

- The first three letters might identify the location, such as HUR for Hursley
- The middle letters the type, such as TEST or PROD for test and production CICSplexes.
- The last a unique alphanumeric identifier for the CICSplex.

All other parameters required to complete the CICSplex definition are supplied by the EYUCPDEF file defined on the EYUCPDEF DD statement in the supplied EYUJXBTP sample.

The supplied EYUJXBTP1 job is set up to define only one CICSplex. You are recommended to create a separate CICSplex for the Web User Interface server by adding the required definitions to EYUJXBTP1.

## CONTEXT

The second use of CONTEXT appears *after* the DEFINE CICSplex parameter, to reset the context to the CICSplex.

The format of the parameter to set the context to the CICSplex is:

```
CONTEXT plexname
```

where *plexname* is the name you specified on the DEFINE CICSplex parameter.

## DEFINE CICSGRP

Defines a CICS system group, which is a subset of a CICSplex.

The format of this parameter is:

```
DEFINE CICSGRP group_name
```

where *group\_name* is a 1- to 8-character alphanumeric name for the CICS system group. The first character must be alphabetic.

## DEFINE REGION

Specifies the name and other key attributes of each CICS region you want to include in the CICSplex. The parameter and its subparameters have the following format:

```
DEFINE REGION region_name -  
      APPLID region_applid -  
      SYSID region_sysidnt
```

You are recommended to use the APPLID as the region name in these definitions. Making the region name the same as the APPLID has the following advantages:

- You do not have to invent another name for the region
- It avoids confusion if the names are the same instead of regions having two identifiers
- By excluding the NAME EYUPARM, the EYUPARM parameters can be shared across CICS regions. The NAME EYUPARM for each CICS region defaults to the z/OS Communications Server APPLID as specified on the APPLID system initialization table parameter for each CICS region.

SYSID is the name specified on the region's SYSIDNT system initialization parameter.

The EYUJXBTP1 job includes the DEFINE REGION parameters once, but you can define as many as you need, in any groupings that suit your requirements.

## ADD TOGROUP

Specifies the name of the CICS region that you want to add to the CICS system group defined by a DEFINE CICSGRP command.

The format of this parameter for adding a CICS region to a group is:

```
ADD TOGROUP   grpname -  
    REGION    regname
```

You can also nest CICS system groups by including a group in another group. The format of the parameter for adding a group to a group is:

```
ADD TOGROUP   grpname1 -  
    CICSGRP   grpname2
```

After you have run the EYUJXBT1 job and created the initial definitions of your CICSplex, you might want to create another CICSplex, or add more regions or CICS system groups. If so, run the EYUJXBT1 job again, suitably modified to add the additional objects to your CMAS data repository. You can also save the previous definitions before making changes in case you have to back out the update.

## Parameters used in EYUJXBT2

The EYUJXBT2 sample imports definitions to create a CMAS-to-CMAS connection. The sample sets the context to the first CMAS name and imports the link to the second CMAS. Then the sample changes the context to the second CMAS name and imports the link to the first CMAS.

The CMAS that owns the repository in which you are creating definitions must be active when you run the EYUJXBT2 job. Also, the EYUJXBT2 job must run in the same z/OS image as the CMAS. The EYUJXBT2 JCL does not have a data set definition (DD) statement for the repository because all access to the repository is through the CMAS, using the API.

EYUJXBT2 gives an example of using the IMPORT commands and has the following parameters, which you edit to specify your own names:

### CONTEXT

Sets the CICSplex SM context in which the utility is to operate.

The format of the parameter to set the context is:

```
CONTEXT cmasname
```

where *cmasname* is the name of the CMAS to which you want to make changes.

### OPTION DUPREC

Specifies the action that the program takes if it detects any definitions in the IMPORT stream that already exist in the local data repository. Permitted options are as follows:

- OPTION DUPREC REJECT. Commands that follow the duplicate definition are rejected.
- OPTION DUPREC ABORT. The job is terminated.
- OPTION DUPREC SKIP. Leave the existing record in place.
- OPTION DUPREC UPDATE. Replace the existing definition.

### IMPORT

Imports definitions into the repository.

The format of the parameter is:

```
IMPORT CMAS1LNK * *
```

EYUJXBT2 has an input data stream for CMAS1LNK which includes a CMAS-to-CMAS definition (CMTCMDEF resource table).

If you are adding a secondary CMAS, you must assign it to your CICSplex before it can participate in CICSplex management. Do this in one of the following ways:

- Issue an Assign action from the EYUSTARTCPLEXDEF WUI view.
- Use the CICSplex SM API action of ASSIGN against the CPLEXDEF resource table.

### **Parameters used in EYUJXBT3**

Use the EYUJXBT3 and EYUJXBT4 samples to import definitions to create a CMAS-to-CMAS connection for CMASs on different z/OS images. EYUJXBT3 sets the context to the first CMAS name and imports the link to the second CMAS.

The CMAS that owns the repository in which you are creating definitions must be active when you run EYUJXBT3. The EYUJXBT3 job must run in the same z/OS image as the CMAS in which you are creating definitions. The EYUJXBT3 JCL does not have a data set definition (DD) statement for the repository because all access to the repository is through the CMAS, using the API.

EYUJXBT3 gives an example of using the IMPORT commands and has the following parameters, which you edit to specify your own names:

#### **CONTEXT**

Sets the CICSplex SM context in which the utility is to operate.

The format of the parameter to set the context is:

```
CONTEXT cmasname
```

where *cmasname* is the name of the CMAS to which you want to make changes.

#### **OPTION DUPREC**

Specifies the action that the program takes if it detects any definitions in the IMPORT stream that already exist in the local data repository. You can specify one of the following options:

##### **REJECT**

Rejects any commands that follow the duplicate definition.

##### **ABORT**

Terminates the job.

##### **SKIP**

Leaves the existing record in place.

##### **UPDATE**

Replaces the existing definition.

#### **IMPORT**

Imports definitions into the repository.

The format of the parameter is:

```
IMPORT CMAS1LNK * *
```

EYUJXBT3 has an input data stream for CMAS1LNK which includes a CMAS-to-CMAS definition (created using the CMTCMDEF resource table).

If you are adding a secondary CMAS, you must assign it to your CICSplex before it can participate in CICSplex management. Do this in one of the following ways:

- Issue an ASSIGN action command from the EYUSTARTCPLEXDEF WUI view.
- Use the CICSplex SM API action of ASSIGN against the CPLEXDEF resource table.

### **Parameters used in EYUJXBT4**

Use the EYUJXBT4 and EYUJXBT3 samples to import definitions to create a CMAS-to-CMAS connection for CMASs on different z/OS images. EYUJXBT4 sets the context to the second CMAS name and imports the link to the first CMAS.

The CMAS that owns the repository in which you are creating definitions must be active when you run EYUJXBT4. The EYUJXBT4 job must run in the same z/OS image as the CMAS in which you are creating definitions. The EYUJXBT4 JCL does not have a data set definition (DD) statement for the repository because all access to the repository is through the CMAS, using the API.

EYUJXBT4 gives an example of using the IMPORT commands and has the following parameters, which you edit to specify your own names:

#### **CONTEXT**

Sets the CICSplex SM context in which the utility is to operate.

The format of the parameter to set the context is:

```
CONTEXT cmasname
```

where *cmasname* is the name of the CMAS which is to be changed..

#### **OPTION DUPREC**

Specifies the action that the program takes if it detects any definitions in the import stream that already exist in the local data repository. You can specify one of the following options:

##### **REJECT**

Rejects any commands that follow the duplicate definition.

##### **ABORT**

Terminates the job.

##### **SKIP**

Leaves the existing record in place.

##### **UPDATE**

Replaces the existing definition.

#### **IMPORT**

Imports definitions into the repository.

The format of the parameter is:

```
IMPORT CMAS2LNK * *
```

EYUJXBT4 has an input data stream for CMAS2LNK, which includes a CMAS-to-CMAS definition (created using the CMTCMDEF resource table).

If you are adding a secondary CMAS, you must assign it to your CICSplex before it can participate in CICSplex management. You can do this in one of the following ways:

- Issue an ASSIGN action command from the EYUJXBT4 WUI view.
- Use the CICSplex SM API action of ASSIGN against the CPLEXDEF resource table.

#### ***EYU9XDBT utility error handling***

Three levels of error can occur in EYU9XDBT utility program processing.

These errors are as follows:

- Errors in the command parameter stream that are detected by EYU9XDBT.

EYU9XDBT processes each command as it occurs in the command input stream. If the utility program detects an error in a command (for example, an unrecognized parameter), it stops processing without reading any more commands and issues message EYUXU1448E Data stream rejected which gives an EYU9XDBT return code of 12.

- Errors in the CICSplex SM API detected by CICSplex SM when it is processing calls from EYU9XDBT.

If a command and its parameters are recognized by EYU9XDBT, it calls the CICSplex SM API to perform the specified action. However, if CICSplex SM detects an error, only that command fails (with an EYU9XDBT return code of 8 or 12), and EYU9XDBT continues with the next command. For example, a DEFINE REGION command that specifies SYSID ABCDE is accepted by EYU9XDBT but rejected by CICSplex SM because the SYSID value is more than 4 characters long, producing the following error messages:

##### **EYUAR0021E**

Length of data for attribute (CSYSDEF.\_SYSID) is invalid.

## EYUXU1441S

TBUILD failed for CSYSDEF data: FAILURE.

## EYUXU1448E

Datastream rejected.

- Abend code 878 when a program attempts to use more storage than it has allocated.

In EYU9XDBT this abend is caused by an insufficient region size. The solution is to increase the region size. This abend code can occur in the following situation:

- Not accounting for the retention by EYU9XDBT of large numbers of definitions in memory when setting your region size.

You can calculate the storage required by multiplying the definition size by the definition count. However, if you cannot modify the region size, you might be able to modify the existing commands to use less storage. Because each command is run separately, reducing the number of definitions per command is a straightforward and effective way of lowering storage requirements.

One way of reducing storage requirements is to avoid using the generic \* (asterisk) character to define the definition type and the definition name in IMPORT, EXPORT, and PRINT commands because it can result in large numbers of definitions held in storage. Instead, use separate commands that select the least number of definitions feasible.

## The batched repository-update facility (BATCHREP)

The BATCHREP batched repository-update facility can streamline the process of managing your data repositories.

Instead of using multiple view screens repeatedly to create large numbers of definitions, you can create a standard input file to add the definitions to the data repository all at one time. This can reduce the effort of creating such definitions as the Transaction in Transaction Group (DTRINGRP) associations, which can involve identifying hundreds of transactions. Similarly, when you use Business Application Services (BAS) to create and maintain your CICS resource definitions, the batched repository-update facility can speed up the definition process.

### ***Submitting a batched repository-update (BATCHREP) job***

There are three steps in submitting a BATCHREP job.

To submit a batched repository-update job, you must:

1. Create a sequential data set or partitioned data set member to contain your input to the batched repository-update facility. The data set must have a fixed blocked format, RECFM(FB), and a logical record length of 80, LRECL(80).

If you are directing the output to a partitioned data set member, you should ensure that the data set has enough directory entries and space to successfully execute the command. Failure to do this could cause the CMAS to terminate.

2. Create your input, as described in [“Creating a batched repository-update \(BATCHREP\) input file” on page 13.](#)
3. Use one of the following methods to submit the batched repository-update job:
  - Performing batched repository-update job operation in CICS Explorer, as described in [Submitting a batched repository-update \(BATCHREP\) job in the CICS Explorer product documentation.](#)
  - **Batched repository update job** WUI view, as described in [“Using the WUI to submit a batched repository-update \(BATCHREP\) job” on page 19.](#)
  - Batched repository-update utility, as described in [“Using the batched repository-update utility” on page 20.](#)
  - CICSplex SM API to make use of the BATCHREP resource table.

Submitting a batched repository-update job that processes the same definition in quick succession may result in one or more control statements failing. In such circumstances the best procedure would be to divide the repository-update job and submit the resultant jobs sequentially.

### ***Creating a batched repository-update (BATCHREP) input file***

A batched repository-update facility input file consists of control statements that describe the updates you want to make to the data repository.

The input file must adhere to the following requirements:

- Control statements must be in uppercase.
- Each control statement must be terminated with a semicolon (;).
- Comments must be delimited with /\* at the beginning and \*/ at the end. (Any line with \* in column 1 is also treated as a comment.)

Control statements and comments can span multiple lines.

When creating your input file, you must first identify the context (CMAS or CICSplex) to which the updates apply. To do this, use the control statement:

```
CONTEXT [plexid]
```

where *plexid* is the name of the local CMAS or of a CICSplex associated with the local CMAS (the local CMAS is the CMAS on which the batched repository-update job runs). If you specify a CICSplex as the context for the update, the local CMAS must be the maintenance point for that CICSplex. If you omit this parameter, the local CMAS is assumed to be the context.

Once you have established a context, it remains in effect for the batched repository-update job until you explicitly change it with another CONTEXT statement.

The rest of the control statements in an input file vary according to the type of updates you are making. The following sections describe the control statements for each type of update in detail.

#### *Creating and maintaining CICSplex SM definitions*

To create, update, remove, or review CICSplex SM definitions in the data repository, use one or more control statements.

Control statements take the form:

```
command object keyword1(value) keyword2
```

where:

#### **command**

Is the name of a batched repository-update facility command, in uppercase letters. Specify one of the following:

#### **CREATE**

To create a record and add it to the data repository associated with the local CMAS.

#### **UPDATE**

To update an existing record in the data repository.

**Note:** You cannot update LNKSxSCG records using the batched repository-update facility, although you can do so through the WUI.

#### **REMOVE**

To remove an existing record from the data repository.

When you remove a record, all associations between that record and other records in the data repository are lost. For example, if you remove a CICS system definition, associations between that CICS system and any CICS system groups or component specifications are also removed.

When removing BAS definitions the DEFVER() keyword must be specified.

## LIST

To list a record from the data repository.

## DUMP

To list a record from the data repository and insert a CREATE control statement in front of it.

You can use the output resulting from a DUMP command as input to another batched repository-update job that creates definitions. The output of a DUMP command is formatted as follows:

- Data lines are broken at column 72
- Continuation characters are placed in column 1.

By default, the output is written to a spool file and must be extracted from the spool, and edited, before it can be used as input to the batched repository-update facility. The extracted records contain ANS control characters in column 1, therefore you must shift the records one character to the left to align the data for processing by CICSplex SM. You must also remove all the page header information from the data set. For an example of a listing, see [Figure 2 on page 29](#). However, you can use the OUTPUT command to write the output in the correct format, direct to a data set. For details, see [“Creating a data set for re-input to the batched repository-update facility” on page 18](#).

CICSplex SM requires certain definitions to exist before others can be created. Therefore, you should adhere to the following guidelines when dumping data repository records:

- Always dump CICS system (CSYSDEF) and CICS system group (CSYSGRP) records first.
- Dump basic CICSplex SM definition records (such as, xxxDEF, xxxGROUP, and xxxSPEC) before association records (such as, LNKxxxxx, xxxINGRP, or xxxINSPC).
- For Business Application Services:
  - Dump RESGROUP records before RESDESC and RASGNDEF records.
  - Dump RESDESC and RASGNDEF records before RESINDSC and RASINDSC records.
  - Dump resource definition records (such as FILEDEF) before xxxINGRP records (such as FILINGRP).
  - Dump CONNDEF, SESSDEF, IPCONDEF, and TCPDEF records before SYSLINK records.

If you follow these guidelines, the output from a DUMP command is in the correct order for the batched repository-update facility to create new definitions. For an example of using the DUMP command output to create new definitions, see [“Examples of managing records in the data repository” on page 28](#).

**Note:** Output from the DUMP and LIST commands contains a visible record of any passwords associated with CICS resources (such as connections or files). To prevent possible security exposures, you should restrict access to such output.

## object

Is one of the resource table names shown in [Table 1 on page 22](#).

## keyword1(value)

Is the name of a field in the specified resource table and the data that is appropriate for that field, in uppercase letters. The required input for the various commands is as follows:

## CREATE

Provide all of the information required to define the resource, for example the same type of information as required by the equivalent WUI **Create** view.

You can derive the input to the CREATE statement from the output of a DFHCSDUP EXTRACT or BATCHREP DUMP request. See [“Creating a data set for re-input to the batched repository-update facility” on page 18](#), [“Example 6 - Dumping records as input to create new records” on page 29](#) for further information. If you do not create your input in this way, you must specify all the required attributes.

**Note:** For some definition records you should not specify certain operands; for example, for CPLEXDEF, do not specify the STATUS operand.



**UPDATE**

Identify the specific record to be updated. For CICS resource definitions created as part of business application services (BAS), this must include the version (DEFVER) of the resource. Specify the attributes that will be updated.

**REMOVE**

Identify the specific record to be removed. For CICS resource definitions created as part of business application services (BAS), this must include the version (DEFVER) of the resource.

**LIST and DUMP**

Provide a specific or generic record name, where generic names can contain the plus sign (+), asterisk (\*), or both.

**keyword2**

Indicate how the creation or removal of a specification-to-CICS system group link record (LNKSxSCG) should affect the current members of the CICS system group. The keywords for the CREATE and REMOVE commands must be entered in uppercase letters and are as follows:

**CREATE**

Specify one of the following:

**FORCE**

All current members of the CICS system group should have implicit links established to the named specification. When a link already exists, it is replaced with the newly CREATED link.

**NULL**

Current members of the CICS system group should have implicit links established to the named specification only if no link already exists.

**NONE**

No implicit links should be established.

When you use the CREATE command, the default value for keyword2 is NONE

**REMOVE**

Specify one of the following:

**KEEP**

All implicit links are to be converted to explicit links.

**NONE**

No implicit links are to be converted to explicit links.

There is no default value for keyword2 when you use the REMOVE command; you must specify a value.

When you submit the batched repository-update job, the syntax of each command is checked for validity. If multiple commands are being issued, syntax checking can have the following results:

- When a LIST, DUMP, MAPLEFT or MAPRIGHT command is invalid, that command is not executed; processing of all subsequent commands continues .
- When a modification command (CREATE, UPDATE, or REMOVE) is invalid, that command is not executed. All subsequent modification commands are checked for validity; however, no subsequent modification commands are executed.

*Creating CICS resource definitions*

To create CICS resources, and optionally add them to a resource group in the data repository, use one or more control statements.

Control statements take the form:

```
CREATE object NAME(defname) DEFVER(version) [RESGROUP(resgroup)]
```

where:

**object**

Is one of the resource table names shown in [Table 1 on page 22](#) that represent a CICS resource type (such as CONNDEF).

**NAME(defname)**

Is the name of the resource definition you are creating.

**DEFVER(version)**

Is the version number in the range 1 - 15 of the resource definition you are creating.

If no version (DEFVER) is specified on the create of a CICS resource definition in BAS, it uses the default (0), as documented in the resource table. This means that CICSplex SM assigns the first available version number in the range 1 - 15. When all 1 through 15 are used, the create operation fails because it is not possible to create a new resource. For more information, see [Multiple versions of a resource definition](#).

**RESGROUP(resgroup)**

Is the name of an existing resource group in the data repository to which the resource definition should be added.

*Producing a map of CICSplex SM definitions*

In addition to creating and maintaining CICSplex SM definitions, you can produce a visual map of the definitions in the data repository.

To produce a map, use one or more control statements in the form:

```
command object NAME(defname)
```

where:

**command**

Is the name of a batched repository-update facility command, in uppercase letters. Specify one of the following:

**MAPLEFT**

To produce a map of the definitions to the left of the starting point; that is, those definitions that refer to the starting point.

**MAPRIGHT**

To produce a map of the definitions to the right of the starting point; that is, those definitions that are referred to by the starting point.

**object**

Is a resource table name that identifies the type of definition to be displayed in the map.

You can produce a map of the following definitions:

**Topology**

- CSYSDEF
- CSYSGRP
- PERIODEF

**Workload management**

- TRANGRP
- WLMDEF
- WLMGROUP
- WLMSPEC

**Real-time analysis**

- ACTION
- APSPEC
- EVALDEF

- RTADEF
- RTAGROUP
- RTASPEC
- STATDEF

### Resource monitoring

- MONDEF
- MONGROUP
- MONSPEC

### Business application services

- xxxxDEF (resource definitions such as FILEDEF)
- RESGROUP
- RESDESC
- RASGNDEF

### NAME

Is the field name of the key field for the resource being mapped. For all resources the key field name is NAME, with the following exceptions:

- The key field for CSYSGRP is GROUP.
- The key field for RESGROUP is RESGROUP.
- The key field for RESDESC is RESDESC.
- The key field for RASGNDEF is RESASSGN.

### defname

Is the specific or generic name of a definition that is to be the starting point for a map. If you enter a generic name, a map is produced for each definition whose name matches the pattern.

### Setting processing options for repository-update commands

The default behavior of batched repository-update commands can be modified by the OPTION command.

The format of the OPTION command is:

```
OPTION type keyword [keyword ...]
```

where

- *type* identifies the option which is being set.
- *keyword* specifies the value(s) to be set for an option type.

The following option types are currently supported:

### DUPREC

Specify how the CREATE command will handle the RECORD\_EXISTS condition. One of the following keywords must be specified:

#### REJECT (default)

The existing record is not modified; the BATCHREP input stream is flushed and no more commands are processed.

#### ABORT

The existing record is not modified; the job is terminated immediately.

#### SKIP

The existing record is not modified; processing continues with the next BATCHREP command.

#### UPDATE

The existing record is updated by redriving the CREATE command as if it were an UPDATE.

**Note:**

1. Several link type CICSplex SM resource tables do not support the UPDATE action. If a BATCHREP input stream that creates any of the following resource types must be restarted, OPTION DUPREC SKIP must be specified or the command retry will fail. Affected resource tables are:

- CMDMPAPS - APSPEC to Primary CMAS
- CMDMSAPS - APSPEC to Secondary CMAS
- CSGLCGCG - CICSGRP in CICSGRP
- CSGLCGCS - CICSSYS in CICSGRP
- LNKSxSCG - xxxSPEC to CICSGRP, where xxx is MON, RTA or WLM
- LNKSxSCS - xxxSPEC to CICSSYS, where xxx is MON, RTA or WLM

If a STATUS other than RECORD\_EXISTS is returned by the CREATE command, the command is not retried and all remaining commands in the input file are flushed.

Multiple OPTION commands can be placed in the BATCHREP input stream. An OPTION command affects all commands until another OPTION command is encountered for the same option type or the input command stream reaches end-of-file.

### ***Creating a data set for re-input to the batched repository-update facility***

You can create an output data set from the batched repository-update facility to hold the CREATE statements produced from DUMP commands.

This data set is in the correct format for re-input to the batched repository-update facility without further editing; that is, it does not contain heading lines and the data is aligned in the correct columns. Note, however, that you may still need to edit this output data to modify the context, group names, version numbers, and so on.

When you use the DUMP command (see [“Creating and maintaining CICSplex SM definitions” on page 13](#)), you may use the OUTPUT command to request that any resulting CREATE commands are written to an output data set, in addition to the normal report. The OUTPUT command must be the first command in the BATCHREP input data stream, to ensure that the command precedes any DUMP commands. You cannot specify more than one OUTPUT command.

**Note:** If a partitioned data set is used as the output data set, you must ensure that the data set has enough space to handle the output. A full partitioned data set without sufficient directory space may cause multiple abends resulting in the termination of the CMAS. To avoid multiple abends during CICS recovery, direct output to a sequential data set. If required, you can then copy the sequential data set output to a partitioned data set.

The format of the OUTPUT command is:

```
OUTPUT DATASET DSNAME(data.set.name(member)) INQUOTES( NO | YES );
```

where:

#### **DATASET**

This keyword must be specified.

#### **DSNAME**

Specifies a data set name. You must specify a data set name and the data set must exist. The output data set cannot be the same as the input data set. The data set must consist of fixed-length, 80-byte records; the records may be blocked and any block size is acceptable.

#### **data.set.name**

The data set name must not exceed 44 characters in length. Each component of the name cannot be more than 8 characters long, and the components must be separated by full stops. The data set name must be a fully-qualified data set name. The first component of the data set name does not default to the logged-on user id.

#### **member**

The member name, if the output data set is partitioned. The member name cannot be more than 8 characters long. The member name must be omitted if the output data set is not partitioned.

## INQUOTES(NO|YES)

Identifies whether or not you want field values enclosed in quotes on the output data set. You may need to use this control statement if you have any data on your data repository that contains unbalanced parentheses. If you omit this keyword, the default value of NO is assumed.

### NO

The values of parameters are not enclosed in quotes on the output data set. This setting is perfectly adequate for input to the batched repository-update facility, but you might encounter problems if the parameter values contain unbalanced parentheses.

Note that, if you specify INQUOTES(NO), the BATCHREP output can be used as input to any release of the CICSplex SM batched repository-update facility.

### YES

All values of parameters are enclosed in quotes on the output data set. The CICSplex SM batched repository-update facility terminates the parameter value at the final quote, not at an embedded parenthesis.

For example, suppose a DESCRIPTION field contains the value:

```
1) Describe Resource
```

If you specify INQUOTES(NO), which is the default, the DUMP routine will produce the following statement in the output data set:

```
DESCRIPTION(1) Describe Resource)
```

The CICSplex SM batched repository-update facility interprets this as a DESCRIPTION field containing the value 1, followed by two unrecognizable keywords.

If you specify INQUOTES(YES), the DUMP routine places quotes around the field value. The output data set would contain the statement:

```
DESCRIPTION('1) Describe Resource')
```

This statement is interpreted correctly by the CICSplex SM batched repository-update facility.

## ***Using the WUI to submit a batched repository-update (BATCHREP) job***

To submit a batched repository-update job using the WUI from the main menu (EYUSTARTMENU) click **Administration views > Batched repository update requests** This will display the **Batched repository update requests** view that allows you to view information about currently running batched repository-update jobs.

The following procedure allows you to submit a selected batched repository-update job:

1. Open the **Batched repository update requests** view.
2. Select the record you intend to submit and click Execute. This opens the **Execute** view. If no batched repository-update jobs are running then only the dummy stopped record is available for selection.

**Note:** Clicking the Check button opens the Check view which allows you to check the command format of all the input statements of the batched repository-update job.

3. Complete the Execute view by completing the following fields:

### **Input data set name**

Specify the name of the sequential or partitioned data set (PDS) containing the input to the batched repository-update job.

### **Input member name**

When using a PDS, specify the name of the member that contains the input to the batched repository-update job.

### **Print class**

(Optional.) Specify a 1-character class designation. If you omit a value, class A is assumed.

**Print node**

Specify the 8-character identifier of a designation node that the system spooler is to use to route the file.

**Destination userid**

Specify the 8-character identifier of the eventual writer program or of the user who will process the report for spooled records intended for the printer. The report will carry this identifier, which will be used to select the report at its destination.

4. Select Yes to submit the job.

To apply updates to a particular data repository, you must ensure that the WUI server is connected to the CMAS which is associated with the data repository you want to update.

**Related information**

[Submitting a batched repository-update \(BATCHREP\) job in the CICS Explorer product documentation](#)

***Using the batched repository-update utility***

The batched repository-update utility connects to a CMAS and submits batched repository (BATCHREP) updates to run in that CMAS.

To make batched repository updates to a particular data repository, run the utility so that it connects to, and submits batched updates to run in, the CMAS that is associated with the data repository you want to update.

To run the utility, prepare the necessary JCL and define the input parameters for the utility itself, such as the name of the CMAS associated with the data repository you want to update.

Here is an example of JCL to run the batched repository update utility:

```
//jobname JOB (acct), 'name', CLASS=x, MSGCLASS=x
//BTCHUPD EXEC PGM=EYU9XDBC, REGION=2048K
//STEPLIB DD DSN=CICSTS55.CPSM.SEYUAUTH, DISP=SHR
// DD DSN=CICSTS55.CPSM.SEYULOAD, DISP=SHR
//SYSPRINT DD SYSOUT=*
//SYSABEND DD SYSOUT=*
//SYSIN DD *
CMASNAME(EYUCMS1A)
CHECK
INPUTDSN(EXAMPLE.INPUT.DATASET)
INPUTMEMBER(MEMBER1)
OUTPUTUSER(EXUSER)
PRINTNODE(LOCAL)
/*
```

Here is an example of the output from the batched repository-update utility:

```
CICSplex/SM Batched Repository Update Utility
```

```
Parameters specified:
```

```
CMASNAME(EYUCMS1A)
CHECK
INPUTDSN(EXAMPLE.INPUT.DATASET)
INPUTMEMBER(MEMBER1)
OUTPUTUSER(EXUSER)
PRINTNODE(LOCAL)
```

```
EYUXD0908I A batched repository update has been submitted to run in CMAS EYUCMS1A.
```

The output of the batched repository-update utility is a short report that lists the input parameters and a message to show the CMAS in which the batched updates have been submitted. Review this output to verify the utility successfully submitted the batched updates in the CMAS.

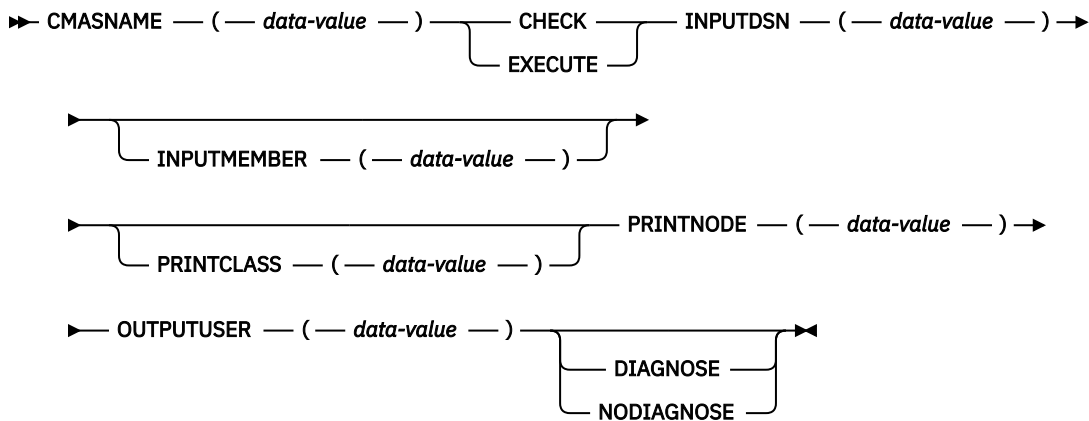
The batched updates that run in the CMAS produce output using the standard CICS spooling facilities. You must also review this second output to verify batched updates have run successfully.

### Batched repository-update utility parameters

This section describes the input parameters that you must specify to use the batched repository update utility. These parameters must be supplied in the SYSIN data set.

The following syntax rules apply:

- Parameters must be specified in uppercase
- Parameters can be specified in any order
- A given parameter must be specified once only in a given SYSIN stream
- A given parameter must appear all on one line
- Spaces will be ignored
- An asterisk (\*) as the first character will mean that the line is ignored.



The parameters can be specified as follows :

#### CMASNAME

Specifies the 1-to-8 character name of a CMAS to which the utility is to connect and whose data repository is to be modified by the batched repository update processing. This parameter is mandatory. It is this CMAS in which batched repository update processing takes place and from which output is produced by the CICS spooling facilities.

#### CHECK or EXECUTE

Must be specified for the type of run. CHECK specifies a syntax check of the input file and EXECUTE specifies the commands in the input file that must be executed. These keywords are mutually exclusive.

#### INPUTDSN

Specifies a 1-to-44 character string for the data set name of a sequential data set or a PDS that contains the input to the batched repository update processing. The CMAS must have access to the data set specified via the INPUTDSN parameter. This parameter is mandatory.

#### INPUTMEMBER

Specifies a 1-to-8 character name of a member when using a PDS that contains the input file. This parameter is optional.

#### PRINTCLASS

Specifies a 1-character print class identifier. This parameter is optional. The default is A.

#### PRINTNODE

Specifies a 1-to-8 character print node identifier to be used by the system spooler for routing the job output. This parameter is mandatory.

#### OUTPUTUSER

Specifies a 1-to-8 character user identifier to be associated with the spooled output. This parameter is mandatory.

## DIAGNOSE

Intended for use only under guidance by IBM service personnel.

## NODIAGNOSE

Intended for use only under guidance by IBM service personnel.

## **BATCHREP supported resource tables**

Most CICSplex SM resource tables are supported by the batched repository update facility.

Table 1 on page 22 lists the CICSplex SM resource tables that you can process using the batched repository update facility.

Resource type	Table name	Definitions affected
Configuration	CMTCMDEF	CMAS-to-CMAS definitions
Configuration	CMPMDEF	CMAS-to-remote MAS definitions
Configuration	CPLEXDEF	CICSplex definitions
Configuration	JVMSVDEF	Definition that describes a JVM server
Configuration	MQMONDEF	Properties of a WebSphere® MQ monitor
Topology	CSGLCGCG	Association between a CICS system group and a CICS system group
Topology	CSGLCGCS	Association between a CICS system and a CICS system group
Topology	CSYSDEF	CICS systems
Topology	CSYSGRP	CICS system groups
Topology	PERIODEF	Time periods
Topology	SYSLINK	System links
Workload management	DTRINGRP	Association between a transaction and a transaction group
Workload management	LNKSWSCG	Association between a workload specification and a CICS system group
Workload management	LNKSWSCS	Association between a workload specification and a CICS system
Workload management	TRANGRP	Transaction groups
Workload management	WLMDEF	Workload definitions
Workload management	WLMGROUP	Workload groups
Workload management	WLMINGRP	Association between a workload definition and a workload group
Workload management	WLMINSPC	Association between a workload group and a workload specification
Workload management	WLMSPEC	Workload specifications
Real-time analysis	ACTION	Action definitions
Real-time analysis	APSPEC	Analysis point specifications
Real-time analysis	CMDMPAPS	Association between a primary CMAS and an analysis point specification



Table 1. Resource table names (continued)

<b>Resource type</b>	<b>Table name</b>	<b>Definitions affected</b>
Real-time analysis	CMDMSAPS	Association between a secondary CMAS and an analysis point specification
Real-time analysis	EVALDEF	Evaluation definitions
Real-time analysis	LNKSRSCG	Association between an analysis specification and a CICS system group
Real-time analysis	LNKSRSCS	Association between an analysis specification and a CICS system
Real-time analysis	RTADEF	Analysis definitions
Real-time analysis	RTAGROUP	Analysis groups
Real-time analysis	RTAINAPS	Association between an analysis group and an analysis point specification
Real-time analysis	RTAINGRP	Association between an analysis definition and an analysis group
Real-time analysis	RTAINSPC	Association between an analysis group and an analysis specification
Real-time analysis	RTASPEC	Analysis specifications
Real-time analysis	STAINGRP	Association between a status definition and an analysis group
Real-time analysis	STATDEF	Status definitions
Monitor	LNKSMSCG	Association between a monitor specification and a CICS system group
Monitor	LNKSMSCS	Association between a monitor specification and a CICS system
Monitor	MONDEF	Monitor definitions
Monitor	MONGROUP	Monitor groups
Monitor	MONINGRP	Association between a monitor definition and a monitor group
Monitor	MONINSPC	Association between a monitor group and a monitor specification
Monitor	MONSPEC	Monitor specifications
Business application services	APPLDEF	Application definitions
Business application services	ATMINGRP	Association between an Atom document definition and a resource group
Business application services	BUNINGRP	Association between a bundle definition and a resource group
Business application services	CONINGRP	Association between an MRO or ISC over SNA connection definition and a resource group
Business application services	DOCINGRP	Association between a document template definition and a resource group

Table 1. Resource table names (continued)

Resource type	Table name	Definitions affected
Business application services	D2CINGRP	Association between a DB2® connection definition and a resource group
Business application services	D2EINGRP	Association between a DB2 entry definition and a resource group
Business application services	D2TINGRP	Association between a DB2 transaction definition and a resource group
Business application services	EJCINGRP	Association between a CorbaServer definition and a resource group
Business application services	EJDINGRP	Association between a DJAR definition and a resource group
Business application services	ENQINGRP	Association between an ENQ/DEQ model definition and a resource group
Business application services	FILINGRP	Association between a file definition and a resource group
Business application services	FNOINGRP	Association between a FEPI node definition and a resource group
Business application services	FPOINGRP	Association between a FEPI pool definition and a resource group
Business application services	FPRINGRP	Association between a FEPI property set definition and a resource group
Business application services	FSGINGRP	Association between an OS/2 file segment definition and a resource group
Business application services	FTRINGRP	Association between a FEPI target definition and a resource group
Business application services	IPCINGRP	Association between an IPIC connection definition and a resource group
Business application services	JRMINGRP	Association between a journal model definition and a resource group
Business application services	JMSINGRP	Membership of a JVMSERVER definition (JVMSVDEF) in a resource group
Business application services	LIBINGRP	Association between a LIBRARY definition and a resource group
Business application services	LSRINGRP	Membership of an LSR pool definition in a resource group
Business application services	MAPINGRP	Association between a map set definition and a resource group
Business application services	MQCINGRP	Association between a IBM MQ connection definition and a resource group
Business application services	MQMINGRP	Membership of a WebSphere MQmon definition (MQMONDEF) in a resource group
Business application services	PARINGRP	Association between a partner definition and a resource group

Table 1. Resource table names (continued)

<b>Resource type</b>	<b>Table name</b>	<b>Definitions affected</b>
Business application services	PGMINGRP	Association between a program definition and a resource group
Business application services	PIPINGRP	Association between a pipeline definition and a resource group
Topology	PLATDEF	Platform definitions
Topology	PLATFORM	Platforms
Business application services	PRCINGRP	Association between a process type definition and a resource group
Business application services (continued)	PRNINGRP	Association between a partition set definition and a resource group
Business application services (continued)	PROINGRP	Association between a profile definition and a resource group
Business application services (continued)	RASGNDEF	Resource assignments
Business application services (continued)	RASINDSC	Association between a resource assignment and a resource description
Business application services (continued)	RESDESC	Resource descriptions
Business application services (continued)	RESGROUP	Resource groups
Business application services (continued)	RESINDSC	Association between a resource group and a resource description
Business application services (continued)	RQMINGRP	Association between a request model definition and a resource group
Business application services (continued)	SESINGRP	Association between a session definition and a resource group
Business application services (continued)	TCLINGRP	Association between a transaction class definition and a resource group
Business application services (continued)	TCPINGRP	Association between a TCP/IP service definition and a resource group
Business application services (continued)	TDQINGRP	Association between a transient data queue definition and a resource group
Business application services (continued)	TRMINGRP	Association between a terminal definition and a resource group
Business application services (continued)	TRNINGRP	Association between a transaction definition and a resource group
Business application services (continued)	TSMINGRP	Association between a temporary storage model definition and a resource group
Business application services (continued)	TYPINGRP	Association between a typeterm definition and a resource group
Business application services (continued)	URIINGRP	Association between the universal resource identifier definition and a resource group

*Table 1. Resource table names (continued)*

<b>Resource type</b>	<b>Table name</b>	<b>Definitions affected</b>
Business application services (continued)	WEBINGRP	Association between a web services definition and a resource group

Table 1. Resource table names (continued)

Resource type	Table name	Definitions affected
Business application services (continued)	<ul style="list-style-type: none"> <li>• ATOMDEF</li> <li>• BUNDDEF</li> <li>• CONNDEF</li> <li>• DB2CDEF</li> <li>• DB2EDEF</li> <li>• DB2TDEF</li> <li>• DOCDEF</li> <li>• EJCDEF</li> <li>• EJDJDEF</li> <li>• ENQMDEF</li> <li>• FENODDEF</li> <li>• FEPOODEF</li> <li>• FEPRODEF</li> <li>• FETRGDEF</li> <li>• FILEDEF</li> <li>• FSEGDEF</li> <li>• IPCONDEF</li> <li>• JRNMDEF</li> <li>• LSRDEF</li> <li>• LIBDEF</li> <li>• MAPDEF</li> <li>• MQCONDEF</li> <li>• PARTDEF</li> <li>• PIPEDEF</li> <li>• PROCDEF</li> <li>• PROFDEF</li> <li>• PROGDEF</li> <li>• PRTNDEF</li> <li>• RASGNDEF</li> <li>• RQMDEF</li> <li>• SESSDEF</li> <li>• TCPDEF</li> <li>• TDQDEF</li> <li>• TERMDEF</li> <li>• TRANDEF</li> <li>• TRNCLDEF</li> <li>• TSMDEF</li> <li>• TYPTMDEF</li> <li>• URIMPDEF</li> <li>• WEBSVDEF</li> </ul>	<ul style="list-style-type: none"> <li>• Atom document definitions</li> <li>• Bundle definitions</li> <li>• Connection definitions</li> <li>• Db2® connection definitions</li> <li>• Db2 entry definitions</li> <li>• Db2 transaction definitions</li> <li>• Document template definitions</li> <li>• CorbaServer definitions</li> <li>• DJAR definitions</li> <li>• ENQ/DEQ model definitions</li> <li>• FEPI node definitions</li> <li>• FEPI pool definitions</li> <li>• FEPI property set definitions</li> <li>• FEPI target definitions</li> <li>• File definitions</li> <li>• OS/2 file segment definitions</li> <li>• IPIC connection definitions</li> <li>• Journal model definitions</li> <li>• LSR pool definitions</li> <li>• LIBRARY definitions</li> <li>• Mapset definitions</li> <li>• IBM MQ connection definitions</li> <li>• Partner definitions</li> <li>• Pipeline definitions</li> <li>• Process type definitions</li> <li>• Profile definitions</li> <li>• Program definitions</li> <li>• Partition set definitions</li> <li>• Resource assignments definitions</li> <li>• Request model definitions</li> <li>• Session definitions</li> <li>• TCP/IP service definitions</li> <li>• Transient data queue definitions</li> <li>• Terminal definitions</li> <li>• Transaction definitions</li> <li>• Transaction class definitions</li> <li>• Temporary storage model definitions</li> <li>• Typeterm definitions</li> <li>• Universal resource identifier definitions</li> <li>• Web services definitions</li> </ul>

**Note:** The information displayed in the **CICS resource definitions in group** (RESINGRP) view can be found separately in the xxxINGRP resource table for each resource type.

### **Examples of managing records in the data repository**

The following examples illustrate how you might create, remove, list, and dump definition records in the data repository, and add a CICS system to a CICS system group.

#### *Example 1 - Creating a record*

To create a workload specification, you can use the **Workload management (WLM) specification** (EYUSTARTWLMSPEC.CREATE) WUI view or the batched repository-update facility.

[Figure 1 on page 28](#) illustrates how to specify information when preparing a batched repository-update job:

```
/* after setting context, create workload specification */
CONTEXT EYUPLX01;
CREATE WLMSPEC NAME(EYUWMS01) DESC(Sample description)
              AFFINITY(USERID)
              AFFLIFE(SIGNON)
              MATCH(USERID)
              AORSCOPE(EYUCSG01)
              EVENTNAME(PAGERATE)
              ABENDCRIT(0)
              ABENDTHRESH(0)
              ALGTYPE(Queue);
```

*Figure 1. Using the batched repository-update facility to create a WLM specification*

#### *Example 2 - Removing a record*

These examples illustrate how to remove a record from the data repository.

To remove the workload specification named EYUWMS01, you might specify:

```
CONTEXT EYUPLX01;
REMOVE WLMSPEC NAME(EYUWMS01);
```

To remove the BAS PROGDEF named EYUPROG1, you might specify:

```
CONTEXT EYUPLX01;
REMOVE PROGDEF NAME(EYUPROG1)
              DEFVER(1);
```

#### *Example 3 - Creating a link record*

This example illustrates how to create a link record in the data repository.

To create a link called WLMSPC01 between a workload specification and a CICS system group, you might specify:

```
CREATE LNKSWSCG SPEC(WLMSPC01)
              GROUP(EYUCSG01)
              FORCE;
```

#### *Example 4 - Listing records*

This example illustrates how to list selected records in the data repository.

To list all workload specification records that have names beginning with EYU, you would specify:

```
CONTEXT EYUPLX01;
LIST WLMSPEC NAME(EYU*);
```

[Figure 2 on page 29](#) illustrates the output format of records that you list from the data repository.

Note that the output produced by the DUMP control statement is very similar; the major difference being that the word CREATE precedes the resource table name. If you use the OUTPUT command, the DUMP command will produce both a report, as illustrated in [Figure 2 on page 29](#), and a data set, which contains the CREATE commands in a form suitable for re-input to the CICSplex SM batched repository-update facility; see [“Example 6 - Dumping records as input to create new records” on page 29](#).

CICSplex SM - Repository Process Report

```

Input DSN:      CPSM.BATCH.SAMPLE          Input Member: TEST

CONTEXT EYUPLX01;
LIST WLMSPEC NAME(EYU*);
EYUXU0218I  CVMBBC Batch LIST request complete - Status(OK)
Last Change:  9/06/93 21:18:25.85895
              WLMSPEC NAME(EYUWMS02)
                DESC(Sample definition 1)
                AFFINITY(USERID)
                AFFLIFE(SIGNON)
                MATCH(USERID)
                AORSCOPE(EYUCSG01)
                EVENTNAME(PAGERATE)
                ABENDCRIT(0)
                ABENDTHRESH(0)
                ALGTYPE(GOAL)
                ;

Last Change:  8/14/93 15:27:05.34023
              WLMSPEC NAME(EYUWMS03)
                DESC(Sample definition 2)
                AFFINITY(GLOBAL)
                AFFLIFE(PERMANENT)
                MATCH(N/A)
                AORSCOPE(EYUCSG01)
                EVENTNAME( )
                ABENDCRIT(0)
                ABENDTHRESH(0)
                ALGTYPE(N/A)
                ;
    
```

Figure 2. Sample output produced when listing data repository definitions

**Note:** In the EYUWMS03 record in Figure 2 on page 29, EVENTNAME is an example of a keyword that has no value; MATCH and ALGTYPE are examples of keywords with a value of N/A.

*Example 5 - Dumping records as a backup*

This example illustrates how to back up selected records in the data repository.

To back up all of the workload management records in the data repository, you would specify:

```

CONTEXT EYUPLX01;
DUMP WLMSPEC NAME(*);
DUMP WLMGROUP NAME(*);
DUMP WLMDEF NAME(*);
DUMP TRANGRP NAME(*);
DUMP DTRINGRP TRANGRP(*);
DUMP WLMINGRP GROUP(*);
DUMP WLMINSPC NAME(*);
    
```

*Example 6 - Dumping records as input to create new records*

The OUTPUT command causes all CREATE records to be written to data set EYUIR01.MYOUT1.

To dump all versions of the CICS resource definitions in the correct order, directly to a data set that is to be resubmitted as input for creating new records, you would specify the following:

```

OUTPUT DATASET DSNAME(EYUIR01.MYOUT1) INQUOTES(NO);
CONTEXT EYUPLX01;
DUMP CSYSDEF NAME(*);
DUMP CSYSGRP GROUP(*);
DUMP RESGROUP RESGROUP(*);
DUMP RESDESC RESDESC(*);
DUMP RASGNDEF RESASSGN(*);
DUMP RASINDSC RESDESC(*);
                RESASSGN(*);
DUMP RESINDSC RESDESC(*);
                RESGROUP(*);
DUMP CONNDEF NAME(*);
DUMP SESSDEF NAME(*);
DUMP xxxDEF NAME(*);
    
```

```

DUMP CONINGRP CONNGROUP(*)
                CONNNAME(*) ;
DUMP SESINGRP SESSGROUP(*)
                SESSNAME(*) ;
DUMP xxxINGRP  xxxxGROUP(*)
                xxxxNAME(*) ;
.
.
.
DUMP SYSLINK  FROMCSYS(*)
                TOCSYS(*) ;

```

where:

- xxxxDEF is the CICS resource definition type. Examples are CONNDEF, FILEDEF, and MAPDEF, the xxxx string representing either a 3- or 4- character string and is the same for xxxxDEF, xxxxNAME, and xxxxGROUP.
- xxxxNAME is the name of the CICS resource definition, given as an attribute in the xxxINGRP resource table.
- xxxxGROUP is the name of the resource group to which the resource definition belongs, given as an attribute in the xxxINGRP resource table.
- xxxINGRP is the CICSplex SM Business Application Services definition describing the membership of the CICS resource definition in a resource group. Examples are CONINGRP, FILINGRP, and MAPINGRP.

**Note:** The xxxxDEF and xxxINGRP resource tables also include version attributes, which enable you to process a specific version of the record. You can specify:

- DEFVER(n) for an xxxxDEF record
- xxxxVER(n) for an xxxINGRP record

#### *Example 7 - Adding a CICS system to a CICS system group*

This example illustrates how to add a CICS system to a system group.

To add a CICS system to a CICS system group associated with a monitor specification, and to create the link between the CICS system and the monitor specification, you might specify:

```

CONTEXT EYUPLX01;
CREATE CSGLCGCS GROUP(EYUCSG01) CICSNAME(EYUMAS1A);
CREATE LNKMSCS SPEC(MONSPC01) SYSTEM(EYUMAS1A);

```

When used to create a CICS system to CICS system group link record (CSGLCGCS) with the system group already associated with a specification, the batched repository-update facility does not create a specification-to-CICS system link record (LNKSxSCS). To associate the CICS system with the specification, the LNKSxSCS record must be created explicitly.

## Managing a CMAS configuration

You can get information about managing a CMAS configuration by clicking **CICSplex SM operations**.

From this menu you can open the following CMAS configuration views:

- CMASs known to local CMAS
- CICSplexes managed by CMAS
- CMASs managing CICSplex
- CMAS to CMAS links
- CMAS to MAS links



## CMAS configuration definitions and their related views

CMAS configuration definitions are stored in the data repository associated with the CMAS identified as the maintenance point for the CICSplex. This CMAS ensures that any other CMASs involved in managing the CICSplex also know about the configuration definitions.

Figure 3 on page 31 illustrates the relationship between a CMAS configuration and the WUI views used to create and maintain that configuration.

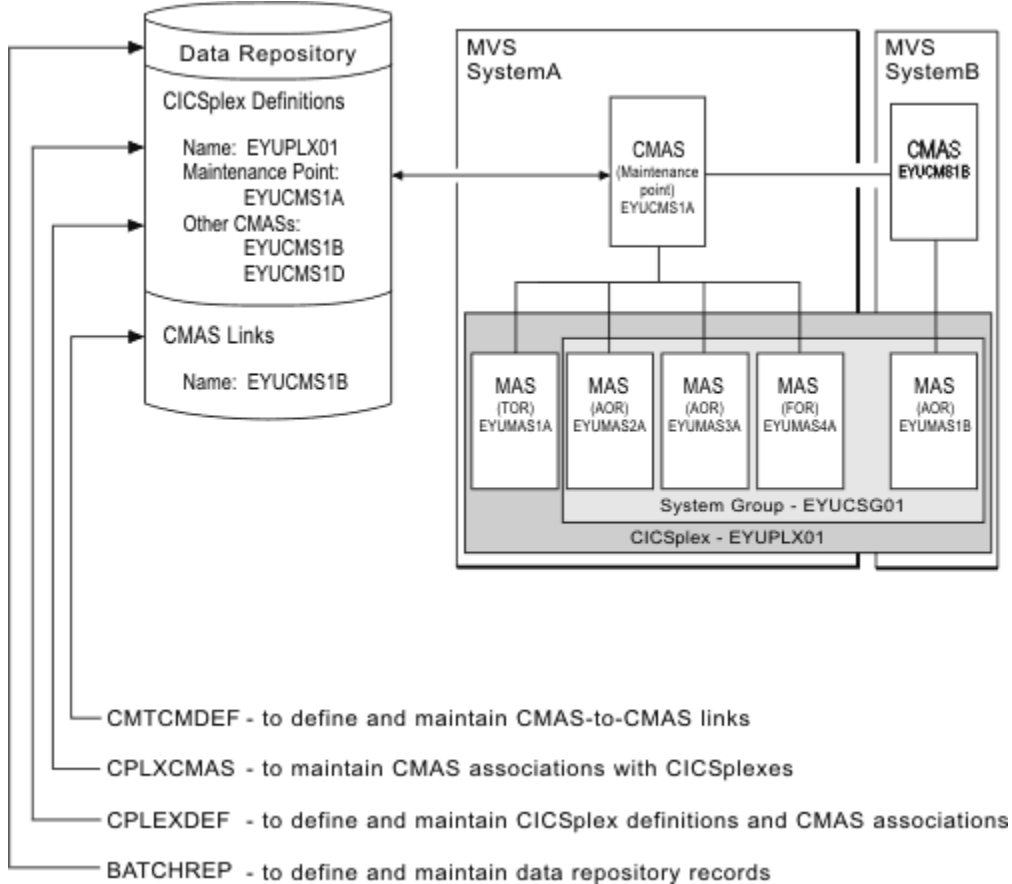


Figure 3. Defining a CMAS configuration

Additional views that you can use to manage configuration definitions once their associated CMASs or CICS systems are active are described in “Managing a CMAS configuration” on page 30.

Online help is available for each view and for the fields in each view. You can access CMAS configuration views from the main menu by clicking **Administration > CMAS configuration administration**. For additional information about accessing these views, see “Accessing Web User Interface administration views” on page 1 and the detailed description of each view.

**Remember:** Unless noted otherwise, only the context setting is recognized when you are creating and maintaining configuration definitions. For additional information about setting the context to a CMAS, see “Setting the CMAS context, context and scope” on page 1.

## Working with maintenance point CMASs

A CMAS provides the single-system image of the CICS systems comprising each CICSplex it manages.

To do this, the CMAS uses the CICSplex SM definitions stored in the data repository. There is one data repository for each CMAS that you establish.

When a CICSplex consists of a large number of CICS systems or when the systems are spread across multiple MVS™ images, you may want multiple CMASs to be involved in managing the CICSplex. In cases like this, one of the CMASs is identified as the *maintenance point* for the CICSplex. The maintenance point

CMAS is responsible for informing the other CMASs when any administration definitions relating to the CICSplex are added, updated, or changed. This ensures that the data repository for each CMAS involved in managing a CICSplex contains the same information.

If the maintenance point CMAS is unavailable when you attempt to perform an administration task, you will see an error message to this effect at the top of the related tabular view. Click the error message number to display the full text of message, which contains explanatory information and help on how to proceed.

**Note:** When the maintenance point becomes available, you must remember that any changes made while the maintenance point CMAS was unavailable will be ignored.

You can remove the association between a CMAS and a CICSplex, as long as the CMAS is not the maintenance point for the CICSplex.



**CAUTION:** Do not change the maintenance point CMAS for a CICSplex. If you need to move the maintenance point CMAS from one z/OS image to another, submit the existing CMAS to run on the new z/OS image without changing any of its attributes.

Each CMAS is identified by four attributes:

- jobname
- VTAM® applid
- CICSplex SM name
- CICS SYSIDNT

Although it is possible to change the *jobname* and z/OS Communications Server *applid* of a CMAS, it is not possible to change the CICSplex SM name and the CICS SYSIDNT. If it is necessary to have a different CICSplex SM name or CICS SYSIDNT for a CMAS, you must create a new CMAS with the attributes you want.

If you must change the CICSplex SM name and/or CICS SYSIDNT of the maintenance point CMAS, which creates a different CMAS to be the maintenance point CMAS, you need to remove the CICSplex and all of its associated definitions from the data repository and redefine them to the new CMAS, as follows:

1. Display the **Administration > CMAS configuration administration > CMAS in CICSplex definitions** view (CPLXCMAS object). Set the **CMAS context** field to the old maintenance point CMAS and the **CICSplex** field to the name of the CICSplex, then click **Refresh**. A list of all CMASs that participate in the management of the CICSplex is displayed.
2. Terminate normally all CMASs that participate in the management of the CICSplex. To do this:
  - From the main menu, click **CICSplex SM operations > CMASs known to local CMAS**.
  - Click a CMAS name to display the **CMAS detail** view (CMAS object).
  - Click the **Shutdown...** button. The **Shutdown** view is displayed. Click **Yes** to confirm that the CMAS is to be shut down.
  - Repeat this process for each CMAS participating in the management of the CICSplex.

Alternatively, you can use either the CICSplex SM API equivalent or the COSD transaction. It is imperative that you terminate the CMASs normally to ensure the integrity of the data repositories for the next step.

3. Back up the data repositories for each CMAS that participates in the management of the CICSplex.
4. Start all CMASs that currently participate in the management of the CICSplex.
5. With the context set to the old maintenance point CMAS, use the batched repository-update facility DUMP command to extract all the CICSplex SM definitions associated with the CICSplex from the data repository.

See the description of the DUMP command in [“Creating and maintaining CICSplex SM definitions” on page 13](#) for guidance on ordering the command. This also describes possible editing requirements for the command output before it can be used as input in creating the new maintenance point CMAS.

Also, see [“Creating a data set for re-input to the batched repository-update facility”](#) on page 18 for further guidance.

6. If the WUI server is defined as a MAS within the CICSplex, leave it running. Ensure that all other MASs for the CICSplex are terminated. You can verify this through the **MASs known to CICSplex** view (MAS object), specifying the CICSplex as the context and scope for the view.
7. Ensure that all CMASs that participate in the management of the CICSplex are active and connected, either directly or indirectly, to the maintenance point CMAS. You can verify this through the **CICSplex SM operations > CMASs known to local CMAS** view (CMASLIST object), with the context set to the old maintenance point CMAS.
8. With the context still set to the old maintenance point CMAS, use the **Administration > CMAS configuration administration > CMAS in CICSplex definitions** view (CPLXCMAS object) to completely remove all non-maintenance point CMASs from the CICSplex.
9. If the WUI server is not defined as a MAS within the CICSplex, use the **Administration > CMAS configuration administration > CICSplex definitions** view (CPLEXDEF object) view to remove the CICSplex definition from the data repository.  
  
If the WUI server is a MAS within the CICSplex, terminate the WUI server. Then use a CICSplex SM API program to issue a REMOVE action against the CPLEXDEF definition for the CICSplex.  
  
All of the topology, workload management, real-time analysis, resource monitoring, and business application services definitions associated with that CICSplex are also removed from the data repository.
10. Terminate all CMASs in the network, whether or not they participate in the management of the CICSplex, by using the CICSplex SM API or the COSD transaction.
11. Start the CMAS that is to be defined as the new maintenance point for the CICSplex.
12. With the context set to the CMAS that is to be the new maintenance point for the CICSplex, use the EYU9XDBT utility to create the CICSplex definition on the new maintenance point CMAS. An example of using the EYU9XDBT DEFINE CICSplex command is included in the EYUJXBT1 sample. That sample goes on to define CICS regions and groups. You just need to define the CICSplex.
13. Using the output from the DUMP command, submit a batched repository-update facility job to re-create all the CICSplex SM definitions for the CICSplex on the new CMAS data repository. For an example of using DUMP output from the batched repository-update facility to create new definitions, see [“Examples of managing records in the data repository”](#) on page 28.
14. With the maintenance point CMAS still active, start all the other CMASs in the network.
15. For each CMAS that should have a connection to the maintenance point CMAS, use the EYU9XDBT utility to create the CMTCMDEF definitions.
16. Start a WUI server that is accessible from the new maintenance point CMAS either within the CICSplex you are moving or in a separate CICSplex.
17. With the CMAS context set to the new maintenance point CMAS, use the WUI **Administration > CMAS configuration administration > CICSplex definitions** view (CPLEXDEF object) to assign the non-maintenance point CMASs to the CICSplex.
18. Update the EYUPARMS for all MASs that are to connect to the maintenance point CMAS, ensuring that if CMASYSID is specified, it points to the maintenance point.
19. Start the MASs that are included in the CICSplex.

## Managing CMAS to CMAS links

To manage the direct LU 6.2 and MRO communication links between the local CMAS and any other CMAS, you can use the **CMAS to CMAS link definitions - CMTCMDEF** view. This view allows you to create, update and remove links.

To access this view, from the main menu, click **Administration views > CMAS configuration administration views > CMAS to CMAS link definitions**.

## Updating a CMAS to CMAS link definition description

Follow this procedure to update a CMAS to CMAS link definition description in the data repository.

1. Select a link definition from the **CMAS to CMAS link definitions** view and click the **Update** action button.

The **CMAS to CMAS link definitions** create panel is displayed containing details of the selected link. You can modify only the Description field.

2. Update the description and click **Yes** to update the link definition in the data repository.

## Removing a CMAS to CMAS link definition description

Follow this procedure to remove a CMAS link definition from the data repository of the local CMAS.

1. Select a link definition from the **CMAS to CMAS link definitions** view and click **Remove**.

A confirmation panel is displayed.

2. Click **Yes** to remove the link definition from the data repository or click **No** to return.

## Managing CMAS restarts

When you restart a CMAS in a CICSplex environment, the restart might be a cold or warm start, depending on whether the data spaces that the CMAS used previously still exist. You should be aware of the circumstances under which a cold or warm start occurs and the difference between cold and warm starts.

When the CMAS starts, if no data spaces that the CMAS used the last time it was active still exist, the start is a *CMAS cold start*; if such data spaces exist, the start is a *CMAS warm start*.

**Note:** You cannot specify whether the restart of a CMAS is a cold or warm start. The CICS **START** system initialization parameter does not affect the restart of a CMAS in a CICSplex.

The CICSplex SM data spaces are associated with CICSplex SM components. There are two types of CICSplex SM data spaces:

### Private data spaces

Data spaces that are used by the CMAS only

### Shared data spaces

Data spaces that are shared with both the MAS and batch API address spaces that connect to the CMAS

*Table 2. Types of CICSplex SM data spaces and associated components.* The table lists, by the data space type, CICSplex SM components and the associated data spaces. In the table, *x* in the data space prefix is a number ranging from one up to the number of data spaces that are allocated for the component. The Data Cache Manager component has only one data space. The data space names are all suffixed by the CICS **SYSDNT** parameter for the CMAS.

Type of data spaces	Component name	Data space prefix
<b>Private</b>	<ul style="list-style-type: none"><li>• Business Application Services</li><li>• Communications</li><li>• Monitor Services</li><li>• Real-time analysis</li></ul>	<ul style="list-style-type: none"><li>• BASx</li><li>• COMx</li><li>• MONx</li><li>• RTAx</li></ul>

*Table 2. Types of CICSplex SM data spaces and associated components. The table lists, by the data space type, CICSplex SM components and the associated data spaces. In the table, x in the data space prefix is a number ranging from one up to the number of data spaces that are allocated for the component. The Data Cache Manager component has only one data space. The data space names are all suffixed by the CICS **SYSDNT** parameter for the CMAS. (continued)*

Type of data spaces	Component name	Data space prefix
<b>Shared</b>	<ul style="list-style-type: none"> <li>• Data Cache Manager</li> <li>• Data Repository</li> <li>• Managed Application System</li> <li>• Queue Manager</li> <li>• Topology Services</li> <li>• Workload Manager</li> </ul>	<ul style="list-style-type: none"> <li>• DMDS</li> <li>• DATx</li> <li>• MASx</li> <li>• QUEx</li> <li>• TOPx</li> <li>• WLMx</li> </ul>

### When does a CMAS warm start occur

When a CMAS terminates, private data spaces are deleted, but shared data spaces are deleted only when no encumbrances are held on the shared data spaces. If the shared data spaces still exist by the time the CMAS is restarted, a CMAS warm start occurs.

When each MAS or batch API address space connects to the CMAS, the MAS or batch API address space has access to and holds an encumbrance on the shared data spaces.

For a MAS, the encumbrance lasts until the MAS is terminated or until the MAS agent within the MAS is terminated.

For a batch API address space, the encumbrance lasts until the batch API address space terminates, or until every thread that is created by the address space is either disconnected by the **EXEC CPSM DISCONNECT** command or terminated by the **EXEC CPSM TERMINATE** command.

If any MAS or batch API address space encumbrances exist when the CMAS terminates, the shared data spaces are not deleted. If the encumbrances still hold when the CMAS is restarted, the restart is a warm start.

### When does a CMAS cold start occur

If no MAS or batch API address space encumbrances exist when the CMAS terminates, both the private and shared data spaces are deleted upon the termination of the CMAS. Any subsequent CMAS start is a cold start because no data spaces are active.

If there are encumbrances on the CMAS but the encumbrances end before the CMAS is restarted, the restart is a cold start.

### What is the difference between a cold start and a warm start

For a cold start, the CMAS creates both the private and shared data spaces. For a warm start, the CMAS creates the private data spaces, retains the DMDS, DATx, WLMx, and MASx shared data spaces, but deletes and re-creates the QUEx and TOPx shared data spaces.

Generally, it does not matter whether a CMAS restart is a cold or warm start.

The CICSplex SM system parameter **CACHEDSNUM** can be changed only on a CICSplex SM CMAS cold start.

### How do you ensure that a CMAS cold start occurs

If you need to perform a CMAS cold start, you must ensure that the data spaces for the CMAS no longer exist before starting the CMAS. So, after the CMAS, the connected MAS regions, and all batch

API programs are terminated, issue the MVS display job command for the Environment Services System Services (ESSS) address space on the LPAR. With this command, you can verify that the WLM data spaces are deleted. The format of this command is as follows:

```
D J,EYUXvrm
```

where *vrm* is the CICSplex SM release number of the CMAS. For example, for CICSplex SM V5R5M0, the command is `D J,EYUX550`. This command shows the data spaces for the specified CICSplex SM release on that LPAR.

To know what encumbrances exist for a CMAS, run the CICSplex SM EYU9XENF utility. This utility displays all CMASs that are connected to the ESSS, even though some might have already terminated. For each listed CMAS, this utility also displays the MAS and API address spaces that are still connected to the shared data spaces of the CMAS.

## Managing CICSplex definitions

To display information about the CICSplexes associated with the local CMAS click **Administration views—>CMAS configuration administration views—>CICSplex definitions**. This tabular view lists the CICSplexes defined to the local CMAS.

### Unassigning a CMAS from a CICSplex definition

When you remove a CMAS involved in managing a CICSplex, the action you take depends on the state of communications between the CMAS to be removed and the maintenance point CMAS.

Before you use the unassign action ensure that there are no active MASs in the updated CICSplex connected to the CMAS to be removed.

- When the CMAS to be removed **is** currently accessible, or will be accessible later, to the maintenance point CMAS you must do the following:

- Select the check box associated with the CMAS to be removed and click **Unassign**
- Click **Yes** to remove the selected CMAS from the CICSplex

This action causes the selected CMAS to be immediately removed from the management of the CICSplex in the data repository for the maintenance point CMAS. Then, if the selected CMAS is currently accessible, its data repository is updated to reflect this change; otherwise, the action is placed in a pending status until the selected CMAS becomes accessible.

- When the CMAS **is not** currently accessible and will never be accessible to the local CMAS, do the following:

- Select the check box associated with the CMAS to be removed and click **Unassign**
- Select the **FORCE** check box from the **Unassign** view
- Click **Yes** to remove the selected CMAS from the CICSplex

This action causes the selected CMAS to be removed from the management of the CICSplex in the data repository for the maintenance point CMAS. Because the selected CMAS is not accessible, the data repository for the selected CMAS is not altered to reflect this change.

**Note:** You cannot remove the association between a CICSplex and the maintenance point CMAS. If you determine that a different CMAS should be the maintenance point CMAS for the CICSplex, the entire CICSplex and all of its definitions must be deleted and recreated on the new maintenance point CMAS.

## Managing topology definitions

You can manage topology definitions in the WUI using a series of views accessed by clicking **Administration views > Topology administration views**.

**Reminder:** Unless noted otherwise, only the context setting is recognized when you are creating and maintaining topology definitions.

The remainder of this section describes how to use the WUI to perform topology tasks.

## Topology definitions

Topology definitions are stored in the data repositories for all CMASs participating in the management of the CICSplex.

Figure 4 on page 37 illustrates the relationship between the topology definitions establishing a CICSplex and the views used to create and maintain those definitions. For additional information about the data repository, see “Working with maintenance point CMASs” on page 31.

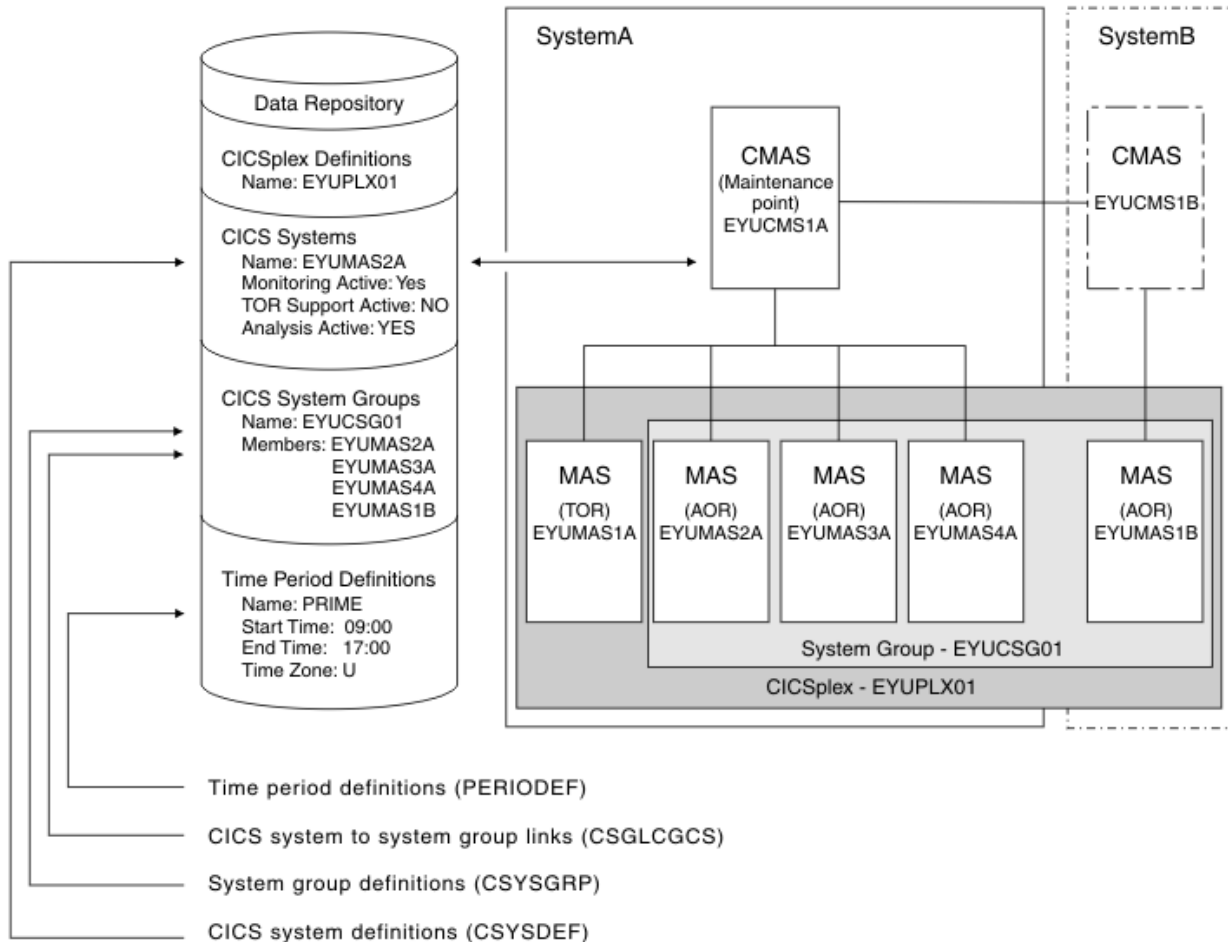


Figure 4. The relationship between CICSplex components and the topology views

In addition, you can use the **CICSplex SM operations views > MASs known to CICSplex** (EYUSTARTMAS) view to manage an active CICS system as described in “Working with MAS topology definitions” on page 46.

**Note:** Using the **Administration views > RTA system availability monitoring > CICS system definitions** and **Administration views > RTA system availability monitoring > Time period definitions** views to update definitions affects both a currently running system and the definitions in the data repository.

## Managing CICS system group definitions

A CICS system group identifies a subset of the CICS systems comprising a CICSplex. Each subset can consist of one or more CICS systems, CICS system groups, or both. They are referred to as the *members* of a CICS system group.

## Working with CICS system definitions

In order to be managed by CICSplex SM, a CICS system must be associated with a CICSplex that is defined to CICSplex SM.

## Managing time period definitions

A time period definition identifies a specific range of hours and minutes. These definitions are used with resource monitoring and real-time analysis to designate when specific actions are to start and stop.

### ***Creating time period definitions***

Some CICSplex SM functions can be activated and deactivated automatically at specific times.

For example, you can tell CICSplex SM to install a particular monitor definition at 10:45 and remove it at 15.00. You define these from-and-to times to CICSplex SM via time period definitions. It is a good idea to create some standard time period definitions when you first define your CICSplex configuration to CICSplex SM.

In this example, you will see how to create typical time period definitions for the prime shift, for the lunch period, and for the evening hours.

1. Display any time period definitions already defined for PLXPROD1.
  - a. From the main menu click **Administration > Monitor administration > Time periods** to open the **Time period definitions** tabular view.
  - b. If the context is not PLXPROD1, specify PLXPROD1 in the **Context** field and click **Refresh**. The context is then fixed for all subsequent views and menus until changed.
2. Create a new time period definition.
  - a. Click **Create** to open the **Time period definitions** create view.
  - b. Provide the following information:

**Name**

PDFPRIME

**Description**

Prime shift

**Start time**

08:30

**End time**

18:00

**Time zone**

R

**Time zone adjustment factor**

0

**Note:** As you are creating this definition for a standard time zone, you do not need to specify a zone adjustment.

- c. Click **Yes** to confirm. The **Time period definitions** tabular view is redisplayed showing an entry for PDFPRIME.
3. Create a second time period definition.
    - a. Select the entry for PDFPRIME in the **Time period definitions** view, and click **Create**. The create time period definition panel is displayed, showing values from the PDFPRIME time period definition.



- b. Type PDFLUNCH in the **Name** field, 12:00 in the **Start time** field, 14:30 in the **End time** field, and "Lunch time" in the **Description** field. The two time zone fields are as they were for PDFPRIME.
  - c. Click **Yes** to confirm. The **Time period definitions** view is redisplayed.
4. Repeat step "3" on page 38 to create a time period definition called PDFEVENG, with a Start Time of 17:30 and an End Time of 23:59.
  5. Update a time period definition.

Suppose that now you want to alter the PDFPRIME definition to change the end time to 17:30. On the **Time period definitions** view, select the entry for PDFPRIME and click **Update**. Overtyping the **End time** value with 17:30 and clicking **Yes**. The change takes effect immediately, and the **Time period definitions** view is redisplayed showing the updated definition.

### Creating a time period definition

Follow this procedure to create a time period definition in the data repository.

#### Procedure

1. Click **Administration > Topology administration > Time periods**.  
The **Time period definitions** tabular view is shown, which displays a summary any time period definitions already defined.
2. If you want to use some of the information from an existing definition in the creation of your new definition, select an existing definition by selecting a check box in the **Record** column.
3. Click the **Create** button.  
The **Time period definitions** create panel is shown.
4. Provide the required information, as appropriate.  
See [Time periods - PERIODEF](#) for a description of the fields.
5. Click **Yes**.

#### Results

The new time period definition is added to the data repository and the **Time period definitions** panel is redisplayed.

#### Time zone codes

Time zone codes represent the single-character Greenwich codes, which are based on the 24 standard international time zones. Each code indicates the time zone's relationship to Greenwich Mean Time (GMT).

Table 3 on page 39 identifies the time zone codes that you can use in a time period definition.

Table 3. Time zone codes

Code	GMT offset	Description	Code	GMT offset	Description
A	n/a	Current local time*	N	-12	(West of date line)
					<b>Note:</b> Time zone A can be specified only in a period definition
B	+1	Central European time	O	-11	Bering standard time
C	+2	Eastern Europe	P	-10	Hawaii standard time
D	+3	Arabia	Q	-9	Alaska standard time
E	+4	Mauritius, United Arab Emirates	R	-8	Pacific standard time
F	+5	Pakistan	S	-7	Mountain standard time

Table 3. Time zone codes (continued)

Code	GMT offset	Description	Code	GMT offset	Description
G	+6	Bay of Bengal	T	-6	Central standard time
H	+7	Thailand	U	-5	Eastern standard time
I	+8	Philippines	V	-4	Atlantic standard time
J	+9	Japan	W	-3	Greenland
K	+10	Eastern Australia	X	-2	Azores
L	+11	New Caledonia	Y	-1	West Africa
M	+12	New Zealand (East of date line)	Z	0	Greenwich mean time (GMT)

#### How CICS honors time zone settings in a period definition

When you use a period definition for time zone A, the time all events controlled by this period definition become active or inactive differs from that of time zone B - Z.

#### For time zone A

When a period definition is for time zone A, all events controlled by that period definition become active at the same *clock* time, based upon the start time specified in the period definition, and the time zone, time zone adjustment, and daylight saving indicator within the entity (CMAS or CICS system).

Similarly, events become inactive at the same *clock* time, based upon the end time specified in the period definition, and the time zone, time zone adjustment, and daylight saving indicator within the entity (CMAS, or CICS system).

If events controlled by a period definition for time zone A do not become active or inactive when you expect, confirm that the daylight saving indicator within the CMAS or CICS system is set appropriately. See also [“Handling daylight saving time changes for CICSplex SM”](#) on page 40.

#### For time zone B - Z

When a period definition is for a time zone other than time zone A, all events controlled by that period definition become active at exactly the same *real time*, regardless of the time zone in which the events are occurring. The activation time is based upon the period definition's start time, time zone, and time zone adjustment. Similarly, events controlled by that period definition become inactive at the same *real time*, based upon the period definition's ending time, time zone, and time zone adjustment. For both activation and deactivation, the time zone specified refers to the standard time for that time zone, regardless of whether daylight saving time is in effect.

The daylight saving indicator has no effect for period definitions that use time zones B - Z.

For more information about the time zone attributes and their use, see [“CICSplex SM time zone attributes”](#) on page 42.

#### Handling daylight saving time changes for CICSplex SM

For sites in locations that observe daylight saving time, you must consider how to adjust and synchronize the CICS local time of all affected CMASs, MASs, and CICSplex SM WUI regions with the z/OS MVS system time when daylight saving time starts or ends.

#### About this task

Consider the following questions:

#### How the CMAS is to adjust its local system time, following the z/OS system time change for daylight saving?

As is instructed in [CMAS-related CICS system initialization parameters](#), you should use the system initialization parameter **AUTORESETTIME=IMMEDIATE** for the CMAS so that the local system time of

the CMAS is synchronized with the z/OS system time immediately whenever you alter the system date or time-of-day in the MVS TOD clock while the CMAS is running.

**AUTORESETTIME=IMMEDIATE**, the default, makes CICS issue a **PERFORM RESET** command to synchronize the CICS time-of-day with the system time-of-day if, at the next task attach, the CICS time-of-day differs from the system time-of-day.

Although **AUTORESETTIME** has alternative settings as described in [Effect of daylight saving time changes](#), it is not recommended to use them for the CMAS.

**How the CICSplex SM WUI region is to adjust its local system time, following the z/OS system time change for daylight saving?**

The requirement to use **AUTORESETTIME=IMMEDIATE** also applies to the CICSplex SM WUI region affected by daylight saving. For more information, see [Effect of daylight saving time changes](#) and [Reviewing CICS system initialization parameters for the WUI](#).

**How the MAS is to adjust its local system time, following the z/OS system time change for daylight saving?**

**AUTORESETTIME=IMMEDIATE** is the default. But you can opt to use any one of the **AUTORESETTIME** settings for the MAS affected by daylight saving. For details, see [Effect of daylight saving time changes](#).

**How to set the CICSplex SM daylight saving time zone attributes?**

You must modify the daylight saving indicator for all affected CMASs and MASs twice a year for sites in locations that observe daylight saving time. This ensures that the CMAS time zone values, which are used in time zone calculations for time-based operations that the CMAS performs for its Monitor Services and Real-time analysis (RTA) components, are correct.

When daylight saving time starts or ends, you must specify the corresponding value in the **DAYLIGHT** attribute of the affected CMAS to reflect the time changes. If the time zone attributes of a MAS are set to **INHERIT**, you do not need to modify the MAS because any changes to the time zone values of the controlling CMAS automatically apply to the MAS.

However, if the MAS does not inherit the time zone values from the controlling CMAS, you must update the **Daylight saving in effect** (**DAYLGHTSV**) attribute of the MAS.

**Note:** The **TMEZONE**, **TMEZONEO**, and **DAYLGHTSV** attributes in the **CplexDEF**, **CplxCMAS**, and **EPlexCHG** resource tables are for documentation purposes only; these attributes are not used in time zone calculations.

**Procedure**

1. Ensure that the local system time of the CMAS and that of the WUI region are synchronized with the z/OS system time when daylight saving time starts or ends.
  - If **AUTORESETTIME=IMMEDIATE** is in effect for the CMAS and the WUI region, the local system time is adjusted automatically with the z/OS MVS system time.
  - If an alternative **AUTORESETTIME** setting is in effect for the CMAS and the WUI region, ensure that you have a process in place to guarantee that a manual **CEMT PERFORM RESET** or **EXEC CICS PERFORM RESETTIME** command is issued immediately after altering the MVS TOD clock.
2. Specify the **Daylight saving time** (**DAYLIGHT**) attribute in the CMAS operations resource table of the CMAS.

Ensure that the CMAS is active when you make the update.

To set this attribute, you can use the **CMAS detail** (CMAS) view in the WUI, or perform a SET operation on the CMAS operations resource table.

*Table 4. Specification of Daylight saving time (DAYLIGHT)*

<b>Daylight saving indicator for CMAS</b>	<b>When daylight saving time starts</b>	<b>When daylight saving time ends</b>
Daylight saving time (DAYLIGHT)	YES	NO

This operation updates the current execution of the CMAS. The update is also propagated to the CMASDEF definition resource table for the CMAS, so the updated DAYLIGHT value is effective on subsequent restarts of the CMAS.

- For every MAS that does not inherit the time zone values from the CMAS, specify the **Daylight saving in effect** (DAYLGHTSV) attribute in the CSYSDEF definition resource table of the MAS.

To set this attribute, you can use the **CICS system definitions** (CSYSDEF) view in the WUI, or perform an UPDATE operation on the CSYSDEF definition resource table.

Table 5. Specification of **Daylight saving in effect** (DAYLGHTSV)

<b>Daylight saving indicator for MAS</b>	<b>When daylight saving time starts</b>	<b>When daylight saving time ends</b>
Daylight saving in effect (DAYLGHTSV)	YES	NO

The update takes effect the next time the CICS region or the MAS agent in the CICS region is restarted, and is effective for all subsequent restarts.

**Note:** If a MAS is active when you update the CSYSDEF definition resource table, the update is not propagated to the current execution of the MAS.

- If a MAS is active, you can apply the daylight saving update to the active MAS without restarting the CICS region or MAS agent by specifying the **Daylight saving in effect** (DAYLGHTSV) attribute in the MAS operations resource table of the MAS.

To update an active MAS, you can use the **MASs known to CICSplex** (MAS) view in the WUI, or perform a SET operation on the MAS operations resource table.

This operation updates the current execution of the MAS.

## What to do next

If your CMAS and WUI server fail to synchronize with the z/OS MVS system time, this might result in symptoms such as abend AICG or BATCHREP commands receiving timeout. To resolve this problem, you must reset the internal CICS clock for the affected CMAS and WUI region by using the **CENT PERFORM RESET** command.

### **CICSplex SM time zone attributes**

CICSplex SM uses three attributes to facilitate timing services.

These attributes and their available values are:

#### **Time Zone**

B through Z

#### **Time Zone Offset**

0 through 59 minutes

#### **Daylight saving in effect**

YES or NO

These attributes are used to help CICSplex SM:

- Standardize relative time values within a CICSplex
- Control CICSplex SM monitor intervals
- Schedule time-started monitor definitions, analysis definitions, and status definitions
- Schedule the time during which System Availability Monitoring (SAM) is active.

These attributes are specified for the following CICSplex SM definitions:

## **CMAS**

Using the CICSplex SM EYU9XDUT utility.

## **CICSplex**

Using the **CICSplex definitions** (CPLEXDEF) view.

## **CICS system**

Using the **CICS system definitions** (CSYSDEF) view.

## **Time period**

Using the **Time period** (PERIODEF) view.

### *Attribute definitions*

Three attributes facilitate timing services.

These attributes are defined as follows:

### **Time Zone**

CICSplex SM uses the international standard for time zones. This consists of 24 zones around the world, separated in time by 60 minutes each. The standard for these zones is the prime meridian, and time at the prime meridian is referred to as Greenwich Mean Time (GMT).

The area having Greenwich Mean Time is referred to as time zone Z. The next time zone to the east, where time is 60 minutes (one hour) *ahead of* GMT, is time zone B. When GMT is 12:00 noon, the time in time-zone B is 13:00. The next time zone to the east, 120 minutes (two hours) ahead of GMT, is time zone C. For each time zone to the east, time advances one hour, until time zone M, where local time is 12 hours ahead of GMT. Time zone M is at the international date line.

The next time zone east, time zone N, is (like time zone M) separated from GMT by 12 hours. However, because it is considered to be on the opposite side of the international date line from time zone M, it is 12 hours *behind* GMT. Similarly, the next time zone east, time zone O, is 11 hours behind GMT. When GMT is 12:00 noon, the time in time zone O is 01:00. For each time zone to the east, one hour is subtracted, until time zone Y, which is one hour behind GMT.

Note that there is no time zone A.

### **Time Zone Adjustment**

Some locations around the world have implemented times that are different from GMT by times that are not 60 minute multiples. For situations such as these, CICSplex SM uses a time zone adjustment. To define the time zone of such a location to CICSplex SM, the time zone of the next lowest 60 minute multiple is used, and the difference, in minutes, between the 60 minute multiple and the location's time is entered as the Time Zone Adjustment. For example, when the time is 13:00 in London, England (this is GMT, or time zone Z), it is 22:00 in Tokyo, Japan (time zone J), and 22:30 in Adelaide, Australia. To define Adelaide's location to CICSplex SM, the time zone is specified as time zone J, and the time zone adjustment is specified as 30 (to indicate that the time in Adelaide has 30 minutes *added to* the time in the adjacent time zone to the west).

### **Daylight saving**

Some locations around the world modify their time offset from GMT twice a year. Usually, the first change occurs in March or April, when local standard time (LST) is moved *ahead* by one hour, creating local daylight saving time (LDST). For locations in time zones Z through M, LDST is one hour farther ahead of GMT. For locations in time zones N through Y, LDST is one hour closer to GMT. In October or November, locations that use LDST usually change back to LST. Time in these locations then reverts to the standard difference from GMT.

For operation of CICSplex SM, sites in locations that make use of LDST *must* modify all CMASs and MASs twice a year. This means indicating YES to daylight saving when LDST is in effect, and NO when LST is in effect. When the daylight saving indicator is NO, CICSplex SM considers an entity in that time zone to be the normal number of hours from GMT. When the daylight saving indicator is YES, CICSplex SM considers that entity to be one hour further ahead of GMT (than during standard time) for time zones Z through M, and one hour closer to GMT for time zones N through Y.

To change the LDST for a CMAS, set the **DAYLIGHT** attribute in the CMAS operation resource table. This change updates the current execution of the CMAS and is propagated to the CMASDEF definition resource table for the CMAS so that the LDST change is effective on subsequent restarts of the CMAS.

If a MAS inherits the time zone attributes from its controlling CMAS, that is, the **TMEZONE**, **TMEZONEO**, and **DAYLIGHTSV** attributes in the CSYSDEF definition resource table for the MAS specify **INHERIT**, the LDST for a MAS is automatically updated when the LDST is updated for the CMAS to which the MAS is connected. Otherwise, you must update the LDST for the MAS.

To change the LDST for a MAS, set the **DAYLIGHTSV** attribute in the CSYSDEF definition resource table. This change takes effect the next time the CICS region or the MAS agent in the CICS region is restarted, and is effective for all subsequent restarts. If a MAS is active when its CSYSDEF definition resource table is updated, the CSYSDEF change is not effective on the active MAS. If you want to change the LDST for an active MAS without restart, you must set the **DAYLIGHTSV** attribute in the MAS operation resource table.

For details, see [“Handling daylight saving time changes for CICSplex SM”](#) on page 40.

**Note:** After changing the system time to adjust for LDST, all CMAS must synchronize with the change. If the CICS system initialization parameter **AUTORESETTIME** takes the default value **IMMEDIATE** or is set to **IMMEDIATE**, the synchronization automatically takes place when the next task is attached in the CMAS. Otherwise, you need to issue the **PERFORM RESETTIME** command in the CMAS. For more information about the **AUTORESETTIME** parameter, see [Effect of daylight saving time changes](#).

#### *Attribute usage*

You make use of the three attributes that facilitate timing services when you specify the following definitions:

#### **CMAS**

In order to ensure consistent timing services, CICSplex SM requires that the attribute settings within a CMAS accurately reflect the time in effect for the location in which that CMAS executes.

There are three uses for these attributes in a CMAS:

- To coordinate time services throughout a CICSplex, CICSplex SM bases all of its timing on GMT. When a CMAS is started, CICSplex SM calculates how a standard hardware clock must be modified to achieve GMT. This is done in one of two ways, depending upon the setting of the MVS CVT data field CVTTZ:
  - When the CVTTZ data field is non-zero, CICSplex SM assumes that the hardware clock value is GMT, and does not modify it.
  - When the CVTTZ data field is zero, CICSplex SM uses the time zone, time zone adjustment, and daylight savings indicator in the CMAS to calculate the value needed to modify the hardware clock.

Note that the contents of the CVTTZ data field are based upon the SYS1.PARMLIB(CLOCKxx) member:

- If the CLOCKxx member indicates that the Sysplex Timer is in use, the CVTTZ data field is set based upon the contents of the Sysplex Timer.
- If the CLOCKxx member indicates that the Sysplex Timer is not in use, the CVTTZ data field is set based upon the contents of the CLOCKxx member TIMEZONE operand.
- When an analysis definition or status definition is installed within an analysis point specification that is controlled by the CMAS, and the definition is scheduled for a timed install (because the definition is associated with a period definition), then the time zone, time zone adjustment and daylight savings indicator of the CMAS determine when the definition is installed, provided that the period definition indicates that the install time should be local time.
- When a CICS system is defined to CICSplex SM, the time zone, time zone adjustment and daylight savings indicator can be explicitly set, or they can be inherited from the CMAS to which the CICS system connects.

## CICSplex

Because a CICSplex may encompass many different time zones, and in order to ensure consistency within the CICSplex, it is required that a single set of attributes be chosen to represent the CICSplex. It is not necessary that the attributes chosen match the attributes of the maintenance point CMAS of the CICSplex, or any other CMAS.

There is one use for the time zone attributes in a CICSplex:

- When a CICSplex becomes active, and monitoring will be active, a monitor interval is determined based upon the setting in the CICSplex definition. This monitor interval is used to reset monitor data collected from CICS system. Because each CMAS in the CICSplex stores the monitor data for the CICS systems connected to it, in order for all monitor data within the CICSplex to be consistent the reset takes place at all CMASs at exactly the same real time, regardless of the locations of the CMASs. To compute the time for the reset, the time zone attributes of the CICSplex are used.

## CICS system

Unlike the attribute requirements for a CMAS, the time zone attributes for a CICS system can be set to reflect a location different from that where the CICS system actually executes. For example, if the system executes in one time zone, but is primarily used by operators in another time zone, you may prefer to set the attributes to match the time zone of the operators, instead of matching the time zone where the system executes. CICSplex SM supports either actual or logical attributes for CICS systems.

There are three uses for these attributes in a CICS system:

- When a monitor definition is installed within a monitor specification within the CICS system, and the monitor definition is scheduled for a timed install (because the monitor definition is associated with a period definition), the time zone, time zone adjustment and daylight savings indicator of the CICS system are used to determine when to install the definition, provided that the period definition indicates that the install time should be local time.
- When an analysis definition or status definition is installed within an analysis specification within the CICS system, and the analysis definition is scheduled for a timed install (because the definition is associated with a period definition), the time zone, time zone adjustment, and daylight savings indicator of the CICS system are used to determine when to install the definition, provided that the period definition indicates that the install time should be local time.
- When a CICS system has System Availability Monitoring (SAM) active (the CICS system definition contains both a primary CMAS and an active period), the time zone, time zone adjustment, and daylight savings indicator of the CICS system are used to determine when the system should be active, provided that the period definition indicates that the time period should be local time.

## Period definition

Period definitions are used by CICSplex SM to schedule timed events. A period definition is defined as a starting time, an ending time, and time zone attributes. Period definitions use only two of the time zone attributes: the time zone and the time zone adjustment.

There are three uses of period definitions:

- For System Availability Monitoring (SAM). This occurs when both a primary CMAS and a period definition are associated with a CICS system definition.

**Note:** If no **Period definition name** is specified in the **Administration views > System availability monitoring administration views > CICS system definition** detail view (CICSSYS in the end user interface), SAM is not activated for that CICS system.

- For timed install of monitor definitions. This occurs when a period definition is associated with a monitor definition when the monitor definition is added to a monitor group, and the monitor group is installed into a CICS system.
- For timed install of analysis definitions and status definitions. This occurs when a period definition is associated with an analysis definition or a status definition when the definition is added to an analysis group, and the analysis group is installed into a CICS system or an analysis point specification.

For a period definition, there are two differences from other uses of the time zone attributes:

- Time zone A is accepted by a period definition. Use of time zone A indicates that the time associated with the period definition reflects the local time of the entity (CMAS or CICS system).
- When a period definition is defined with a time zone of A, the time zone adjustment specified in the period definition is ignored.

When a period definition is for time zone A, all events controlled by that period definition become active at the same *clock* time, based upon the start time specified in the period definition, and the time zone, time zone adjustment, and daylight saving indicator within the entity (CMAS or CICS system). Similarly, events become inactive at the same *clock* time, based upon the end time specified in the period definition, and the time zone, time zone adjustment, and daylight saving indicator within the entity (CMAS or CICS system).

When a period definition is for a time zone other than time zone A, all events controlled by that period definition become active at exactly the same *real* time, regardless of the time zone in which the events are occurring. The activation time is based upon the period definition's start time, time zone, and time zone adjustment. Similarly, events controlled by that period definition become inactive at the same *real* time, based upon the period definition's ending time, time zone, and time zone adjustment. For both activation and deactivation, the time zone specified refers to the standard time for that time zone (LST), regardless of whether daylight saving time is in effect.

## Working with MAS topology definitions

This section describes how you can obtain information about active CICS systems using the **MASs known to CICSplex** (EYUSTARTMAS) view.

### Stopping an active MAS

Follow these steps to stop MAS agent code within an active CICS system.

1. Click **CICSplex SM operations view > MASs known to CICSplex**.

This opens the **MASs known to CICSplex** tabular view, which displays information about CICS systems that are known to the CICSplex identified as the context.

2. Select one or more of the listed CICS systems.
3. Click **Stop** and confirm the action by clicking **Yes** on the confirmation screen.

**Note:** When the **Workload manager status field** for a CICS system contains **YES**, you may not be able to stop the MAS agent code. If the CICS system is acting as a requesting region, you cannot stop the MAS agent code. (To determine which CICS systems are acting as requesting regions, click **Active workloads (WLM) > Active workload target distribution factors**.)

If you want to stop the MAS agent code in a CICS system of this type, you must first change the dynamic routing program to something other than EYU9XLOP. (You can use the **CICS regions** view to change the dynamic routing program.)

### Updating an active MAS

Follow this procedure to update an active MAS.

Any changes that you make to a CICS system definition take effect immediately. They remain in effect as long as the CICS system is active or until you change them again.

**Note:** If you turn on workload management, real-time analysis, or resource monitoring from these panels, their status will not be shown as active until the component is fully initialized.

1. Click **CICSplex SM operations view > MASs known to CICSplex**.

This opens the **MASs known to CICSplex** (MAS) view, which displays information about CICS systems that are known to the CICSplex identified as the context.



2. Click the **CICS system name** column of one of the listed active CICS systems to open the **MASs known to CICSplex** detail view. On this view you can update monitoring, RTA and WLM status of the selected active CICS system. You can also alter time zone and security attributes.

For more information about the Time Zone, Time Zone Offset, and Daylight Time attributes, see the description of CICSplex SM time zone attributes in [“CICSplex SM time zone attributes”](#) on page 42.

3. To apply the changes you have made to the active CICS system, click **Apply changes**. The changes take effect immediately and remain in effect until you change them or the CICS system stops.

## Enabling a CMAS to send generic alerts to NetView

This example task is part of a larger, real-time analysis task that requires you to update a CMAS definition. This example illustrates only the CMAS-related part of the task.

If you want CICSplex SM to send SNA generic alerts to NetView®, the NetView program to program interface (PPI) must be activated in the relevant CMAS. (This is the CMAS on the same MVS image as the NetView instance.) This example shows how to activate the NetView PPI in a given CMAS, CMSSYS1.

1. First, check that the context is correct (CMSSYS1 in this example). If it is not, change the context field to CMSSYS1 in the current view and click **Set**. The context is then fixed for all subsequent views and menus until changed.
2. Display the CMAS definition.
  - a. From the main menu click **CICSplex SM operations views** → **CMASs known to local CMAS** to open the **CMASs known to local CMAS** tabular view.
  - b. If the context is not CMSSYS1, specify CMSSYS1 in the **Context** field and click **Refresh**. The context is then fixed for all subsequent views and menus until changed.
  - c. Locate the entry for CMSSYS1 and click **Local** in the **Type of access** field to open the **CMAS detail** view.
3. Update the CMAS definition.

On the **CMAS detail** view locate the **Netview PPI to be used** field and change the entry from **No** to **Yes**. Scroll to the bottom of the view and click **Apply changes**. The view is redisplayed, showing the updated value. The NetView PPI interface is now activated.

## Administering CICSplex SM operations

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CICSplex SM operations views describe those Web User Interface (WUI) views that support day-to-day operation and management of the CICS resources in an enterprise.

It is intended for CICS operators who are responsible for running CICS-supplied transactions, such as the CICS Main Terminal Transaction (CEMT), to manage CICS resources.

The CICSplex SM views mirror the functionality currently provided for CICS systems. In other words, operators can work in essentially the same way as they do now without any change in their basic approach to daily system activities. The greatest benefit of the CICSplex SM views, however, is that they can be used to control the operation of multiple CICS systems and their resources from a single session, as if they were a single CICS system.

## Controlling CICS resources

The CICSplex SM operations views provide a single-system image of all the CICS resources in a CICSplex.

You can use the operations views to perform the following tasks:

- Enable and disable resources
- Open and close resources
- Acquire and release resources
- Place resources in or out of service

- Purge tasks associated with a resource
- Discard resource definitions from the CICS system where they are installed
- Change various resource attributes
- Shut down a CICS system

## Availability for CICS releases

Some views, action commands, or fields are not available for all of the supported CICS releases. If a view is not available for all supported CICS releases, the **Availability** section of the view set description identifies the CICS releases for which the view set is generally available. The online help for views, actions, and fields also provides availability information. When you display a view and your CICSplex includes systems running a release of CICS for which that view is not available, those systems are not included in the view.

## Example operations tasks

Step-by-step examples of some typical operations tasks help you to use the WUI operations views more effectively.

For any operations task, you must be aware of the scope, that is, of the CICS systems, with which you are working: if the scope is a single CICS system, any data you retrieve from CICSplex SM relates to that single system; if the scope is a group of CICS systems, the data relates to all of the systems in the group; if the scope is a CICSplex, the data relates to every system in that CICSplex. For all of these examples, the initial scope is CICSplex PLXPROD1.

## Finding out how many tasks are associated with a transaction

This example shows how to find out how many tasks are associated with a transaction from the Sale example application in CICSplex PLXPROD1.

**Prerequisite:** To follow the example, the Sale example application needs to be installed in the CICS systems. See [The Sale example application](#) for more details. Enter transaction PAY1 at one or more terminals of the CICS systems being used.

This example assumes that you are interested to find out how many tasks are associated with transaction PAY1 throughout the CICSplex PLXPROD1

1. If the current context isn't PLXPROD1, on the main menu, set the **Context field** to PLXPROD1.
2. From the main menu, click **Active tasks** to display the **Active tasks** tabular view (TASK object), which shows all the active tasks for CICSplex PLXPROD1.
3. Type PAY1 into the **Transaction** field and click **Refresh**. The **Active tasks** tabular view is redisplayed, showing only those tasks associated with transaction ID PAY1. A message at the top and bottom of the display tells you how many tasks are active and the number of pages.
4. Click the Summarize icon at the top of the **Task ID** column. The **Active tasks** tabular view is redisplayed showing the summarized task data. The record count field gives the number of tasks associated with PAY1 throughout the CICSplex.

## Identifying the tasks associated with a transaction

In this example, you'll see how to identify the tasks associated with an instance of a transaction from the Sale example application in CICSplex PLXPROD1.

**Prerequisite:** To follow the example, the Sale example application needs to be installed in the CICS systems. See [The Sale example application](#) for more details. Enter transaction PAY1 at one or more terminals of the CICS systems being used.

1. If the current context isn't PLXPROD1, on the main menu, type PLXPROD1 into the **Context** field and click **Refresh**.

2. From the main menu, click **Active tasks**. The **Active tasks** tabular view, showing the status of all tasks in the current scope, is displayed.
3. Assume that you are interested in transaction PAY1 in CICS system CICSPA01. Type these values into the **Transaction** and **Scope** fields and click **Refresh**.
4. Click the **Task ID** to display the **Active tasks** detailed view.
5. Scroll down the display to the **Local unit of work (UOW) ID** field, and note or copy its value. An example value could be one similar to 8286F48104090001.
6. From the main menu, click **CICS operations > Unit of Work (UOW) operations views > Unit of work**. The **Unit of work** tabular view is displayed.
7. Type or paste the UOW ID into the **Local unit of work (UOW) ID** field and click **Refresh**. You can summarize the **Unit of work** tabular view by clicking the **Summarize** icon at the top of the **Local unit of work (UOW) ID** column, but as this view typically covers a large number of pages, it is quicker to use the **Local unit of work (UOW) ID** field.

Note that if monitoring is inactive in a CICS system, the network Unit of Work ID is not available.

## Relating a set of tasks to a user ID

In this example, you'll see how to identify the tasks associated with particular user ID.

1. If the current context isn't PLXPROD1, on the main menu, type PLXPROD1 into the **Context** field and click **Refresh**.
2. From the main menu, click **Active tasks**. The **Active tasks** tabular view, showing the status of all tasks in the current scope, is displayed.
3. To summarize the list of tasks by User ID, click the Summarize icon at the top of the **User ID** column. The **Active tasks** tabular view, showing the TASK data summarized by user ID, is displayed. The **Record count** column tells you how many tasks are associated with each user ID.
4. To display a list of tasks associated with a single user ID, click on record count for the user. The **Active tasks** tabular view is redisplayed showing just the tasks associated with that user.

## Checking the status of a terminal

This example shows some of the ways in which you can check the status of a terminal.

To display information about all the terminals in the current context:

- From the main menu, set the **Context** field to PLZPROD1 and click **Refresh**, if necessary.
- Click **Terminals** to display the **Terminals** tabular view (TERMNL object).
- Type the terminal ID into the **Terminal ID** and click **Refresh**. The **Terminals** tabular view is redisplayed showing the status of each terminal for each CICS system it is logged on to: if a terminal is logged on to three CICS systems, it will have three entries in the **Terminals** tabular view.
- If you don't know the terminal ID, but are interested in terminals related to a particular user ID, click the Summarize icon at the top of the **User ID** column. Click the **Record count** field to redisplay the **Terminals** tabular view showing the terminals associated with a particular user.

## Checking the status of a communications link

This example shows how you can check the status of a communications link.

1. If the current context isn't PLXPROD1, from the main menu type PLXPROD1 into the **Context** field and click **Refresh**.
2. From the main menu, click **ISC/MRO connections**. This view shows all the connections in the current scope.
3. Use the **Connection ID** and **Net Name** fields to refine the display.
4. To display details of a single connection, click the **Connection ID** field to display the detailed view.

## Finding out which CICS systems a file is available to

This example shows how to identify the CICS systems that are able to use a particular file.

1. If the current context isn't PLXPROD1, from the main menu type PLXPROD1 into the **Context** field and click **Refresh**.
2. To display a list of local files, from the main menu, click **Local files**. The **Local files** tabular view (LOCFILE object) is displayed.
3. Refine the display using the **File ID**, **Enablement status** and **Open status** fields. Note that you do not have to use a specific file name; you can use generic names with wild card characters, for example PAY\* to display all files that have PAY as the first three characters of their names.

## Correlating local and remote file names

In this example, you'll see how to relate the name by which a particular file is known in a local CICS system to the name by which it is known in a remote CICS system.

1. If the current context isn't PLXPROD1, from the main menu, type PLXPROD1 into the **Context** field and click **Refresh**.
2. To display a list of remote file definitions, from the main menu, click **Remote files**. The **Remote files** tabular display (REMFIL object) is displayed.

You can learn several things from this **Remote files** view:

- You can see the number of remote-file definitions installed in CICSplex PLXPROD1, the names by which these files are known, for example PAYFILER, and the systems in which the remote file definitions are installed, for example CICSPA01 and CICSPAY02.
  - The **Remote file names** field contains the name by which the files are known in the CICS systems in which these are *local* files; for example, both files are known as PAYFILE1.
  - The name of the connection, for example AF01, between the CICS systems in which these files are known as local files. (This latter value is referred to as the "remote system name", but in fact it is a connection ID.)
3. Use connection name AF01 to find out the name of the remote CICS system.
    - From the main menu, click **ISC and MRO connections** to display the **Connections** tabular view.
    - If necessary, you can refine the data displayed by typing AF01 into the **Connection ID** field and clicking **Refresh**.
    - Note the remote system name for the connection, for example CICSFA01, which is given in the **Net name** field.
  4. The next step is to look at all local files called PAYFILE1 in the remote CICS system.
    - Change the scope, so that any data you get back from CICSplex SM relates only to CICSFA01. To do this, from the main menu, type CICSFA01 into the **Scope** field and click **Refresh**.
    - From the main menu, click **Local files**.
    - On the **Local files** tabular view, type PAYFILE1 into the **File ID** field and click **Refresh**.
    - The **Local files** tabular view is redisplayed showing PAYFILE1 in CICS system CICSFA01.

## Finding out which data set a program came from in a specified CICS system

This example shows how to identify the data set from which a particular instance of a program originated.

This example shows how to identify the data set from which a particular instance of a program originated.

1. If the current context isn't PLXPROD1, from the main menu, type PLXPROD1 into the **Context** field and click **Refresh**.
2. To display detailed information about a program in a specified CICS system, from the main menu, click **CICS operations > Program operations views**.

3. From the Programs tabular view, type the program name PRGPAYR1 into the **Program name** field and CICS system name CICSPA01 into the **Scope** field. Click **Refresh**.
4. Click the **Program name** field for PRGPAYR1 to display the **Programs** detailed view. The **Programs** detailed view is displayed, showing the LIBRARY name and the load data set name for CICSPA01

## Finding out why a CICSplex SM event occurred

This example shows you how to investigate what caused a real-time analysis event notification RTDPAY01 to be issued.

1. If the current context isn't PLXPROD1, change the **Context field** on the main menu to PLXPROD1 and click **Set**.
2. From the main menu, click **Real Time Analysis (RTA) outstanding events** to display the **RTA outstanding events** tabular view.
3. This view will show you that the CONNSTATUS value of the 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 access this:

- From the main menu, click **Administration > RTA analysis point monitoring > Evaluations** to display the **Evaluation definitions** tabular view.
- Click the **Name** field of the entry you are interested in to display **Evaluation definitions** detailed view.

From this view, you can see that event RTDPAY01 is triggered when the value of the **CONNSTATUS** field in the CONNECT resource table is not ACQUIRED. (The **Field being evaluated** field is CONNSTATUS, the **Evaluation logical operator** field is NE (meaning "not equal to"); and the **Evaluation data value** field is ACQUIRED).

5. Next, you could look at the **ISC/MRO connections** view (CONNECT object):
  - From the main menu, click **ISC/MRO connections** to display the **ISC/MRO connections** tabular view.
  - If necessary, change the **Scope** field to CICSPT01 and click **Refresh**.
  - The **ISC/MRO connections** tabular view displays a list of connections for CICS system CICSPT01

## Disabling a transaction in a single CICS system

This example shows you how to disable transaction PAY1 in CICS system CICSPA01. (CICSPA01 is in the CICSplex PLXPROD1, which is the current scope.) There are two ways of doing this.

For example, you can:

1. List all local transactions. From the main menu, click **Local or dynamic transactions**. The **Local or dynamic transactions** tabular view (LOCTRAN object), showing all local transactions in the current scope (PLXPROD1), is displayed.
2. To refine the display, type CICSPA01 in the **Scope** field, PAY1 in the **Transaction ID** field, and ENABLED in the **Enabled status** field. Click **Refresh**.
3. Click the Record check box beside the transaction and click the **Disable...** button.
4. The **Disable** view is displayed. Click **Yes**. The **Local or dynamic transactions** tabular view is redisplayed, showing the status of the transaction instance as DISABLED.

or you can:

1. List all local transactions. From the main menu, click **Local or dynamic transactions**. The **Local or dynamic transactions** tabular view (LOCTRAN object), showing all local transactions in the current scope (PLXPROD1), is displayed.
2. To refine the display, type CICSPA01 in the **Scope** field, PAY1 in the **Transaction ID** field, and ENABLED in the **Enabled status** field. Click **Refresh**.
3. Click the **Transaction ID** field for PAY1 to display the **Local or dynamic transactions** detailed view.

4. Use the drop-down menu to change the value of the **Enabled status** field to DISABLED. Click the **Apply changes** button. The **Local or dynamic transactions** tabular view is redisplayed showing a DISABLED status for transaction PAY1.

## Disabling a transaction globally

This example shows how to disable a single transaction throughout a scope.

1. If the current context isn't PLXPROD1, on the main menu, type PLXPROD1 into the **Context** field and click **Refresh**.
2. From the main menu, click **Local and dynamic transactions**. The **Local and dynamic transactions** tabular view is displayed.
3. Type PAY1 in the **Transaction ID** field and click **Refresh**. The **Local and dynamic transactions** tabular view is redisplayed showing the instances of transaction PAY1.
4. Summarize the list of transaction instances. Click the Summarize icon at the top of the **Transaction ID** column. The **Local and dynamic transactions** tabular view is redisplayed showing one line for transaction PAY1 with a **Record count** field giving the number of instances of the transaction PAY1 in the current scope.
5. To disable every occurrence of transaction PAY1 represented in this summary line, click the Record check box and click the **Disable...** button. The **Disable** view is displayed.
6. Click the **Yes to  $n$  remaining** button, where  $n$  is the number of instances of the transaction. The **Local and dynamic transactions** tabular view is redisplayed, showing the summary line with the **Enabled status** field set to DISABLED.

**Note:** You can disable each transaction individually by clicking the **Yes** button, but this is inefficient unless there is a good reason.

## Finding out which resources are being monitored in a CICS system

This example shows how to find out which types of resource are being monitored in CICS system CICSPA01.

1. From the main menu, click **Monitoring > 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** tabular view now displays the active monitor definitions in CICS system CICSPA01.

For a more complete description of the **Active monitor specifications** view, see [Default monitor definitions](#).

## Deactivating a workload definition

This example describes how to use the Web User Interface (WUI) to deactivate the workload definition WLDAPAY02.

1. Display active workload definitions:
  - From the main menu, click **Active workloads (WLM) > Definitions**. This opens the **Active workload definitions** view.  
If the current context is not PLXPROD1, specify PLXPROD1 in the **Context** field and click **Refresh**.
  - In the **Active workload definitions** view, type WLDAPAY01 and click **Refresh**. The active workload definitions associated with workload specification WLDAPAY01 are listed.
2. Discard workload definition WLDAPAY02:
  - a. Select the entry for WLDAPAY02, and click the **Discard...** button. This opens the **Discard** confirmation view.

- b. Click **Yes** to confirm the action.

Be aware that, when you deactivate an active workload definition, you also deactivate any transaction groups associated with it if they aren't referenced by another workload definition in the same workload.

## Discarding an active transaction from a workload

This example shows you how to discard an active transaction PAY2 from a workload EYUWLS02.

1. If the current context isn't PLXPROD1, on the main menu, type PLXPROD1 into the **Context** field.
2. From the main menu, click **Active workloads (WLM) > Dynamic transactions**. The **Active workload dynamic transaction** tabular view (WLMATRAN object) is displayed.
3. If necessary, you can refine the display using the **Workload name**, **System ID of workload owner**, and **Transaction** fields.
4. To discard transaction PAY2, click the record check box beside the entry and click the **Force...** button. The **Force** confirmation view is displayed.
5. Click the **Yes** button to confirm the action. The **Active workload dynamic transaction** tabular view is redisplayed, minus the entry for PAY2.

## Administering BAS

---

You can use business application services to manage CICS resources.

### Introduction to BAS

Business Application Services is the component of CICSplex SM that is responsible for managing the CICS resource definition and installation process for business applications at your enterprise.

Business Application Services provides the following facilities:

#### Centralized resource definition

With BAS, you can implement resource definition and association across the entire CICSplex. The CICSplex SM data repository (EYUDREP) can serve as the central repository for CICS resource definitions. CICSplex SM minimizes the number of resource definitions you need for your CICSplex by:

- Providing a single-system image approach to defining CICS resources.
- Producing both local and remote instances of a resource from the attributes of a single definition.
- Managing multiple versions of a definition; for example, as the application progresses from testing to production.
- Generating multiple CICS connections from a single set of definitions.

#### Logical scoping

When your CICS resources are defined to CICSplex SM, you can monitor and control those resources in terms of their participation in a named business application, rather than their physical location in the CICSplex. You can identify and refer to logically related resources as a set, regardless of where they reside at any given time.

#### Distributed resource installation

Resources that are defined to CICSplex SM must still be installed in the appropriate systems, either by CICS or CICSplex SM. You can use BAS to install your resources automatically at CICS initialization, or dynamically while a region is running. You can install a single resource in multiple CICS regions either locally or remotely, as appropriate.

Business Application Services supports the following CICS resources:

#### Application resources

These are the resources that support the business applications at your enterprise. They are the resources that an application requires to run:

- CICS BTS process types

- Db2 connections and transactions
- Document templates
- FEPI nodes, pools, property sets and targets
- Files and file key segment definitions
- IPIC connections
- LIBRARY resources
- Map sets
- Partition sets
- Pipeline
- Programs
- Sysplex enqueue models
- TCP/IP services
- Temporary storage models
- Transactions
- Transient data queues
- URI maps
- Web services

### **Region property resources**

These region property resources are the global resources that support the running of a CICS region:

- Journals
- Journal models
- Local shared resource (LSR) pools
- Profiles
- Transaction classes
- Terminals
- Typeterms

### **Connectivity resources**

These resources support the creation of connections between CICS regions and other systems:

- Connections
- Partners
- Sessions
- TCP/IP services
- IP interconnectivity (IPIC) connections

## **Methods of accessing BAS**

CICS provides a number of interfaces for defining and managing BAS.

### **CICS Explorer**

You can use CICS Explorer for day-to-day management of resource definitions. The CICS Explorer is a system management tool that provides a simple, easy to use way of managing one or more CICS systems and associated resources. Resource definitions can be created and updated using the CICS Explorer resource definition editor.



## The CICSplex SM API

You can use the CICSplex SM API to write external programs that automate the management of CICS resource definitions. Such programs could be used to integrate the CICSplex SM system management functions into your enterprise-wide change management process. For example, you could write an API program to coordinate resource definition changes with database or file updates, or the standard life cycle of an application.

## The Web User Interface

You can use the Web User Interface (WUI) views for the day-to-day management of resource definitions. These views provide an immediate, interactive look at your resource definitions. You can create, update and remove resource definitions.

The views are grouped into basic and fully-functional BAS submenus:

- The basic views restrict the management of resources to the resource description, as used by CICS resource definition online (RDO).
- The fully functional menu, aimed at more advanced users, includes the option of managing resources by resource assignments as well as resource descriptions.

## The batched repository-update facility

The CICSplex SM batched repository-update facility can help you to create and maintain many resource definitions:

### Defining large numbers of resources

The batched repository-update facility is ideal for creating and updating large numbers of resource definitions. You can start with an input file that contains one **CREATE** command for one resource definition and use that command as a template for other resource definitions. By copying and customizing the **CREATE** command, you can quickly build all the resource definitions of a given type that you require. When you submit the batched repository-update facility input file, CICSplex SM creates all the resource definitions and adds them to the data repository.

### Migrating resource definitions

The batched repository-update facility is an essential tool for migrating resource definitions from CICS to CICSplex SM. CICSplex SM provides an exit routine that can extract records from an existing CSD file and generate equivalent resource definitions for input to the batched repository-update facility. For more information about the exit routine, see [“Extracting records from the CSD” on page 87](#).

### Maintaining a centralized repository

The batched repository-update facility is useful for migrating resource definitions from one CICS platform to another, which is key to maintaining a centralized definition repository. You can use the **DUMP** command to retrieve existing resource definitions from the CICSplex SM data repository. After making the required changes to the definitions, you can use the dump output as input to another batched repository-update facility run that creates resource definitions for the new CICS platform.

## The BAS objects

A *BAS object* is an instance of a CICS resource in the CICSplex. Whichever interface you use to access BAS, the objects that you are interacting with are essentially the same.

There are two types of Business Application Services objects:

### Resource definition views and objects

You use resource definition views to define instances of CICS resources. The attributes of each resource definition (xxxxDEF object) are identical to those of the equivalent CICS CEDA definition; for example, to define a CICS connection (CONNDEF object), you use the **Connection definitions** view.

### Administration objects

You use administration objects to manage resources. These objects are split into the following areas:

### Base objects

These objects are the foundation of BAS. They implement the assignment and installation of resources in CICS systems.

#### RASGNDEF

A resource assignment describes selected resource definitions of a given type and indicates how those resources are to be assigned to various CICS systems.

#### REDESC

A resource description identifies sets of logically related resource definitions. The set of resources identified in a resource description can be used as the scope value for CICSplex SM requests. The resources can also be installed as a set in CICS systems that support resource installation.

#### RESGROUP

A resource group is a set of related resource definitions. The resource definitions in a group can be of the same or different resource types.

### Association objects

These objects control the relationships between the base administration objects and their resource definitions.

#### RASINDSC

Associates a resource assignment with a resource description.

#### RESINDSC

Associates a resource group with a resource description.

#### RESINGRP

Associates resource definitions of a given type with a resource group.

### Process display objects

These objects illustrate how resources will be assigned to CICS systems.

#### RASPROC

Identifies the resource definitions to be selected when a given resource assignment is processed.

#### RDSCPROC

Identifies the resource definitions to be selected when a given resource description is processed.

#### SYSRES

Identifies the resources that are defined to a specified CICS system.

### Connectivity objects

These objects describe the nature of connections between CICS regions and other systems.

#### CSYSDEF

Describes the operational characteristics of a CICS system, including resource installation options and the system ID to be used in identifying connections. You use the **CICS system definition view** to create connections to other CICS systems.

#### SYSLINK

Describes the connections that exist between CICS regions in your CICSplex. You use the **CICS system link definitions** view to create and install CICS connections of different types.

## Comparison of CEDA and BAS functions

Table 6 on page 56 provides a comparison between CEDA administrative functions and BAS administrative functions.

<i>Table 6. CEDA and BAS administrative functions</i>		
<b>CICS CEDA</b>	<b>CICSplex SM BAS</b>	<b>WUI view name</b>
DEFINE resource	RESDEF CREATE	resource Definition

<i>Table 6. CEDA and BAS administrative functions (continued)</i>		
<b>CICS CEDA</b>	<b>CICSplex SM BAS</b>	<b>WUI view name</b>
USERDEFINE resource	RESDEF CREATE against model	resource Definition
INSTALL resource	RESDEF INSTALL	resource Definition
VIEW resource	RESDEF BROWSE	resource Definition
ALTER resource	RESDEF ALTER	resource Definition
COPY group	RESGROUP CREATE members	Resource group definition
MOVE group	RESGROUP CREATE association	Resource group in resource description
INSTALL group	RESGROUP INSTALL	Resource group definition
DISPLAY group	RESGROUP	Resource group definition
CHECK group/list	Implicit - consistent set processing	n/a
DISPLAY list	RESDESC	Resource description definition
No equivalent	MAP	EYUSTARTMAPBAS <sup>1</sup>
ADD group to list	RESGROUP ADD	Resource group definition
APPEND list to list	RESDESC CREATE model	n/a
EXPAND group/list	RESINDSC/RESINGRP	n/a
INSTALL list	RESDESC INSTALL	Resource description definition
DELETE	REMOVE	n/a
LOCK/UNLOCK	No equivalent (use security)	n/a

CICSplex SM provides the same functions as the CICS CEDA transaction, with a few minor differences. CICSplex SM performs automatically a function similar to CEDA CHECK when certain ADD or UPDATE functions are carried out.

## **BAS security considerations**

Because of the importance of resource definitions to your CICSplex environment, CICSplex SM enables you to define security for the BAS facilities.

Providing security for BAS is handled in the same way as it is for other CICSplex SM components. You can define as narrow or as broad a range of BAS functions as you like and authorize as few or as many people as you like to use them. For security purposes, the BAS functions are divided into the following groups:

### **BAS.DEF**

This group includes all of the resource definition views and the related BAS administration views. Users with UPDATE access to this group can create, update, and remove definitions in the CICSplex SM data repository. Users with READ access to this group can view definitions in the CICSplex SM data repository.

### **BAS.resource**

These groups are named according to the resource type they represent (such as BAS.CONNECT, for connection-related definitions). Each group includes the resource definition views for a given resource type. For example, BAS.CONNECT includes the **Connection definitions** views (CONNDEF objects) and **Session definitions** views (SESSDEF objects).

<sup>1</sup> The actual name on the view will depend on what is being mapped.

The purpose of these security groups is to further restrict a user's ability to install resources in CICS systems. A user must have ALTER access to the appropriate BAS.resource group in order to install the specified resources.

In addition to controlling access by function, you may want to limit the use of these functions to certain resources in certain CICS systems. CICSplex SM also provides simulated CICS security checking, which enables you to control access to CICS resources and commands.

You should be aware of the need to take special care in the adequate protection of the BAS views, so that unauthorized users cannot create and administer resources.

If you are using the EXEC CICS CREATE command to build new resources, any definition created with the CICSplex as the context is automatically distributed to all CMASs in the CICSplex. Therefore, giving a user authority to create BAS objects is equivalent to giving authority to install resources on any CICS system in the CICSplex. When the CICS system starts, there is no check on who installed the resource in the system.

For details on setting up security for CICSplex SM at your enterprise, see [Implementing CICSplex SM security](#).

## Using the Web User Interface

Resource definitions are the most basic element of the Business Application Services environment. CICSplex SM must know about your CICS resources in order to manage them. Defining your resources to CICSplex SM is similar to using RDO to define them to CICS – you specify the attributes that describe the resource in one or more WUI views. But you do not have to define every instance of every resource in your CICSplex to CICSplex SM manually. You can use a small number of resource definitions as templates for the creation of a large number of resources.

You can create a resource definition that describes many similar, if not identical, resources by specifying those attributes that are common to all the resources. You can even specify attributes that apply to a remote instance of the resource along with the local attributes. CICSplex SM uses the appropriate subset of attributes as it assigns the local and remote resources to various CICS systems.

### BAS administration views

In the Web User Interface, BAS functions are separated into basic and fully functional view menus. To access BAS functions from the WUI main menu click **Administration**

The **Administration views** menu presents two submenus:

#### Basic CICS resource administration

These views provide a simplified RDO-like model of BAS including resource definitions, resource groups, and resource descriptions but not resource assignments.

#### Fully functional Business Application Services (BAS) administration

In addition to the basic model, these views include links to resource assignment views aimed at more advanced users. Use these views to have more flexibility for managing resource definitions. See [“Controlling resources by resource assignment”](#) on page 71 for more information about resource assignments.

Links from both submenus are split into three groups:

#### Definitions

Includes the following links:

##### CICS resource definitions

Menu containing links to definition views for each resource type.

##### Resource groups

Link to definitional view for managing resource group definitions. Associated actions are Create, Update, Remove, Install and Add to Resource description.

##### Resource assignments (fully functional menu only)

Link to definitional view for creating and managing resource assignments. Associated actions are Create, Update, Remove and Add to Resource description.

### **Resource descriptions**

Link to a definitional view for creating and managing resource descriptions. Associated actions are Create, Update, Remove, Install and Replace.

### **Associations**

Includes the following links:

#### **CICS resource definitions in resource group**

Link to a tabular view displaying the resources within a resource group. The view includes a Remove action button allowing you to remove an association between a resource definition and its parent resource group. There is no create action with this view. Adding a resource to a group is carried out while defining the resource itself

#### **Resource groups in description**

Link to a definitional view for managing the associations between resource groups and resource descriptions. Associated actions are Create, Update and Remove.

#### **Resource assignment in description (fully functional menu only)**

Link to a definitional view for managing the associations between resource assignments and resource descriptions. Associated actions are Create, Update and Remove.

#### **CICS system links**

Link to a definitional view for managing CICS system link definitions. Associated actions are Create, Remove and Install.

### **Resources deployed by...**

Includes the following links to views displaying active CICS resources:

#### **Resource description**

Link to a tabular view displaying deployed resources selected by resource description.

#### **Resource assignment (fully functional menu only)**

Link to a tabular view displaying deployed resources selected by resource assignment.

#### **CICS system**

Link to a tabular view displaying deployed resources selected by CICS system.

**Reminder:** Unless noted otherwise, only the context setting is recognized when you are creating and maintaining resource definitions.

## **Common WUI resource definition actions**

Each WUI resource definition view supports the following actions for creating and maintaining resource definitions:

### **Add to resource group**

To add a resource definition to a resource group.

### **Create**

To create a resource definition and add it to the data repository.

### **Map**

To generate a visual representation of related definitions in the data repository.

### **Install**

To install a resource in one or more active systems. For details of valid systems, see the descriptions of the individual BAS objects.

### **Remove**

To remove a resource definition from the data repository.

### **Update**

To update a resource definition in the data repository.

You can update multiple resources in a single operation by selecting multiple entries from a resource definition tabular view before clicking **Update**.

These actions and the views that result from them are similar for all the resource definition views that support them.

## Accessing resource definition views

To access resource definition views:

- You can follow two paths from the WUI main menu to open the **CICS resource definitions** menu:
  - Click **Administration > Basic CICS resource administration > Resource definitions**.
  - Click **Administration > Fully functional Business Application Services (BAS) administration > Resource definitions**.



Figure 5. WUI resource definition menu

- Select the required resource from those listed to display a tabular view of existing resources. For example, in order to work with a CorbaServer definition, click **CorbaServer definitions** from the list to display a **CorbaServer definition** tabular view.

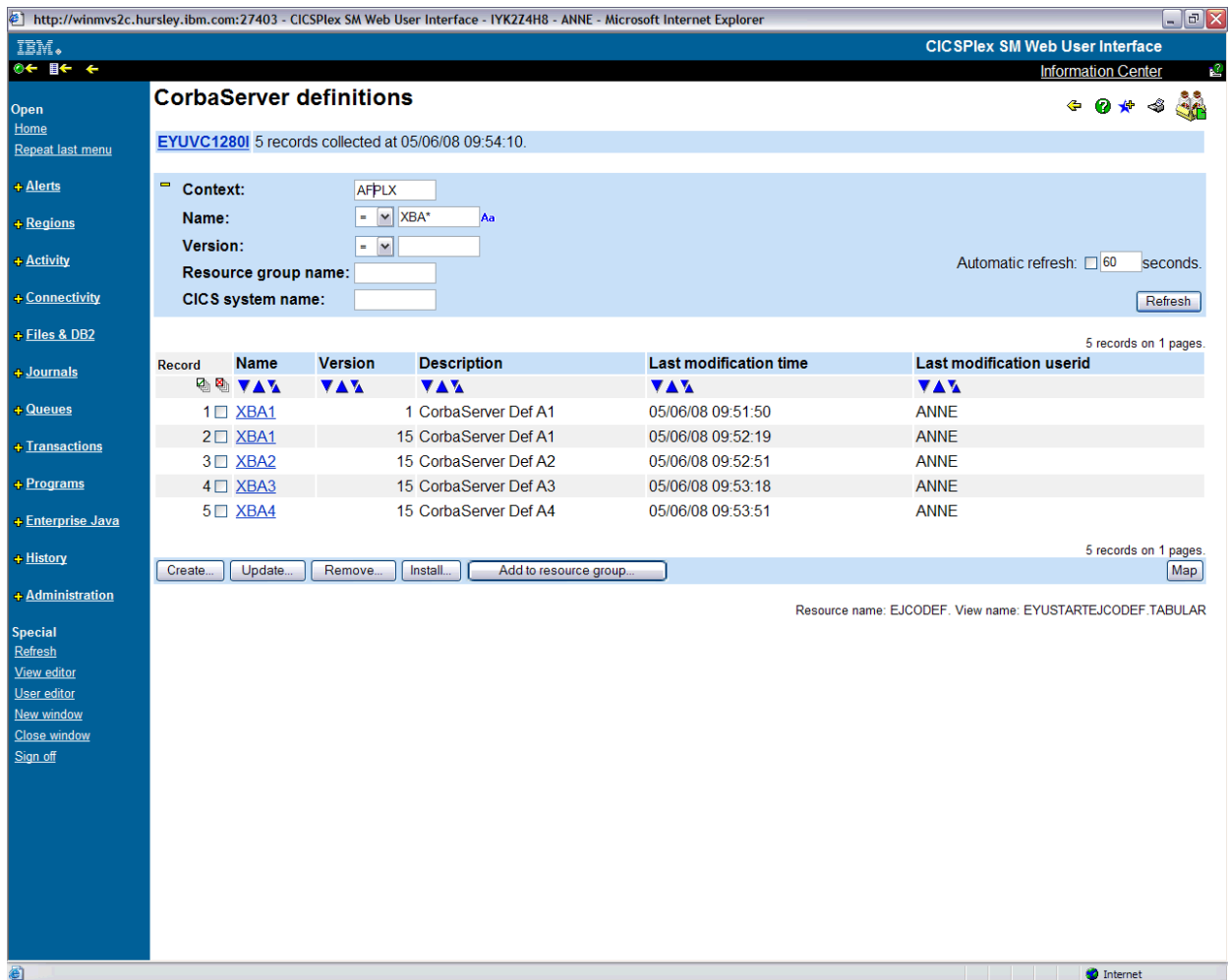


Figure 6. CorbaServer definition tabular view

See “BAS administration views” on page 58 for more information.

## Creating CICS resource definitions

To create a new resource definition:

- From the tabular view for the selected resource, click the **Create...** button to display the create view for the resource. You can select an existing resource definition to use as a template before clicking the **Create...** button.
- When you have complete the definition, click **Yes** to create the definition and redisplay the resource tabular view.

## Updating resource definition views

To update one or more resources:

- Select the required record or records using the adjacent check boxes and click the **Update** action button to display a resource definition view. This view is used for both the update and create actions.
- Make the required updates to the displayed fields. Use the **Yes** and **No** buttons to confirm or abandon the operation.

## Removing CICS resources

To remove one or more resource definitions, select the required record or records using the adjacent check boxes and click the **Remove** action button. You are given the option to confirm or abandon the operation for each selected record.

## **Mapping CICS resources**

To generate a map of related definitions, click **Map**.

## **Installing CICS resources**

To install resource definition views, click the **Install...** button.

## **Common WUI definition fields**

The majority of the information in the create input views for each resource definition is unique to the type of resource. However, the following fields are common to the first input view for every resource definition:

### **Name**

The name of the resource definition.

The length and format of the name varies by resource type. For example, a program name can be up to 8 characters long, but a connection name can be only 4 characters long.

**Note:** The names of resource definitions are case-sensitive in CICSplex SM.

### **Version**

The version number of the resource definition.

You can specify one of the following:

- An integer in the range 1 through 15, or
- Blank or 0, in which case CICSplex SM assigns the next available version number.

This can be blank, or an integer in the range 0 through 15.

**Note:** If you create a resource definition of the same resource type and with the same name as an existing definition, a new version of the definition is created in the data repository.

### **Description**

An optional string of up to 58 characters that describes the resource definition.

### **Resource group name**

Optionally, the name of a resource group to which the resource definition should be added.

When the resource definition is created, it is automatically added to the specified resource group. This is one way of adding resource definitions to resource groups; alternatively, click the **Add to resource group** button on a resource definition view to add a single definition to a group.

### **User data area**

Three optional strings of up to 8 characters each that allow you to provide additional site-specific data related to the resource definition.

You can use these fields for any purpose you choose; CICSplex SM makes no use of the data.

The create views for each resource and the resource-specific information that you must provide are presented in the description of the resource definition.

### **Note:**

1. For any resource definitions that contain password fields, the password you enter does not appear on the create view while you are typing it.

## **Web User Interface views for resource objects**

You can use a simple approach to managing CICS resources using the CICSplex SM object model of definitions in groups, groups associated with descriptions, and descriptions associated with CICS regions.



Alternatively, you can use a more selective approach by using resource assignment to select and assign resources.

The following figures provide an overview of the WUI views that you can use to create some of the administration objects. The titles of the views are followed by the object names in parentheses. [Figure 7](#) on page 63

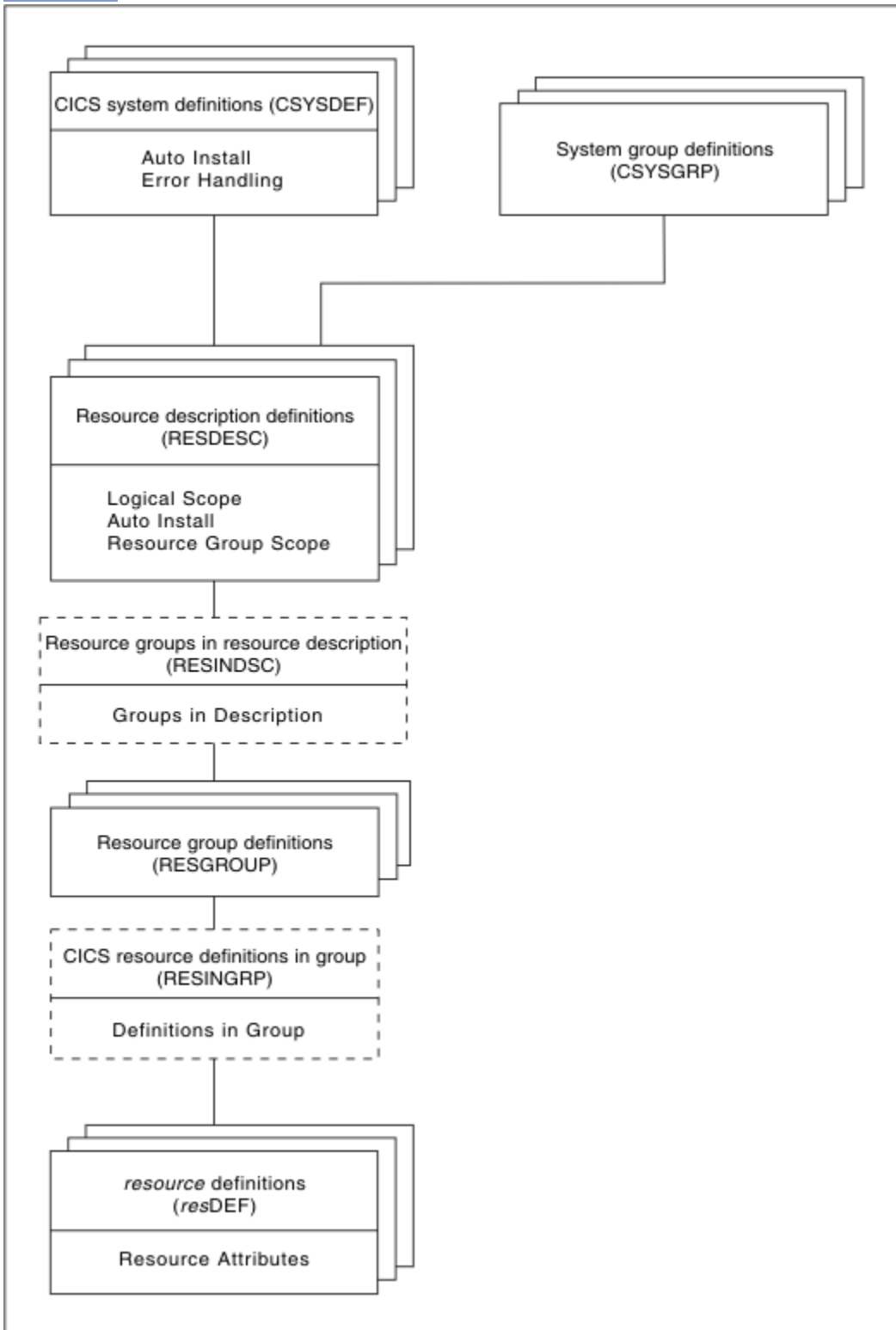


Figure 7. Views for managing CICS resources - a simple approach

[Figure 8](#) on page 64

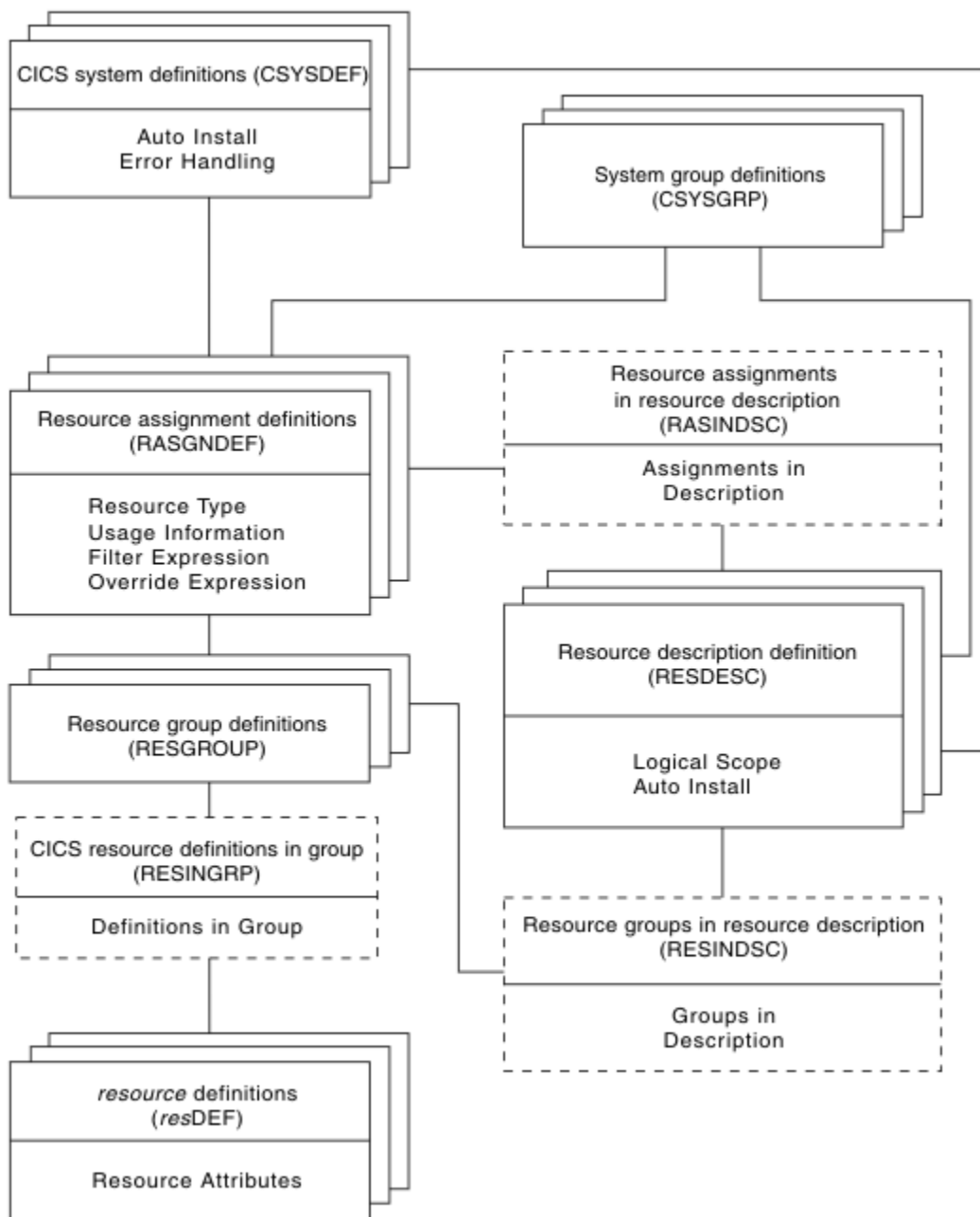


Figure 8. Views for managing CICS resources - a selective approach

## Resource definition sets

### About this task

The resource definitions you create can be members of *resource groups*. Resource groups can, in turn, be associated with *resource descriptions* and *resource assignments*. Resource groups, resource descriptions and resource assignments are convenient mechanisms for managing sets of resource definitions in ways that are appropriate to your enterprise.

## Resource groups

A resource group can be any set of resource definitions that you want to manage as a unit. The resources in a group usually have something in common. They might be logically related by their use in a given application or communications network, or geographically related by their use at a given site.

A resource group can contain resource definitions of all types (such as connections, files, and journals). There is no real limit to the number or combination of resource definitions that can make up a group. However, only one version of a given resource can be included in a resource group at one time. You can maintain multiple versions of a resource definition in different resource groups, but not in the same group.

When you use the GET API command to create a result set of CICS definition records, you can limit your request to definitions in a given resource group. The GET command for each CICS definition object (such as CONNDEF) supports the following parameter:

### **RESGROUP(resgroup)**

(Optional) Specify the name of an existing resource group from which CICS definition records should be selected.

You create resource groups by clicking the **Create** button in the **Resource groups definition** view. This action adds the resource group to the CICSplex SM data repository.

You can also create a resource group using the CREATE command in the batched repository-update facility or the API. In that case, you can identify an existing resource group to be used as a model. The CREATE command for the RESGROUP object accepts the following parameters:

### **MODEL(resgroup)**

(Optional) Specify the name of an existing resource group whose resource definitions are to be used by the new group.

### **MODE(option)**

(Required, if you specified a MODEL value) Indicate which definitions are to be copied from the model resource group to the new group:

#### **NO**

Do not copy any definitions from the model group.

#### **ASSOCIATIONS**

Copy the associations between resource definitions and the model group (RESINGRP objects) and create a new set of associations from the existing resources to the new group.

#### **MEMBERS**

Copy all the resource definitions in the model group and create a new set (different version number) for use by the new group.

You can manage resource groups independently, but the real advantage comes in associating them with one or more resource descriptions or resource assignments.

## ***Adding resource definitions to a resource group***

There are several ways to create an association between a resource definition and a resource group. Both definitions must exist in the data repository before you can create the association.

### **Adding a definition when it is created**

You can automatically associate a resource definition with a resource group when the definition is created by identifying the group in the **Resource group name** field. This is a standard field on the create panel for each resource type.

When you create CICS Definitions using the batched repository-update facility or API you can add them to an existing resource group by using the RESGROUP parameter. The CREATE command for each CICS Definition object (such as CONNDEF) supports the following parameter:

### **RESGROUP(resgroup)**

(Optional) Specify the name of an existing resource group to which the CICS Definition should be added.

### **Adding individual or multiple definitions**

Using the WUI, you can add one or more existing resource definitions *of a given type* to a group by selecting the definition or definitions on a resource definition tabular view and clicking the **Add to resource group** button.

### **Using a model resource group**

Once a resource group is defined and populated with resource definitions, you can use that group as a model to populate other resource groups. When you create a new resource group, you have the option of specifying:

- A resource group whose resource definitions are to be used as a model by the newly created group.
- Which definitions are to be copied from the model group:
  - The actual resource definitions (to create an additional set of resources)
  - The associations between the model group and existing resources

**Note:** Adding a resource definition to a resource group could result in inconsistent resource set errors. For information about this type of problem and how to resolve it, see [“Validation of a set of resources”](#) on page 70.

## **Resource assignments**

A resource assignment identifies resources of a given type that are to be assigned to one or more CICS systems as either local or remote. Rather than representing a whole set of resources (as resource groups and descriptions do), the purpose of a resource assignment is to selectively process the resources in a set.

With a single resource assignment, you can:

- Select specific resources from a resource group.
- Identify the CICS systems where local and remote instances of a resource should be assigned.
- Modify resource attributes for specific uses in specific CICS systems.

The resources selected by a resource assignment cannot be managed independently. The resources must be members of a resource group and the resource assignment must be associated with at least one resource description.

## **Resource descriptions**

Similar to a resource group, a resource description represents a set of logically related resources. You can associate whole resource groups with a resource description to create a larger set of resources that can be managed more efficiently. In addition, you can associate resource assignments with a resource description to create a select set of resources, such as an application that spans more than one CICS system.

A resource description represents the largest set of resources that can be managed as a unit by CICSplex SM. It might consist of all the resources in several resource groups or resource assignments (much like a CSD group list) or the set of resources that make up a given application on various CICS systems.

The set of resources identified in a resource description can be:

- Identified as a logical scope (such as an application) for use in subsequent CICSplex SM requests
- Automatically or dynamically installed in systems running CICS TS.

## **Management of CICS resources using CICSplex SM**

With Business Application Services, the most important decision you have to make is how to manage the sets of resources you create:

- By resource descriptions alone; see [“Controlling resources by resource description”](#) on page 71
- By resource assignments in conjunction with resource descriptions; see [“Controlling resources by resource assignment”](#) on page 71

You can use one or both of these approaches to control your CICS resources, depending on the situation and the degree of precision you require. Resource descriptions alone represent the simplest approach to managing resources. Using resource assignments provides access to the full range of Business Application Services features.

## Multiple versions of a resource definition

As your business applications progress from development through testing and into production, the resources that support them may evolve as well. Since resources that are defined to CICSplex SM exist independent of groups or other objects, versioning is necessary to support variations in resource definitions.

This version support enables you to manage the following:

- A single version of a resource definition in multiple groups
- Multiple versions of the resource throughout the CICSplex.

For example, you can have three DB2TDEF definitions, each called DB2TR01, and each specifying a different (or the same) transaction IDs, each having a different version number.

Business Application Services can manage up to 15 versions of the same resource definition, each specifying the same or a different CICS resource.

The version number is assigned to the resource definition when the definition is stored in the CICSplex SM data repository.

CICSplex SM ensures that the version number is unique for the resource type of the definition.

## How the multiple versions of a resource definition are assigned or managed

When you create a resource definition, you can specify a version number for the definition or let BAS assign an available version number. CICSplex SM does not generate a new version when you update an existing resource definition. CICSplex SM does not allow multiple versions of the same resource definition to be installed in a CICS system.

When you create resource definitions using the batched repository-update facility, or the application programming interface (API), you can use the DEFVER keyword to specify the version number of a new definition. The version number is an integer in the range 1 through 15.

If no version (DEFVER) is specified on the create of a CICS resource definition in BAS, it uses the default (0), as documented in the resource table. This means that CICSplex SM assigns the first available version number in the range 1-15. When all 1 through 15 are used, the create operation fails because it is not possible to create a new resource.

## Practical advice for implementing multiple versions of a resource definition

You can use version numbers to help identify a specific variant of a resource definition, providing you have a policy of using version numbers for that purpose. Otherwise, if you remove certain versions of a resource definition and then define new ones, the version number alone may not indicate the most recent version.

For example, suppose you define 15 versions of a resource definition (numbered 1 to 15) and then remove versions 3 and 12. The next time you create a new version of that resource definition, if you do not specify a version number, CICSplex SM reuses the available version numbers from low to high. So, in this example, the latest version of the resource definition might be version 3.

For this reason, the version number alone might not be sufficient to identify the latest version of a resource definition. To enable you to do that, CICSplex SM performs time-stamping, which provides a chronological record of the versions of a resource definition. The date and time at which a given version of a resource definition was created and last updated are maintained by CICSplex SM in the CREATETIME and CHANGETIME attributes of the appropriate resource table. These values are recorded by using the time zone of the maintenance point CMAS, not the time zone of the user who created or changed the definition. In addition, the values are fixed at the time they are recorded; they are not affected by any subsequent changes to the time zone of the maintenance point CMAS.

If you do not explicitly use the version number to identify particular versions, and you want to identify the last version created, you can either:

- Inspect the date and time fields
- Make explicit use of the user data fields of the definition when creating definitions. These fields are attributes of the resource definition, and can be used as filter criteria in the Install view of the **Resource assignments** and so on. For example, you could adopt a convention whereby the first user data field is designated as a control field, which may take either the value T (test) or P (production). To install the definition into a test system, USERDATA1=T would be used as the filter criterion.

## Availability of resources for CICS releases

Some resources are not available in all of the supported CICS releases and this availability affects what resources display in the WUI views.

The WUI help for views and action commands provides information about the availability of resources.

When you display a resource definition view and your CICSplex includes regions running a release of CICS for which that resource is not available, those regions are not included in the view. When you issue a resource definition view command and your CICSplex consists solely of regions running a release of CICS that is not available, a message is displayed. A message is also displayed when you issue an action command that is not available for the release of CICS on which your CICS region is running.

## Defining connections between CICS regions

You can use CICSplex SM to define and manage the connections between CICS regions. Instead of identifying each CICS region in a communication network to each of its partners as RDO requires, you can specify general connectivity information to be used by all the CICS regions in a CICSplex.

### Before you begin

You must have defined the CICS regions to CICSplex SM. If you want to connect regions using TCP/IP, you must have defined a hostname, network ID, and port number for each CICS region.

### About this task

For each pair of CICS regions that are to communicate, you require four resource definitions. Using RDO, each definition is unique to a given pair of CICS regions. They cannot be reused for connections between different pairs of CICS regions. With Business Application Services, you create one system link (SYSLINK) for each pair of CICS regions. The system link definition describes the type of connection and connection definitions that are required. You can use these connection definitions to create any number of system links that share the same characteristics.

You can use either the CICS Explorer or the Web User Interface to define connections between CICS regions.

### Procedure

1. Identify the CICS regions that you want to connect.

CICSplex SM uses the CICS system ID (SYSIDNT) attribute value to identify the system link.

2. Define the connection resource definitions that you want to reuse.

Each connection resource definition is represented by a resource object.

- To define ISC or MRO connections, create CONNDEF and SESSDEF resource objects for the connection and session definitions.

**Tip:** When defining MRO connections in the WUI, you are advised to set the session definition receive prefix to < and the send prefix to >. If you define your own receive and send prefixes, you must create a session definition for each system link definition (SYSLINK object) to avoid duplicate session names being created.

- To define an IPIC connection, create IPCONDEF and TCPDEF resource objects for the IPCONN and TCPIPSERVICE definitions. You can use the same TCPDEF for multiple SYSLINK connections in a CICS region when you want the connection to use the same port number.
3. Define the system links to create connections between the CICS regions.  
Optionally, you can base your new system link on a SYSLINK object that is already defined.
    - a) Specify the names of the primary and secondary regions.  
The primary region contacts the resource definition objects and the secondary region is the target region for the connection.
    - b) Specify the connection type.  
For example, you might select SNA for an ISC or MRO connection or IPIC for a TCP/IP connection.
    - c) Specify the primary and secondary definitions for the connection that you want to reuse.
    - d) Create the SYSLINK object.

## Results

The SYSLINK resource object is added to the data repository. If you are creating an IPIC connection, the system definition attributes of the primary and secondary regions can override any values specified for host, network ID, and port number in the IPCONDEF or TCPDEF resource objects.

## What to do next

Install the system link. For details on how to install the system link using the WUI views, see [“Installing system links using the WUI” on page 110](#).

## Resource definition validation

CICSplex SM performs many of the same resource definition checks as RDO does. But CICSplex SM goes further, attempting to validate whole sets of resources associated with the CICS systems in your CICSplex.

### *Validation of individual resource definitions*

As individual resources are defined or installed, CICSplex SM checks the following:

#### **Individual attributes of a resource**

Each attribute of each resource definition is validated independently according to the CICS RDO guidelines for valid values. CICSplex SM reports individual attribute errors as a resource is defined. A resource definition is not created and stored in the data repository until all of its attributes are valid.

#### **Note:**

1. If you specify blank spaces for an attribute, CICSplex SM allows CICS to assign a default value, if there is one.
2. If you specify N/A for an attribute, CICSplex SM processes the resource definition as if that attribute was not specified. Depending on what other attributes were specified, CICSplex SM either ignores the attribute or selects an appropriate value according to the CICS RDO guidelines.

#### **Interdependent resource attributes**

Certain attributes of a resource definition can be dependent upon each other, and other attributes can be mutually exclusive. Such attribute combinations are validated using the CICS RDO guidelines. CICSplex SM reports attribute combination errors as a resource is defined. A resource definition is not created and stored in the data repository until all of its interdependent attributes are resolved. Check the resource definition syntax diagram for information on attribute interdependency.

#### **Release-specific resource attributes**

Because a resource can be used by a number of CICS systems, you can specify the whole range of possible attributes when you define the resource to CICSplex SM. However, when that resource is installed in a given CICS system, CICSplex SM checks for and uses only those attributes that are appropriate to the release of CICS. CICSplex SM keeps track of obsolete resource attributes from earlier releases of CICS just as RDO does, so that, when you install a definition in a CICS system,

CICSplex SM discards any attributes that are obsolete for that CICS release and retains the attributes that are appropriate.

**Note:** CICSplex SM attempts to validate attribute values in such a way that the resource definition can be used with as many levels and platforms of CICS as possible. However, because of the wide variety and interdependency of resource attributes for different releases of CICS, CICSplex SM might not be able to catch all potential attribute conflicts. So even if CICSplex SM does not detect a problem, a particular release of CICS might fail a given resource installation request. For information about resource installation problems, see [“Handling dynamic installation errors” on page 87](#).

### **Validation of a set of resources**

Maintaining a consistent set of resources for each system is an integral part of managing CICS resource definitions.

When you perform any of the following operations, the requested changes are checked against the existing resource set for each affected CICS system:

- Add or update a resource definition in a resource group
- Add a resource group in description
- Update a resource description
- Update a resource assignment
- Add or update a resource assignment in a description
- Add a CICS system to a CICS system group

CICSplex SM flags a resource set as inconsistent if a resource being added or updated (referred to as the *candidate* resource) is in conflict with a resource that already exists in the CICS system.

For example, you would receive inconsistent resource set errors if you tried to:

- Assign different versions of the same resource to the same CICS system
- Assign a resource to the same CICS system as both local and remote

#### **Note:**

1. A Db2 entry definition (DB2EDEF object) that has a transaction ID specified can create both a Db2 entry (DB2NTRY object) and a Db2 transaction (DB2TRN ) operational object when the Db2 entry definition (DB2EDEF object) is installed (see [Db2 entry resource definitions](#)). Therefore, you may get inconsistent set errors because two or more Db2 entry definitions (DB2EDEF objects) have the same transaction id specified, or clash with an explicitly defined Db2 transaction definition (DB2TDEF object) that has the same name as that generated from a Db2 entry definition (DB2EDEF object), which would cause a conflict.
2. You can change the value of selected BAS objects using the **Override string** field in the **Resource assignments** view (RASGNDEF object), as described in [“Resource assignment definitions” on page 102](#). If you use this method to change the Transid field of a Db2 entry definition (DB2EDEF object) and there is a resulting clash of names of Db2 transactions (DB2TRAN objects), CICSplex SM does not detect this fact as part of inconsistent set processing.

### **Validation CICS system assignments**

CICSplex SM manages where resources are assigned by validating the target and related scope values that you specify. When you ask CICSplex SM to:

- Update a resource description
- Update a resource assignment
- Add or update a resource assignment in description
- Add a CICS system to a CICS system group



the requested changes are checked to ensure that the target and related scope values are not in conflict with each other. CICSplex SM flags the target and related scopes as inconsistent if:

- There is any overlap between the two (for example, the same CICS system is in both scopes)
- The related scope is anything other than a single CICS system for which a system ID is defined

If any of the changes you request would result in inconsistent scopes, messages to this effect are displayed at the top of the associated tabular view. Click the message numbers to display the full text of the messages and help in solving the problem.

## Controlling resources by resource description

The simplest way to manage sets of resources is to associate resource groups directly with a resource description. To do this you would:

1. Create resource groups and add resource definitions to them.
2. Create a resource description (or identify an existing one) that you want to associate the resource groups with.

Use the **Resource group scope name** field on the resource description to identify a CICS system or CICS system group where all the resources in the groups should be assigned.

3. Use the **Add to resource description** button on the **Resource group definition** view to associate one or more resource groups with the description. This creates a resource group-in-description link record (RESINDSC).

The result is that all of the resources in the resource groups are assigned to the specified CICS systems exactly as they were defined to CICSplex SM. This is similar to the way in which RDO processes the definitions in a CSD group list.

As with RDO, this simple approach to managing your resources requires separate resource definitions for each element of a resource. So assigning a resource that is local to one CICS system and remote to another would require two resource definitions. And the resources represented by a resource description are more likely to be physically related by the CICS systems where they reside than by any logical function such as an application.

Directly associating entire resource groups with a resource description is in keeping with the basic object model used by other CICSplex SM components (such as Workload Manager). And this approach is sufficient for using Business Application Services in a manner similar to RDO. However, this can also be viewed as an interim step on the way to complete management of your CICS resources with the use of resource assignments.

## Controlling resources by resource assignment

Resource assignments are a departure from the basic CICSplex SM object model of definitions, groups, and descriptions. They add a significant degree of flexibility and control to the resource definition process. They also increase the precision with which you can manage the resources in your CICSplex.

Once you have gathered resource definitions into resource groups, you can use resource assignments to:

- Control resources of a given type in a given group. Each resource assignment applies to one type of resource (such as files) in one resource group.
- Identify resources as either local or remote and assign them to various CICS systems with a single resource definition. Local resources are assigned only to those CICS systems identified as target systems. Remote resources are assigned as remote to the target systems; they are also assigned as local resources to the related system you identify.
- Process selected resources from a group by specifying a filter expression. A filter expression is a character string made up of logical expressions to be used in filtering resources (such as resources whose names begin with PAY).

- Modify resource attributes for a particular use by specifying override expressions. An override expression is a character string that identifies changes to be made to one or more attributes of a resource when it is assigned to a given CICS system.

To take full advantage of Business Application Services, you should associate your resource groups with resource assignments and your assignments with a resource description. To do this, you would:

1. Create resource groups and add resource definitions to them.
2. Create one resource assignment for each type of resource you want to manage.

Use the **Resource group name**, **Target scope name** and **Related scope name** fields on each resource assignment to identify resource groups and the CICS systems to which they should be assigned.

You can also use a filter string expression to select resources from a group and an override string expression to modify specific resource attributes.

3. Create a resource description (or identify an existing one) that you want to associate the resource assignments with.

In this approach, the resource description is really a means of grouping the resource assignments for various resources into a meaningful set, such as an application. The selection and assignment of resources are ultimately controlled by the resource assignments.

4. Use the **Add to resource description** button from the **Resource assignment definition** view to associate the resource assignments with the resource description. This creates a resource assignment-in-description link record (RASINDSC).

Note that the same resource assignment can be associated with more than one resource description, just as the same resources are generally used by more than one application.

Depending on the resource assignment values, some or all of the resources in the resource groups may be assigned as local or remote resources in multiple CICS systems.

## Using logical scopes to control application resources

Business Application Services enables you to monitor and control CICS resources according to their purpose and logical relationships within your enterprise. For example, rather than viewing the resources in one or more CICS systems or CICS system groups, you can display all the resources that are currently defined as being part of a business application. This allows you to specify a logical scope for CICSplex SM requests, rather than a physical scope that is location-dependent and subject to change.

A business application can be any set of resources that represent a meaningful entity to the users in your enterprise. The resources can exist in any CICS system in the CICSplex. If the resources are defined to CICSplex SM, Business Application Services can locate them and manage them regardless of what platform or release of CICS they are defined to.

For a business application to be recognized by CICSplex SM, you must assign it a logical scope name in a resource description. When you create a resource description, you identify the resource definitions that make up your application and the CICS systems with which the application should be associated.

**Note:** The concept of a business application is independent of the CICSplex SM resource installation capabilities. Even CICS systems that do not support resource installation can be included in a business application to be managed by CICSplex SM.

To identify a set of resources as an application, you must:

1. Define the resources to CICSplex SM using the Business Application Services resource definition views.
2. Create one or more resource groups (RESGROUP) and add the resource definitions to them.
3. Create a resource description (RESDESC) and specify a name to be used as the logical scope.
4. Decide how you want the resource definitions to be processed and then do one of the following:
  - Associate the resource groups directly with the resource description (via RESINDSC).

- If you want to further qualify the set of resource definitions, associate the resource description with a resource assignment (RASGNDEF).

Once an application has been identified to CICSplex SM as a logical scope, you can specify that name on any CICSplex SM WUI view or API request that honors a scope value.

**Note:** A logical scope name is not a valid scope for resources that cannot be defined by BAS (such as system dump codes). However, a logical scope name is valid for **CICS Regions** (CICSRGN) and **Runtime MAS display** (MAS) views, which will display the regions that may contain resources in the named logical scope.

The following resources are not valid for logical scopes:

AIMODEL  
DSKJRNL  
EJCOSE  
EJDJAR  
JOURNAL  
JVMSERV  
MQCONN  
RQMODEL  
WEBSERV

## Identifying remote resources to CICSplex SM

The choice between using resource descriptions alone or using resource assignments affects the processing of remote resources. Remote resources are defined to the local CICS system but they reside in another system. It is possible for a remote resource to have one name in the local CICS system and a different name in the remote system. CICSplex SM processes remote resource definitions differently depending on how you are managing your resources.

### By resource descriptions alone

In this situation, each resource definition in a resource group is directly associated with a CICS system. So a remote resource consists of two definitions: one for the local CICS system and one for the remote system.

CICSplex SM uses the remote system ID and remote name values in the resource definition to identify the remote resource.

### By resource assignments

When you use resource assignments, a remote resource can be fully represented to both the local and remote systems by a single resource definition. CICSplex SM selectively processes the attributes that are appropriate to each system.

The remote system ID in the resource assignment is the name of the connection that will be used between the local and remote system pair. If no name is specified, CICSplex SM uses the CICS system ID (SYSIDNT) of the remote system as the name of the connection to be used between the local and remote systems.

If you specify a remote name in the resource definition, that name is used when assigning the resource to the related (remote) system. Otherwise, the local name (that is, the name you give the resource definition) is used in both the target and related systems.

## Installation of CICS resources

You can use Business Application Services (BAS) to install CICS resources. As with CICS itself, CICSplex SM can install resources either automatically at system initialization time or dynamically into an active system.

CICS regions can be running different releases of CICS, but not all resources are available on all levels of CICS regions; for details, see the individual descriptions of the resource definition objects. The installation facility uses the **EXEC CICS CREATE** command to create resources independently of the CSD.

When you use CICSplex SM to install CICS resources, those resources can replace any identical resources that might exist in the system.

**Note:**

1. If you are using BAS to install resources automatically when a CICS system initializes, you should specify the CICSplex SM system parameter MASPLTWAIT(YES) for that system. This parameter suspends PLT processing until all CICS resources are installed and the MAS is fully initialized. For information on specifying this parameter, see [Preparing to start a z/OS MAS](#).
2. There are special considerations when arranging for activation of a Db2 connection via a Db2 connection definition (DB2CDEF object). For details, see [Activating Db2 and IBM MQ connections during CICS startup](#).
3. It is not possible to use BAS to install a IBM MQ connection before the CICSplex SM environment has been initialized.
4. It is not possible to install journal definitions (JRNLDEF objects).
5. Enqueue models forming nested generic enqueue names must be installed either in the disabled state or in order, from the most specific (for example, ABCD) to the least specific (for example, AB\*). You can install disabled enqueue models in any order, but you must enable them in order from most specific to least specific. For more information, see [Installing BAS global enqueue model definitions](#).
6. If the MAS supports the LOGMESSAGE option of the EXEC CREATE command, then you can use the CICSplex SM system parameter BASLOGMSG(NO) to prevent CICS from logging the BAS CICS resource definitions to the CSDL transient data queue. You can also set BASLOGMSG(YES) to allow this logging to occur to help with problem determination.

## Installing resource groups

When you install a resource group, you can install some or all of the resources of a single given type contained in the group.

### About this task

You can use a filter expression to select the resources to be installed. You can either specify the required CICS system and usage information for the resources, or you can refer to an existing resource assignment for that information. And, just as you can for individual resources, you can provide temporary override values for specific attributes of the selected resources.

### Procedure

1. From the WUI main menu, click **Administration > Basic CICS resource administration > Resource groups** to open the **Resource group definitions** tabular view. This view lists the existing resource groups in the current context.
2. Select the resource group to be installed and click the **Install** button to display the **Install** view. This screen prompts you to provide information about the resource definitions in the group and how the resources are to be installed. This information is normally supplied in a resource assignment. When you manually install a resource group using the **Install** action button, you can either specify the install options explicitly or refer to an existing resource assignment. If you name a resource assignment, any values that you do specify here temporarily override the equivalent values in the assignment.

**Note:** Any values that you specify on this panel are in effect only for the duration of this single installation process. No resource assignments are created or updated as a result of this panel. If you want to use the same set of install options more than once, you should create a new resource assignment.

3. Provide the following information, as appropriate:

**Resource assignment value**

(Optional.) Enter the specific or generic name of an existing resource assignment whose values are to be used for this installation. If you enter a generic value, a list of valid resource assignments is displayed.

If you specify an assignment name, the following fields are optional on this panel:

- Target scope value
- Related scope value
- Usage value
- Mode value
- Override value

If you do supply values in these fields, those values temporarily override the equivalent assignment values. If you do not specify an assignment name, these fields are required.

### Resource type


Select the type of resources to be installed from the drop down list.

**Note:** You cannot dynamically install the following types of resource definition:

- File key segment definitions (FSEGDEF objects)
- Journal definitions (JRNLDEF objects).
- Session definitions (SESSDEF objects).

### Referenced assignment name

When the **Resource type** field contains CONNDEF (for connections), identify the resource assignment that applies to the related session definitions (SESSDEF objects). For each connection, CICSplex SM requires one or more session definitions to properly construct the actual CICS link.

Clicking on the adjacent  icon opens a resource selection screen, allowing you to choose a resource from a list of those available.

### Target scope value

Enter the specific or generic name of an existing CICS system or CICS system group into which the specified resources are to be installed.

### Related scope value

Enter the specific or generic name of an existing CICS system into which those resources identified as REMOTE are to be installed as LOCAL.

**Note:** For remote transaction definitions (TRANDEF objects) that are defined as dynamic, you can specify a CICS system group for the **Related scope value**. For all other remote resources, you can specify a CICS system group only if it consists of a single CICS system.

### Usage value

Specify how the resources will be used:

#### LOCAL

The resources are contained within the target CICS system. LOCAL is valid for all supported resource types.

#### REMOTE

The resource definitions refer to resources that reside in a different CICS system. If you specify REMOTE, you must also specify a **Related scope value** to identify the CICS system that will contain the local instances of the resources. REMOTE is valid only for the following resource types:

- File definitions (FILEDEF objects)
- Program definitions (PROGDEF objects)
- Transient data queue definitions (TDQDEF objects)
- Transaction definitions (TRANDEF objects)

#### Note:

- a. When you specify REMOTE, the resources are assigned to all the CICS systems identified in both the **Target scope value** and **Related scope value** fields. Likewise, when the resources

associated with this assignment are installed, remote resources are installed in both the target and related scopes.

- b. Although a temporary storage queue may be created on a remote system, the temporary storage model that controls the queue's attributes is always a local resource. Therefore, when you install a temporary storage model definition, the **Usage value** must always specify LOCAL. See [Installing BAS temporary storage model definitions](#). For a description of the TSMDEF Remote system attribute, see [Temporary storage model definitions - TSMDEF](#).

### Mode value

For some resource types, CICSplex SM requires additional information to determine which subset of resource attributes to use in completing the installation. The Mode value you should specify depends on the resource type being installed:

#### Programs (PROGDEF)

If you specified LOCAL in the Usage field, you can specify AUTO to have CICS automatically install programs into a system. AUTO means that no explicit definition of the programs is required in the CICS system. Otherwise, specify N/A.

If REMOTE is specified in the Usage field, you can identify how the program is to be routed:

#### DYNAM

Programs are processed by the dynamic routing program (DTR).

#### STAT

Programs are sent to the remote CICS system identified in the Related Scope

#### Transactions (TRANDEF)

You can specify whether or not the transaction should be processed by the dynamic routing program. If the **Usage value** field contains REMOTE, a **Mode value** must be specified.

#### DYNAM

Transactions are processed by the dynamic routing program.

#### STAT

Each transaction should be sent to the remote CICS system identified in the transaction definition (TRANDEF). This mode may be specified only if the **Usage value** field contains REMOTE.

**Note:** The value you specify here overrides the Dynamic value in the TRANDEF.

#### Transient data queues (TDQDEF)

You can identify the type of transient data queue to be installed:

#### EXTRA

Extrapartition TDQ.

#### IND

Indirect TDQ.

#### INTRA

Intrapartition TDQ.

If you specify N\_a, CICSplex SM uses the Type value in the TDQDEF to install the transient data queue. If the Type value is REMOTE, CICSplex SM installs an indirect TDQ.

For all other resources, specify N\_a because no mode data is required.

### Overtyping value

If you plan to specify an override expression for the resources, indicate which scope the override values should be applied to:

#### BOTH

Apply the override values to both scopes.

#### NONE

Do not apply any override values.

**RELATED**

Apply the override values to the Related Scope only.

**TARGET**

Apply the override values to the Target Scope only.

**Notify value**

Specify the type of checking to be performed before attempting to install resources in the specified CICS systems:

**NO**

No checking is performed.

**INACTIVE**

Check for CICS systems in the target scope that are not currently active.

**RELEASE**

Check for CICS systems in the target scope that do not support EXEC CICS CREATE commands.

**FULL**

Perform both INACTIVE and RELEASE checking.

**State check value**

Indicate whether or not the existence and operational state of all resources are to be checked before an **EXEC CICS CREATE** command is issued.

**NO**

The existence and operational state of all resources are not to be checked.

**YES**

The existence and operational state of all resources are to be checked.

**Force install value**

Specify YES or NO to indicate whether you want to install the resources even if CICSplex SM believes they do not need to be installed.

Normally, CICSplex SM checks to see if it was responsible for placing the currently installed resource in the CICS system. If so, CICSplex SM does not install the resource, to avoid inadvertently changing attributes of an active resource.

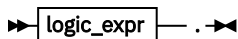
If you specify YES in this field, CICSplex SM bypasses this duplicate resource checking and installs the new resource unconditionally.

**Filter string**

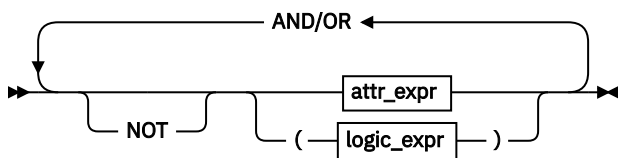
(Optional.) Identifies attributes that are to be used in selecting the resources to be installed. CICSplex SM processes only those resources that meet the specified filter criteria.

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 for the specified resource. 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.

If the attribute accepts character data, this value can be 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=PY++
```

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.

### Override string

(Optional.) Identifies attributes of the specified resources whose values are to be overridden when they are installed in one or more of the specified scopes. (The value in the **Overtyp** value field determines which scope the override values are applied to.)

An override expression can be made up of one or more attribute expressions in the form:

### Override expression

where:

#### **attr**

Is the name of a modifiable attribute for the resource.

#### **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'.
```

4. Click **Yes** to install the resource group in the specified CICS systems.

## Installing resource descriptions

When you install a resource description, you are installing resources from resource groups that are associated, either directly or indirectly, with the description.

### Before you begin

To install resources using a resource description, the CICS regions must be active and must be running a release of CICS that supports the **EXEC CICS CREATE** command.

### About this task

#### Procedure

1. From the WUI main menu, click **Administration > Basic CICS resource administration > Resource descriptions** to open the **Resource description definition** tabular view.

This view lists the existing resource descriptions in the current context.

2. Select the resource description that you want to install and click the **Install** action button.

This action button opens an Install input panel.

3. Fill out the fields in the input panel to select what checks CICSplex SM should run before installing the resources:
  - a) Select the type of checking to be performed before attempting to install resources in the CICS regions associated with the description.
  - b) Select whether or not the existence and operational state of all resources are to be checked before an **EXEC CICS CREATE** command is issued.
  - c) Select whether or not you want CICSplex SM to force the installation of the resources.

CICSplex SM checks to see if it installed the current resource in the CICS region. If so, CICSplex SM does not install the resource, to avoid changing the attributes of an active resource. You can bypass this processing, to unconditionally install the new resource.
4. Click **Yes** to install the resource description in active CICS regions.

## Results

When you use the **install** action from the **Resource description definition** view, CICSplex SM attempts to install all of the resources associated with the resource description into the CICS regions named in the target scope and related scope fields.

- Resources that are directly associated with the description are installed in the CICS regions named in the **Resource group scope name** field of the description.
- Resources that are associated with the description using a resource assignment are installed in the target and related scope regions. You can identify these CICS regions by the resource assignment, the resource description, or the association between them (**Resource assignment in resource description** view).

## What to do next

You can also replace the resources associated with an installed resource description with the resources associated with a new description. When you replace a resource description, CICSplex SM performs the following processing:

- Discards any resources that are associated with the old resource description, but not the new one.
- Reinstalls any resources that are associated with both the old resource description and the new one, regardless of whether the definitions have changed.
- Installs any additional resources that are associated with the new resource description.

## Deciding where resources should be installed

With Business Application Services, you can issue a single request and have resources installed throughout the CICSplex. The key is to define a resource as broadly as possible and install it in as many CICS systems as possible at one time. A single resource definition can be used to install multiple instances of the resource in multiple CICS systems. And that same resource definition can be used to install both local and remote resources. For example, a single transaction definition could be used to install local transactions in your application-owning regions (AORs) and remote transactions in your terminal-owning regions (TORs).

To determine what resources to install and where to install them, CICSplex SM checks the target scope, related scope, and resource group values in your resource assignments, resource descriptions, and the associations between them. The information in these definitions is processed as follows:

1. Resource assignments (RASGNDEF objects) take precedence. Any values that you explicitly define in a resource assignments are used, regardless of any other values you may specify.
2. For any values that are not found in a resource assignment definition, CICSplex SM checks the resource assignment-to-description association (RASINDSC object) and uses the values it finds there.
3. For any values that are not found in either the resource assignment or the resource assignment-to-description association definition, CICSplex SM checks the resource description (RESDESC object) and uses those values. The resource description values serve as defaults, if no other values are specified.

So you could identify the standard target and related scope values for your enterprise in one or more resource description definitions. Then, for particular assignment purposes (of a particular resource type, for example), you could override those standard values by specifying different values in the resource assignment or resource assignment-to-description association definition.

## Automatic resource installation

The automatic installation of resources in a CICS system is controlled by:

- The CICS system definition, which tells CICSplex SM under what conditions resources should be installed and what to do if installation errors occur.
- One or more resource descriptions and, optionally, resource assignments, which tell CICSplex SM what resources to install and how to install them.

When a CICS system initializes and identifies itself to a CMAS, CICSplex SM reviews all the resource descriptions that are associated with that CICS system and determines the set of resources that should be installed.

### Installing resources automatically

Resources can be installed in a CICS system automatically even if the maintenance point CMAS for the CICSplex is not active.

#### About this task

To automatically install a set of resources when a CICS system initializes:

#### Procedure

1. Update the CICS system definition, using the **CICS system definition** view (CSYSDEF object) to indicate:
  - a) Whether resources should be installed every time the system initializes, only during a COLD or warm (AUTO) start, or not at all.  
CICSplex SM handles the initial start of a CICS system in the same way as it does a cold start. An emergency restart of CICS is handled in the same way as a warm start.
  - b) How CICSplex SM should handle any resource installation errors that might occur.
2. Create one or more resource descriptions, using the **Resource description** view (RESDESC object):
  - a) Specify YES in the autoinstall field to enable automatic resource installation.
  - b) Specify the groups of resources to be installed.

If the resource groups are directly associated with a resource description, using the **Resource group in resource description** view (RESINDSC object), the resources are installed in the CICS systems named in the **Resource group scope name** field of the description.

3. Optional: Associate the resource descriptions with resource assignments, using the **Resource assignment definition** view (RASGNDEF object) to select specific resources and provide usage information and override values.

In this case, the resources are installed in the CICS systems named in the Target Scope and Related Scope fields of the resource assignment, resource description, or the association between them.

#### **Performance considerations for assigned resource descriptions**

Too many installation assignments with resource descriptions in a CICSplex can affect performance.

Each time that a BAS resource definition is associated with a target CICS system through a resource description (RESDESC object), an entry for that installation assignment is made in the resource set table. The resource set table is an internal table in the BAS storage cache.

For example, consider a data repository with just one resource description definition, which has 50 program definitions (PROGDEF objects) associated with it in migration mode. When the target scope of

the resource description is assigned to a single MAS, the resource set table is initialized with 50 entries; one entry for each program definition instance at the target MAS. If the resource description target scope is changed to a CICS system group that comprises 20 MASs, the number of entries in the resource set table increases to 1000 (50 resource definitions multiplied by 20 target regions). The resource set table is kept in contiguous storage to optimize performance.

Therefore, because the BAS storage cache has a finite size, there is a limit on the number of installation assignments that can be made with resource descriptions within a CICSplex. The limit varies for each specific installation, but the assignment of more than 150,000 resource definitions across the whole of the CICSplex might lead to performance problems. If a CICSplex is expected to exceed that limit, consider reducing the number of static definitions by using autoinstall services.

## Handling automatic installation errors

### About this task

If any of the resources identified in the resource descriptions for a CICS system cannot be installed when the system initializes, CICSplex SM:

- Issues EYUBNnnnn messages to the CICS job log and EYULOG. These messages describe the resources and the reasons they could not be installed, including any error codes that may have been returned by CICS.

**Note:** The job log will also contain CICS messages with detailed information on the installation errors.

- Responds according to the Recovery Action value in the **CICS system definition** view (CSYSDEF object):

#### **CONTINUE**

Continue installing other resources.

#### **IMMEDIATE**

Shut down the CICS system immediately.

#### **NORMAL**

Shut down the CICS system normally.

#### **PROMPT**

Prompt the operator console for an action. The resource installation process in the CICS system is suspended until the operator responds, but all other MAS processing continues.

#### **TERMINATE**

Terminate the resource installation process. No more resources are installed. Any resources that were successfully installed are not removed.

## Dynamic resource installation

It is recommended that you install most of your resources automatically, as each CICS system initializes. However, at times it might be necessary to refresh those resources or install more resources to satisfy special circumstances. When a CICS system is running, you can use Business Application Services to install new or updated resources dynamically.

You can install a single resource in a single CICS system or a whole set of resources of various types in multiple CICS systems, complete with definition assignment and override values. When you install CICS resources dynamically, you can force those resources to replace any identical resources that were installed in the system previously.

### **Note:**

1. The maintenance point CMAS for the CICSplex must be active when you attempt to install resources dynamically. If the maintenance point is not available, the installation request fails.
2. You cannot dynamically install session definitions (SESSDEF objects) directly. They can be installed indirectly through a SYSLINK resource or by defining a RASGNDEF (Resource Assignment Definition) for the SESSDEF, then installing the related CONNDEF with the RASGNDEF specified as the referenced resource assignment.

When you install an individual resource, you must identify the CICS systems where the resource is to be installed and provide information about its use as a local or remote resource. Optionally, you can provide override values for specific attributes of the resource. Any override values that you specify are used only for this one-time installation of the resource. The resource definition in the data repository remains unchanged.

You can use the **install** action command to install dynamically a resource into one or more active systems. For details of valid CICS systems, see the descriptions of the individual BAS objects. The options for installing a resource are the same options that you can specify when you create a resource assignment (RASGNDEF object), including specifying an override expression to be applied for this installation.

**Note:** The **File key segment definitions** and **Session definitions** views (FSEGDEF and SESSDEF objects) do not support the **install** action command.

CICSplex SM attempts to install all of the resources you identify, but sometimes conditions in the CICSplex prevent the installation process from completing successfully. When installation problems occur, CICSplex SM provides detailed information about the errors.

## Installing resources dynamically

### About this task

To install a resource definition dynamically:

1. Open a resource definition screen by clicking **Administration > Basic CICS resource administration > Resource definitions**, then selecting the type of resource to be installed.

**Note:** You can also access this view from the **Fully functional Business Application Services (BAS) administration views** menu.

2. Select one or more resources and click the **Install** button.
3. Provide the following information about the CICS systems where the resources are to be installed.

#### Target scope value

Enter the specific or generic name of an existing CICS system or CICS system group into which the specified resources are to be installed.

#### Related scope value

If you specify a **Usage value** of REMOTE, enter the specific or generic name of an existing CICS system into which the remote resource is to be installed as LOCAL.

**Note:** For remote transaction definitions (TRANDEF objects) that are defined as dynamic, you can specify a CICS system group for the **Related scope value**. For all other remote resources, you can specify a CICS system group only if it consists of a single CICS system.

#### Usage value

Specify how the resource will be used:

##### LOCAL

The resource is contained within the target CICS system. LOCAL is valid for all supported resource types.

##### **REMOTE**

The resource definition refers to a resource installed in a different CICS system. If you specify REMOTE, you must also specify a **Related Scope value** to identify the CICS system that will contain a local instance of the resource. REMOTE is valid only for the following resource types:

- File definitions (FILEDEF objects)
- Program definitions (PROGDEF objects)
- Transient data queue definitions (TDQDEF objects)
- Transaction definitions (TRANDEF objects)

**Note:**

- a. When you specify REMOTE, the resources are assigned to all the CICS systems identified in both the **Target scope value** and **Related scope value** fields. Likewise, when the resources associated with this assignment are installed, remote resources are installed in both the target and related scopes.
- b. Although a temporary storage queue may be created on a remote system, the temporary storage model that controls the queue's attributes is always a local resource. Therefore, when you install a temporary storage model definition, the **Usage value** must always specify LOCAL. See [Installing BAS temporary storage model definitions](#). For a description of the temporary storage model definition Remote system attribute, see [Temporary storage model definitions](#).

### Mode value

For some resource types, CICSplex SM requires additional information to determine which subset of resource attributes to use in completing the installation. The **Mode value** you should specify depends on the resource type being installed:

#### Programs (PROGDEF objects)

If you specified LOCAL in the **Usage value** field, you can specify AUTO to have CICS automatically install programs into a system. AUTO means that no explicit definition of the programs is required in the CICS system. Otherwise, specify N/A.

#### Transactions (TRANDEF objects)

You can specify whether or not the transaction should be processed by the dynamic routing program. If the **Usage value** field contains REMOTE, a **Mode value** must be specified as follows:

**Note:** The value you specify here overrides the **Dynamic routing option** value in the transaction definitions (TRANDEF objects).

#### DYNAM

Transactions are processed by the dynamic routing program.

#### STAT

Each transaction should be sent to the remote CICS system identified in the transaction definition (TRANDEF object). This mode may be specified only if the **Usage value** field contains REMOTE.

#### Transient data queues (TDQDEF definitions)

You can identify the type of transient data queue to be installed:

#### EXTRA

Extrapartition TDQ

#### IND

Indirect TDQ

#### INTRA

Intrapartition TDQ

If you specify N/A, CICSplex SM uses the **Transient data queue type** value in the transient data queue definition to install the transient data queue. If this type value is REMOTE, CICSplex SM installs an indirect transient data queue.

For all other resources, specify N/A because no mode data is required.

### Overtyping value

If you plan to specify an override expression for the resource, indicate which scope the override values should be applied to:

#### NONE

Do not apply any override values.

#### BOTH

Apply the override values to both scopes.

#### RELATED

Apply the override values to the Related Scope only.

## TARGET

Apply the override values to the Target Scope only.

### Referenced resource assignment name

If you are installing connections from the **Connection definition** view, identify the resource assignment that applies to the related session definitions. For each connection, CICSplex SM requires one or more session definitions to properly construct the actual CICS link.

**Note:** The **Referenced resource assignment name** field appears only when you are installing a connection from the **Connection definition** view.

#### 4. Specify any pre-installation checks.

When you install resources into CICS systems dynamically, you can ask CICSplex SM to perform the following checks before it attempts to install the resources:

- Are the CICS systems running?
- Do the CICS systems support the EXEC CICS CREATE command?

The value in the **Notify value** field determines, which, if any, checks are carried out.

If you request any of these pre-installation checks, CICSplex SM performs them for all the resources you specified before any of the resources are installed.

To specify these checks, select one of the following values from the **Notify value** field:

#### INACTIVE

CICSplex SM checks all of the CICS systems you identified to make sure they are currently active in the CICSplex. If any of the CICS systems are not active, CICSplex SM returns a list of inactive systems.

#### RELEASE

CICSplex SM checks for CICS systems in the target scope that do not support EXEC CICS CREATE commands. If any of the CICS systems are running a release of CICS that does not support EXEC CICS CREATE, CICSplex SM returns a list of systems where resources cannot be installed.

#### FULL

CICSplex SM checks all of the CICS systems you identified to make sure they are currently active in the CICSplex, and checks that the CICS system is at the appropriate level for the resource being installed. If any of the CICS systems are not active, CICSplex SM returns a list of inactive systems. If any of the CICS systems are running a release of CICS that does not support EXEC CICS CREATE, CICSplex SM returns a list of systems where resources cannot be installed.

#### NO

No checking is performed.

#### 5. Request any consistent state check.

If a resource that you are trying to install already exists in a CICS system, CICSplex SM can check whether its current operational state would allow the resource to be replaced. For example, if a program with the same name and attributes exists in a CICS system, CICSplex SM attempts to discard it. However, if that program is currently in use, CICSplex SM cannot replace it with a new one. You use the **State check value** field to request a consistent state check:

#### State check

##### NO

CICSplex SM does not provide details on resource that are not installable because of their status before issuing an EXEC CICS CREATE command.

##### YES

CICSplex SM provides details on resources that are not installable because of their status before issuing an EXEC CICS CREATE command.

If you do not request a state check, CICSplex SM passes the EXEC CICS CREATE request to CICS; if the resource is in a state that prevents it from being replaced, the request fails.

#### 6. Specify a **Force install value**.

Before installing a resource, CICSplex SM checks to see if the same resource already exists in the CICS system and if CICSplex SM itself was responsible for installing it. If so, CICSplex SM considers the new resource to be a duplicate.

In this situation, CICSplex SM concludes that the new resource does not need to be installed because it is a duplicate of one that already exists. However, you may want to reinstall an existing resource if, for example, you have changed attributes of the definition, or you are supplying override values as part of the installation request. To do this, you can use the **Force install value** option when you dynamically install resources. This option is available when you:

- Install an individual resource
- Install a resource group
- Install a resource description
- Replace a resource description

### Force install value

#### **YES**

Install the specified resource unconditionally, without checking whether or not it is a duplicate

#### **NO**

Do not install the duplicate resource.

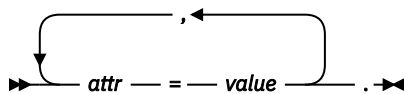
By default, **Force install value** is set to No; CICSplex SM does not normally force the installation of a resource it believes to be a duplicate. However, if you specify YES, you can bypass this duplicate resource checking. CICSplex SM will install all of the specified resources unconditionally.

### 7. Provide any override expressions.

This identifies attributes of the specified resource whose values are to be overridden when they are installed in one or more of the specified scopes. The value in the **Override string** field determines which scope the override values are applied to.

(Optional.) An override expression can be made up of one or more attribute expressions in the form:

#### Override Expression



where:

#### **attr**

Is the name of a modifiable attribute for the resource.

#### **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'.
```

### 8. Click **Yes** to action any pre-installation checks and install the resource definition in the specified CICS systems. The resource definition tabular view is redisplayed.

If the installation fails, messages containing diagnostic information are displayed on this screen.



## Handling dynamic installation errors

When you ask CICSplex SM to install one or more resources dynamically by using the **Install** button from WUI view, an **Install** view is displayed. After you provide the required information and click **Yes**, CICSplex SM attempts to install the selected resources into the appropriate CICS systems. Note that the installation of resources into various CICS systems can take place in at the same time.

When the installation process is complete, if any of the resources could not be installed, the tabular view for the resources is displayed with one or more error messages at the beginning. For example, if you tried to install an IPIC connection definition, you might see a set of messages like these:

```
EYUVC1231E      'Install' (INSTALL) request failed. Request complete for 1 records. (Tableerror,  
Dataerror)  
EYUVC1272I      Action (INSTALL) failed. Nothing installed (21).  
EYUVC1273I      Action (INSTALL) failed for 'A0T0' (Ipconddef) version 1, in 'DEWCBBA0'. Install failure  
EYUVC1279I      CICS information: EIBFN(303C - CREATE IPCONN) RESP(16 - INVREQ) RESP2(0, 631)
```

Click the error message number to display the full text of the message which contains reasons why the install failed and suggestions for solving the problem.

## Extracting records from the CSD

To migrate resource definitions from your CICS system definition (CSD) file, CICSplex SM provides an exit routine that can extract records from an existing CSD. The exit routine uses the EXTRACT command of the CICS DFHCSDUP utility to read CSD records. The extracted CSD records are processed by the CICSplex SM-supplied extract routine EYU9BCSD to generate equivalent CICSplex SM resource definition records that you can use as input to the batched repository-update facility.

## Creating input to the extract routine EYU9BCSD

### About this task

The input file for the CICSplex SM extract routine EYU9BCSD consists of a series of control statements. These control statements describe the CSD records you want to extract and the resource groups with which they should be associated.

The input file must adhere to the following requirements:

- The file must have a fixed logical record length of 80.
- Each control statement must be contained on a single line.
- Any line with \* in column 1 is treated as a comment.

The following control statements are supported:

#### **RESGROUP(CSDGROUP|*resgroup*)**

Identifies the resource group or groups to be generated:

##### **CSDGROUP**

A RESGROUP definition is generated for each CSD group presented to EYU9BCSD.

##### ***resgroup***

A single RESGROUP definition is generated using the specified name.

The RESGROUP statement is optional and, if specified, only one is allowed per input file.

#### **RESINGRP(CSDGROUP|*resgroup*)**

Identifies the resource group with which resource definitions are to be associated:

##### **CSDGROUP**

Resource definitions are associated with a resource group having the same name as the original CSD group.

##### ***resgroup***

Resource definitions are associated with the specified resource group. The resource group must already be defined in the data repository for an association to be created.

The RESINGRP statement is optional and, if specified, only one is allowed per input file. If you do not specify a RESINGRP statement, the batched repository-update facility CREATE xxxxDEF command is generated without a RESGROUP operand. In that case, the xxxxDEF resource definition is not automatically associated with any resource group.

***objtype(resname)***

Identifies the CSD records to be processed by EYU9BCSD, where:

***objtype***

Is the CSD resource type, which may be one of the following:

ATOMSERVICE, BUNDLE, CONNECTION, CORBASERVER, DB2CONN, DB2ENTRY, DB2TRAN, DJAR, DOCTEMPLATE, ENQMODEL, FILE, JOURNAL, IPCONN, JOURNALMODEL, LIBRARY, LSRPOOL, MAPSET, MQCONN, PARTITIONSET, PARTNER, PIPELINE, PROCESSTYPE, PROFILE, PROGRAM, REQUESTMODEL, SESSIONS, TCPIPService, TDQUEUE, TERMINAL, TRANCLASS, TRANSACTION, TSMODEL, TYPETERM, URIMAP, WEBSERVICE

You can specify multiple *objtype* statements in a single input file, but each one must represent a different resource type. Only one *objtype* statement of a given resource type is allowed per input file.

***resname***

Is the specific or generic name of a CSD resource of the specified type.

For example, PROGRAM(\*) would process all the PROGRAM records in the CSD presented to EYU9BCSD. PROGRAM(AB+C\*) would process only those PROGRAM records that match the generic pattern. Note that the asterisk (\*) is interpreted according to CICSplex SM rules for generics, not CEDA rules.

**INQUOTES(NO|YES)**

Identifies whether or not you want field values enclosed in quotes on the output data set. You may need to use this control statement if you have any data on your CSD that contains unbalanced parentheses. If you omit this keyword, the default value of NO is assumed.

**NO**

The values of parameters are not enclosed in quotes on the output data set. This setting is perfectly adequate for input to the batched repository-update facility, but you might encounter problems if the parameter values contain unbalanced parentheses.

Note that, if you specify INQUOTES(NO), the EYU9BCSD output can be used as input to any release of the CICSplex SM batched repository-update facility.

**YES**

All values of parameters are enclosed in quotes on the output data set. The CICSplex SM batched repository-update facility terminates the parameter value at the final quote, not at an embedded parenthesis.

Note that, if you specify INQUOTES(YES), the EYU9BCSD output can be used only with the CICSplex SM batched repository-update facility at CICSplex SM and later. The EYU9BCSD output is not compatible with, and cannot be used as input to, the batched repository-update facility supplied with earlier releases of CICSplex SM.

For example, suppose a DESCRIPTION field contains the value:

```
1) Describe Resource
```

If you specify INQUOTES(NO), which is the default, the EXTRACT routine will produce the following statement in the output data set:

```
DESCRIPTION(1) Describe Resource)
```

The CICSplex SM batched repository-update facility interprets this as a DESCRIPTION field containing the value 1, followed by two unrecognizable keywords.

If you specify INQUOTES(YES), EYU9BCSD places quotes around the field value. The output data set would contain the statement:

```
DESCRIPTION('1 Describe Resource')
```

This statement is interpreted correctly by the CICSplex SM batched repository-update facility.

## Submitting a job to EYU9BCSD

To submit a job to EYU9BCSD, you can use the **DFHCSDUP EXTRACT** command.

### Procedure

- Specify the **DFHCSDUP EXTRACT** command as follows:

```
Extract LIst(listname) | Group(groupname)
  Useprogram(EYU9BCSD) OBJECTS
```

#### Notes:

- EYU9BCSD must be invoked from the USERPROGRAM keyword; it cannot be called on the entry linkage to DFHCSDUP using the EXITS parameter.
- The OBJECTS keyword is required.

### Sample JCL to run EYU9BCSD for a CSD group list

This sample JCL is supplied in the member EYUJCLEX in the CICSTS55.CPSM.SEYUSAMP library.

This example extracts resource definitions of all resource types from a specified CSD group (*group\_name*). At the same time, a CICSplex SM resource group (RESGROUP) is generated for that CSD group and associations are generated between the group and the resource definitions.

```
//*-----
//*
//* Delete the extract output file for a rerun of this job
//*
//*-----
//BR14OUT EXEC PGM=IEFBR14
//EYUOUT DD DISP=(MOD,DELETE,DELETE),
// DSN=cpsm.index.EYUOUT.group_name,
// SPACE=(TRK,(1,1)),
// UNIT=SYSDA
```

```
//*-----
//*
//* Extract the CSD Resource Definitions
//*
//*-----
//CSDXTRCT EXEC PGM=DFHCSDUP,REGION=0M,
// COND=(0,NE),
// PARM='CSD(READONLY)'
//STEPLIB DD DISP=SHR,DSN=cics.index.SDFHLOAD
// DD DISP=SHR,DSN=cpsm.index.SEYUAUTH
//DFHCSD DD DISP=SHR,DSN=cics.dfhcscd
//EYUOUT DD DISP=(,CATLG,DELETE),
// DSN=cpsm.index.EYUOUT.group_name,
// SPACE=(TRK,(1,5)),
// UNIT=SYSDA
//SYSPRINT DD SYSOUT=*
//SYSIN DD *
EXTRACT USERPROGRAM(EYU9BCSD) OBJECTS GROUP(group_name)
/*
//EYUIN DD *
RESGROUP(group_name)
RESINGRP(CSDGROUP)
ATOMSERVICE(*)
BUNDLE(*)
CONNECTION(*)
CORBASERVER(*)
DB2CONN(*)
DB2ENTRY(*)
```

```

DB2TRAN(*)
DJAR(*)
DOCTEMPLATE(*)
ENQMODEL(*)
FILE(*)
IPCONN(*)
JOURNAL(*)
JOURNALMODEL(*)
JVMSERVER(*)
LIBRARY(*)
LSRPOOL(*)
MAPSET(*)
MQCONN(*)
PARTITIONSET(*)
PARTNER(*)
PIPELINE(*)
PROCESSTYPE(*)
PROFILE(*)
PROGRAM(*)
REQUESTMODEL(*)
SESSIONS(*)
TCPIPSERVICE(*)
TDQUEUE(*)
TERMINAL(*)
TRANCLASS(*)
TRANSACTION(*)
TSMODEL(*)
TYPETERM(*)
URIMAP(*)
WEBSERVICE(*)
/*

```

```

/*-----
/*
/* List EYUOUT to view errors
/*
/*-----
//LISTOUT EXEC PGM=IEBGENER
//SYSUT1 DD DISP=OLD,DSN=cpsm.index.EYUOUT.group_name
//SYSUT2 DD SYSOUT=*
//SYSPRINT DD SYSOUT=*
//SYSIN DD DUMMY

```

Modify the sample JCL to provide the following information:

### **CSDXTRCT**

The COMPAT keyword must be used on the CSDXTRCT PARM= statement to extract CICS resource attributes that are now obsolete; for example, the OMGINTEGER, OMGMODULE, and OMGOPERATION attributes of a CICSplex SM REQUESTMODEL resource definition.

### **EYUOUT**

Identify *cpsm.index.EYUOUT.group\_name* as a sequential data set where the batched repository-update facility commands generated by EYU9BCSD can be written.

### **STEPLIB**

Identify:

- *cics.index.SDFHLOAD* as the CICS load library containing the DFHCSDUP module.
- *cpsm.index.SEYUAUTH* as the CICSplex SM load library containing EYU9BCSD.

### **DFHCSD**

Identify *cics.dfhcsd* as the VSAM data set that serves as the CSD file.

### **SYSIN**

Identify GROUP *group\_name* as the CSD group from which definitions are to be extracted. The group name may contain wildcards. Identify LIST *list\_name* as the CSD grouplist from which definitions are to be extracted. The list name may not contain wildcards.

For more details of the DFHCSDUP utility and its parameters, see [System definition file utility program \(DFHCSDUP\)](#).

To extract definitions from all the groups in a CSD group list:

1. Change GROUP(*group\_name*) to LIST(*list\_name*).
2. Identify a CSD group list.
3. Change all other occurrences of *group\_name* to the appropriate *list\_name*.

## EYUIN

If you specify LIST(*list\_name*) in the SYSIN statement, change the RESGROUP value from *group\_name* to CSDGROUP. Specifying CSDGROUP generates a resource group for each CSD group in the group list.

## Output from EYU9BCSD

You can use the CICSPlex SM-supplied extract routine EYU9BCSD to generate CICSPlex SM resource definition records for each CSD record identified in your input file. The output from EYU9BCSD is used to populate the data repository.

The CICSPlex SM extract routine EYU9BCSD uses the data extracted from the CSD by the DFHCSDUP EXTRACT command to generate batched repository-update facility commands like those shown in [Figure 9 on page 91](#).

```

/*
  RESGROUP(group_name)
  RESINGRP(CSDGROUP)
  PROCESSTYPE(*)
  TSMODEL(*)
  REQUESTMODEL(*)
*/
CONTEXT EYUPLX01;
CREATE RESGROUP      RESGROUP(group_name)
                    DESCRIPTION( )
                    ;
CREATE PROCDEF       NAME(CICSPRTY)
                    DESCRIPTION(Sample CBTS Processtype )
                    STATUS(ENABLED)
                    FILE(CBTSFILE)
                    AUDITLOG( )
                    AUDITLEVEL(OFF)
                    RESGROUP(group_name)
                    ;
CREATE TSMDEF        NAME(SAMPLE)
                    DESCRIPTION(Sample TS Model )
                    PREFIX(ABCD )
                    LOCATION(AUXILIARY)
                    RECOVERY(NO)
                    SECURITY(NO)
                    POOLNAME( )
                    REMOTESYSTEM( )
                    REMOTEPREFIX( )
                    RESGROUP(group_name)
                    ;
CREATE RQMDEF        NAME(REQMOD1)
                    DESCRIPTION(Sample Request Model )
                    OMGMODULE(*)
                    OMGINTERFACE(*)
                    OMGOPERATION(*)
                    TRANSID(TRNX)
                    RESGROUP(group_name)
                    ;

```

Figure 9. Sample edited output from EYU9BCSD

**Note:** If you did not specify a RESINGRP statement in your EYU9BCSD input, the CREATE xxxxDEF command is generated without a RESGROUP operand. That means the resource definition will not be associated with any resource group.

If multiple CSD records are found for the same resource type and name, multiple CREATE commands are generated, each with a different version number.

The batched repository-update facility CREATE commands are written to the EYUOUT output file you identified in the DFHCSDUP JCL.

## Editing the EYUOUT file

### About this task

The CREATE commands are generated in the proper form and the proper sequence for use by the batched repository-update facility. However, before you submit the EYU9BCSD output to the batched repository-update facility, you must edit the EYUOUT file as follows:

#### Context

The batched repository-update facility needs to know the CICSplex SM context for the resource definitions being processed. You must insert a CONTEXT statement at the beginning of the file to identify the CICSplex to which the updates apply. See [Figure 9 on page 91](#).

#### Passwords

The CSD records extracted by DFHCSDUP do not include passwords. Any resource definitions that include passwords are generated with blanks (X'40') in the password fields, unless you add the passwords manually.

You can edit individual CREATE commands in the file to add the appropriate password fields. The passwords are then included in the resource definitions that CICSplex SM generates in the data repository. Be aware, however, that the batched repository-update facility output will include a visible record of the passwords that you entered.

#### Obsolete Fields

The CSD records extracted by DFHCSDUP do not include fields that are considered obsolete, but which are retained for compatibility (such as RSL in a map set, partition set program, or transaction definition).

You can edit individual CREATE commands in the file to add the appropriate fields. The additional fields are then included in the resource definitions that CICSplex SM generates in the data repository.

## Submitting EYUOUT to the batched repository-update facility

### About this task

After you have made the necessary changes to the EYU9BCSD output file, you can submit it as input to the batched repository-update facility.

For more information on the batched repository-update facility, see [Administering CICSplex SM](#).

## Example BAS tasks

This section describes a number of typical BAS tasks.

### Establishing CICSplex connectivity

This example uses the Web User Interface (WUI) to create the pairs of connection and session definitions that are required to connect the CICS systems in the supplied CICSplex, EYUPLX01.

#### Procedure

1. Create the first ISC connection definition.
  - a) From the WUI main menu, click **Administration > Basic CICS resource administration > CICS resource definitions > Connection definitions** to open the **Connection definition** tabular view.
  - b) If the current context is not EYUPLX01, specify EYUPLX01 in the **Context** field and click **Refresh**.
  - c) Click **Create** and complete the Create panel as follows:

Field name	Value
Connection definition name	C001

Field name	Value
Description	ISC Connection
Access method	z/OS Communications Server
Protocol	Appc
Nature of connection	Notapplic
APPC terminal on single session APPC link	No
Data stream type	User
Record format	U
Queue limit	No
Maximum queue time	No
Autoconnect sessions for z/OS Communications Server	Yes
Connection status	Yes
Level of attach-time security	Local
Bind time security	No
Use default user ID	N_a
Persistent session recovery	Sysdefault
Exchange lognames (XLN) action	Keep

Other fields can remain blank.

- d) Click **Yes** to confirm the operation. The new ISC connection is created and the **Connection definition** tabular view is redisplayed.
2. Create the associated session definition.
    - a) From the WUI main menu, click **Administration > Resource definitions > Session definitions** to open the **Session definition** tabular view.
    - b) Click the **Create** button and complete the Create panel:

Field name	Value
Session definition name	S001
Definition version	0
Definition description	ISC session
Connection definition name	C001
Intercommunication link protocol	Appc
Maximum number of sessions in the group	4
Maximum number of contention winner sessions	2
Receive buffer size	4096
Session priority	0
Autoconnect option	YES
Session inservice	N_a

Field name	Value
Chain assembly required	Yes
Honor release requests	No
Honor disconnect requests	No
Recovery option	Sysdefault
XRF recovery notification option	N_a

Other fields can remain blank.

- c) Click **Yes** to confirm. The ISC session definition is created and the Session definition tabular view is redisplayed.
3. Define the link between the relevant CICS systems.
    - a) From the WUI main menu, click **Administration > Basic CICS resource administration > CICS system links and related resources > All system links**.
    - b) Click the **Create** button and complete the Create panel as follows:

Field name	Value
Primary CICS system name	EYUMAS1A
Secondary CICS system name	EYUMAS1B
Connection resource type	Sna
Primary connection definition name	C001
Primary connection definition version	1
Secondary connection definition name	S001
Secondary connection definition version	1

- c) Click **Yes** to create the link. The ISC link between EYUMAS1A and EYUMAS1B is created and the **All system links** view is redisplayed.
4. Reuse the existing ISC link definition to define system links between other CICS systems.
    - a) In the **All system links** view, select the entry for EYUMAS1A and click **Create**.  
The Create System Link panel is displayed, showing the values you entered when creating the link between EYUMAS1A and EYUMAS1B.
    - b) Update the **Primary CICS system name** field to create an ISC link between EYUMAS4A and EYUMAS1B.
    - c) Click **Yes** to confirm. The ISC link between EYUMAS4A and EYUMAS1B is created and the **System link definition** view is redisplayed.
- Repeat this step to create ISC links between other CICS systems in the CICSplex.

## Defining resources for an application

This example uses the Web User Interface (WUI) to create the resource definitions that are required for a workload manager (WLM) application.

### About this task

The example describes the use of resource assignments and uses the **Fully functional Business Application Services (BAS) administration views** menu, intended for more advanced CICSplex SM users.



## Procedure

1. Create a resource group definition.
  - a) From the WUI main menu, click **Administration > Fully functional Business Application Services (BAS) administration > Resource groups** to open the **Resource group definition** tabular view.
  - b) If the current context is not EYUPLX01, specify EYUPLX01 in the **Context** field and click **Refresh**.
  - c) Click the **Create** action button and complete the Create panel as follows:

**Resource group name**  
EYUBAG01

**Description**  
SSET – WLM IVP application

**Mode value**  
NO

Other fields can remain blank.
  - d) Click **Yes** to confirm. The **Resource group definition** tabular view is redisplayed.  
You have created an empty group, EYUBAG01. The next step is to create the resource definitions that constitute the WLM application and add them to the group.

2. Create the transaction definition.

- a) From the WUI main menu, click **Administration > Fully functional Business Application Services (BAS) administration > Resource definitions > Transaction definitions** to open the **Transaction definition** tabular view.
- b) Click the **Create** action button and complete the Create panel as follows:

**Transaction definition name**  
ETVP

**Definition version**  
0

**Description**  
SSET – Workload IVP application

**Resource group name**  
EYUBAG01

**First program name**  
EYUWLMVP

**Size in bytes of transaction work area**  
0

**Transaction profile**  
DFHCICST

**Enabled status**  
Enabled

**Task data location**  
Below

**Task data key**  
User

**Storage clearance status**  
No

**Runaway timeout value**  
SYSTEM

**Shutdown run status**  
Disabled

**Transaction isolation option**

Yes

**Dynamic routing option**

Yes

**Dynamic routing status**

Yes

**Remote system name**

1A3A

**Remote transaction name**

ETVP

**Transaction routing profile**

DFHCICSS

**Queuing on local system**

N\_a

**Transaction priority**

1

**Transaction class number**

1

**Transaction class name**

DFHTCLOO

**CICS failure action**

Backout

**Indoubt wait option**

Yes

**Indoubt wait time (days, hours and minutes)**

0

**Indoubt failure processing action**

Backout

**Resource security checking**

No

**Command level security option**

No

Other fields can remain blank.

- c) Click **Yes** to confirm. The **Transaction definition** tabular view is redisplayed.
3. Create the program definition.
- a) From the WUI main menu, click **Administration > Fully functional Business Application Services (BAS) administration > Resource definitions > Program definitions** to open the **Program definition** tabular view.
- b) Click the **Create** action button and complete the Create panel as follows:

**Program definition name**

EYUWLMVP

**Definition version**

0

**Definition description**

SSET – Workload IVP definition

**Resource group name**

EYUBAG01

**Language**

Assembler

**Reload new copy**

No

**Residence status**

No

**Program storage release**

Normal

**Use program from the link pack area (LPA)**

No

**Enabled status**

Enabled

**Resource security value**

0

**Display execution diagnostic facility (EDF) screens**

Yes

**Data location**

Below

**Program execution key**

User

**Concurrency status**

Quasirent

**Dynamic routing status**

No

**API subset restriction type**

Fullapi

**Hot pooling status**

No

Other fields can remain blank.

- c) Click **Yes** to confirm. The **Program Definition** tabular view is redisplayed.
4. Create the first file definition.
- a) From the WUI main menu, click **Administration > Fully functional Business Application Services (BAS) administration > Resource definitions > File definitions** to open the **File definition** tabular view.
- b) Click the **Create** action button and complete the Create panel as follows:

**File definition name**

EYUFIL01

**Definition version**

0

**Definition description**

Payroll updates – Local

**Data set name**

PAYROLL.EUTL3

**Record level sharing (RLS) file access mode**

No

**Local shared resources pool ID**

1

**Default level of read integrity**

Uncommitted

**VSAM data set name sharing**

Allreqs

**Maximum concurrent requests against file**

30

**Initial status**

Enabled

**File open time**

Firstref

**Disposition of file**

Share

**Number of data buffers**

31

**Number of index buffers**

30

**Data table type**

No

**Maximum number of records in data table**

NOLIMIT

**Table name**

IANSFILE

**Update model**

Locking

**Load type**

No

**Record format**

Variable

**Operations (Add, browse, delete, read, update)**

Yes (for all)

**Read operations recorded on journal**

None

**Synchronous auto journaling for input**

No

**Rewrite/delete operations recorded on journal**

No

**Add operations recorded on journal**

No

**Synchronous auto journaling for output**

No

**Type of recovery**

None

**CICS VSAM file backup type**

Static

Other fields can remain blank.

- c) Click **Yes** to confirm the file creation. The file definition for EYUFIL01 is created and the **File definition** tabular view is redisplayed.
5. Reuse the existing file definition to create a definition for another file.
- a) In the **File definition** tabular view, select the entry for EYUFIL01 and click the **Create** action button.  
The Create File Definition panel is displayed, showing the values you entered when creating EYUFIL01.
- b) Change **File definition name** to EYUFIL02

c) Make the following fields blank:

**Local shared resources pool ID**  
**Maximum concurrent requests against file**  
**Number of data buffers**  
**Number of index buffers**

d) Click **Yes**. The file definition for EYUFIL02 is created and the **File definition** tabular view is redisplayed.

You have created all of the resource definitions for the WLM application. The next step is to assign those resources to the appropriate CICS systems.

6. Create a resource assignment for the transaction definition.

a) From the WUI main menu, click **Administration > Fully functional Business Application Services (BAS) administration > Resource assignments** to open the **Resource assignment definition** tabular view.

b) Click the **Create** action button to open a **Resource assignment definition** create view.

Complete the Create panel as follows:

**Resource assignment definition name**  
EYUBAA01

**Description**  
SSET – Assign transaction definitions

**Resource group name**  
EYUBAG01

**Type of resource to be processed by assignment**  
TRANDEF

**Resource usage type**  
Remote

**Resource usage qualifier**  
Dynam

**Target scope name**  
EYUMAS1A

**Related scope name**  
EYUMAS1B

**Scope that override is applied to**  
Related

Other fields can remain blank.

c) Click **Yes**. The resource assignment for transaction definitions is created and the **Resource assignment definition** tabular view is redisplayed.

**Note:** This example does not make use of filter and override expressions for the assignment.

7. Create a resource assignment for the program definition.

a) In the **Resource assignment definition** tabular view, click the **Create** action button and complete the Create panel as follows:

**Resource assignment definition name**  
EYUBAA02

**Description**  
SSET – Assign program definitions

**Target scope name**  
EYUCSG03

**Resource group name**  
EYUBAG01

**Type of resource to be processed by assignment**

PROGDEF

**Resource usage type**

Local

**Resource usage qualifier**

N\_a

**Scope that override is applied to**

Related

Other fields can remain blank.

- b) Click **Yes**. The resource assignment for program definitions is created and the **Resource assignment definition** tabular view is redisplayed.
8. Create a resource assignment for the file definitions.
- a) In the **Resource assignment definition** tabular view, click the **Create** action button and complete the Create panel as follows:

**Resource assignment definition name**

EYUBAA03

**Description**

SSET – Assign file definitions

**Target scope name**

EYUCSG03

**Related scope name**

EYUMAS4A

**Resource group name**

EYUBAG01

**Type of resource to be processed by assignment**

FILEDEF

**Resource usage type**

Remote

**Resource usage qualifier**

N\_a

**Scope that override is applied to**

Related

Other fields can remain blank.

- b) Click **Yes**. The resource assignment for file definitions is created and the **Resource assignment definition** tabular view is redisplayed.
- All of the resource assignments for the resource definitions have now been created. The next step is to group all of the resources together and identify them as an application.
9. Create a resource description for the WLM application.

- a) From the WUI main menu, click **Administration > Fully functional Business Application Services (BAS) administration > Resource descriptions** to open the **Resource description definition** tabular view.

- b) Click the **Create** action button and complete the Create panel as follows:

**Resource description name**

EYUBAD01

**Description**

SSET – WLM IVP Application

**Logical scope registration**

Yes

**Logical scope name**

WLMIVP

**Autoinstall request type**

Yes

Other fields can remain blank.

- c) Click **Yes**. The resource description for the WLMIVP application is created and the **Resource description definition** tabular view is redisplayed.

**Note:** This example does not make use of the fields relating to resource groups and the target and related scopes to which they apply. You already provided this information in the resource assignments you created.

10. Associate the resource assignment for each resource type with the WLMIVP resource description.

- a) From the WUI main menu, click **Administration > Fully functional Business Application Services (BAS) administration > Resource assignments** to open the **Resource assignment definition** tabular view.
- b) Select the entry for EYUBAA01 (the resource assignment for transaction definitions) and click the **Add to Resource description** button. Complete the **Add to Resource description** panel as follows:

**Description name**

EYUBAD01

**Description**

Trans Assigned to WLMIVP

Other fields can remain blank.

- c) Click **Yes**. The association between EYUBAA01 and EYUBAD01 is created and the **Resource assignment definition** tabular view is redisplayed.

Repeat this step for resource assignments EYUBAA02 and EYUBAA03.

11. Modify the CICS system definitions to indicate that automatic resource installation is required each time a cold start is performed for the target systems.

- a) From the WUI main menu, click **Administration > Topology administration > System definitions** to open the **CICS system definition** tabular view.
- b) Select the entry for the CICS system EYUMAS1A. and click the **Update** button.
- c) Locate the **Business Application Services** section of the panel and update the fields as follows:

**Install BAS resources option**

Coldonly

**BAS install failure action**

Continue

- d) Click **Yes**. The CICS system definition is updated and the **CICS system definition** tabular view is redisplayed.

Repeat this step for other CICS systems in the target scope.

## Installing CICS resources dynamically

### About this task

This section provides examples of the various methods that CICSplex SM supports for installing resources dynamically into active CICS systems using the Web User Interface (WUI). These methods are similar to the installation options provided by CEDA.

### *Installing an individual resource*

This example installs an individual program into an active CICS system.

1. Display a list of the programs defined to CICSplex SM.
  - a. From the WUI main menu, click **Administration > Basic CICS resource administration > Resource definitions > Program definitions** to open the **Program definitions** tabular view.
  - b. If the current context is not EYUPLX01, specify EYUPLX01 in the **Context** field and click **Refresh**.
2. Install the EYUWLMVP program.
  - a. Select the entry for EYUWLMVP and click the **Install** button. The **Install** view is displayed.
  - b. In the **Target Scope value** field, type in EYUMAS2A and click **Yes**. The program EYUWLMVP is installed in EYUMAS2A and the **Program definitions** tabular view is redisplayed.

### ***Installing resources from a resource group***

This example installs the programs defined in a given resource group into an active CICS system.

1. Display a list of the resource groups defined to CICSplex SM.
  - a. From the WUI main menu, click **Administration > Basic CICS resource administration > Resource groups** to open the **Resource group definitions** tabular view.
  - b. If the current context is not EYUPLX01, specify EYUPLX01 in the **Context** field and click **Refresh**.
2. Install the programs in resource group EYUBAG01.
  - a. Select the entry for EYUBAG01 and click the **Install...** button.
  - b. Complete the **Install** view as follows:

**Resource type**  
PROGDEF

**Target scope value**  
EYUMAS2A

The other fields can remain unchanged.

- c. Click **Yes**. All of the programs defined in EYUBAG01 are installed in EYUMAS2A and the **Resource group definition** tabular view is redisplayed.

### ***Installing a resource description***

This example installs all of the resources associated with a given resource description into one or more active CICS systems.

1. Display a list of the resource descriptions defined to CICSplex SM.
  - a. From the WUI main menu, click **Administration > Basic CICS resource administration > Resource descriptions** to open the **Resource description definitions** tabular view.
  - b. If the current context is not EYUPLX01, specify EYUPLX01 in the **Context** field and click **Refresh**.
2. Install resource description EYUBAD01.
  - a. Select the entry for EYUBAD01 and click the **Install...** button. The **Install** view is displayed.
  - b. Accept the supplied values and click **Yes**.

All of the resources associated with EYUBAD01 are installed according to the target and related scopes named in that resource description. The **Resource description** tabular view is redisplayed.

## **Resource assignment definitions**

A resource assignment describes the characteristics of selected resource definitions and how those resources are to be assigned to CICS systems.

The resource definitions to be assigned must be of a single resource type (such as a file) and must be associated with a resource group. The resource assignment identifies which resource definitions in the group are selected and to which CICS systems they are assigned. A single resource definition can be



assigned as both a local and remote resource in multiple CICS systems. A resource assignment must be associated with at least one resource description (RESDESC object) before any assignment can begin.

## Accessing resource assignment definitions

### About this task

To access from the main menu, click **Administration > Fully functional Business Application Services (BAS) administration > Resource assignments**.

## Creating a resource assignment

### About this task

To define a resource assignment:

- Access the **Resource assignment definitions** view.
- To create a definition from an existing resource assignment, click on the check box and click the **Create...** button. To display a blank screen, click the **Create...** button.
- Complete the fields and click **Yes** to create the resource assignment. Click **No** to abandon the process.

## Adding a resource assignment to a resource description

### About this task

You can add a resource assignment to a resource description in two ways:

- Access the **Resource assignment definitions** view. Either:
  - Select a resource assignment by clicking the check box. Click the **Add to Resource description...** button. The **Add to Resource description** view is displayed.
  - Complete the fields and click **Yes** to create the association. Otherwise, click **No** to abandon the process.
- Or:
  - Click a resource assignment name to display the **Resource assignment definitions (EYUSTRASGNDEF.DETAILED)** view.
  - Click the **Add to Resource description...** button. The **Add to Resource description** view is displayed.
  - Complete the fields and click **Yes** to create the association. Otherwise, click **No** to abandon the process.

#### Note:

1. If you do not specify values for the **Group name**, **Target scope**, and **Related scope** fields on this view, you must do so on the associated resource description definition.
2. Adding a resource assignment to a resource description could result in inconsistent resource set or inconsistent scope errors. For information about these types of problems and how to resolve them, see [“Validation of a set of resources” on page 70](#).

## Resource assignments in resource descriptions

The **Resource assignments in a resource description** view describes the membership of a resource assignment (RASGNDEF object) in a resource description (RESDESC object). A **Resource assignments in a resource description** (RASINDSC) association is created automatically when a resource assignment is added to a resource description.

## Accessing the Resource assignments in a resource description view

### About this task

To display information about existing resource descriptions and the resource assignments associated with them, from the main menu, click:

- **Administration > Fully functional Business Application Services (BAS) administration > Resource assignments in resource descriptions.**

## Updating a resource description-to-assignment association

To update a resource description-to-assignment association:

- Access the **Resource assignments in resource description** view and select a resource assignment by clicking the check box.
- Click the **Update...** button. The **Resource assignments in resource description** (EYUSTARTRASINDSC.CREATE) view is displayed.
- Update the fields and click **Yes** to update the association. Otherwise, click **No** to abandon the process.

## Resource assignment process view

The **Resource assignment process** view (RASPROC object) displays the resources that will be selected when the specified resource assignment is processed.

Resources are selected based on the contents of the associated resource group and the selection criteria of the assignment itself.

## Accessing the resource assignment process view

### About this task

To display information about the expected results of the resource assignment process:

- From the main menu, click **Administration views > Fully functional Business Application Services (BAS) administration views.**
- From the **Resources deployed by...** submenu, click **Resource assignments** to display the **Resource selected by resource assignments** view.
  1. Journal definitions (JRNLDEF objects), file key segment definitions (FSEGDEF objects), and session definitions (SESSDEF objects) can appear in a **Resource assignment process** view; this is to present a complete picture of your logical scope. Note, however, that those resources are never installed in a CICS system.
  2. Connection definitions (CONNDEF objects) can be installed in a CICS system only if they have associated session definitions (as noted in the **Connection name** field). If the **Connection name** field for a session definition is blank, the connection cannot be installed.

## Selecting resources by resource description

The **Resources selected by resource description** view displays the resources that will be selected when the specified resource description is processed.

Resources can be selected from:

- Resource assignments that are currently associated with the resource description
- Resource groups that are directly associated with the resource description

## Accessing resources selected by resource description

### About this task

You can access the **Resources selected by resource description** view in two ways:

- From the main menu, click **Administration views**. From the **Administration views** menu, click either **Basic CICS resource administration views** or **Fully functional Business Application Services (BAS) administration views**.
  - From the menu, click **Resource descriptions** to display the **Resource descriptions** tabular view.
  - Click a resource description name to display the **Resource descriptions** detailed view.
  - Click the link **Associated resource definitions & systems** to display the **Resources selected by resource description** view.
- Or:
  - From the main menu, click **Administration views**. From the **Administration views** menu, click either **Basic CICS resource administration views** or **Fully functional Business Application Services (BAS) administration views**.
  - From the menu, Under Associations, click **CICS resource definitions in resource groups** to display the **CICS resource definitions in resource group** tabular view.
  - Click a resource group name to display the **Resource group definitions** detailed view.
  - Click the link **Resource descriptions with which this is associated** to display the **Resource groups in description** view.
  - Click a resource description name to display the **Resource descriptions** detailed view.
  - Click the link **Associated resource definitions & systems** to display the **Resources selected by resource description** view.

## Resource descriptions

A resource description identifies a set of logically related resource definitions that can be installed in CICS systems that support resource installation or can be named as the scope for CICSplex SM requests.

### Accessing resource descriptions

#### About this task

To access resource descriptions

- From the main menu, click **Administration views**. From the **Administration views** menu, click either **Basic CICS resource administration views** or **Fully functional Business Application Services (BAS) administration views**.
- From the menu, click **Resource descriptions** to display the **Resource descriptions** tabular view.

### Creating a resource description

#### About this task

To create a resource description:

- Access the **Resource descriptions** view.
- Click the **Create...** button to display a blank **Resource descriptions** detailed view. Otherwise, to base the new definition on an existing definition, click the Record check box and click the **Create...** button.
- Complete the fields and click the **Yes** button to create the resource description. Otherwise, click **No** to end the process.

## Replacing a resource description

### About this task

To replace a resource description:

- Access the **Resource descriptions** tabular view and select a resource description by clicking the Record check box.
- Click the **Replace...** button to display the **Resource descriptions** replace view.
- Amend the fields as necessary and click **Yes** to replace the resource description. otherwise click **No** to end the process.

When you replace a resource description, CICSplex SM attempts to replace all of the resources associated with an installed resource description with the resources associated with a new description. That is, CICSplex SM:

- Discards any resources that are associated with the old resource description, but not the new one.
- Reinstalls any resources that are associated with both the old resource description and the new one.
- Installs any additional resources that are associated with the new resource description.

For replacement to occur, the CICS systems named in the Target and Related scope fields of both resource descriptions must be active and must be running a release of CICS that supports the EXEC CICS CREATE command.

**Note:** For information on what happens if your request does not complete successfully, see [“Handling dynamic installation errors”](#) on page 87.

## Resource groups definition view

A resource group (RESGROUP object) is used to associate one or more related resource definitions. The resource definitions in a resource group can be for the same or different resource types.

### Accessing resource group definitions

#### About this task

To access the resource group definitions:

- From the main menu, click **Administration views**.
- From the **Administration views** menu, click either **Basic CICS resource administration views** or **Fully functional Business Application Services (BAS) administration views**.
- Under **Definitions**, click **Resource groups** to display the **Resource group definitions** tabular view.

### Creating a resource group

#### About this task

To create a resource group:

1. Access the **Resource group definitions** (EYUSTARTRESGROUP.TABULAR) view as described in [“Accessing resource group definitions”](#) on page 106.
2. Click the **Create...** button to display the **Resource group definitions** (EYUSTARTRESGROUP.CREATE) view.
3. Type in the attribute values.
4. Click Yes to create the resource group definition or No to return to the **Resource group definitions** view without creating the resource group.

## Adding a resource group to a resource description

### About this task

Complete these actions to add the resource group to the resource description:

1. Access the **Resource group definitions** (EYUSTARTRESGROUP.TABULAR) view as described in [“Accessing resource group definitions” on page 106](#).
2. Select a resource group by clicking the box in the record column.
3. Click the **Add** to Resource description to display the **Add to Resource description** (EYUSTARTRESGRP.ADDTODSC) view.
4. Type in the name of the resource description. Optionally, supply more explanatory information in the **Description** field.
5. Click **Yes** to add the resource group to the resource description or click **No** to stop the process.

**Note:** Adding a resource group to a resource description might result in inconsistent resource set errors. For information about this type of problem and how to resolve it, see [“Validation of a set of resources” on page 70](#).

## Resource groups in description view

The Resource groups in description view describes the membership of a resource group (RESGROUP object) in a resource description (RESDESC object).

A **Resource groups in description** association is created automatically when a resource group is added to a resource description, that is, there is no association between the resource description and a resource assignment (RASGNDEF object).

## Accessing resource groups in descriptions

### About this task

To access resource groups in a resource description:

- From the main menu, click **Administration views**.
- From the **Administration views** menu, click either **Basic CICS resource administration views** or **Fully functional Business Application Services (BAS) administration views**.
- Under **Associations**, click **Resource groups in description** to display the **Resource groups in descriptions** tabular view.

## Updating a resource description-to-group association

### About this task

To update a resource description-to-group association:

- Access the **Resource groups in description** view.
- Select an association by clicking the Record check box and click the **Update...** button. The **Resource groups in description** create view is displayed.

## Resource groups in description attributes

### Description

(Optional.) A 1- to 30-character description of a resource description-to-group association.

## Resource definitions in resource group view

The **Resource definitions in resource group** view (RESINGRP object) displays information about resource groups and the resource definitions associated with them.

A **Resource definitions in resource group** association is created automatically when a resource definition is added to a resource group (RESGROUP object).

## Accessing resources in resource groups

### About this task

To access resources in resource groups:

- From the main menu, click **Administration views**.
- From the Administration views menu, click either **CICS basic resource administration views** or **Fully functional Business Application Services (BAS) administration views**.
- From the menu, under **Associations**, click **Resource definitions in resource groups** to display the **CICS resource definitions in resource group** tabular view.

## CICS system link definitions

With Business Application Services, you can create one system link (SYSLINK) for each pair of CICS regions. The system link definition describes the connection type and definitions that are required between the pair of regions. You can reuse connection definitions to create any number of system links that share the same characteristics.

You can define connections of different types using SYSLINK objects. These connections include IPIC, MRO, and ISC. The following example shows how you can reuse the same definitions for IPIC to create three different SYSLINK objects.

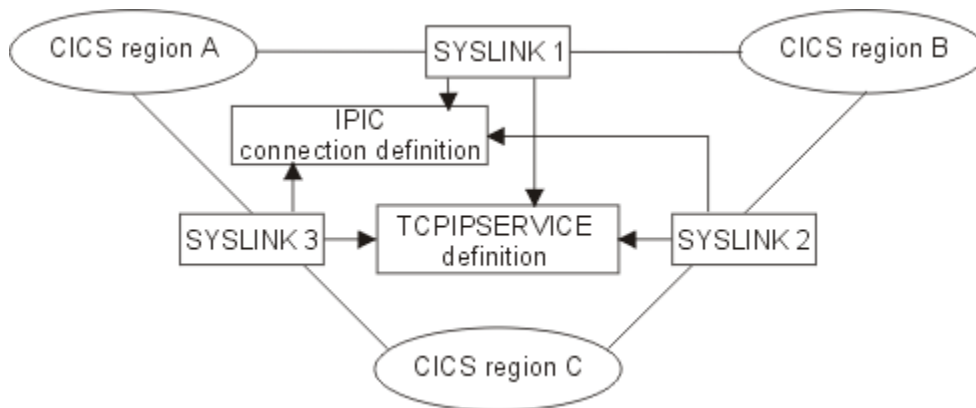


Figure 10. An example of reusing definitions to create connections

The APPLID and SYSID values used in the connections that are defined between the primary and secondary regions depend on when the regions were started and whether or not the APPLID and SYSIDNT values used in the CICS system definition (CICSSYS view) match the values in use by CICS:

- If the partner system is not active or not connected to CICSplex SM, the APPLID and SYSIDNT values used for the connection definition are taken from the CICSSYS definition for the partner system.
- If the partner system is active and connected to CICSplex SM, the APPLID and SYSIDNT used for the connection definition are the values currently in use by the partner system.

If you change the APPLID or SYSIDNT of a CICS region that is managed by CICSplex SM, you must update the CICSSYS definition:

- After the values have been changed, the managed CICS region continues to use the old values as long as it remains active. During this time, partner systems installing system links that refer to this region use the old APPLID or SYSIDNT values.
- After the region has shut down following the change, and before it has started again, partner systems installing system links use the updated values from the CICSSYS definition.
- After the region has been restarted, it uses the new values. Partner systems installing links that refer to this region also use the new values.

The network ID, host, and port numbers of IPIC system links can also change when you install a SYSLINK resource object. These attribute values are overridden by the system definition of the primary and secondary regions, if specified, to ensure that the system link will work correctly when installed.

## Limitations of viewing system definition links

A system link is identified in the data repository by both CICS region names. A given CICS region name might be the primary region for some system link definitions and the secondary region of others, depending on how the definition was created. Any definition that names that region, regardless of its position, is a valid system link. However, because the same region name can appear in either the Primary or Secondary field, the "CICS system link definitions" view of the Web User Interface has certain limitations:

- The SORT display command cannot display all the system links for a given CICS region together. You can use this command to sort records based on the contents of a single field, but the name of a CICS region can occur in either of two fields.
- A single "CICS system link definitions" view cannot display all the system links for a given CICS region to the exclusion of all other system links. Because a system can be either the primary or secondary system in a system link definition, a single "CICS system link definitions" view cannot adequately filter the records.

## Viewing CICS system link definitions

You can view your system links using either the CICS Explorer or the Web User Interface.

### About this task

The **CICS system link definitions and related resources** menu in the WUI displays information about the connections between CICS regions in a CICSplex. From this menu, you can filter the system links based on connection type and look at related resource definitions.

To view system link definitions (SYSLINK objects) in the CICSplex using the Web User Interface:

### Procedure

1. From the main menu, click **Administration** and then **Basic CICS resource administration** or **Fully functional Business Application Services (BAS) administration**.
2. Select the appropriate link in the **CICS system link definitions and related resources** menu to view all system links or system links of a particular connection type.  
The **CICS system link definitions** view displays the system links.
3. Select the SYSLINK object that interests you from the list.

## Installing system links using the WUI

When you install a system link, you are establishing a connection between two CICS regions that are managed by CICSplex SM. The definitions referred to by that system link are installed in the target CICS regions.

### Before you begin

You must have defined the required connection objects, as described in [“Defining connections between CICS regions”](#) on page 68.

### About this task

You can install system links automatically at CICS initialization by specifying the ALWAYS attribute in the **Install BAS resources option** field of the CICS system definition. You can also install system links dynamically while a CICS region is active using the CICS Explorer or Web User Interface. The following procedure describes how to install system links dynamically using the WUI.

### Procedure

1. From the main menu, click **Administration > Basic CICS resource administration > CICS system links and related resources**.
2. Select the appropriate link to display all SYSLINK objects or filter by connection type.
3. Select the check box next to the SYSLINK that you want to install and click the **Install** button to open an Install input panel.
4. Fill out the fields in the input panel to select the checks that CICSplex SM will run before installing the resources:
  - a) Select the type of checking to be performed before attempting to install resources in the CICS regions associated with the description.
  - b) Select whether the existence and operational state of all resources are to be checked before an **EXEC CICS CREATE** command is issued.
  - c) Select whether you want CICSplex SM to force the installation of the resources.  
CICSplex SM checks to see if it installed the current resource in the CICS region. If it is installed, CICSplex SM does not install the resource, to avoid changing the attributes of an active resource.
5. Click **Yes** to install the system link in the active CICS regions.

### Results

CICSplex SM creates and installs the resource definitions into the specified target CICS regions to create the connection. Some of the values are altered in the target regions by the installation process.

- For an MRO or IPIC connection, the Receive count is swapped with the Send count and the Receive size is swapped with the Send size on the CONNDEF or IPCONDEF resource objects.
- For an APPC connection, the Receive size field is swapped with the Send size and the "Maximum number of sessions supported as contention winners" is recalculated by subtracting the 'Maximum number of sessions supported as contention winners' from the "Maximum number of sessions in the group" in the primary CICS region.

For IPIC connections, the TCPDEF resource object installs first followed by the IPCONDEF. If a TCPDEF resource object of the same name and port number is already installed and is in the OPEN state, CICSplex SM does not attempt to reinstall the resource object. Some of the values are altered in the definitions for both the primary and secondary regions:

- The URM value is always set to NO when the TCPDEF resource object is installed.
- If a network ID is specified in the system definition of the secondary region, it overrides the value of the network ID in the IPIC connection definition of the primary region.
- If a host or port number is specified in the system definition of the secondary region, it overrides the value of the host and port number in the IPIC connection definition of the primary region.



- An IPIC connection definition on the secondary region inherits the host and port number from the TCPDEF resource object.
- If the host and port number are specified in the system definition of the primary or secondary region, these values override the values in the TCPDEF resource object for that region. If the TCPDEF resource object is installing on the secondary region, the host and port number are taken from the IPCONDEF definition on the primary region.

## What to do next

You can verify that the connection is active by looking at the installed resources on the pair of CICS regions.

## Removing a CICS system link

You can remove a CICS system link from the data repository using either the CICS Explorer or the Web User Interface.

### Procedure

1. From the main menu, click **Administration** and then **Basic CICS resource administration** or **Fully functional Business Application Services (BAS) administration**.
2. Click **System link definitions > All system links** to access the **System link definitions** view.
3. Click the check box by the CICS system link that you want to remove.
4. Click **Remove...** to display the **Remove** view.
5. Click **Yes** to remove the CICS system link definition.

### Results

The system link is removed from the data repository. However, removing a system link does not delete the resource objects that describe the connection from the data repository.

## CICS system resources

The **Resources assigned to CICS systems** view displays the resources that will be assigned to a specified CICS system.

Resources are selected based on the resource descriptions currently associated with the CICS system.

## Accessing the SYSRES view

### About this task

To display information about the resources that will be assigned to a CICS system:

- From the main menu, click **Administration views**
- From the **Administration views** menu, click either **Basic CICS resource administration views** or **Fully functional Business Application Services (BAS) administration views**.
- In the **Resources deployed by...** submenu, click **CICS system**. The **Resource assigned to CICS systems** view is displayed

## Administering the Web User Interface

This information provides guidance for administrators on managing the Web User Interface.

### The CICSplex SM Web User Interface transaction (COVC)

A CICSplex SM Web User Interface (WUI) server controller transaction (COVC) is supplied for use by an administrator with a terminal connected to the WUI server CICS region.

The functions of this transaction are:

- To start up and shut down the WUI environment
- To display a summary of WUI status information
- To display details of active user sessions and allow termination of individual sessions
- To import and export WUI repository information including supplied and customized view and menu definitions, map objects, user objects and user group profiles.
- To set trace flags dynamically.

**Note:** Ensure that the COVC and COVG transactions can be run only from regions that are designated as WUI server regions. Also ensure that only users who are authorized to do so can start or stop the WUI server.

If you run the COVC transaction without any further input, that is, you type COVC followed by no other commands, the CICSplex SM User Interface control panel is displayed, as shown in [Figure 11](#) on page 112.

```
COVC                CICSplex SM Web User Interface Control                EYUVCTR

                    1. Start Server
                    2. Stop Server
                    3. Status Details
                    4. User Sessions

                    5. Import
                    6. Export

                    7. Trace Flags

CICSplex SM, an element of CICS Transaction Server for z/OS, Ver 3 Rel 2
Licensed materials - Property of IBM. 5695-M15
(C) Copyright IBM Corp. 1994, 2006. All rights reserved

Current Status : Ready                                Time : 19:01:51
Applid         : IYCQSTGW                             Date  : 05/25/2007

PF  1 Help      3 Exit                                12 Return
```

Figure 11. CICSplex SM Web User Interface control panel

### Starting and stopping the Web User Interface server

You can use options on the COVC control panel to start or stop the Web User Interface (WUI) server.

If the WUI server is not already started during PLT processing, you can start it by selecting the **Start Server** option from the COVC control panel. Message EYUVS0900I is issued on the control panel, which indicates that a request to start the WUI server has been issued.

**Note:** If the WUI server fails to start, the CICS region is terminated.

To stop the WUI server, select the **Stop Server** option from the COVC control panel. Message EYUVS0901I is issued on the control panel, indicating that a request to stop the WUI server has been issued.

**Note:** Stopping the WUI server by using the COVC transaction shuts down the CICS system that is acting as the WUI server on completion of the COVC transaction.

You can also start the WUI server by issuing the **COVC START** command, or stop the WUI server by issuing the **COVC STOP** command. You can issue **COVC START** or **COVC STOP** from a CICS terminal or from the console by using the z/OS **MODIFY** command.

If you attempt to start the WUI server when it has already started, message EYUVS0902W is issued, which indicates that the WUI server is currently active. Similarly, if you attempt to stop the WUI server when it is already stopped, message EYUVS0903W is issued, which indicates that the WUI server is currently inactive.

**Note:** If a WUI server region is not started with the **CPSMCONN=WUI** system initialization parameter, the WUI shutdown is not integrated into CICS shutdown. In this situation, you must use COVC to shut down the WUI server to allow the CICSplex SM cleanup process to take place. Do not use CEMT, CICS Explorer, or the WUI CICSRRGN view to initiate the WUI shutdown; otherwise, you might receive messages EYUXS0910I, EYUXS1014I, EYUXS1019W, and EYUXS1016E and an SVC dump with a title similar to the following example:

```
EYU9XSTR Dump,jobname,applid,sysname,LMAS,COVA,0000000,TRCV,EYU9XSTR,dd/mm/yyyy, hh:mm:ss
```

In addition to the SVC dump, API resources might be orphaned, as noted in the EYUXS1019W message.

## Displaying status details

To display the Web User Interface server status details, select the **Status Details** option from the COVC control panel.

This option opens the **Status Details** panel, as shown in [Figure 12 on page 113](#).

```
COVC                CICSplex SM Web User Interface Control                EYUVCTS

                                Status Details

    CMAS Sysid          : QSTX
    Server Sysid       : QSGW
    CICSplex SM Release : 0320

    Secure Sockets      : No
    Port               : 05126
    Hostname           : MVSXX.COMPANY.COM

    TCP/IP Service Name : EYUWUI                TCP/IP Family : IPV4
    TCP/IP Service Status : Open
    TCP/IP Address      : 127.10.10.12

    Current Status : Ready
    Applid         : IYCQSTGW
                                Time : 19:04:49
                                Date  : 02/27/2007

PF  1 Help          3 Exit                                12 Return
```

Figure 12. Status Details panel

An explanation of some of the fields shown in [Figure 12 on page 113](#) follows:

- **CMAS Sysid**

Is the system ID of the CMAS to which the Web User Interface server is connected.

- **Secure Sockets**

Tells you if your Web User Interface server is using the secure sockets layer (SSL), as defined by the TCPIPSSL Web User Interface server initialization parameter.

- **Port**

Is the TCP/IP port number specified on the TCPIPPORT Web User Interface server initialization parameter.

- **Hostname**

Is the TCP/IP host name specified on the TCPIPHOSTNAME Web User Interface server initialization parameter.

**Note: TCPIPHOSTNAME** is deprecated. The actual host name of the WUI server is the name of the host where the WUI is executing. It is no longer set by **TCPIPHOSTNAME**. The WUI uses relative URLs, and not embedded host names.

- **TCP/IP Service Name**

Is the name of TCPIPSERVICE being used by the Web User Interface.

- **TCP/IP Service Status**

Is the status of TCPIPSERVICE being used by the Web User Interface.

- **TCP/IP Address**

Is the colon hexadecimal or dotted decimal IP address of the TCPIPSERVICE being used by the Web User Interface, if you are using the CICSplex SM element of CICS Transaction Server.

- **TCP/IP Family**

Is the address format of the IP address of the TCPIPSERVICE being used by the Web User Interface, if you are using the CICSplex SM element of CICS Transaction Server.

If you press PF12 to return to the control panel, message EYUVS0906I is displayed, indicating that the operation is complete.

## Viewing user sessions

To view information about user sessions, select the **User Sessions** option from the COVC control panel.

This opens the **User Sessions** panel, as shown in [Figure 13 on page 114](#).

```
COVC                CICSplex SM Web User Interface Control                EYUVCTU
                                     User Sessions                        Page 1 of 1
Current No. of Users : 1                Inactive Timeout : 30 (mins)
Maximum No. of Users : 20

  Userid  USERGp  Inact  TimeA  Win D  ClientIp                Status
  OPS1    OPSWUI1   4     3:17   7     10.10.10.25
  WUIADM  ADMWUIG    0     2:04   1     10.10.10.3
  MONCNSL MONITOR    0     1:59   3     10.10.10.74                ENDING

Current Status : Ready                Time : 11:29:05
Applid        : IYCSZGW0                Date : 10/19/2006

PF  1 Help    3 Exit                7 Up    8 Down    12 Return
```

Figure 13. User sessions panel

An explanation of some of the fields shown in [Figure 13 on page 114](#) follows:

### Maximum No. of Users

This is the maximum number of concurrent users allowed and is the value specified for the MAXUSERS initialization parameter.

**Inactive Timeout**

This is the period after which inactive user sessions are terminated and is the value specified for the INACTIVETIMEOUT initialization parameter. When inactive timeout is reached the user session is terminated.

**Userid**

The user ID of the user signed on to the Web User Interface.

**UserGrp**

The user group to which the user belongs.

**Inact**

The period that the user session has been inactive.

**TimeA**

The period that the user has been logged on.

**Win**

The number of windows that this user session currently has opened. This number is incremented every time the user selects the **New window** or **View Editor** button in the navigation frame, or the **New Editor** or **New Home window** button in the View Editor.

**Note:** This number is not necessarily decremented when the user closes a window. Closed windows remain active until the resources are reclaimed.

**D**

The data interface used indicator.

**ClientIP**

The client web browser or proxy TCP/IP address. If the TCP/IP address is an IPv6 address, the address extends over two lines, which reduces the number of users visible per page. IPv4 addresses are displayed on a single line.

**Status**

The purge status indicator.

If you press PF12 to return to the control panel, message EYUVS0906I is issued.

**Ending a user session**

You can end a user session from the **User Sessions** COVC panel by typing **P** for purge, or **F** for force purge, against the user ID, then pressing the enter key.

Message EYUVS0912I is issued indicating that the purge request was successful. A message is also written to the EYULOG when the user session is terminated.

**Note:** Ending a user using the force purge command causes an AEXY abend and might also result in some resources not being reclaimed.

**Importing and exporting WUI definitions**

You can use COVC to back up and restore WUI definitions from the WUI data repository.

By using the COVC import and export functions, you can make safe copies of your WUI panel structures, and subsequently:

- Distribute them to other WUI servers.
- Apply service changes as a result of program temporary fixes (PTFs).
- Migrate definitions to other releases.

For more information about upgrading a WUI server and the contents of the WUI server repository, see [Upgrade a WUI and the contents of the WUI server repository \(EYUWREP\)](#).

## Importing WUI definitions using COVC

Use the COVC import function to import WUI data repository definitions from an external file. The file can be either an MVS sequential data set, or an MVS partitioned data set member.

If the definitions are contained within a sequential file, then that data set must be associated with a CICS extrapartition data set, and imported via the CICS Transient Data Queue name that the file is linked to. You must use the **Import from a TDQ** option of the **Import command** panel. If the definitions are contained within members of an MVS partitioned data set, then the data set and member identifiers can be specified directly on the **Import from a data set** panel that follows the **Import command** panel.

The view definition data comprises:

- View sets and menus
- WUI map objects
- User objects
- User group profiles

The IBM supplied set of WUI view and menu definitions are in the SEYUVIEW partitioned data set, and so you need to specify the **Import from a data set** function from the **Import command** panel. The advantage of using this import option is that individual member names can be specified on this panel, and so you can selectively restore individual elements of the backed up view set content.

View sets that are exported and imported with COVC import function have specific file definition requirements:

- Sequential files must be defined as:

```
Record format: VB
Logical record length: 32000
Block size: 32004
```

- Partitioned data sets must be defined as:

```
Record format: VB
Logical record length: 32000
Block size: 32760
```

Standard transient data queue definitions are provided for the COVE and COVI TD queues, and they associate to the EYUCOVE and EYUCOVI DD names for inclusion in your WUI server JCL. You can use these TDQUEUE definitions as models for further import/export extrapartition queues.

### To import definitions from a sequential file associated with an Extra-partition TDQ:

1. Select the **Import** option from the control panel or use the **COVC IMPORT** command to open the **Import** panel.
2. Select **Import from a TDQ** on the **Import** panel to open the **Import a TDQ** panel. The following illustration shows the **Import from a TDQ** panel:

```

COVC                CICSPlex SM Web User Interface Control          EYUVCTW
                    Import from a TDQ

Input TDQ name   :          Name of extrapartition TDQ for import

Type             :          MEnu | Viewset | USERGrp | User | MAp | All

Import option    :          Skip | Overwrite | DELETE

Current Status  : Ready                                           Time : 08:53:57
Applid         : CICSHW61                                         Date  : 03/27/2007

PF  1 Help      3 Exit                                           12
Return

```

Figure 14. Import from a TDQ panel

3. Type in the name of the extrapartition Transient Data queue where the definitions are currently held; for example, COVI.
4. Complete the other blank fields as follows:

**Type**  
Type in one of the following Types:

- MEnu**  
To import only menus.
- Viewset**  
To import only view sets.
- User**  
To import only user objects.
- USERGrp**  
To import only user group profiles.
- MAp**  
To import only map objects.
- All**  
To import all types of definitions.

**Note:** Importing any of the Types requires UPDATE access to the associated ESM profile:

- For MENUs : ESM profile EYUWUI.\*.MENU.menuname
- For MAPs : ESM profile EYUWUI.\*.MAP.mapname
- For VIEW sets : ESM profile EYUWUI.\*.VIEW.viewsetname
- For USERS and USERGRPs : ESM profile EYUWUI.\*.USER
- For ALL : All of the above profiles

**Import option**

Enter the action that you want the server to take if a duplicate definition is found in the input data set. That is, whether existing definitions are to be preserved, overwritten, or deleted:

- Skip**  
If you specify **Skip**, only the definitions that do not already exist in the input data set are imported.
- Overwrite**  
If you specify **Overwrite**, definitions that already exist in the input data set are overwritten.

## DELETE

Removes matching definitions of the selected type from the repository data set. For example, to selectively remove records from the repository, you can export the objects that you want to remove and then use the exported file with the import delete function to remove them.

**Note:** You can have a view set and menu with the same name.

5. Press **Enter** to start the operation.

## To import definitions from a partitioned data set:

1. Select the **Import** option from the control panel or use the **COVC IMPORT** command to open the **Import** panel.
2. Select **Import from a data set** on the **Import** panel to open the **Import from a data set** panel. The following illustration shows the **Import from a data set** panel:

```
COVC                CICSPlex SM Web User Interface Control                EYUVCTI
                                     Import from a data set

      Input data set name      :      Name of data set for import
      Input data set member    :      Member name, trailing * allowed
      Type                     :      MEnu | Viewset | USERGrp | User | MAp | All
      Import option           :      Skip | Overwrite | DELETE

Current Status : Readt
Applid         : CICSHW61
Time           : 08:53:57
Date           : 27/03/2007

PF  1 Help      3 Exit
Return
```

*Figure 15. Import from a data set panel*

3. Type in the name of the data set member that contains the supplied view and menu definitions to import. You can use an asterisk at the end of the input string to specify a group of data set members; for example, EYUEA\* imports all of the members whose name begins with the characters EYUEA, which are all the English language menus and view sets from the IBM supplied SEYUVIEW data set.

**Note:** You cannot leave the member name blank. If you do the panel dialog rejects your request. If your intention is to import from a sequential file, then that file must be associated with an extrapartition TD queue, and you must use the **Import from a TD Queue** subfunction to transfer the records into the WUI data repository.

4. Complete the other blank fields as follows:

### Type

Type in one of the following Types:

#### MEnu

To import only menus.

#### Viewset

To import only view sets.

#### User

To import only user objects.

#### USERGrp

To import only user group profiles.



**MAp**

To import only map objects.

**All**

To import all types of definitions.

**Note:** Importing any of the Types requires UPDATE access to the associated ESM profile:

- For MENUs : ESM profile EYUWUI.\*.MENU.menuname
- For MAPs : ESM profile EYUWUI.\*.MAP.mapname
- For VIEW sets : ESM profile EYUWUI.\*.VIEW.viewsetname
- For USERS and USERGRPs : ESM profile EYUWUI.\*.USER
- For ALL : All of the above profiles

**Import option**

Enter the action that you want the server to take if a duplicate definition is found in the input data set. That is, whether existing definitions are to be preserved, overwritten, or deleted:

**Skip**

If you specify **Skip**, only the definitions that do not already exist in the input data set are imported.

**Overwrite**

If you specify **Overwrite**, definitions that already exist in the input data set are overwritten.

**DELETE**

Removes matching definitions of the selected type from the repository data set. For example, to selectively remove records from the repository, you can export the objects that you want to remove and then use the exported file with the import delete function to remove them.

**Note:** You can have a view set and menu with the same name.

5. Press **Enter** to start the operation.

**Import completion:**

Message EYUVS1016I is issued to mark the start of the import operation and EYUVS0916I is issued on the Import panel to indicate its successful completion.

If the import fails, complete view set and menu definitions that have already been read successfully remain in the repository but the failing definition and any that follow are not imported. Message EYUVS0917E is issued to indicate that the import has failed and a message is written to the EYULOG of the WUI server or the operator log.

You can import only those view sets and menus for which you have update access. Resources for which you do not have the necessary access are skipped and EYULOG message EYUVS1014W is issued. See [Controlling access to Web User Interface resources](#) for guidance on setting levels of access to view sets and menus.

If you press PF12 to return to the control panel, message EYUVS0906I is issued.

**Exporting WUI definitions**

Use the COVC export function to export WUI data repository definitions to an external file. The file can be used as a backup to the WUI from which it was extracted, and can also be distributed to other WUI regions for replicating your customized WUI environment around your CICSplex.

The file can be either an MVS sequential data set, or a member of an MVS partitioned data set (PDS).

If the export target is an MVS sequential data set, then it should have the definition attributes of:

```
Record format: VB
Logical record length: 32000
Block size: 32004
```

If the export target is a member of a PDS, then it should have the definition attributes of:

Record format: VB  
Logical record length: 32000  
Block size: 32760

When the export operation is complete, then the target file is an offline backup for the records that are exported, and can be used in subsequent import operations in other WUI regions to migrate your WUI definitions around your CICSplex.

**Note:** Unlike the import operation (where you can select to import from a PDS member or from an extrapartition TD queue), export operations must be only executed against a TD queue name.

If you customize your WUI panel configuration, and want to flow that configuration to other WUI regions in your CICSplex (for the purposes of view consistency or WUI version migration), you must use the COVC transaction to export WUI definitions so that you can distribute definitions to other WUI servers or transfer definitions when you upgrade to a new release.

Sample definitions are supplied for the COVI and COVE extrapartition TD queues. If you want to export different elements of your WUI definitions to different data sets, then you must provide alternative TD queues (and related data sets) as the targets for each export operation. If you execute consecutive export requests to the same target TD queue, then each operation overwrites the contents of the previous one.

To export definitions from the WUI repository select the Export option from the control panel or use the command **COVC EXPORT**. This opens the COVC **Export** panel, as shown in [Figure 16 on page 120](#).

```
COVC                CICSplex SM Web User Interface Control                EYUVCTE
                   Export
Output TDQ Name :      Name of extrapartition TDQ for export
Type              : MENU      MEnu | Viewset | USERGrp | MAp | User | All
Name              : *         Specific or generic name of a
                   definition to export
Lock option       : NONE      None | LOCK

Current Status   : Ready
Applid           : CICS HW61
Time             : 08:58:55
Date             : 09/12/2004

PF  1 Help      3 Exit
12 Return
```

Figure 16. Export panel

Complete the blank fields in the **Export** panel as follows:

- The Output TDQ Name is the name of the extrapartition transient data queue where the definitions are be exported to, for example, COVE.
- Type in one of the following Types:

**MEnu**

to export only menus

**Viewset**

to export only view sets

**User**

to export only user objects

**MAp**

to export only map objects.

**USERGrp**

to export only user group profiles.

## All

to export all types of definitions.

**Note:** Exporting any of the Types requires READ or UPDATE access to the associated ESM profile:

- For MENUs : ESM profile EYUWUI.\*.MENU.menuname
  - For MAPs : ESM profile EYUWUI.\*.MAP.mapname
  - For VIEW sets : ESM profile EYUWUI.\*.VIEW.viewsetname
  - For USERS and USERGRPs : ESM profile EYUWUI.\*.USER
  - For ALL : All of the above profiles
- **Name** is the specific or generic name of the object that is to be exported. The convention for using generic names, when exporting, is:
    - An asterisk (\*) represents any number of characters. It must be the last or only character in the string. For example:
      - EYU\* means all definitions that have a name beginning with the characters EYU
      - \* means all definitions

If the object being exported contains an asterisk (\*) as part of its name, then it can be exported only generically. For example, if there are 3 objects \*GROUP1, GROUP\*2 and GROUP3, a Name value of \* must be used to export \*GROUP1 (and objects GROUP\*2 and GROUP3 are also exported).

A Name value of GROUP\* could be used to export object GROUP\*2 (which also causes GROUP3 to be exported).

- The Lock option enables you to apply a lock to exported definitions. When locked definitions are subsequently imported into a repository, they cannot be modified or deleted by using the view editor. Locked definitions cannot be unlocked: they can be removed only by using the delete option on the **Import** panel:

## NONE

Do not lock unlocked definitions. Existing locked definitions are exported as locked definitions.

## LOCK

Lock all exported definitions.

**Note:** If you overwrite a set of unlocked definitions with a locked set, the only way to remove the locks is to re-import a set of unlocked definitions to overwrite the locked set. For this reason, you might want to keep a backup set of unlocked definitions before you replace them with a locked set.

When all the fields are complete, press Enter to export the view or menu definitions.

Message EYUVS0919I is issued on the **Export** panel, which indicates that the export was successful, and how many objects were written across. If the export fails, the data in the TDQ that you were writing to is incomplete so must be discarded. Message EYUVS0920E is issued indicating that it has failed and a message is written to the EYULOG of the Web User Interface server.

You can export only those definitions for which you have read or update access. Resources for which you do not have the necessary access are skipped and EYULOG message EYUVS1015W is issued. See [Controlling access to Web User Interface resources](#) for more information.

If you press PF12 to return to the control panel, message EYUVS0906I is issued.

## Setting trace flags

To set trace flags dynamically, select the Trace Flags option from the control panel.



**Attention: It is recommended that you activate trace only at the request of IBM support center personnel.**

You are presented with the Trace Flags panel, as shown in [Figure 17 on page 122](#).

```

COVC                CICSPlex SM Web User Interface Control          EYUVCTT

                        Trace Flags

Overtyping the trace, enter to update.

                        1 1 1 1 1 1 1 1 1 1 2 2 2 2 2 2 2 2 3 3
      1 2 3 4 5 6 7 8 9 0 1 2 3 4 5 6 7 8 9 0 1 2 3 4 5 6 7 8 9 0 1
Trace Flags : Y Y N N N N Y N N N Y N Y N Y N N N N N N N N N N N N N N Y

Aux. Trace Status : Started

Current Status : Ready
Applid       : IYCQCTA5
Time        : 08:26:46
Date       : 02/27/2001

PF  1 Help      3 Exit
12 Return

```

Figure 17. Trace flags panel

You can control the amount of trace information produced by setting any of the appropriate trace flags. Thirty one independent trace flags are provided and you can overtype any of the flags, with Y or N, and press enter to change the settings.

## Web User Interface server repository

The Web User Interface (WUI) server repository contains all the recoverable resources maintained by the WUI server.

This includes:

- View and menu definitions
- Map object definitions
- User profiles
- User group profiles.

The WUI server repository consists of a variable length record, key sequenced VSAM file created before using the WUI. By default you have one repository, which is not shared, for each WUI server.

The DDname of the WUI server repository must be included in the start-up JCL for the WUI server.

Definitions from the data repository can be imported and exported so that you can back up or distribute definitions to other Web User Interface servers, apply service changes as a result of program temporary fixes (PTFs), or migrate definitions to other releases. Exporting is carried out using the COVC transaction. Importing is carried out either using COVC or by specifying auto-import initialization parameters when you start a WUI server.

### The IBM-supplied set of view set and menu definitions

The supplied set of view set and menu definitions including default map objects is supplied in CICSTS55.CPSM.SEYUVIEW data set.

The data set comprises a number of members. Each member contains one of the following:

- A map object definition.
- A user object definition.
- A user group profile definition.
- A menu object.

- All of the view set definitions associated with one CICSplex SM object.

There are separate members for each of the supplied languages of which there are currently three.

The data set members are named **EYU1tccc**, where:

- 1 specifies the language; currently **E** for English, **S** for simplified Chinese and **K** for Japanese.
- t identifies a set of views. The current supplied WUI views and menus are all identified by the letter **A**.
- ccc identifies the resource with which the views are associated.

The member names match the 3-letter language identifiers that you specified on the **INITPARM** CICS system initialization parameter. These are as follows:

Language	Language identifier
US English	ENU
Japanese	JPN
Simplified Chinese	CHS

### **Supplied views' naming conventions**

The names of all supplied views begin with the characters EYUSTART.

The naming convention for the supplied set of view and menu definitions is as follows:

#### **Views**

EYUSTART*objectname.viewtype*, where *objectname* is the name of a resource, and *viewtype* can be one of the following:

- TABULAR

A tabular view.

- DETAILED

A detail view. In some cases, when there is more than one associated with a tabular view, detail views are named DETAIL1, DETAIL2, and so on.

- *Name of an action*

A data input panel for an action such as Create, or a confirmation panel

#### **Menus**

EYUSTART*menuname*

where *menuname* is the name of a menu. For example, EYUSTARTMENU displays the supplied home menu and navigation frame.

#### **Map objects**

EYUSTARTMAP*type*, where *type* is one of the following:

BAS  
MON  
RTA  
WLM

## **The output log (EYULOG)**

The Web User Interface uses the CICSplex SM EYULOG of the Web User Interface server (and not of the CMAS) to record most of its operator messages. Other messages are written to the operator log.

An EYULOG message (either EYUVS1101I or EYUVS1102I) is issued each time a view set or menu is created, modified or deleted. Message EYUVS1016I is issued to record the start of an import, and

includes the user ID and source transient data queue. This provides a useful audit trail to track Web User Interface update activity.

In addition, each view set and menu definition records details of the last change including the user ID and time. This information is preserved when view sets are exported or imported.

## Source of customizable help

The customizable view and menu help is help that you can write if you want to provide additional help for your views and menus.

The customizable view and menu help can be served in two ways:

- By the Web User Interface server. If served by the Web User Interface the customizable view and menu help consists of a set of arbitrary HTML members stored as members in a partitioned data set. The CICS Web Interface template manager is used to serve members of this partitioned data set for delivery to the web browser.
- By an arbitrary external web server.

The DDname of the partitioned data set must have been specified in the start-up JCL for the Web User Interface server.

## Access from the Web User Interface to an external server

The Web User Interface can access other web-based tools.

You can do this by:

- Linking to the customizable view and menu help served by an external web server
- A menu choice link to pages served by an external web server

See [Customizing the Web User Interface](#) for more information.

## Providing access to WUI views and menus

The Web User Interface is accessed using standard web browser software. Users can link to the WUI from any location that can launch a web browser by supplying a valid URL.

Every time you access the Web User Interface, a new window is opened showing a new instance of the data. The different instances of the data are independent of each other. See [Opening a new window](#) for information about the maximum number of windows you can have open at any one time.

The URL must be correctly formatted for a HTTP or HTTPS request using escaping for reserved and unsafe characters with standard HTTP '%nn' notation, where nn is the hexadecimal representation of a character from the ISO-8859-1 code page. For example, '%7E' represents the tilde ('~') character. Except for the 'http' or 'https' prefix, the URL, in general, is not case sensitive unless the value of any query variables is case sensitive.

For information about the HTTP standard refer to RFC2068 - Hypertext Transfer Protocol - HTTP/1.1.

The URL is constructed as follows:

```
prefix:path?selection criteria
```

**Note:** The path and the selection criteria, which are specified as HTTP query variables, are separated by a question mark (?). If selection criteria are not present, the '?' should not be specified.

## Prefix

The prefix depends on the configuration of your WUI server. It is either http, or https, if SSL is in use.

## Path

There are several possible configurations for the WUI server path.

The path can be one of the following:

**Note:** The *hostname* and *port* represent the IP address of the WUI server. *hostname* is the name of the host where the WUI is executing, and *port* is the value specified on the **TCPIPPORT** WUI server initialization parameter. For more information, see [Starting and stopping the Web User Interface](#).

- `//hostname:port/CICSplexSM`

This takes you to the Welcome panel that contains a Begin Signon button.

- `//hostname:port/CICSplexSM/code page`

This takes you to the Welcome panel that contains a Begin Signon button. The code page that you specify here overrides the code page specified on the INITPARM system initialization parameter in the start-up JCL of the Web User Interface server.

You can specify the default code page by leaving *code page* blank. For example:

```
//hostname:port/CICSplexSM//
```

- `//hostname:port/CICSplexSM/code page/userid`

This takes you directly to your home menu (which is the menu specified on the DEFAULTMENU system initialization parameter), if you are already signed on in the current web browser session.

If you are not signed on in the current web browser session, you are taken through the process described in [Signing on with the WUI](#).

- `//hostname:port/CICSplexSM/code page/userid/MENU/menuname`

This takes you directly to the menu called *menuname*, if you are already signed on in the current web browser session.

If you are not signed on in the current web browser session, you are taken through the signon process described in [Signing on with the WUI](#), before the menu specified in the URL is displayed.

- `//hostname:port/CICSplexSM/code page/userid/VIEW/viewsetname`

This takes you directly to the default view within the view set called *viewsetname*, if you are already signed on in the current web browser session.

If you are not signed on in the current web browser session, you are taken through the process described in [Signing on with the WUI](#), before the default view within the viewset specified in the URL is displayed.

- `//hostname:port/CICSplexSM/code page/userid/VIEW/viewsetname.viewname`

This takes you directly to the view called *viewname* contained within the view set called *viewsetname*, if you are already signed on in the current web browser session.

If you are not signed on in the current web browser session you will be taken through the signon process described in [Signing on with the WUI](#), before the view specified in the URL is displayed.

- `//hostname:port/CICSplexSM/code page/userid/OBJECT/objectname`

This takes you directly to the default view set for object *objectname*, if you are already signed on in the current web browser session.

If you are not signed on in the current web browser session, you are taken through the signon process described in [Signing on with the WUI](#), before the default view for the object specified in the URL is displayed.

You can specify any object name for object, and the default view set is EYUSTARTobjectname, where objectname is the value of the URL. Note however that not all CICSplex SM objects have starter set view sets.

You can change the default view set for a subset of CICSplex SM objects using the following Web User Interface server system parameters:

WUI server system parameter	Objectname
DEFAULTCICSplex	CICSplex
DEFAULTCICSrgn	CICSrgn
DEFAULTCONNECT	CONNECT
DEFAULTCSysGRP	CSysGRP
DEFAULTDB2SS	DB2SS
DEFAULTEJCbean	EJCbean
DEFAULTEJDJbean	EJDJbean
DEFAULTEVENT	EVENT
DEFAULTLOCFILE	LOCFILE
DEFAULTLOCTRAN	LOCTRAN
DEFAULTPROGRAM	PROGRAM
DEFAULTREMFIL	REMFIL
DEFAULTREMTRAN	REMTRAN
DEFAULTTASK	TASK

**Note:** You need to specify *code page* only if you want to override the code page specified on the INITPARM system initialization parameter.

## Selection criteria

In URLs, the selection criteria are specified as HTTP query variables.

Each query variable is specified as a variable name followed by '=' then a value. The variable names and values must be escaped using the HTTP standard notation, where necessary. Multiple query variables should be separated by an ampersand (&) character.

The Web User Interface supports query variables as follows:

- Query variables that can be used for menus and views
- Query variables that can be used for views only

### ***Query variables that can be used for menus and views***

You can use certain query variables for both menus and views.

These are:

- CONTEXT

This is the CICSplex name.

- CMASCONTEXT

This is the CMAS name.

- SCOPE

This is the CICSplex, CICS group, MAS or logical scope name.



## Query variables that can be used for views only

Some query variables can be used for views only.

These additional query variables are as follows:

- A\_attrname, where attrname is the name of an attribute.

This is an attribute filter. You can specify any number of attributes on a URL. You can specify characters, numbers, CVDA or EYUDA values. The default operator for an attribute filter is equality (=). If you want to use a different operator you can specify the operator value on the O\_attrname query variable. See [Table 8 on page 127](#) for a list of operators and their values.

- FILTERC, when set to 1, the request will force filter confirmation processing when the view is displayed.

If FILTERC is not present, or is not set to 1, filter confirmation might still occur depending on the GLOBALPREFILTER Web User Interface system parameter or the user group option **Force filter confirmation**.

- P\_parmname, where parmname is the name of a parameter.

This is a parameter filter, as used for a CICSplex SM API GET command.

- O\_attrname, where attrname is the name of an attribute.

This is specified with the A\_attrname query variable to change the equality (=) default operator. For a list of operator values that you can specify on the O\_attrname query variable see [Table 8 on page 127](#).

**Note:** When using generic values only the equal to (=) and not equal to (<>) operators are valid.

Operator value (mnemonic)	Operator value (numeric)	Meaning
EQ	1	Equal to
NE	2	Not equal to
GT	3	Greater than
LT	4	Less than
GE	5	Greater than or equal to
LE	6	Less than or equal to

## Specifying WUI object names

If you do not specify a view set name but specify an object name, the view set named on the Web User Interface server initialization operation options parameter, that represents the specified object, is opened.

If a view set has not been named to represent the specified object, the default view set, EYUSTARTobjectname is opened.

## Examples of valid URL formats

The following examples show valid URL formats.

1. `http://MVSXX.COMPANY.COM:04445/CICSPLEXSM//JSMITH/MENU/OURHOME?CONTEXT=FRED&SCOPE=FRED`

This is a request for a user to be directly presented with a home menu called OURHOME using context FRED and scope FRED.

2. `http://MVSXX.COMPANY.COM:04445/CICSPLEXSM//JSMITH/VIEW/OURLOCTRAN?CONTEXT=FRED&SCOPE=FRED&A_TRANID=PAY*`

This is a request for a user to be directly presented with the default view, in view set OURLOCTRAN, displaying all the local transactions with a TRANID beginning with the characters PAY, using context FRED and scope FRED.

3. [http://MVSXX.COMPANY.COM:04445/CICSPLEXSM//JSMITH/VIEW/OURWLMAWAOR.TABLE1?  
P\\_WORKLOAD=WLDAPY01](http://MVSXX.COMPANY.COM:04445/CICSPLEXSM//JSMITH/VIEW/OURWLMAWAOR.TABLE1?P_WORKLOAD=WLDAPY01)

This is a request for a user to be directly presented with the TABLE1 view, in view set OURWLMAWAOR, displaying active workload information about workload WLDAPY01, using the default context as specified in the DEFAULTCONTEXT Web User Interface server initialization parameter.

4. [http://MVSXX.COMPANY.COM:04445/CICSPLEXSM//JSMITH/VIEW/OURLOCTRAN?  
A\\_TRANID=P\\*&O\\_TRANID=NE](http://MVSXX.COMPANY.COM:04445/CICSPLEXSM//JSMITH/VIEW/OURLOCTRAN?A_TRANID=P*&O_TRANID=NE)

This is a request for a user to be directly presented with the default view, in view set OURLOCTRAN, displaying all the local transactions with a TRANID that does not begin with the character P.

5. [http://MVSXX.COMPANY.COM:04445/CICSPLEXSM//JSMITH/VIEW/OURTASK?  
A\\_PRIORITY=200&O\\_PRIORITY=GT](http://MVSXX.COMPANY.COM:04445/CICSPLEXSM//JSMITH/VIEW/OURTASK?A_PRIORITY=200&O_PRIORITY=GT)

This is a request for a user to be directly presented with the default view, in view set OURTASK, displaying all the tasks with a PRIORITY greater than 200.

6. [http://MVSXX.COMPANY.COM:44455/CICSPLEXSM//TOXTETH/VIEW/EYUSTARTPROGRAM.TABULAR  
?FILTERC=1](http://MVSXX.COMPANY.COM:44455/CICSPLEXSM//TOXTETH/VIEW/EYUSTARTPROGRAM.TABULAR?FILTERC=1)

This is a request for a user to be presented with the filter confirmation screen of the EYUSTARTPROGRAM TABULAR view.

## Setting CMAS and MAS trace flags

You can use the WUI to set CMAS and MAS trace flags.

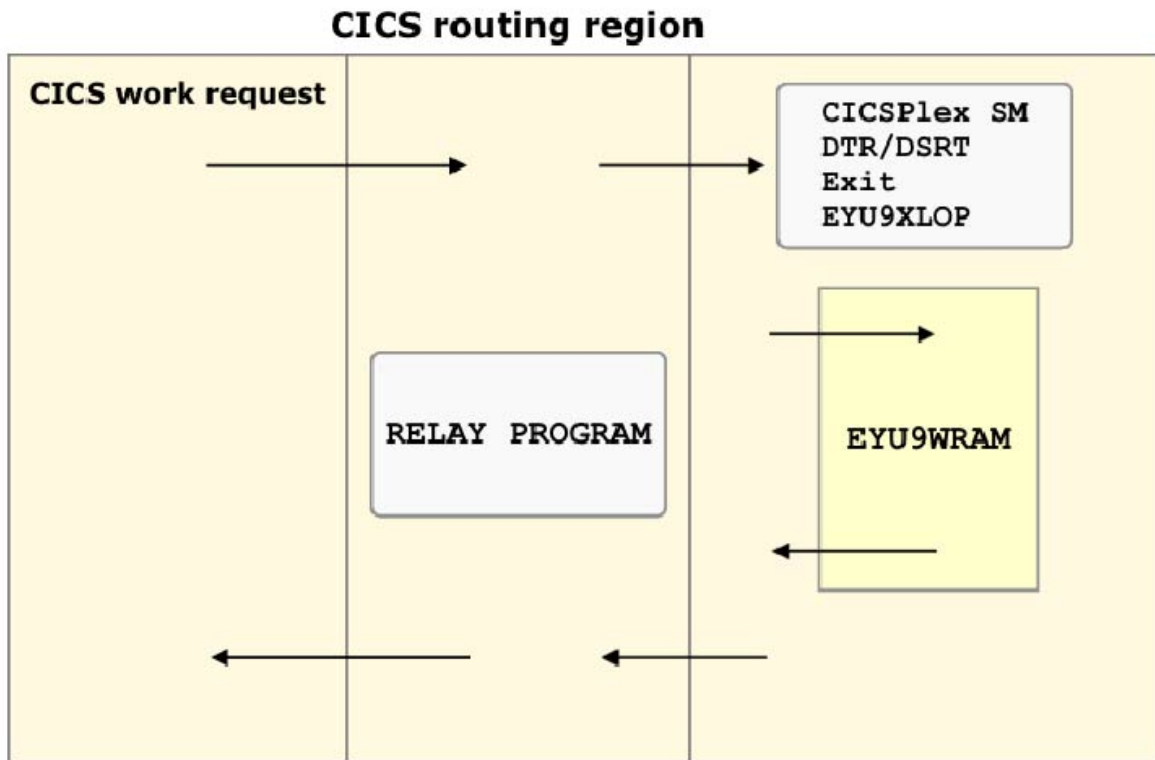
You use the **CMAS detail** (EYUSTARTCMAS.TRACE) view to set CMAS trace flags and the **MASs known to CICSplex** (EYUSTARTMAS.TRACE) view to set MAS trace flags.

## Configuring dynamic routing

You can define a transaction to CICS as either local or remote. Local transactions always run in the requesting region; remote transactions can be routed to any CICS system connected to the routing region. Routing of remote transactions can be dynamic, static, or ATI-controlled.

### Dynamic routing with CICSplex SM

When a remote transaction is initiated, the CICS relay program is invoked. The CICS relay program links to the dynamic routing program EYU9XLOP. EYU9XLOP creates the environment necessary for CICSplex SM-based dynamic routing and sets up the CICSplex SM runtime environment.



For a routing region, specify EYU9XLOP in the system initialization table (SIT) parameter:

#### DTRPGM

For static routing, ATI, and dynamic routing, set EYU9XLOP on the DTRPGM system initialization parameter that is associated with the requesting region that initiates the transaction. Any target region that is also to act as a routing region must also specify DTRPGM in the SIT and must be set up as a routing region as described in Associating a CICS system or system group with a workload specification.

#### DSRTPGM

For non-terminal-related **EXEC CICS START** commands, BTS activities, or enterprise beans, set EYU9XLOP on DSRTPGM system initialization parameter in:

- The requesting region that initiates the request.
- All potential target regions if the DYROPTER field in the communications area or container for the routing program (mapped by the DFHDYPDS copybook) is to be set to Y.

If you use CICSplex SM to route non-terminal-related **EXEC CICS START** commands, the DYROPTER field is always set to Y. You must therefore always specify `DSRTPGM=EYU9XLOP` and ensure that the target region is part of the workload. Failing to ensure that the target region is defined to the workload results in the started transaction waiting for the workload to become available and the transaction hangs.

**Note:** If the target region is not going to be set up as a routing region, do not specify EYU9XLOP in the DTRPGM and DSRTPGM SIT parameters. Specifying this parameter causes an endless loop for routed transactions in EYU9XLOP waiting for the workload, which never arrives.

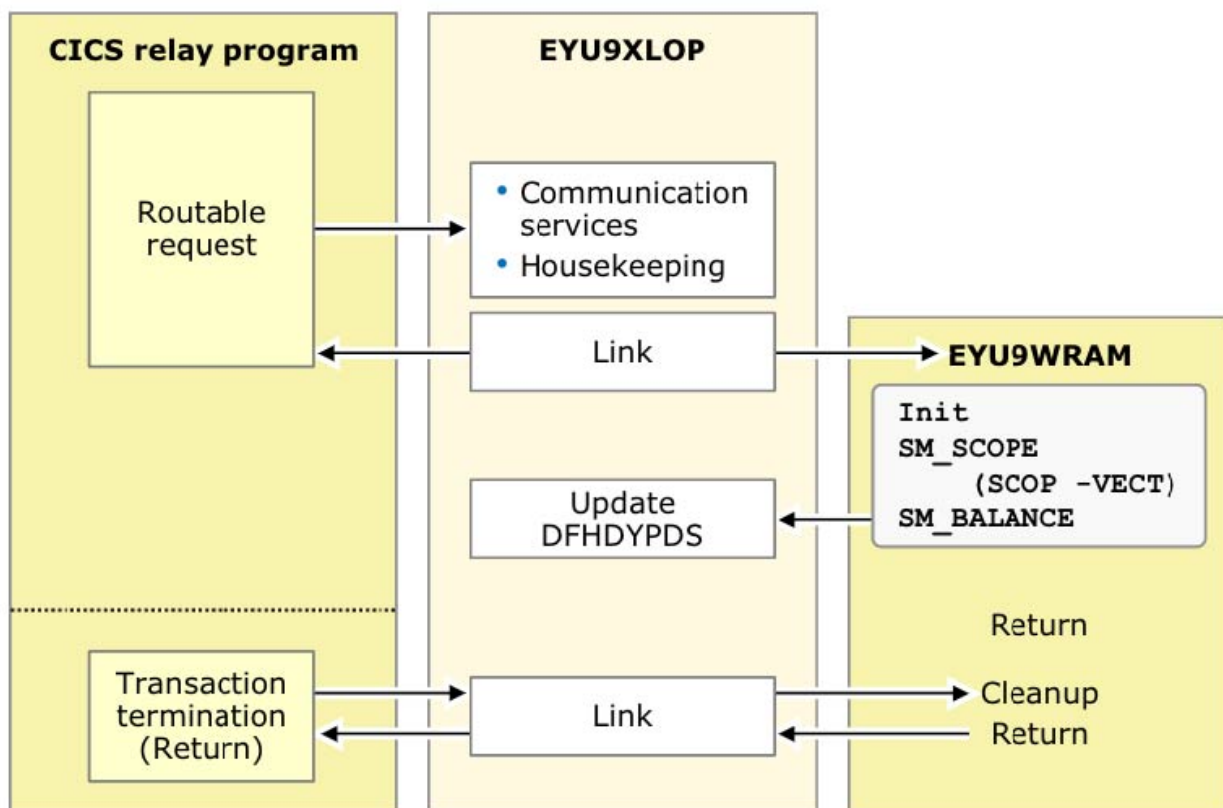
CICS notifies EYU9XLOP of all routing requests. These requests are as follows:

- Route selection, route selection error, and transaction termination.
- For BTS (all supported releases of CICS), transaction initiation, transaction abend, and routing attempt complete.
- For non-terminal **EXEC CICS START** requests (all supported releases of CICS), transaction initiation, transaction abend, and routing attempt complete.

When CICS links to EYU9XLOP, it passes the CICS communication area DFHDYPDS to it.

Control then passes to the CICSplex SM workload management facilities. CICSplex SM initializes the workload management MAS agent code and engages its routing action process. This process is called internally if any of the following conditions are true:

- The EYU9WRAM user-replaceable module is not defined to CICS
- EYU9WRAM is defined to CICS, but is not available
- EYU9WRAM is defined to CICS, is available, and the load module is the assembly language version of the module as distributed with CICSplex SM.



The internal routing action process produces the same results as running the assembly language version of EYU9WRAM as it is distributed with CICSplex SM. If no additional dynamic routing control is required at your enterprise, the internal process provides better performance.

The EYU9WRAM module, or its equivalent internal process, receives the CICSplex SM-based communication area EYURWCOM. An entry for EYU9WRAM is added to the CICS system definition file, DFHCSD, for each CICS system during installation. As distributed with CICSplex SM, EYU9WRAM drives CICSplex SM workload management processing. EYU9WRAM does this by first obtaining the appropriate

list of target region candidates, based on the transaction group, and the terminal ID, LU-name, user ID, or process type. Then, EYU9WRAM selects a target region from the list of candidates.

For most situations, the supplied EYU9WRAM module provides workload management capabilities. However, if it is ever needed, you can customize CICSplex SM workload management processing by modifying EYU9WRAM. For more information, see [Creating a user-replacement module for EYU9WRAM](#).

## CICS release requirements for dynamic routing

Here are CICS release requirements for regions involved in dynamic routing.

<i>Table 9. Release requirements for regions involved in dynamic routing.</i>			
<b>Release requirement for:</b>	<b>Routing regions</b>	<b>Target regions</b>	<b>Requesting regions</b>
Dynamic transaction routing	Any supported release of CICS	Any supported release of CICS	-
EXEC CICS START commands	Any supported release of CICS	Any supported release of CICS	Any supported release of CICS
CICS Business Transaction Services (BTS)	Any supported release of CICS	Any supported release of CICS	Any supported release of CICS
Distributed program link (DPL)	Any supported release of CICS	Any supported release of CICS	-
Link3270 bridge	Any supported release of CICS	Any supported release of CICS	-

## Sample source programs and copy books

Following installation, the module EYU9WRAM is loaded into CICSplex SM.

It is an assembler-language, command-level program; its corresponding copy books are:

### **EYURWCOM**

Defines the communication area

### **EYURWCOD**

Defines literals for EYURWCOM

### **EYURWSVE**

Defines each element of a target region scope list

### **EYURWSVD**

Defines literals for EYURWSVE

To assist you in your customization effort, sample source programs and copy books for assembler, C, COBOL, and PL/I are distributed with CICSplex SM. Copy books are located in language-specific libraries. All sample programs are located in the SEYUSAMP library. The names of the sample programs and copy books, and the CICSplex SM libraries in which they can be found are listed in [Table 10 on page 131](#).

*Table 10. Table 1. Sample programs and copy books*

<b>Language</b>	<b>Member name</b>	<b>Alias</b>	<b>Library</b>
Assembler:			
Program	EYUAWRAM	EYU9WRAM	SEYUSAMP
Copybook 1	EYUAWCOM	EYURWCOM	SEYUMAC
Copybook 2	EYUAWCOD	EYURWCOD	SEYUMAC

Table 10. Table 1. Sample programs and copy books (continued)

Language	Member name	Alias	Library
Copybook 3	EYUAWSVE	EYURWSVE	SEYUMAC
Copybook 4	EYUAWSVD	EYURWSVD	SEYUMAC
COBOL:			
Program	EYULWRAM	EYU9WRAM	SEYUSAMP
Copybook 1	EYULWCOM	EYURWCOM	SEYUCOB
Copybook 2	EYULWCOD	EYURWCOD	SEYUCOB
Copybook 3	EYULWSVE	EYURWSVE	SEYUCOB
Copybook 4	EYULWSVD	EYURWSVD	SEYUCOB
PL/I:			
Program	EYUPWRAM	EYU9WRAM	SEYUSAMP
Copybook 1	EYUPWCOM	EYURWCOM	SEYUPL1
Copybook 2	EYUPWCOD	EYURWCOD	SEYUPL1
Copybook 3	EYUPWSVE	EYURWSVE	SEYUPL1
Copybook 4	EYUPWSVD	EYURWSVD	SEYUPL1
C:			
Program	EYUCWRAM	EYU9WRAM	SEYUSAMP
Copybook 1	EYUCWCOM	EYURWCOM	SEYUC370
Copybook 2	EYUCWCOD	EYURWCOD	SEYUC370
Copybook 3	EYUCWSVE	EYURWSVE	SEYUC370
Copybook 4	EYUCWSVD	EYURWSVD	SEYUC370

## Implementing optimized dynamic workload routing

CICSplex SM provides dynamic workload management for CICS. CICSplex SM can augment its workload management decisions using current status information posted directly from CICS by using a region status (RS) server.

### Before you begin

Full workload optimization can be achieved with sysplex optimized workload routing. However, this capability requires that all workload regions are migrated to CICS TS for z/OS, Version 4.1 and later.

Sysplex optimized workload routing takes place automatically when all workload regions are running at CICS TS 4.1 and later, and when a region status (RS) server is started in the same z/OS image as each region in the workload in the CICSplex.

You can mix CICS TS for z/OS, Version 4.1 and later regions in a workload with regions at a level earlier than CICS TS 4.1. However, workloads will run in a nonoptimized state.

For details about sysplex optimized workload routing, see [Sysplex optimized workload routing overview](#).

### About this task

To optimize workload routing in a sysplex, you must configure and monitor a region status (RS) server, as part of a coupling facility data table. For instructions, see [Setting up and running a region status server and Security for coupling facility data tables](#).

## Procedure

In the CICSplex definition, you can set the coupling facility (CF) tuning parameters for the region status (RS) server, which provide sysplex optimized workload routing. You define and modify CICSplexes using the **EYUSTARTCPLEXDEF** view set. The coupling facility (CF) tuning parameters are in the **CPLEXDEF** detail view.

### Configuring for workload routing

You can set the following configurations:

- How long region status data is cached by a routing region before requesting a refresh for sysplex optimized workload routing.  
See [Region status server, read interval parameter \(READRS\)](#).
- How often the coupling facility is updated with task throughput data for sysplex optimized workload routing.  
See [Region status server, update frequency parameter \(UPDATERS\)](#).
- The task load range that triggers workload distribution updates to the coupling facility (CF) during periods of low throughput.  
See [Region status server, bottom-tier parameter \(BOTRSUPD\)](#).
- A task load top tier that controls the workload when the region is close to the MAXTASK (MXT) setting during periods of high throughput.  
See [Region status server, top-tier parameter \(TOPRSUPD\)](#).

### Viewing optimization status

- **For a workload**, view the **Active workloads list** view in the CICSplex SM Web User Interface (WUI).
- **For a CICS region**, view the **Routing regions or Target regions** views located in the **Active workloads** menu.

For more information, see [“Optimization status” on page 136](#).

### **Region status server, read interval parameter (READRS)**

You use the region status server read interval parameter in the CPLEXDEF, CSYSDEF, and MAS views to control how long region status data is cached by a routing region before requesting a refresh for sysplex optimized workload routing.

### **READRS={200|number}**

In a workload running in optimized mode, the **READRS** value specifies the minimum interval, in milliseconds, between refreshes of a target region status from a CICS region status (RS) server. These refresh requests are issued by a routing region that is evaluating a target region for a dynamic routing request.

**Note:** You should only change the **READRS** value after considering the impact that the change might have on your workload and coupling facility throughput.

The value range is from 0 - 2000:

- A value of 0 means that a routing region requests a status update of a target region on every occasion that it examines the status of the target region.
- Values from 1 - 2000 specify the minimum time interval that must expire before the status of a target region can be refreshed.

A low interval value means that the RS server is polled more often for a status update. For workloads in QUEUE mode, this low value results in a smoother task load spread across the CICS regions in the workload target scope, *assuming all other health and link factors are equal*. However, the utilization of the RS server is correspondingly increased, which might result in higher utilization of your z/OS coupling facility.

The default value of the **READRS** parameter is 200 milliseconds.

The value specified in the EYUSTARTCPLEXDEF view set sets the read interval at the CICSplex level. However, you can override the interval at the CICS definition level to allow fine tuning of the value on an individual CICS target region basis.

You specify both the UPDATERS and the READRS parameters at the CICSplex definition (CPLEXDEF) level to establish default values for all regions in the CICSplex. You can override these values at the CICS system definition (CSYSDEF) level or at the MAS agent runtime (MAS) level.

At the CICS definition level, the value for **UPDATERS** and **READRS** is INHERIT, so that the values are adopted from the CICS system definition. By changing these values to explicit numeric values, the CICS system adopts the values specified on each successive restart. To implement a change to a running CICS region, the values must be applied using the MAS base tables or view sets. When the target region is restarted, it reemploys the specification from its CSYSDEF.

### ***Region status server, update frequency parameter (UPDATERS)***

You use the region status server update frequency parameter in the CPLEXDEF, CSYSDEF, and MAS views to control how often the coupling facility is updated with task throughput data for sysplex optimized workload routing.

### **UPDATERS={15|number}**

In a workload running in optimized mode, the **UPDATERS** value indicates the frequency that the CICS region status (RS) server is called to modify the value of the task load in a target CICS region. This value is the default frequency value for all target CICS regions in the current CICSplex definition.

**Note:** You should only change the **UPDATERS** value after considering the impact that the change might have on your workload and coupling facility throughput.

The value range is from 0 - 25:

- A value of 0 means that the RS server is not notified of any task load count changes, because the optimized workload function for target regions in this CICSplex is not enabled.

**Note:** A value of 0 does not suppress optimization of the workload routing function; a value of 0 suppresses only the target region RS domain broadcasting process.

- Values from 1 - 25 are applied as an arithmetic percentage to the MAXTASKS setting for a target. The resulting task count value is used as a numeric threshold to drive an update call to the RS server.

Specifying a value of zero effectively disables the optimized routing function for the target regions. For an optimized routing decision to be made, both the router and target must be in optimized mode.

For example, with a MAXTASKS setting of 120, and the UPDATERS set to 20, the RS server is called to update the WLM load count when the task count for a target region changes between these numbers of tasks:

- 23 and 24 tasks (20% of 120)
- 47 and 48 tasks (40% of 120)
- 71 and 72 tasks (60% of 120)
- 95 and 96 tasks (80% of 120)
- 119 and 120 tasks (100% of 120)

The RS server is updated when the task load for a target region increments or decrements across these boundaries.

If you set the **UPDATERS** parameter to a low value, the frequency of updates to the RS server increases across the task load range. For workloads in QUEUE mode, this low value results in a smoother task load spread across the target CICS regions in the workload scope, *assuming all other health and link factors are equal*. However, the utilization of the RS server is correspondingly increased, which might result in higher utilization of your z/OS coupling facility.

The default value for the **UPDATERS** parameter is 15.



The value specified in the EYUSTARTCPLEXDEF view set sets the update interval at the CICSplex level. However, you can override the interval at the CICS definition level to allow fine tuning of the value on an individual CICS target region basis.

You specify both the **UPDATERS** and the **READRS** parameters at the CICSplex definition (CPLEXDEF) level to establish default values for all target regions in the CICSplex. You can override these values at the CICS system definition (CSYSDEF) level or at the MAS agent runtime (MAS) level.

At the CICS definition level, the value for **UPDATERS** and **READRS** is INHERIT, so that the values are adopted from the CICS system definition. By changing these values to explicit numeric values, the CICS system adopts the values specified on each successive restart. To implement a change to a running CICS region, the values must be applied using the MAS base tables or view sets. When the target region is restarted, it uses the specification from its CSYSDEF.

### ***Region status server, bottom-tier parameter (BOTRSUPD)***

You use the region status server bottom-tier tuning parameter in the CPLEXDEF, CSYSDEF, and MAS views to control the workload distribution updates to the coupling facility (CF) during periods of low throughput.

#### **BOTRSUPD={1|number}**

For sysplex optimized workloads, the **BOTRSUPD** value is converted from a task load percentage to a real task count. That count is used to define the bottom-tier task load range, from zero up to this value.

**Note:** You should only change the **BOTRSUPD** value after considering the impact that the change might have on your workload and coupling facility throughput.

The value range is from 1 - 25. When the task load for a region falls within this range, the task load is then broadcast to the coupling facility (CF) for every change in the task load. When the load reaches this value, the RS server update frequency task rules are activated.

The default value of the **BOTRSUPD** parameter is 1%.

Change this value only after considering the impact that the change might have on your workload and coupling facility throughput. The **BOTRSUPD** parameter provides a smoother distribution of the workload during periods of low throughput. When your CICSplex consists of many target regions and you increase this value too much, you risk overloading the CF with update requests, which can result in degraded WLM and general z/OS subsystem performance.

When you need to modify the **BOTRSUPD** value, ensure that you monitor the performance of your coupling facility and WLM throughput capabilities for at least several days after modification.

### **Disabling updates to the CF due to BOTRSUPD**

You can set the following feature toggle to disable updates to the CF when the task load falls below the lower tier threshold:

```
com.ibm.cics.cpsm.wlm.botrsupd.enabled=false
```

The lowest possible setting for **BOTRSUPD** is 1%. Therefore, regions with a high MXT setting, which spend a significant amount of time operating below 1% of their declared capacity, might perform a high number of CF updates. With this feature toggle in effect, when the task load for a region falls within the **BOTRSUPD** range, no updates are made to the CF. The task load value stored in the CF will remain zero until the first task load boundary defined by the **UPDATERS** parameter is reached.

Note that if only a subset of target regions within a workload are run with `com.ibm.cics.cpsm.wlm.botrsupd.enabled=false`, then those regions might take a greater proportion of the workload.

See [Specifying feature toggles](#) for instructions on how to specify feature toggles in your region configuration.

## ***Region status server, top-tier parameter (TOPRSUPD)***

You use the region status server top-tier tuning parameter in the CPLEXDEF, CSYSDEF, and MAS views. It controls the workload when the workload management (WLM) max task health indicator is switched off for a target region, to limit updates to the coupling facility (CF) when the region is close to the MAXTASK (MXT) setting during periods of high throughput.

### **TOPRSUPD={5|number}**

For sysplex optimized workloads, the **TOPRSUPD** value is converted from a task load percentage to a real task count. That count is subtracted from the **MAXTASKS** value for the region to determine the top-tier task load range.

**Note:** You should only change the **TOPRSUPD** value after considering the impact that the change might have on your workload and coupling facility throughput.

The value range is from 1 - 25. The value is applied as an arithmetic percentage to the **MAXTASKS** setting for a region. The task count value is then subtracted from the **MAXTASKS** setting for the region to establish a task load top tier. When the task load in a region runs up to its **MAXTASKS** limit, the task load must then drop back below this value before the **MAXTASKS** state for the region is switched off and broadcast to the coupling facility.

The default value of the **TOPRSUPD** parameter is 5%.

Change the **TOPRSUPD** value only after considering the impact that the change might have on your workload and coupling facility throughput. When you increase this value too much, you see a workload batching effect in the upper load range of the workload. When you decrease the value too much, the upper-tier batching effect is reduced, but updates to the coupling facility can be significantly increased.

When you need to modify the **TOPRSUPD** value, ensure that you monitor the performance of your coupling facility and WLM throughput capabilities for at least several days after modification.

## ***Optimization status***

You can use CICS Explorer and the CICSplex SM Web User Interface (WUI) to view the status of workloads.

## **Viewing optimization status of the workload**

You can use the Active workloads list view in CICS Explorer or in the CICSplex SM Web User Interface (WUI), to view the status of each workload active in the CICSplex.

The **Optimization status** attribute reports the sysplex optimization status of the current workload. The value is a combination of all of the workload router optimization statuses and all of the workload target optimization statuses.

These values are possible:

### **ACTIVE**

All targets and routers in the workload are running in sysplex optimized workload state.

### **PARTIAL**

At least one target and one router are running in sysplex optimized workload mode. Use the **Active routing regions** and **Active target regions** views to determine which regions are not running in sysplex optimized state.

### **INACTIVE**

The workload is not running in an sysplex optimized state, for one or more of the following reasons:

- No routing regions in the workload are running in sysplex optimized state.
- No target regions in the workload are running in sysplex optimized state.
- No regions in the workload are running in sysplex optimized state.

- The workload is designated as being non-optimized by specifying a value of 0 for the RS server update frequency on the CICSplex definition or on all target CICS system definitions for this workload.

## Viewing optimization status for a CICS region

If you are using CICS Explorer, follow the instructions in [Viewing workloads in a CICSplex in the CICS Explorer product documentation](#).

If you are using the CICSplex SM WUI, use the Routing regions or Target regions views located in the Active workloads list view to view the optimization status for a CICS region.

The **Optimization status** attribute reports the status of the current target region for the sysplex optimized workload routing function.

These values are possible:

### ACTIVE

This target region is running in sysplex optimized workload state.

### INACTIVE

This region can run in sysplex optimized workload state; however, it is not currently sysplex optimized for one or more of the following reasons:

- The region has no connection to an RS server.
- The region is connected to an RS server; however, the server cannot connect to the z/OS coupling facility.
- The optimization enablement setting for the region is set to *Disabled*. The enablement setting for the region must be set to *Enabled* before any sysplex optimized routing functions can be activated.

**Note:** You can reset the sysplex optimization enablement setting in the CICS system definition view to change the value in preparation for the next region startup. The enablement setting can also be changed in an active region using the MAS view, but will revert to the setting in the CICS system definition when the region is restarted.

- The RS server update frequency value for this region is 0, which means that the optimization capabilities for this region when acting as a routing target are not enabled.

**Note:** You can set the *UPDATERS* value to 0 for regions that are used as dynamic routers only. Setting this value to 0 prevents the region from making unnecessary region status broadcasts to the Region Status (RS) server.

### N\_A

The target region is not at a CICS release that supports region status recording. Only non-optimized WLM routing decisions can be made.

## Nonoptimized workload routing

In releases before CICS TS for z/OS, Version 4.1, for nonoptimized workload management, and when a coupling facility is not available, workload routing is managed by CICSplex SM Workload Manager using a data space owned by a CMAS to share cross-region load and status data.

Every CMAS manages a single WLM data space that it shares with every user CICS region (MAS) that it directly manages. When the CMAS initializes, it verifies and formats the data space with the structures necessary for all workloads associated with the CICS regions that it manages. When the user CICS regions begin routing dynamic traffic, the state of those CICS regions is recorded in this data space. Every 15 seconds, the CICSplex SM agent in the user CICS region determines the task count at that time and reports to its owning CMAS. The CMAS updates the load count in the target region descriptor of its WLM data space and broadcasts that value to other CMASs participating in workloads associated with the user CICS region.

In an environment in which all user CICS regions are managed by the same CMAS, all routing and target regions refer to the same physical structures in the WLM data space. Dynamic routing decisions are based

on the most current load data for a potential routing target region. A routing decision is based on a combination of factors. For details, see [How CICSplex SM WLM chooses where to route work](#).

Workloads are spread across multiple z/OS images, so additional CMASs are configured to manage the user CICS regions on the disparate LPARs. Each WLM data space must maintain a complete set of structures to describe every CICS region in the workload, not just the CICS regions for which each CMAS is responsible. The WLM data space owned by each CMAS must be periodically synchronized with the WLM data spaces owned by other CMASs that are participating in the workload. This synchronization occurs every 15 seconds from the MASs to their CMASs, and then out to all other CMASs in the workload.

The behavior of CICSplex SM is different for DTRPGM and DSRTPGM requests:

- For DTRPGM requests, the routing region calls, from CICS, to decide if the target regions are synchronized with the execution of the request at the selected target, which is then followed by a call back from CICS on completion of the dynamic request. This call allows the router to increment the task load count before informing CICS of the target region system ID, and also to decrement the count on completion of the request.
- For DSRTPGM requests, the routing region calls, from CICS, to decide if targets are not synchronized with the selected target. Typically, these dynamic requests are asynchronous CICS starts. The router has no notification of when the routed transaction starts or finishes. Because of a lack of notification, CICSplex SM stipulates that a DSRTPGM target region must also have the workload associated with the region, which transforms the targets into logical routing regions. This call allows the CICSplex SM routing processes to determine that they are being called at the DSRTPGM target and, therefore, allows the task load count to be adjusted at transaction start and finish.

CICSplex SM routing regions count the dynamic transaction throughput in a CICSplex, introducing an additional problem in that transactions started locally on the target regions remain unaccountable by the routing regions until a heartbeat occurs. The router transaction counts are not accurately synchronized until two heartbeats have occurred, the first to increment the count, and the second to decrement it again. This discrepancy, however, is not considered as severe as when a router and target are managed by different CMASs.

For multiple CMASs, the router regions evaluate status data for a target region as described in its local WLM data space. If that target region is managed by a different CMAS to that owned by the router, status data describing that target region can be up to 15 seconds old. For DTRPGM requests, this latency does not have a severe effect. For DSRTPGM requests, however, the effect can be significant, particularly when the workload throughput increases. The effect is known as workload batching.

For more information, see [“Workload batching” on page 138](#).

### ***Workload batching***

Workload batching occurs in heavily used workloads in multiple CMAS environments, where dynamic distributed (DSRTPGM) routing requests are being processed.

A target region and its routing regions can be managed by different CMASes. This is always the case when the router runs in a different LPAR to the targets. In this scenario, the router is using a different descriptor structure to evaluate the target status from the real descriptor structure employed by the target itself.

The target descriptor reviewed by the router is synchronized with the real descriptor at 15-second intervals by the CICSplex SM heartbeat. The task count for the target region, as seen by the router, is refreshed at the same time. During a 15-second heartbeat interval, the router regards the target as being relatively busy, or relatively quiet, when compared to other potential target regions in the workload. Therefore, for that 15-second duration, the router continues to divert work towards, or away from, the target, depending on how busy it seems to be, because the current task count in the target is not seen to change until the next heartbeat. This routing, based on the previous status, can make the target very busy or unused. The router reacts to this situation by more actively routing work towards, or away from, the target, so the batching cycle continues. This state continues until activity in the workload throughput declines, which settles down the batching cycle until the throughput activity increases.

If you are monitoring the task load across the CICSplex, you see some regions running at their MAXTASKS limit and being continually given dynamically routed traffic, and others remain unused. A snapshot taken 15 seconds later might show a reversal of utilization; the busy regions might be idle and the idle regions might now be at the MAXTASKS limit.

When you start your region status servers and optimize workloads, the effects of workload batching are removed.

## Modifying dynamic routing

You can customize CICSplex SM workload management processing by modifying the module EYU9WRAM.

EYU9WRAM uses the CICSplex SM dynamic routing application programming interface (API), which is a special-purpose, call-level interface that provides the mechanism needed to request workload management actions. All calls are constructed using standard CALL statements. The CALL statement generates the linkage between the EYU9WRAM module and the CICSplex SM Workload Manager component. The format of the CALL statement is shown here:

```
CALL WAPIENPT(DA_TOKEN,function)
```

where:

### DA\_TOKEN

Identifies the dynamic routing API token supplied via the EYURWCOM communication area. This token is used by EYU9WAPI and must not be altered.

### function

Is the function to be performed, specified as:

#### SM\_SCOPE

Returns a list of eligible target regions.

#### SM\_BALANCE

Selects a target region from the list of eligible target regions.

#### SM\_ROUTE

Routes a transaction to a specific target region.

#### SM\_CREAFF

Creates an affinity.

#### SM\_DELAFF

Deletes an active affinity.

You can use SM\_SCOPE and SM\_BALANCE together to obtain a list of target regions and then select the target region to which a transaction is to be routed.

If you know that a transaction is always to be directed to a specific target region, you can use just SM\_ROUTE.

As distributed, EYU9WRAM issues SM\_SCOPE and SM\_BALANCE calls. It does not include any SM\_ROUTE calls. It includes unexecuted calls to SM\_CREAFF and SM\_DELAFF. You can modify the program to issue these calls.

Although all the examples use the assembler language form of the dynamic routing API verbs, you can also use these verbs in programs written in C, COBOL, and PL/I. Sample programs distributed with CICSplex SM contain examples of the CALL statements for each of these languages.

**Note:** If you are modifying dynamic routing, be aware that:

- If they are not set, the values for application context are either zero (for the version) or nulls/low-values (for platform, application, and operation).
- String fields are padded with nulls, not spaces.

**Important:** As distributed, EYU9WRAM handles the workload routing and separation established via the workload management definitions by using the API verbs. Any changes you make to EYU9WRAM, therefore, might adversely impact the CICSplex SM workload management facilities. For example, if

you do not use SM\_SCOPE, SM\_BALANCE, or SM\_ROUTE, each transaction occurrence is routed to the default target region identified when the transaction was defined to CICS. Thus, all CICSplex SM workload management definitions are bypassed.

### ***Nondynamic transaction considerations***

You do not have to include any calls through the API if a transaction is statically routed or is started by ATI. In these cases, the target region cannot be changed. The routing function is route notify. The route notify function is intended to notify the EYU9WRAM program that such a transaction is being routed.

If you do include any of these functions, the following occurs:

- An SM\_SCOPE call returns a single entry in the SCOP\_VECT. The entry is the target region associated with the statically defined transaction when it was defined, or with the destination specified on the EXEC CICS START command for ATI transactions.
- An SM\_BALANCE call selects the target region associated with the transaction when it was defined to CICS. The CICSplex SM Workload Manager will not create any affinity for the transaction.
- An SM\_ROUTE call returns an exception response.

When EYU9WRAM is called for:

- Notification, any existing affinity relations are ignored and none are created.
- Route selection error, any existing affinity relations are ignored and none are created. In addition, the EYU9WRAM program as delivered will write a terminal message and terminate.
- Routing attempt complete, for CICS BTS transactions only. Any existing affinities are ignored. Any dynamic routing API function call results in a bad response. See [“Non-terminal-related STARTs and CICS BTS considerations”](#) on page 140.
- Transaction initiation, for CICS BTS transactions only. Any existing affinities are ignored. Any dynamic routing API function call results in a bad response. See [“Non-terminal-related STARTs and CICS BTS considerations”](#) on page 140.
- Transaction termination, any existing affinities are ignored. Any dynamic routing API function call results in an error response.
- Transaction abend, any existing affinities are ignored. Any dynamic routing API function call results in an error response.

### ***Non-terminal-related STARTs and CICS BTS considerations***

When routing a transaction associated with either a CICS BTS activity or a non-terminal-related EXEC CICS START command, the routing program, identified in the DSRTPGM SIT parameter, is invoked for both static and dynamic routing.

In the case of statically routed transactions, the EYU9WRAM program cannot alter the target region; see [“Nondynamic transaction considerations”](#) on page 140. In the case of dynamically routed transactions, the EYU9WRAM program may alter the target region; see [“Selecting a target region from a set of target regions”](#) on page 141. However, in both cases, the EYU9WRAM program is invoked only for:

- In the requesting region:
  - Notification
  - Route selection
  - Route selection error
  - Route attempt complete
- In the target region:
  - Transaction initiation
  - Transaction termination
  - Transaction abend

For details of the function of route initiation, see [Dynamically routing DPL requests](#).

## **Selecting a target region from a set of target regions**

As distributed, EYU9WRAM uses SM\_SCOPE and SM\_BALANCE to select a target region from the list of target regions defined for a transaction. The options that you set affect the way that the target region is chosen.

- SM\_SCOPE returns a list of target regions for the current transaction occurrence. The target regions are those that are explicitly or implicitly associated with the requesting region by a workload specification.
- SM\_BALANCE selects a target region from the list of candidate target regions returned by SM\_SCOPE.

After an SM\_SCOPE or SM\_BALANCE call, the result of the operation is indicated in the response and reason fields of the EYURWCOM communication area.

## **Actions during route selection**

A dynamic route selection occurs when a transaction or program is scheduled for routing.

- When SM\_SCOPE is issued, the EYURWCOM communication area Scope Vector pointer is updated with the address of the target region scope list description area, SCOP\_VECT. Also, the element count field is updated to contain the count of elements in the scope vector. Each element in the scope vector identifies a candidate target region and indicates its current status.

During SM\_BALANCE processing, the target region appearing first in the ordered list is selected for routing, unless the scope vector element EYURWSVE is marked ignore.

- When no affinity is associated with the current transaction occurrence, an SM\_SCOPE call sorts the SCOP\_VECT elements so that the target region that is the best candidate is placed first in the list.

During SM\_BALANCE processing, the APPLID and SYSID of the most suitable target region are placed in the fields WCOM\_SEL\_AOR and WCOM\_SEL\_SYSID, respectively. Typically, this will be the first target region represented in the scope vector. However, if the EYU9WRAM program has marked the WSVE-IGNORE field on some of the SCOP\_VECT elements to denote that the target region is to be ignored, the first target region in the scope vector that is not marked to be ignored will be selected.

### **Note:**

1. If the transaction identifier and the ids of the terminal and user associated with that transaction match a transaction group to which an affinity is defined, the affinity is made active during SM\_BALANCE processing.
  2. With DPL, you can update the transaction id before the SM\_SCOPE call.
- When an affinity is associated with the current transaction occurrence, an SM\_SCOPE call normally causes only the target region with which the affinity exists to be identified in SCOP\_VECT. An SM\_BALANCE call then selects that target region. If the target region is not available for routing, the SM\_BALANCE function will set a warning indicator. It will not attempt to select another target region.
  - If the transaction is defined as a DTRTRAN, the EYURWCOM communication area will contain indicators denoting that the transaction is a DTRTRAN and that it will not be rejected by the Workload Manager. Processing is generally identical to the normal, non-DTRTRAN, case. Issuing SM\_SCOPE returns a SCOP\_VECT. Issuing SM\_BALANCE selects a target region.

The EYU9WRAM module might opt to reject the transaction before issuing the SM\_SCOPE call. In this case, the Workload Manager returns to CICS with the reject indicator set to Y in the DFHDYPDS communication area. The sample EYU9WRAM program causes a DTRTRAN transaction to be rejected only if the transaction identifier is all blanks.

## **Actions during notification**

Notification occurs when a static transaction or ATI transaction is being scheduled for routing.

- For statically routable transactions, ATI transactions, and BTS static routing requests, issuing SM\_SCOPE causes the scope vector to contain a single target region. This is the target region associated with the transaction.

## Actions during routing attempt complete

None, but you can tidy up and release any resources at this stage.

## Actions during route selection error

A route selection error call occurs if the CICS link between the requesting region and target region is not available or is not defined.

- When no affinity is active: issue SM\_SCOPE again. The candidate target regions identified by the SCOP\_VECT it returns will not include the target region that caused the error. You can then use SM\_BALANCE to select a new target region.
- When affinity became active as a result of the previous route selection:
  - If the lifetime associated with the affinity is PERMANENT, SYSTEM, ACTIVITY, or PROCESS, the target region causing the error will be included in scope list returned by SM\_SCOPE. SM\_BALANCE is required by affinity rules to select that target region. It also returns a warning to EYU9WRAM. EYU9WRAM should then notify the user that an error has occurred.
  - If the lifetime associated with the affinity is SIGNON, LOGON, DELIMIT, or PCONV, the active affinity status is removed before control returns to EYU9WRAM. When you reissue SM\_SCOPE, the target region causing the error will not be included in the scope list. If the workload specification is defined with Create Affinity YES for the transaction group, EYU9WRAM is notified that an affinity is defined and will be activated when you issue SM\_BALANCE.
- When affinity was activated by a previous transaction instance, and you issue SM\_SCOPE again, the scope list returned contains the previously selected target region. Since SM\_BALANCE is required by affinity rules to select that target region, a warning is returned to EYU9WRAM. EYU9WRAM should then notify the user that an error has occurred.

## Actions during transaction termination

Transaction termination occurs when a transaction has terminated normally.

- EYU9WRAM should release any resources it may have acquired.
- Issuing SM\_SCOPE or SM\_BALANCE or SM\_ROUTE causes an exception response to be returned.

## Actions during transaction abend

Transaction abend occurs when a transaction has terminated abnormally.

- EYU9WRAM should release any resources it may have acquired.
- Issuing SM\_SCOPE or SM\_BALANCE or SM\_ROUTE causes an exception response to be returned.

## Actions during transaction initiation

Transaction initiation occurs when a CICS BTS-related transaction, or an enterprise bean-related transaction, has been routed to the target region. No specific action is taken. The call is issued for information purposes only.

### **Selecting a specific target region**

SM\_ROUTE requests that a specific target region is selected for routing. Use SM\_ROUTE when you have application- or data-dependent requirements for explicit routing. For example, you might want to route a transaction associated with a specific user ID to a specific target region.

After an SM\_ROUTE call, the result of the operation is stored in the response and reason fields of the EYURWCOM communication area.

A sample SM\_ROUTE call is show here:

```
CALL WAPIENPT(DA_TOKEN,SM_ROUTE)
```



DA\_TOKEN identifies the dynamic routing API token supplied via the EYURWCOM communication area. This token is used by EYU9WAPI and must not be altered.

## **Actions during route selection**

The actions during route selection are:

- If there is only one connection between a requesting region and the target region, you can supply either the SYSID or the APPLID of the target region (CICSplex SM will determine the appropriate, corresponding ID). Place the APPLID in the WCOM\_SEL\_AOR field of the EYURWCOM communication area. Place the SYSID in the WCOM\_SEL\_SYSID field.

If there are multiple connections between a requesting region and the target region, supply both the SYSID and the APPLID, as described previously, to ensure that the correct target region is selected. Note that when both the SYSID and APPLID are supplied, they are not validated.

The target region need not be defined to CICSplex SM. The affinity status is not checked. Thus, no affinity is established as a result of this call and, if an affinity was in effect, it is ignored.

- Issuing SM\_ROUTE during Route Notify processing causes an exception response to be returned.

## **Actions during routing attempt complete**

None, but you can tidy up and release any resources at this stage.

## **Actions during route selection error**

The EYU9WRAM program may issue a message and terminate. You may then issue SM\_ROUTE again specifying a different target region, or issue SM\_SCOPE and SM\_BALANCE.

## **Actions during transaction termination**

- EYU9WRAM should terminate any resources it may have acquired.
- Calling any API function causes an exception response to be returned.

## **Actions during transaction abend**

- Calling any API function causes an exception response to be returned.

## **Actions during transaction initiation**

At transaction initiation:

- EYU9WRAM should terminate any resources it may have acquired.
- Calling any API function causes an exception response to be returned.

## ***Creating an affinity***

You can use SM\_CREAFF to create an affinity if one does not already exist in the transaction group established for the transaction.

The transaction group must be defined with an affinity type and lifetime. The affinity created will have the same affinity type and lifetime as defined in the transaction group.

You should review [“Affinity considerations” on page 144](#) before using SM\_CREAFF.

Before calling SM\_CREAFF, you must first call SM\_SCOPE to obtain a scope list. SM\_CREAFF will not create an affinity to a target region that is not in the scope list. In addition, you should set the EYUWRAM communication area fields WCOM\_SEL\_AOR and WCOM\_SEL\_SYSID to the APPLID and SYSID, respectively, of the target region for which you want the affinity created.

EYU9WRAM contains a fragment of unexecuted code that you can use as a template for implementing the SM\_CREAFF function.

The SM\_CREAFF function cannot be called during:

- Route termination
- Route abend
- Route notify
- Route initiate
- Route complete

### ***Deleting an affinity***

You can use SM\_DELAFF to delete an active affinity.

You should review [“Affinity considerations” on page 144](#) before using SM\_DELAFF.

Before calling SM\_DELAFF, you must first call SM\_SCOPE to obtain a scope list. The WCOM\_AFF\_STAT field in the EYURWCOM communication area contains a value indicating whether an affinity is active or committed. An active affinity can be deleted using SM\_DELAFF. A committed affinity has a lifetime of SYSTEM or PERMANENT and cannot be deleted using SM\_DELAFF.

EYU9WRAM contains a fragment of unexecuted code that you can use as a template for implementing the SM\_DELAFF API function.

The SM\_DELAFF function cannot be called during:

- Route notify
- Route initiate
- Route complete

### ***Affinity considerations***

When you define an affinity, you must specify its lifetime. The affinity normally persists until its specified lifetime expires.

You can define one of the following types of lifetime:

#### **Activity**

Expires when the CICS BTS activity ends

#### **Delimit**

Expires when the PCONV mode of the transaction is END

#### **Logon**

Expires when the terminal user logs off.

#### **Pconv**

Expires when a transaction uses EXEC CICS RETURN specifying no NEXTTRANSID or the PCONV mode of the transaction is END.

CICS does not support pseudoconversations for APPC (LUTYPE6.2) devices.

#### **Permanent**

Expires when the workload of which the target region is a part terminates

#### **Process**

Expires when the CICS BTS process ends

#### **Signon**

Expires when the terminal user signs off.

#### **System**

Expires when the target region terminates

#### **UOW**

Expires when the unit of work associated with the transaction ends. The unit of work ends either when a CICS SYNCPOINT or ROLLBACK request is run, or when the originating task terminates.

There are circumstances when SM\_SCOPE generates a scope list containing a single affinity target region, but the target region is not available for routing. This happens when:

- The target region is down.
- The CICS link to the target region is down.
- The target region is currently active but it was shutdown and restarted after the affinity was created.

In these cases, the EYU9WRAM default processing issues a terminal message indicating that the affinity target region is not available and causes the transaction to terminate. If the affinity lifetime is PCONV (pseudoconversation), CICSplex SM automatically deletes the affinity because it has expired (there is no NEXTTRANSID). However, the default EYU9WRAM processing does not delete any other affinities because the characteristics of the actual affinity to the target region are unknown. For example, a LOGON affinity may involve the use of the TCTUA to pass information to the target region. If the affinity is deleted when the target region is not available, the next transaction for the transaction group would cause a new target region to be selected. The transaction might fail upon using the TCTUA contents when routed to the new target region.

The sample EYU9WRAM program, which implements the default processing, contains a subroutine that checks on affinity status after a call to SM\_SCOPE. When an affinity is active to an target region, but not committed, and the affinity target region status is not OK, the subroutine sends a message to the terminal user and then exits so that the EYU9WRAM program terminates. The subroutine contains an unexecuted code fragment that can be used to delete the affinity using the SM\_DELAFF call. Before the unexecuted code fragment is a series of tests for the affinity lifetime of the active affinity. One or more of the branches can be changed to jump to the code fragment. The code fragment itself deletes the affinity, issues a message, and then returns so that the EYU9WRAM program exits, thereby causing the transaction to terminate. This processing can be modified so that the affinity is deleted, no message is issued, and the subroutine exits causing the mainline process to reexecute the SM\_SCOPE call. In that case, a new set of target regions is received for use by SM\_BALANCE.

The same subroutine also contains an unexecuted code fragment that can be enabled to create an affinity. In this case, the subroutine has determined that an affinity is defined but not active. It then checks the WCOM\_AFF\_AUTO indicator to determine whether CICSplex SM should automatically create affinities during SM\_BALANCE. The subroutine exits normally no matter what the answer is. You can enable the SM\_CREAFF fragment in order to cause an affinity to be created. The SM\_CREAFF call may be used regardless of whether WCOM\_AFF\_AUTO does or does not indicate the automatic creation of affinities during SM\_BALANCE. The SM\_CREAFF call can therefore be used to:

- Create an affinity when CICSplex SM will not.
- Create an affinity to a target region that CICSplex SM would ordinarily not select.

The SM\_CREAFF code fragment creates an affinity to the target region that appears first in the scope list returned by SM\_SCOPE.

The following fields in the EYURWCOM communication area provide information regarding CICSplex SM affinity processing.

- WCOM\_AFF\_STAT
- WCOM\_AFFAOR\_STAT
- WCOM\_AFF\_TYPE
- WCOM\_AFF\_LIFE
- WCOM\_AFF\_AUTO
- WCOM\_WORK\_NAME
- WCOM\_TGRP\_NAME

## **CICSplex SM data areas**

The EYU9WRAM program uses two data areas, communication area EYURWCOM and scope vector element EYURWSVE.

Literals for EYURWCOM are defined in EYURWCOD and literals for EYURWSVE are defined in EYURWSVD.

The names of the copy books that you can use to map these data areas are identified in [Sample programs and copy books](#).

The scope vector element, EYURWSVE, contains information about the individual target regions associated with the list of candidate target regions returned by SM\_SCOPE.

## Creating a user-replacement module for EYU9WRAM

You can use the sample procedures provided in CICSTS55.CPSM.SEYUPROC to create replacement modules for EYU9WRAM.

The procedure members are as follows:

Assembler	EYUEITAL
C	EYUEITDL
PL/I	EYUEITPL
COBOL	EYUEITVL

1. Copy these procedures to a cataloged system procedure library. You can use the samples in [Sample user-replacement modules](#).
2. Use the JCL samples to run the procedure and create the replacement module for EYU9WRAM. Replace the lower case values shown in the sample JCL with the appropriate values for your site. Also, you cannot use the CICSplex SM API in EYU9WRAM.

## Requesting additional dynamic routing support

**This section contains Product-sensitive Programming Interface Information.**

You can access the CICSplex SM workload management facilities directly from an application program.

**Note:** If you are running CICS Transaction Server for OS/390® Version 1 Release 3 and later, it is recommended that you use the CICSplex SM-supplied program EYU9XLOP for all your dynamic routing requirements. You need the information in this section only if you want to continue to use this function during migration to CICS Transaction Server for OS/390 Version 1 Release 3.

If your routing regions are CICS Transaction Server for OS/390 Version 1 Release 3 and later, or if you are using CICS BTS or enterprise beans, you do not need the information in this section. You should use the distributed routing facilities described in [Dynamic routing with CICSplex SM](#).

To write such a program, you should be familiar with:

- The interface between the CICS relay program and the defined dynamic routing program.
- CICSplex SM workload management processing, as described in [Workload management](#).
- The CICSplex SM workload management routing action module, EYU9WRAM, as described in [Dynamic routing with CICSplex SM](#).

The primary method of invoking CICSplex SM workload management is by defining module EYU9XLOP to CICS as the dynamic routing program. This causes EYU9XLOP to be invoked by the CICS relay program, allowing CICSplex SM workload management to make a routing decision about each work request that can be sent to another CICS system.

If necessary, CICSplex SM workload management can be invoked directly from an application program, without going through the CICS relay program. For CICS releases prior to CICS Transaction Server for OS/390 Version 1 Release 3, you can use CICSplex SM Workload Management to determine the best target region for a distributed program link (DPL) from a requesting region. The application program you write must follow certain guidelines:

- The program must run in a CICS system that is defined and running as a routing region. You cannot access CICSplex SM workload management from a target region.

- The program must issue its INIT and TERM calls from the same task. CICSplex SM expects the program to imitate the processing done by the CICS relay program, which always calls at route initiation and route termination.

**Note:** Accessing workload management through a program that issues an EXEC CICS START command is not recommended with an asynchronous transaction start. Furthermore, EXEC CICS START commands that are not related with either a terminal or a user should not be used for transactions that have affinity relationships, as those relationships cannot be correctly resolved using this interface.

Accessing workload management from a program using a dynamic program load is not supported. CICSplex SM workload management uses the CICS application programming interface to gather information about the current environment in which it is running. Due to DPL restrictions some of that information is not available, and unpredictable results may occur.

In order to make a routing decision, CICSplex SM workload management needs certain information that is normally supplied by the CICS relay program. The CICS relay program derives the information from data available to CICS for the instance of the transaction being relayed. When you invoke CICSplex SM workload management directly, you need to provide this information, including terminal-oriented data and the equivalent of a transaction name to identify the work to be routed.

## How to start CICSplex SM workload management

To start the CICSplex SM workload management facilities, use an EXEC CICS LINK command, specifying EYU9XLOP as the program and identifying EYURWTRA as the communication area.

The format of the command is:

```
EXEC CICS LINK
      PROGRAM(EYU9XLOP)
      COMMAREA(EYURWTRA)
      LENGTH(=AL2(WTRA_LENGTH))
```

Much of the data normally passed from the CICS relay program to the dynamic routing program in the DFHDYPDS communication area must be generated by your program and passed to CICSplex SM workload management. Other data that is normally derived by CICSplex SM workload management from a transaction- and terminal-oriented environment must also be provided by your program. The assembler copy book EYURWTRA provides a map of the communication area to be passed to CICSplex SM workload management.

The corresponding copy books and the CICSplex SM libraries in which they can be found are:

Language	Member name	Library
Assembler	EYUAWTRA	SEYUMAC
COBOL	EYULWTRA	SEYUCOB
PL/I	EYUPWTRA	SEYUPL1
C	EYUCWTRA	SEYUC370

Before invoking CICSplex SM workload management, you must initialize the EYURWTRA communication area.

For a list of the possible response and reason code values that can be returned in WTRA\_API\_RESP and WTRA\_API\_REAS, refer to the assembler copy book member EYURWCOD.

## Processing considerations

After CICSplex SM workload management processing, the WTRA\_RESPONSE field contains a return code of either zero (0) or 8.

If the return code is 0, WTRA\_SYSID contains the SYSID of the selected target region, and WTRA\_APPLID contains its APPLID. With that information, you can proceed to route the unit of work to the target region.

If the return code is 8, you should inspect the WTRA\_API\_RESP and WTRA\_API\_REAS fields for more information. These fields contain the last response and reason codes returned to the CICSplex SM workload management routing action module (EYU9WRAM). In most cases, the response and reason codes describe what caused CICSplex SM workload management to generate the return code of 8. Based on that information, you can decide how to proceed.

In some cases, however, the WTRA\_RESPONSE field may contain a return code of 8, while the WTRA\_API\_RESP and WTRA\_API\_REAS fields have not been set by CICSplex SM workload management. In those cases, an error was detected before invoking the routing action process. CICSplex SM user trace records are written to the CICS trace data set for those types of errors. When this happens, your program should terminate processing.

When the return code is 8, you should also inspect the WTRA\_OPTER field. If its value is WTRA\_CALLYES:

1. Set the WTRA\_FUNC field to WTRA\_FUNCTRM for route termination.
2. Reinvoke CICSplex SM workload management.
3. Terminate processing for the proposed unit of work.

If the WTRA\_OPTER field contains a value of WTRA\_CALLNO, terminate further processing for the proposed unit of work.

After the unit of work has completed in the target region, set the WTRA\_FUNC field according to how the unit of work completed. If the unit of work completed successfully:

1. Set the WTRA\_FUNC field to WTRA\_FUNCTRM for route termination.
2. Optionally, set the WTRA\_NEXTTRAN field to the ID of the next transaction to be used in the process. If there is no next transaction, set the field to all blanks.
3. Reinvoke CICSplex SM workload management to request termination processing for the transaction.

If the unit of work abended or generated an error that you consider abnormal:

1. Set the WTRA\_FUNC field to WTRA\_FUNCABD to notify CICSplex SM workload management that the routed transaction abended.
2. Reinvoke CICSplex SM workload management to request abnormal termination processing for the transaction.

### ***Route error considerations***

After you receive the SYSID and APPLID of a target region, you can attempt to route the unit of work to the target region.

However, the routing attempt may result in an error condition if the system is unavailable. When this happens, you should:

1. Set the WTRA\_FUNC field to WTRA\_FUNCERR to indicate a routing error.
2. Specify the reason for the error in the WTRA\_ERR field.
3. Reinvoke CICSplex SM workload management.

CICSplex SM workload management provides another target from the scope list, if possible. If no other systems are available, the WTRA\_RESPONSE field is set to 8 and the WTRA\_API\_RESP and WTRA\_API\_REAS fields describe the reason for the failure. You may have to invoke CICSplex SM workload management more than once for routing errors until you receive a valid target region.

### ***Transaction affinity considerations***

If the WTRA\_TRANID, WTRA\_USERID and WTRA\_LUNAME fields cause CICSplex SM workload management to select a transaction group that includes an affinity, the rules of transaction affinities are obeyed.

In this case, you should ensure that the WTRA\_NEXTTRAN field is initialized with the ID of the next transaction before calling the route termination function.

If your units of work, or any subset of them, have an affinity relation defined, be careful in how you define that affinity. Since your program cannot provide SIGNOFF or LOGOFF processing, an affinity lifetime of

SIGNON or LOGON, though valid, may cause an affinity relation to be built that is not removed until either the requesting region or the target region terminates.

The WTRA\_NEXTTRAN field is most useful for pseudo-conversation affinities. For this affinity lifetime, CICSplex SM workload management normally issues the EXEC CICS ASSIGN NEXTTRANSID command to retrieve the next transaction ID, if any, for the facility. Since that command is not available when CICSplex SM workload management is invoked by your program, it is your responsibility to provide the ID of the next transaction.

For a description of CICSplex SM workload management affinity processing, see [Taking affinity relations into consideration](#). For details on specifying affinity relation and lifetime values, see [Creating a transaction group](#).

### **Abend compensation considerations**

If the target region is running CICS TS, transactions initiated by your program can participate in abend compensation processing, provided that the active CICSplex SM workload specifies it.

You should note that, if the work requests are either non-terminal-related EXEC CICS START commands, or BTS activities, the routing and target regions must be within the same MVS image for the routing region to detect that an abend has occurred.

Your program should notify CICSplex SM workload management that a particular unit of work abended by specifying WTRA\_FUNCABD in the WTRA\_FUNC field. Then, if possible, CICSplex SM workload management will tend to avoid selecting the same target region for the transaction (or set of transactions, if an affinity is defined) on subsequent route select functions.

For a description of CICSplex SM workload management abend compensation processing, see [Abend probabilities and workload management](#). For details on requesting abend compensation, see [Creating a workload specification](#).

### **CMAS availability considerations**

If your program issues an EXEC CICS LINK for the EYU9XLOP program, but the requesting region in which your program is running has not yet fully connected to its target CMAS, you see message EYUXL0020I, indicating that an ESSS connection is in progress.

Your program waits indefinitely until the CMAS becomes available and the requesting region is joined to a workload. If you have connected successfully to the CMAS and the MAS, but the CMAS has not installed any workload definitions to the MAS, you see a message indicating that the requesting region is waiting for a workload. You may need to set up and install workloads to rectify this situation.

**Note:** Once the requesting region has successfully connected to the CMAS, the CMAS can become inactive and workload management remains active.

### **Sample calling sequence**

This code example illustrates a sample calling sequence for a program that accesses CICSplex SM workload management facilities. It is not intended to be used as a sample program and is, therefore, not complete in every detail.

```
*-----*
          DFHEISTG      ,          Define Workarea
WRK_WTRA   DS      CL(WTRA_LENGTH)
           DS      0D
WRK_UOWCOMM DS      0C
WRK_UOW_RESP DS      F
WRK_UOWCOMM_L EQU    *-WRK_UOWCOMM
           COPY      EYURWTRA          Include DSECT to map WTRA
SRVPGM    DFHEIENT  EIBREG=R11,DATAREG=R13,CODEREG=R12

*-----*
* Initialize the WTRA COMMAREA.
*-----*
          LA      R8,WRK_WTRA          --> WTRA
          USING  EYURWTRA,R8          *** USING WTRA ***
          MVC    WTRA_SLENGTH,=AL2(WTRA_LENGTH)
                                     Set length of block.
```

```

MVI  WTRA_ARROW,C'>'      Set arrow.
MVC  WTRA_NAME,=C'EYURWTRA' Set the name.
MVI  WTRA_BLANK,C' '      Set blank delimit.
MVC  WTRA_PGMNAME,=CL8'SRVPGM '      Set program name.
MVC  WTRA_TERMID,=CL4'TRM1' Set TermID.
MVC  WTRA_USERID,=CL8'USR1' Set USERID.
MVC  WTRA_LUNAME(8),=CL8'.NET1'      Set LUNAME.
MVC  WTRA_TRANID,=CL8'TRN1' Set TRANID.
MVC  WTRA_SYSID,=C'SYS1'  Set SYSID.
MVC  WTRA_APPLID,=C'APPLID1' Set Applid.
*
* Set Application Context
*
MVC  WTRA_PLATFORM,=CL64'PLATFORM_1.0.0'
MVC  WTRA_APPLICATION,=CL64'APPLICATION_1.0.2'
MVC  WTRA_MAJORVER,=F'1'
MVC  WTRA_MINORVER,=F'1'
MVC  WTRA_MICROVER,=F'1'
MVC  WTRA_OPERATION,=CL64'PLEASE_ROUTE'
MVI  WTRA_FUNC,WTRA_FUNCSEL Set the Route Select Function.
MVI  WTRA_DYRTYPE,WTRA_DYRTYPE_DYN
*-----*
* Invoke the WLM MAS Agent for Route Select.
*-----*
ROUTE_SELECT  DS  0H
BAS  R5,LINK_WLM      Go do it.
CLC  WTRA_RESPONSE,=F'0' Call go OK?
BNE  CHECK_OPTER     ..no.
BAS  R5,START_UOW    Go Start the UOW.
LTR  R15,R15         Work Completed?
BZ   ROUTE_TERM      ..yes.
BP   ROUTE_ABND      UOW gave non zero return code.
C    R15,=F'-4'      SYSID error?
BNE  ROUTE_ABND      ..no.
*-----*
* Invoke the WLM MAS Agent for Route Error.
*-----*
ROUTE_ERROR   DS  0H
MVI  WTRA_FUNC,WTRA_FUNCERR Set the Termination Function.
MVI  WTRA_ERR,WTRA_ERROUT  Say out of service.
B    ROUTE_SELECT      Go Get another system.
*-----*
* Invoke the WLM MAS Agent for Route Abend.
*-----*
ROUTE_ABND    DS  0H
MVI  WTRA_FUNC,WTRA_FUNCABD Set the Abend function.
BAS  R5,LINK_WLM      Go terminate.
CLC  WTRA_RESPONSE,=F'0' OK?
BE   EXIT_ABD        ..yes.
CHECK_OPTER   DS  0H
CLI  WTRA_OPTER,WTRA_CALLYES Call WLM for Term?
BNE  WLM_CALLERR     ..no.
*-----*
* Invoke the WLM MAS Agent for Route Termination
*-----*
ROUTE_TERM    DS  0H
MVI  WTRA_FUNC,WTRA_FUNCTRM Set the Termination Function.
MVC  WTRA_NEXTTRAN,=CL8'TRN2'      X
BAS  R5,LINK_WLM      Go terminate.
CLC  WTRA_RESPONSE,=F'0' OK?
BE   EXIT_TERMOK     ..yes.
*-----*
* The WLM MAS AGENT returned an 8 in WTRA_RESPONSE
*-----*
WLM_CALLERR   DS  0H
*-----*
* Process completed successfully
*-----*
EXIT_TERMOK   DS  0H
*-----*
* Route Abend Call returned a 0
*-----*

```



```

*-----*
EXIT_ABD      DS  0H
EXIT          DS  0H
              EXEC  CICS RETURN
*-----*
* LINK_WLM    : Link to the WLM MAS AGENT
*-----*
LINK_WLM      DS  0H
              EXEC  CICS LINK PROGRAM(EYU9XLOP)           X
                  COMMAREA(WRK_UOWCOMM) LENGTH(=AL2(WTRA_LENGTH)) X
              BR   R5          Exit routine.
*-----*
* START_UOW   : Start the Unit Work.
*-----*
START_UOW     DS  0H
              EXEC  CICS LINK PROGRAM(UOWPGM)           X
                  COMMAREA(WRK_UOWCOMM) LENGTH(=AL2(WRK_UOWCOMM_L)) X
                  SYSID(WTRA_SYSID)                   X
                  RESP(WRK_EIBRESP)
              CLC  WRK_EIBRESP,DFHRESP(NORMAL)          X
                  Did call go ok?
              BE  START_UOWL          ..yes.
              L   R15,=F'-4'         Assume SYSIDERR
              CLC WRK_EIBRESP,DFHRESP(SYSIDERR)        X
                  Is there one?
              BE  START_UOWX          ..yes.
              L   R15,=F'-8'         Load Failure code.
              B   START_UOWX          Go exit.
START_UOWL    DS  0H
              L   R15,WORK_UOW_RESP   Load Response Code.
START_UOWX    DS  0H
              BR  R5          Exit routine.

```

## Administering workloads with CICSplex SM

The CICSplex SM workload management (WLM) function provides the capability to control where your work requests are run, in order to optimize performance and workload throughput. WLM achieves this by *dynamic routing*. WLM uses the CICSplex SM dynamic routing program EYU9XLOP to route work requests to the most suitable target region from a predefined set of target regions.

For an introduction to the concepts and architecture of CICSplex SM workload management, see [How it works: CICSplex SM workload management \(WLM\)](#).

### Workload routing

Workload routing is the directing of transactions or programs among a group of target regions according to the availability, health, and activity levels of those target regions. You can use workload routing in addition to, or in place of, workload separation.

CICSplex SM can route a workload among a defined group of target regions by selecting, when each transaction is initiated, the target region that is likely to deliver the best performance.

Workload routing is statistical. CICSplex SM uses one of the following four algorithms to determine which target region processes the work:

- Goal
- Queue
- Link neutral goal
- Link neutral queue

If any transaction affinities are outstanding for the transaction being routed, the affinity target region is selected, regardless of the algorithm used.

With the goal and link neutral goal algorithms, the appropriate target region is selected based on the ability of that region to achieve the expected response time. With the queue and link neutral queue

algorithms, the appropriate target region is selected such that the load is distributed across a set of target regions.

If the goal or link neutral goal algorithm does not identify a specific target region, the queue or link neutral queue algorithm, respectively, is applied to the remaining set of target regions.

If all the available target regions are equally capable of handling the work, a target region is selected randomly from the group. Therefore, in systems that are lightly loaded, there is no predetermined order in which work is allocated to equally capable target regions.

The queue algorithm and the goal algorithm allow for the type of connection between a target region and its routing region. A weighting factor is allocated to each type of connection, such that links are put in the following order of priority:

- Local
- MRO/IRC and MRO/XM (local LPAR)
- MRO/XCF (remote LPAR)
- IPIC (local LPAR)
- IPIC (remote LPAR)
- LU6.2
- Indirect

CICSplex SM uses the weighting factor of the link as a multiplier against the task load and other factors to determine an overall routing weight. At the end of the evaluation, the region with the lightest weight is usually selected as the target region.

For example, if all other factors are equal, a target region that is connected to its requesting region by using MRO/XCF is preferred to a target region that is connected by using IPIC. IPIC connections between routing and target regions in the same LPAR have a lower weighting than IPIC connections to target regions in a different LPAR, so that if other factors are equal, local IPIC connections are preferred to remote IPIC connections.

## **Control level for workload routing**

To use workload routing, you must specify a default routing algorithm for the workload at the workload specification (WLMSPEC) level. You can optionally specify a routing algorithm at the transaction group (TRANGRP) level. An algorithm specified in a transaction group overrides the default algorithm that is associated with the workload specification.

The default routing algorithm is applied to every routed dynamic transaction in the workload, except those transactions that are associated with a transaction group that has a routing algorithm specified. You can specify one of the following routing algorithms:

- QUEUE
- LNQUEUE
- GOAL
- LNGOAL

To change the routing algorithm specified at the workload specification level, you must close down all regions that participate in the workload so that workload is refreshed with the new algorithm specification.

At the transaction group level, you can specify a routing algorithm dynamically. The specified dynamic routing algorithm is applied to every routed dynamic transaction that is associated with the transaction group. Therefore, you can apply an alternative routing algorithm to specific transaction codes in the same workload.

If you specify an alternative routing algorithm at the transaction group level, you can change workload routing characteristics for specific target regions dynamically without stopping your routing region. If you modify an installed transaction group, you must discard its associated WLM definition (WLMDEF) and then

reinstall it, so that the transaction group named by the WLM definition is also refreshed. To change the routing algorithm type immediately without discarding and reinstalling the associated WLMDEF, you can use the Active workload transaction groups (WLMATGRP) views and the **SET** command to change the ALGTYPE attribute.

You can specify one of the following routing algorithms:

- INHERIT
- QUEUE
- LNQUEUE
- GOAL
- LNGOAL

INHERIT means that transaction group uses the routing algorithm that is associated with the workload specification for the workload.

## Link neutral workload routing

In some situations, link weighting has a strong impact on the routing behavior and can prevent CICS transaction routing across system boundaries in a single-site parallel sysplex environment. To use workload routing without link weighting, you can use the link neutral goal and link neutral queue algorithms. These algorithms are identical to the goal and queue algorithms, respectively, except that the type of connection between the routing and target region is not considered.

Link neutral algorithms can be useful to route dynamic transactions, for example those that might require services from MVS subsystems. With queue and goal algorithms, routers focus dynamic traffic on the systems with the fastest links, which probably reside in the same LPAR. This behavior might overload subsystems in the local MVS image, and under use the remote MVS images that participate in the workload. If you assign these transactions to a transaction group that uses a link neutral algorithm, the routed dynamic traffic is routed more evenly between the local and remote LPARs, and the load on those subsystems is spread.

However, remember that with a link neutral algorithm, if other factors are equal, all target regions have equal preference. The most remote target regions, connected with the slowest telecommunications links, might have equal preference with a locally connected MRO region, or the routing region itself if it is part of the routing target scope. Therefore, consider carefully whether to specify a link neutral algorithm at the workload specification (WLMSPEC) level, because it might affect every dynamically routed transaction. As a result, the workload manager might not select the best target region for dynamic routing traffic and the overall workload throughput might deteriorate.

If you require a link neutral algorithm for a specific transaction set, assign the algorithm to the workload management transaction group (TRANGRP) that identifies those transactions.

## The queue algorithm

When CICSplex SM uses the queue algorithm, if the transaction being routed has no active affinities, the load is distributed across a set of target regions. Selection criteria include the current task load, the health state, and the type of connection between the router and the target region.

If the transaction being routed has no active affinities, the queue algorithm causes CICSplex SM to select the target region that conforms to the following set of criteria:

- The region has the shortest queue of work waiting to be processed, relative to the maximum number of tasks permitted in the target region. This queue of work, also called the *load count*, is the count of all active and queued user tasks. By default, tasks queued for both MAXTASKS and TRANCLASS attributes are included in the load count. Use of the "Task load queue mode" attribute in the CSYSDEF resource table allows sites to exclude tasks queued for the TRANCLASS attribute from the load count. For more information about the "Task load queue mode" attribute in the CSYSDEF resource table, see [CICS system definitions - CSYSDEF](#).
- The region is the least affected by conditions such as short-on-storage, SYSDUMP, and TRANDUMP.

- The region is the least likely to cause the transaction to stop.
- The region is the shortest path for interregion communication.
- The region has a z/OS WLM health value in the range 1-100.

The queue algorithm maximizes work throughput and standardizes response times across the CICSplex. This algorithm is very robust; it can accommodate differences in processor power, different maximum task values in the target regions, asymmetric target region configurations, and an unpredictable workload.

## The link neutral queue algorithm

The link neutral queue (LNQUEUE) algorithm corresponds to the queue algorithm, except that the type of connection between the routing and target region is not considered.

If a transaction being routed has no active affinities, the link neutral queue algorithm causes CICSplex SM to select the target region that conforms the following set of criteria:

- The region has the shortest queue of work waiting to be processed, relative to the maximum number of tasks permitted in the target region. This queue of work, also called the *load count*, is the count of all active and queued user tasks. By default, tasks queued for both MAXTASKS and TRANCLASS attributes are included in the load count. Use of the "Task load queue mode" attribute in the CSYSDEF resource table allows sites to exclude tasks queued for the TRANCLASS attribute from the load count. For more information about the "Task load queue mode" attribute in the CSYSDEF resource table, see [CICS system definitions - CSYSDEF](#).
- The region is the least affected by conditions such as short-on-storage, SYSDUMP, and TRANDUMP.
- The region is the least likely to cause the transaction to stop.
- The region has a z/OS WLM health value in the range 1-100.

The link neutral queue algorithm provides efficient work throughput and response times across the CICSplex. Similarly to the queue algorithm, this algorithm can accommodate differences in processor power and different maximum task values in the target regions. However, it does not allow for communications link speeds between the router and a target. Compared to the queue algorithm, this algorithm might spread a workload across a target scope more evenly, but the workload might not complete as quickly.

## The goal algorithm

The Goal algorithm may be used when dynamic routing decisions are primarily concerned with the ability of a region to achieve response time targets.

Goal mode routing should only be employed where routers and targets are managed by the same CMAS in the following scenarios:

- Dynamic routing using DTRPGM for dynamic transactions.
- Dynamic routing using DTRPGM for EXEC CICS START TERMID over APPC or MRO connections.
- Distributed routing using DSRTPGM for business transaction service routing.

In any other dynamic routing scenario, the QUEUE or LNQUEUE algorithms should be used.

If a transaction being routed has no active affinities then the goal algorithm causes CICSplex SM to select the target region that conforms to the following set of criteria:

- Is the least affected by conditions such as short-on-storage, SYSDUMP, and TRANDUMP.
- Is the least likely to cause the transaction to stop.
- Is the most likely to meet the transaction response-time goals (either average or percentile) set for it (and for other transactions in its class) using the Workload Manager component of z/OS.
- Is the shortest path for interregion communication.
- Is the AOR with the shortest queue of transactions, relative to MAXTASK, waiting to be processed.
- Has a z/OS WLM health value in the range 1 - 100.

## The link neutral goal algorithm

The link neutral goal (LNGOAL) algorithm corresponds to the goal algorithm, except that the type of connection between the routing and target region is not considered.

If a transaction being routed has no active affinities, the link neutral goal algorithm causes CICSplex SM to select the target region that conforms the following set of criteria:

- The region is the least affected by conditions such as short-on-storage, SYSDUMP, and TRANDUMP.
- The region is the least likely to cause the transaction to stop.
- The region is the most likely to meet the transaction response-time goals, either average or percentile, set for it (and for other transactions in its class) using the Workload Manager component of z/OS.
- The region is the AOR with the shortest queue of transactions, relative to MAXTASK, waiting to be processed.
- The region has a z/OS WLM health value in the range 1-100.

## Effect of the z/OS WLM health service on CICSplex SM workload routing

In a CICS region, if the z/OS Workload Manager (z/OS WLM) health service is active, CICSplex SM WLM takes account of the region's z/OS WLM health state in the routing decision.

### Prerequisite:

For CICSplex SM WLM to take into account the z/OS WLM health state of the target regions, the following conditions apply:

- Both the routing and target regions must be at a minimum of CICS TS V5.4 (CICS and CICSplex SM libraries); otherwise, the z/OS WLM health state will be ignored, and the target regions are deemed as ready to receive work.
- The z/OS WLM health service must be enabled in the CICS region. It is enabled by default. If the service is disabled, the region is also deemed as ready to receive work. To activate this service, you must set the **WLMHEALTH** system initialization parameter.

## How the z/OS WLM health state of CICS regions affects CICSplex SM routing decisions

The z/OS WLM health state of a region is reflected by a z/OS WLM health value in the range 0 - 100. When deciding where to route work, CICSplex SM WLM might assign an additional weight in the routing algorithm for the target region, based on its health value:

- If the target region has a z/OS WLM health value of zero, it is not eligible to receive work. CICSplex SM WLM will not route work to this region. Any workload affinities that are associated with this region will remain and be honored; however, workload routing based on those affinities will fail while the health value is zero, and will result in either message EYUWR0003W or a SYSIDERR condition. Message EYUWR0003W indicates that the EYU9WRAM program was in effect and the affinity AOR was not available. To resolve such routing failures, initiate a warm-up for the region so that the health value is non-zero, and then rerun your workload. See [Initiating a CICS system warm-up](#).
- For any target region with a health value between 1 and 99, CICSplex SM WLM assigns an additional weight in the routing algorithm, based on the health value. The greater the health value, the lower the weight, which makes this region more favorable in the routing decision. Likewise, the lower the health value, the greater the weight, which reduces the chances of this region to receive more work. Note that a region that is assigned a high additional weight remains active and might still receive work if no other healthier regions are available in the same scope.
- When a target region has a health value of 100, no additional weight is assigned.

During the CICS warm-up or cool-down process, CICS adjusts the z/OS WLM health value of the region. As a result, this affects the routing decision of CICSplex SM WLM, which restricts workload into the region during that process. In general, when a region is warming up, its health value increases periodically, and the region might gradually receive a larger workload; when a region is cooling down, its health value

decreases periodically, and the region might gradually receive less work until it becomes ineligible as a target. For more information about what happens during CICS warm-up or cool-down, see [CICS warm-up and cool-down by use of z/OS Workload Manager health service](#).

## Making a region ineligible as a workload routing target

You can deliberately make a region ineligible as a workload routing target in CICSplex SM routing decisions by setting its z/OS WLM health open status to CLOSE in the **MVS workload management** (MVSWLM) view. This will gradually make the region less favorable until the region's z/OS WLM health value drops to 0, indicating that the region becomes ineligible. Additionally, you can change a region's z/OS WLM health value to zero immediately, by setting its z/OS WLM health open status to IMMEDIATE.

## Workload separation

Workload separation routes work from a requesting or routing region among a set of target regions, but the requirements of users, terminals, the transactions themselves, and their BTS process type, can influence which target region set is used.

The routing of particular transactions or programs to a particular group of target regions is based on any combination either of user ID, terminal ID, and transaction group. For BTS processes, routing is based on a combination of transaction group and process type. For enterprise bean-related transactions, routing is based on transaction group. For Link3270 bridge requests, separating by terminal luname is subject to some restrictions. See [Separating Link3270 bridge workloads](#) for more information.

For example, you can specify that:

- Any transaction initiated by users whose user IDs begin with the characters "PAY" must be routed to a target region in CICS system group AORPAY1.
- Any transaction initiated from a terminal whose LU name begins with the characters "NYORK" must be routed to a target region in CICS system group AORNYORK.
- Any transaction belonging to the transaction group ACCOUNTS must be routed to a target region in CICS system group AORACCNT.
- All processes associated with a BTS process type TRAVEL are routed to a target region in one BTS-set, and all processes associated with BTS process-type PAYROLL are routed to another BTS-set.
- All enterprise bean-related transactions belonging to transaction group STOCK are routed to any target region in CICS system group STOCKTG, if the user id matches that in the workload definition.

The decision as to which region is selected from the group of target regions that meet the workload separation criteria is based on the same routing criteria as described in "Workload routing" on page 151. The algorithm that is applied when making the routing decision can either be specified at the individual workload separation level or can be left to default to the algorithm used by basic workload routing.

## Inter-transaction affinity

An inter-transaction affinity is a relationship between transactions, of a specified duration, that requires them to be processed by the same target region. For example, you might have a pseudoconversation made up of three separate transactions, and each transaction passes data to the next transaction in the sequence via a temporary storage queue (which may be shared in the distributed model). You would then specify that all three transactions must be processed by the same target region, and that this affinity lasts for the duration of the pseudoconversation.

If you did not define this affinity to CICSplex SM, each transaction could be routed to a different target region and would therefore be unable to access temporary-storage data left by the previous transaction. The target region itself is selected by CICSplex SM from the specified target scope.

Workload management and the IBM CICS Interdependency Analyzer for z/OS understand affinities between BTS processes and activities. BTS itself does not introduce affinities, and discourages programming techniques that do, but it does handle existing code that may introduce affinities. You should define such affinities to workload management, so that it can make sensible routing decisions.

It is particularly important to specify each affinity's lifetime; failure to do so may restrict unnecessarily workload management's routing options.

Workload management and the IBM CICS Interdependency Analyzer for z/OS do not understand affinities between routable non-terminal-related EXEC CICS START commands, or between DPLs not associated with a user id or a terminal. You should take steps either to remove any affinities from your applications, or to ensure that your applications honor any affinities.

Note that, if data is passed between transactions via the COMMAREA on the **EXEC CICS RETURN** command, no such affinity exists: the COMMAREA is passed back to the requesting region, and so can be passed to the target selected to process the next transaction in the sequence.

### **How inter-transaction affinities are honored**

When the first transaction from a group of related transactions is started, CICSplex SM selects an appropriate region from the specified target scope.

If there is more than one suitable region in the target scope, CICSplex SM selects one using the current workload routing algorithm. Subsequent transactions in the same group that meet the affinity criteria are directed to the same region as the first transaction. If subsequent transactions do not meet the affinity criteria (for example, if the same pseudoconversation is started from a different user ID), the selection process for a suitable region starts again.

## **Managing workloads with CICSplex SM workload management**

CICSplex SM workload management optimizes processor capacity in your enterprise. Workload management achieves this by dynamically routing transactions and programs to whichever CICS region is the most appropriate at the time, taking into account any transaction affinities that exist.

When you have identified your workload management requirements, define them to CICSplex SM as described in [Configuring workload management](#).

### **Planning for WLM**

This section provides some instructions to help you determine the extent to which you can use CICSplex SM workload management in your enterprise.

#### ***Choosing between workload routing and workload separation***

Use workload routing wherever possible because it makes the best use of the available CICS systems, and provides opportunities for increased throughput and improved performance. Implement workload separation (by process type, user, terminal, and transaction) only where strictly necessary because it prevents full exploitation of CICSplex SM workload routing functions.

If you have defined more than one CICSplex, and have made the division to reflect use of CICS systems by different groups of users, for example, it is possible that you will be able to use simple workload routing rather than workload separation in the CICSplex. For example, if you have separated the CICS systems used by group A from the CICS systems used by group B by defining two CICSplexes, you can implement workload routing in each CICSplex. If you have not taken this approach, you might consider it necessary to recognize such groupings by implementing workload separation.

#### ***Identifying the workloads***

To plan for WLM, you shall begin by identifying the workloads processed in your enterprise. The workloads are certain to be apparent in any underlying TOR–AOR–FOR configurations. Confirm that the current CICSplex SM configuration of CICS systems supports the identified workloads.

In particular:

- Routing regions and target regions from a single workload must be in the same CICSplex. That is, the supplied dynamic routing program cannot route transactions beyond the confines of the CICSplex. (It is possible to route transactions outside of the CICSplex by customizing the supplied dynamic routing



program. Customization of the supplied dynamic routing program is described in [Modifying dynamic routing](#).)

- A routing region must be:
  - A CICS TS region.
  - A local MAS, that is, the routing region cannot be running on an MVS image on which there is no CMAS.
  - In only one workload, that is, the routing region can be associated with only one active workload specification at a time.
- A target region can be:
  - a local MAS
  - in multiple workloads
  - any CICS system managed by CICSplex SM

### ***Identifying inter-transaction affinities***

Inter-transaction affinities, which require related transactions to be processed by the same target region, prevent optimum workload distribution. In general, they arise either because of the way in which one transaction passes data to another, or because of a requirement to coordinate the processing of two or more transactions. Identifying affinities isn't always easy, but there are some methods you can use.

For example, you can review application design documentation or source code; you can run CICS traces; or you can use the IBM CICS Interdependency Analyzer for z/OS.

Having identified any affinities in a workload, you should make every attempt to remove them. If you cannot remove them completely, gauge the duration of the affinity and try to minimize it. You can define an inter-transaction affinity to CICSplex SM as lasting:

- While the user's session is active
- For the duration of the terminal session
- While the target region remains active
- While the workload is active
- For the duration of a pseudoconversation
- While the BTS activity is active
- While the BTS process is active

Be aware that CICSplex SM must honor an active affinity: if an affinity is active but the target region becomes unavailable, the transaction isn't routed. In the case of a BTS transaction, BTS will wait for the region to start.

### **Implementing WLM**

What you have to do to use CICSplex SM workload management functions varies depending on whether you want to implement workload routing only, or whether you also want to implement some workload separation, and possibly define one or more transaction affinities in the same CICSplex.

You will get the best results if you follow this process:

1. Identify candidates for dynamic routing
2. Implement workload routing for each workload in the CICSplex where dynamic routing is possible.
3. Add any necessary workload separation requirements.
4. Define any inter-transaction affinities.

### ***Identifying dynamic routing candidates***

Not all work requests are candidates for dynamic routing.

The conditions that have to apply for a work request to be eligible are listed in [Dynamic Routing](#).



For further details:

- See [EXEC CICS LINK](#) and [EXEC CICS START](#) commands.
- See [EXEC CICS RUN ASYNCHRONOUS](#) command.
- See [CICS resources](#) and [Administering BAS](#) for information about CICS and CICSplex SM resources.
- See [Deploying applications to a JVM server](#) for information about Java™.
- See [Overview of CICS external interfaces](#) for more information about the Link3270 bridge.

### ***Implementing workload routing***

To implement workload routing for a group of target regions, you must associate a routing region or a routing system group with a workload specification. Optionally, you can apply alternative routing to a specified group of transaction in the workload.

### **About this task**

To use workload routing, you specify routing characteristics in the workload specification (WLMSPEC object). These characteristics apply to all of the transactions in the workload.

However, you can override these routing characteristics by supplying associated pairs of WLM definitions and transaction group definitions (WLMDEF and TRANGRP objects) that specify a specialized routing evaluation to be applied to one or more transactions. For workload routing, you specify a different routing algorithm in a transaction group definition. If you specify an alternative routing algorithm at the transaction group level, you can change workload routing characteristics dynamically without stopping routing regions.

### **Procedure**

1. If there is more than one routing region in a single workload, create a CICS system group of those routing regions, using the CICS system group (CSYSGRP) object.
2. Create a CICS system group of the target regions to which the routing regions can route transactions, again using CSYSGRP.  
This group could include every CICS system in the CICSplex.
3. Create one workload specification for each workload in the CICSplex, using the workload management specification (WLMSPEC) object.

In the workload specification:

- a) Specify the name of the target system group as the target scope value.
- b) Identify which routing algorithm to use for workload routing.

You can use one of the following algorithms:

- QUEUE
- LNQUEUE
- GOAL
- LNGOAL

4. Associate the routing region, or the routing system group, with the workload specification.

You can have multiple workloads in a single CICSplex, but a routing region or group of routing regions can belong to only one active workload specification at a time.

5. Optional: Override the routing algorithm for specific transactions in the workload by specifying a different routing algorithm in a transaction group definition.

See [Creating a transaction group](#).

If you modify an installed transaction group, you must discard its associated WLM definition (WLMDEF) and then reinstall it, so that the transaction group named by the WLM definition is also refreshed.

To change the routing algorithm type immediately without discarding and reinstalling the associated

WLMDEF, you can use the Active workload transaction groups (WLMATGRP) views and the **SET** command to change the ALGTYPE attribute.

### ***Adding workload separation requirements***

To implement workload separation in the same workload, by any combination either of user id, terminal id, and transaction group, or of process type and transaction group, do the following:

1. Create a CICS system group *for each set of target regions*, using the **System group definitions** view (CSYSGRP object). For example, if:
  - Transactions initiated by users ABC\* from terminals NETA\* must be routed to target regions 2 through 7and
  - Transactions initiated by users HIJ\* from any terminal must be routed to target regions 5 through 9two target system groups must be defined: one group includes target regions 2 through 7, and one group includes target regions 5 through 9.
2. Define a transaction group, using the **Transaction groups** view (TRANGRP object), if workload separation by transaction is to be implemented. For example, if transactions EFG1, EFG2, and EFG3 must be routed to a specific group of target regions, you must define a transaction group to include those transactions.
3. Create one workload definition, using the **Workload definitions** view (WLMDEF object), for each user, terminal, and transaction group combination. For the example in item [“1” on page 160](#) (above):
  - One workload definition would be required for the combination of any transaction, users ABC\*, and terminals NETA\*.
  - One workload definition would be required for the combination of any transaction, users HIJ\*, and any terminal.A third workload definition would be required to support the workload separation by transaction described in item [“2” on page 160](#). In each workload definition, include the name of the appropriate target region system group to which eligible transactions are to be routed.
4. If the workload definitions are to be installed automatically when the first requesting region in the workload starts, you should use the **Workload groups** view (WLMGROUP object) to:
  - a. Create a workload group.
  - b. Add the workload definitions to the workload group.
  - c. Associate the workload group with the workload specification.

Automatic installation of the workload definitions is likely to be required, because workload separation is usually a regular and consistent requirement. However, you can also install a workload group or individual workload definitions manually for immediate effect.

### ***Defining inter-transaction affinities***

If there is a requirement for multiple transactions in the workload to be processed by the *same* target region, then do the following:

1. Create a transaction group, using the **Transaction groups** view (TRANGRP object), for each set of transactions within the workload that share an affinity. For example, if transactions MNO1, MNO2, and MNO3 must be processed by the same target region (perhaps because they run in sequence and leave data for the next transaction), define a transaction group to include those three transactions specifying the affinity type and its duration.
2. If you want to implement workload separation, create a workload definition for each transaction group and user or terminal pattern, using the **Workload definitions** view (WLMDEF object). For example, if the inter-transaction affinity described in item [“1” on page 160](#) (above) applies to any user from terminals NYORK\*, the workload definition must include that information. In addition, the workload

definition identifies the set of target regions from which CICSplex SM can select one. This could be every target region in the CICSplex, or some subset of target regions.

Note that you can define an inter-transaction affinity to CICSplex SM without also implementing workload separation. In this case, no workload definition is required and CICSplex SM routes the first transaction in the group to a suitable target region from the set identified in the workload specification. Subsequent transactions in the transaction group are routed to the same target region while the affinity is active.

3. If the workload definitions are to be installed automatically when the first routing region in the workload starts, you should use the **Workload groups** view (WLMGROUP object) to:
  - a. Create a workload group.
  - b. Add the workload definitions to the workload group.
  - c. Associate the workload group with the workload specification.

You can also install a workload group or individual workload definitions manually for immediate effect.

**Note:** It's important that you define routing regions and target regions in groups, to ensure that changes to the composition of those groups are automatically reflected in CICSplex SM workload management.

### ***A recommended approach***

You can click the **Map** button to display a visual map of the WLM definitions in your data repository. When you decide to implement WLM functions in your enterprise, you should begin by defining the appropriate objects.

You should:

- Use the **WLM definitions** view to create a workload definition (WLMDEF object).
- Use the **WLM groups** view to create a workload group (WLMGROUP object).
- Use the **WLM specifications** view to create a workload specification (WLMSPEC object).

Then, to create associations between these objects:

- Use the **WLM definitions** view to add the workload definition to the workload group (WLMINGRP object).
- Use the **Workload groups** view to add the workload group to the workload specification (WLMINSPC object).
- Use the **Workload specifications** view to associate the workload specification with a CICS system (LNKSWSCS object) or CICS system group (LNKSWSCG object). For more information about the LNKSxSCG parameters, see [LNKSxSCG Records \(LNKSMSCG, LNKSRSRSCG, LNKSWSRSCG\)](#).

If you want to see a list of the objects and associations you have already defined, use one of the following views:

- The **Workload definitions in groups** view (WLMINGRP object)
- The **Workload groups in workload specifications** view (WLMINSPC object)
- The **WLM specifications to CICS system links** view (LNKSWSCS object)
- The **WLM specifications to CICS system group links** view (LNKSWSCG object).

## **Workload management resources**

You can set up and manage your workload environment using the workload management WUI view sets and resource objects.

For a diagram of the WLM components, see [Components of CICSplex SM WLM](#).

Table 11. WUI view sets and resource objects for managing workloads

WUI view set	Object name	Description
Transactions in transaction groups	DTRINGRP	This object displays information about the transactions associated with one or more transaction groups.
WLM specifications to system group links	LNKSWSCG	CICS system groups associated with workload specifications
WLM specifications to CICS system links	LNKSWSCS	CICS systems associated with workload specifications
Transaction groups	TRANGRP	A transaction group is an association of logically similar transactions. The similarity may be based on affinity requirements, common shared processing requirements, or any other user-determined characteristics. The transaction group is included as part of the workload definition, which in turn defines the CICS system group to be used as the target region. Any transaction that is not specifically associated with a transaction group is assigned to the default transaction group.
Active workload transaction group affinities	WLMATAFF	This object shows information about the active affinities for a transaction group associated with a workload within the CICSplex identified as the context. An affinity becomes active when the first transaction associated with the transaction group is dynamically routed to a target region.
Active workload transaction groups	WLMATGRP	This object shows information about transaction groups associated with a workload that is within the CICSplex identified as the context.
Active workload dynamic transactions	WLMATRAN	This object shows information about all active transactions associated with a workload that is within the CICSplex identified as the context.
Active workload target distribution factors	WLMAWAOR	This object shows information about all target regions that are associated with a workload that is within the CICSplex identified as the context.
Active workload definitions	WLMAWDEF	This object shows information about active workload definitions associated with a workload that is within the CICSplex identified as the context.
Active workloads	WLMAWORK	This object shows information about active workloads within the CICSplex identified as the context. A workload is active within a CICSplex as long as: <ul style="list-style-type: none"> <li>• A CICS system that is acting as a routing region or target region, and is participating in the workload, is connected to that CICSplex.</li> <li>• Any transaction causes an affinity lifetime of PERMANENT to be established.</li> </ul>
Routing regions in an active workload	WLMAWTOR	This object shows information about routing regions that are associated with a workload that is within the CICSplex identified as the context.

Table 11. WUI view sets and resource objects for managing workloads (continued)

WUI view set	Object name	Description
Workload definitions	WLMDEF	This object identifies which transactions are to be routed to which CICS system group. You identify the transactions by transaction group, and within the group either by LU name and user id, or by process type.
Workload groups	WLMGROUP	This object is used to associate one or more workload definitions.
Workload definitions in groups	WLMINGRP	This object displays the names of workload groups and the workload definitions associated with them.
Workload groups in workload specifications	WLMINSPC	This object displays the names of workload specifications and the workload groups associated with them.
Workload specifications	WLMSPEC	A workload specification identifies a workload and one or more CICS system groups acting as target regions. It also defines the attributes of the default transaction group.

## Workload management definitions and their related views

You use the Web User Interface (WUI) workload management administration views to define a variety of workload management attributes.

Figure 18 on page 164 provides an overview of the workload management views from the perspective of the CICSplex SM object model. In addition to these views, you can use the views to display information about and manage active workloads. You can also display a visual map of your workload management definitions by using the MAP button.

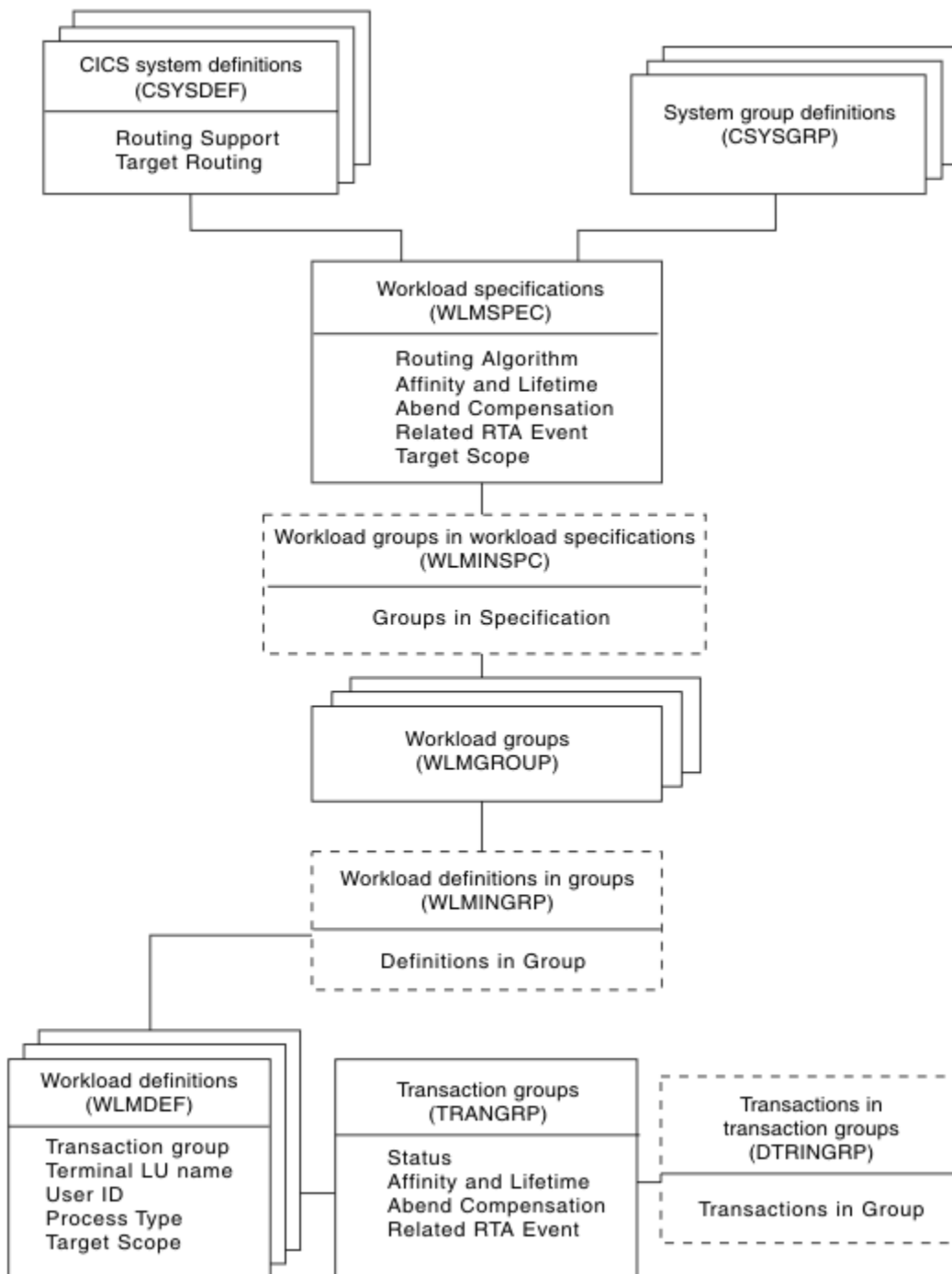


Figure 18. Views for creating workload management objects and associations

Figure 19 on page 165 illustrates the relationship between the components of a workload in a CICSplex and the views used to establish the workload.

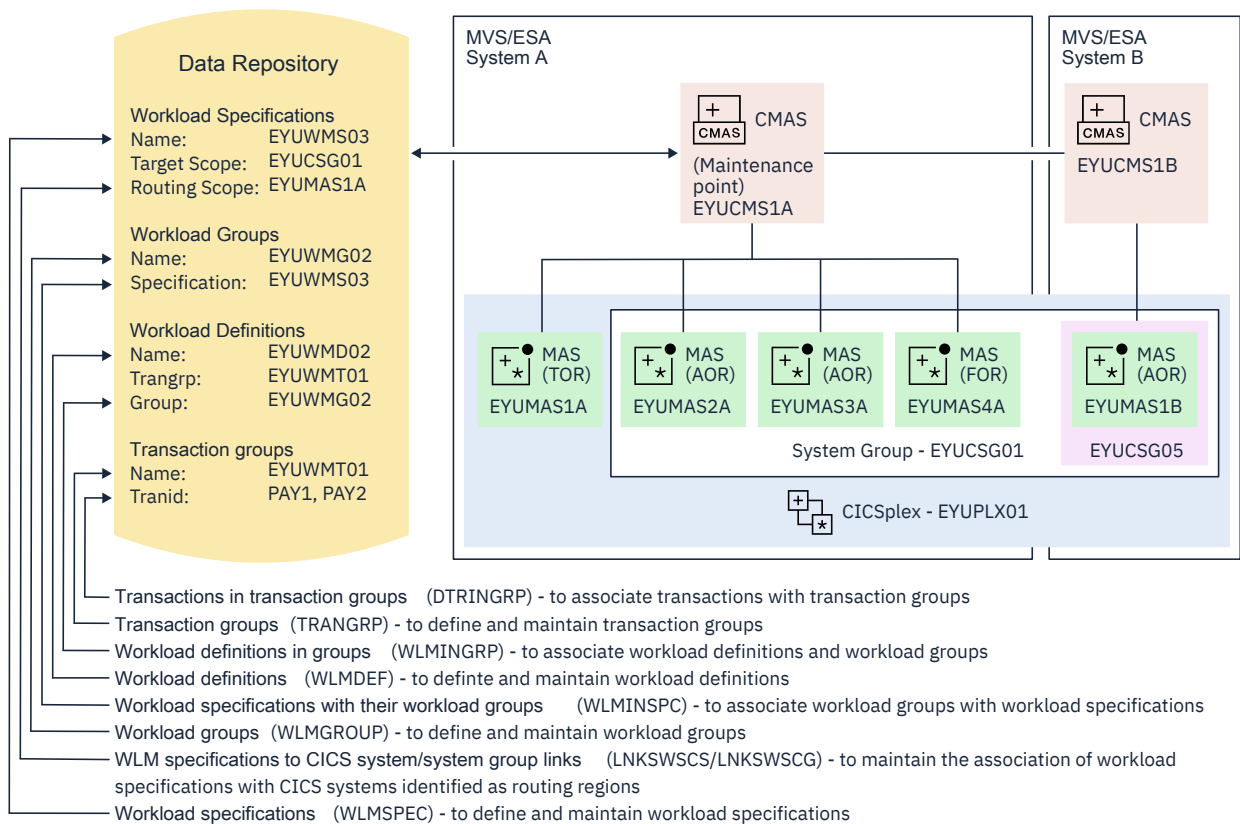


Figure 19. The relationship between a workload and the workload management views

Table 12 on page 166 shows the views you can use to create workload management definitions. It also indicates the information you can display and the actions you can perform using these views. To access these views in the Web User Interface, from the main menu, click **Administration > Workload manager administration**. For details of these views, see [CICPlex SM administration views](#).

Table 12. Views to create and maintain workload management definitions

WUI view	Object name	Tasks Supported
Transactions in transaction groups	DTRINGRP	<ul style="list-style-type: none"> <li>• Display all transaction groups within the current context.</li> <li>• Remove a transaction from a transaction group.</li> <li>• Display a map of workload definitions using the designated transaction group as a starting point.</li> </ul>
CICS system groups associated with workload specifications	LNKSWSCG	<ul style="list-style-type: none"> <li>• Display, create or remove the association between a workload specification and a CICS system group.</li> </ul>
CICS systems associated with workload specifications	LNKSWSCS	<ul style="list-style-type: none"> <li>• Display, create, update or remove a link between a workload specification and a CICS system.</li> <li>• Display a map of workload definitions using the designated definition as a starting point.</li> </ul>
Transaction groups	TRANGRP	<ul style="list-style-type: none"> <li>• Display, create, display, update, remove, or update a transaction group.</li> <li>• Add a transaction to a transaction group.</li> <li>• Install</li> <li>• Display a map of workload definitions using the designated transaction group as a starting point.</li> </ul>
Workload definitions	WLMDEF	<ul style="list-style-type: none"> <li>• Create, change, or remove a workload definition.</li> <li>• Add an association between a workload definition and a workload group.</li> <li>• Install a workload definition into a workload.</li> </ul>



Table 12. Views to create and maintain workload management definitions (continued)

WUI view	Object name	Tasks Supported
Workload groups	WLMGROUP	<ul style="list-style-type: none"> <li>• Display, create, update, or remove a workload group.</li> <li>• Add an association between a workload group and a workload specification.</li> <li>• Install workload definitions associated with a workload group into a workload.</li> <li>• Display a map of workload definitions using the designated workload group as the starting point.</li> </ul>
Workload definitions in groups	WLMINGRP	<ul style="list-style-type: none"> <li>• Add or remove the association between a workload definition and a workload group.</li> </ul>
Workload specifications	WLMSPEC	<ul style="list-style-type: none"> <li>• Display, create, update, or remove a workload specification.</li> <li>• Add an association between a workload specification and a CICS system.</li> <li>• Add an association between a workload specification and a CICS system group.</li> <li>• Display a map of workload definitions using the designated workload specification as a starting point.</li> </ul>
Workload groups in workload specifications	WLMINSPC	<ul style="list-style-type: none"> <li>• Remove the association between a workload group and a workload specification.</li> <li>• Display a map of workload definitions using the designated definition as a starting point.</li> </ul>

Table 13 on page 167 shows the views you can use to manage active workloads. It also indicates the information you can display and the actions you can perform using these views. To access these views in the Web User Interface, from the main menu, click **Active workloads (WLM)**.

Table 13. Views to manage active workloads

WUI view	Object name	Tasks Supported
Active workloads	WLMAWORK	<ul style="list-style-type: none"> <li>• Display active workloads within the current context.</li> </ul>
Routing regions in an active workload	WLMAWTOR	<ul style="list-style-type: none"> <li>• Display active routing regions that are associated with a workload.</li> </ul>

Table 13. Views to manage active workloads (continued)

WUI view	Object name	Tasks Supported
Active workload target distribution factors	WLMAWAOR	<ul style="list-style-type: none"> <li>• Display target regions that are associated with a workload.</li> <li>• Activate a target region associated with an active workload.</li> <li>• Quiesce a target region associated with an active workload.</li> </ul>
Active workload definitions	WLMWDEF	<ul style="list-style-type: none"> <li>• Display active workload definitions associated with a workload.</li> <li>• Discard an active workload definition.</li> </ul>
Active workload transaction groups	WLMATGRP	<ul style="list-style-type: none"> <li>• Display active transaction groups associated with a workload.</li> <li>• Change the status of a transaction group to active.</li> <li>• Change the status of an active transaction group to dormant.</li> </ul>
Active workload dynamic transactions	WLMATRAN	<ul style="list-style-type: none"> <li>• Display active transactions associated with a workload.</li> <li>• Discard a transaction from a transaction group.</li> </ul>
Active workload transaction group affinities	WLMATAFF	<ul style="list-style-type: none"> <li>• Display the active affinities for a transaction group associated with a workload.</li> <li>• Discard an affinity entity.</li> </ul>

## Creating workload management definitions

This section guides you through the steps to create and manage workload management definitions by using the WUI or the CICS Explorer. Unless noted otherwise, only the context is recognized when you are creating and maintaining workload management definitions.

### Creating a workload specification

A WLM specification identifies a workload and one or more CICS systems acting as target regions. The specification also defines the attributes of the default transaction group. You can use the **Workload specifications** view to create a workload specification.

### About this task

You can use either the CICSplex SM WUI or the CICS Explorer to create a workload specification and add it to the data repository.

#### For CICS Explorer users:

Follow the procedure in [Creating a workload specification in the CICS Explorer product documentation](#).

**For CICSplex SM WUI users:**

## **Procedure**

1. From the WUI main menu, click **Administration > Workload manager administration > Specifications** to open the **WLM specifications** tabular view.

This view displays a list of existing workload specifications. It has action buttons that allow you to create, update, and remove workload specifications, and to associate CICS systems and CICS system groups with a workload specification.

2. Optional: To use some of the information from an existing definition in the creation of your new definition, select an existing definition by selecting an adjacent check box in the **Record** column.
3. Click **Create**.
4. Complete the fields and click **Yes** to create the new specification. Otherwise, click **No** to abandon the process.

The **Workload specification** view is redisplayed and includes an entry for the new definition.

### ***Associating a CICS system or system group with a workload specification***

Each workload specification has a default target scope and one or more CICS systems or CICS system groups associated with it.

These associated CICS systems or groups are known as the routing scope. The default target scope is identified when you create the specification. Associated CICS systems and system groups are identified when you add the routing region to the specification.

Follow this procedure to associate a CICS system group to an existing workload specification:

1. Click **Administration > Workload manager administration—>Specifications** to open the **WLM specifications** view.

This view displays a list of existing workload specifications.

2. Select a workload specification and click the **Associate CICS group...** button. This opens the **Associate CICS group...** view.
3. In the **CICS system group field**, enter the specific or generic name of an existing CICS system group that represents one or more routing regions.

**Note:** A CICS system or CICS system group acting as a routing region can be associated with only one workload specification at a time. A specification, however, can be associated with any number of CICS systems and CICS system groups.

4. Select one of the following options to indicate how the CICS systems that make up the CICS system group are to use the workload specification associated with the CICS system group:

#### **FORCE**

All CICS systems currently associated with the CICS system group are to use the workload specification. (The workload specification attribute for each CICS system changes to INHERIT, indicating that the specification was acquired from the CICS system group). If you add a new CICS system to the CICS system group, it does not automatically inherit the FORCE option. You must specify NULL or FORCE when adding a CICS system to a CICS system group.

#### **NULL**

Those CICS systems in the CICS system group that are not associated with a workload specification are to use this workload specification. (The workload specification attribute for those CICS systems changes to INHERIT, indicating that the specification was acquired from the CICS system group.)

#### **NONE**

Only the CICS system group is to be associated with the workload specification. The CICS systems in the CICS system group are not affected. That is, if there is no association between a CICS system and a workload specification, none is established; if there is an association, either explicitly established or inherited from another CICS system group, it is unchanged.

**Note:**

- a. If the CICS system group includes other CICS system groups, all of the CICS systems, including those in subordinate CICS system groups, are affected by the value specified in this field.
  - b. The CICS systems designated as the default target scope when you created the workload specification must be accessible to the CICS systems identified as the routing scope. Therefore, you should verify that the appropriate CICS connections exist between each routing region and all of the CICS systems in the target scope identified here.
5. Click **Yes** to update the workload specification in the data repository. Otherwise, click **No** to abandon the process.

Once you associate a CICS system or system group to a workload specification, the specification is automatically installed whenever an associated CICS system is started. Any workload definitions associated with the specification through workload groups are also automatically installed.

However, if you associate the workload specification with a CICS system that is already active, the new specification is not immediately available. To turn workload management on:

1. Click **Administration > Topology administration > System definitions** to display a list of active CICS systems.
2. Select the CICS system and click the **Update...** button
3. In the **Workload manager status** field, specify **YES**, and click the **Yes** button to turn on workload management. Otherwise, click **No** to abandon the process.

### ***Updating a link between a WLM specification and a CICS system***

#### **Procedure**

1. From the main menu, click **Administration > Workload manager administration**.
2. From the **Workload manager administration views** menu, click **Specifications to system links**.  
The **WLM specifications to CICS system links** view (LNKSWSCS object) is displayed.
3. Check the box for the WLM specification to be updated.  
You can check more than one box.
4. Click the **Change Spec Association** button to display the **Change Spec Association (EYUSTARTLNKSWSCS.CHGSPEC)** view.
5. Type the new name in the **New WLM specification name** field and select an appropriate inherit option.
  - Click **Yes** to update the link between a monitor specification and a CICS system group.
  - Click **No** to abandon the process.

### ***Updating a link between a WLM specification and a CICS system group***

#### **Procedure**

1. From the main menu, click **Administration > Workload manager administration**.
2. From the **Workload manager administration views** menu, click **Specifications to system group links**.  
The **WLM specifications to CICS system links** view (LNKSWSCG object) is displayed. For more information about the LNKSwSCG parameters, see [LNKSwSCG Records \(LNKSMSCG, LNKSRS CG, LNKSWSCG\)](#).
3. Check the box for the WLM specification to be updated.  
You can check more than one box.
4. Click the **Change Spec Association** button to display the **Change Spec Association (EYUSTARTLNKSWSCG.CHGSPEC)** view.
5. Type the new name in the **New WLM specification name** field and select an appropriate inherit option.

- Click **Yes** to update the link between a monitor specification and a CICS system group.
- Click **No** to abandon the process.

## Creating a transaction group

A transaction group is an association of logically similar transactions. The similarity can be based on workload management (WLM) or affinity requirements, common shared processing requirements, or any other user-determined characteristic. You can use the **Transaction group definitions** view to create a transaction group.

### About this task

For workload management, any WLM information you specify in the transaction group, including the routing algorithm type, overrides the defaults supplied in the associated workload specification (WLMSPEC). If you specify alternative WLM attributes in a transaction group, you can change workload routing characteristics for the associated transactions dynamically without stopping your routing region.

You can use either the CICSplex SM WUI or the CICS Explorer to create a transaction group.

#### For CICS Explorer users:

Refer to the [CICS Explorer product documentation](#) for instructions.

#### For CICSplex SM WUI users:

### Procedure

1. From the WUI main menu, click **Administration > Workload manager administration > Transaction group definitions** to open the **Transaction group definitions** view.

This view displays a list of existing transaction group definitions. You can create, update, and remove transaction group definitions, and add a transaction to a transaction group.

2. Optional: To use information from an existing definition when you create a new definition, select the check box in the Record column next to the required existing definition.

3. Click **Create**.

4. Provide the appropriate information to create your transaction group definition.

See [Transaction group definitions - TRANGRP](#) for a description of the fields in this view.

5. Click **Yes** to create the new definition and add it to the data repository.

The **Transaction group definitions** view is displayed again with an entry for the new definition.

### What to do next

If you modify the WLM information for an installed transaction group, you must discard its associated WLM definition (WLMDEF) and then reinstall it, so that the transaction group named by the WLM definition is also refreshed. However, if you want to change the routing algorithm type (the ALGTYPE attribute), you can change it immediately without discarding and reinstalling the associated WLMDEF by using the **Active workload transaction groups** (WLMATGRP) views and the **SET** command.

## Creating a workload definition

You can use workload definitions to route work requests to a specific set of target regions based on the terminal and user names, or the process types, associated with those work requests. This section describes how to create a workload definition and add it to the data repository.

The terminal and user names may be either specific or generic. For example, you can create a workload definition that causes all transactions initiated by any user from terminals with logical unit names starting with NET to be routed to the target scope identified as EYUCSG01.

The transaction match criteria that CICSplex SM uses to determine if a transaction should be routed are as follows:

- Is the transaction identifier part of a transaction group associated with the workload definition?
- Is there a definition specifying separation by process type? Is there a match? If so, use this definition. If not, is there a definition specifying separation by terminal logical unit name and user ID?
- In what order should the terminal and user names associated with the transaction be evaluated; that is, which name is to be used as the primary filter?
- Do the user and terminal names associated with the transaction match the name patterns specified with the workload definition?

The rules for establishing terminal and user name patterns are:

- When there are multiple workload definitions, the field containing the name identified as the primary filter can contain the same specific or generic pattern; the contents of the field used as the secondary filter must always be unique. For example, the following definitions are valid when USERID is the primary filter and LUNAME is the secondary filter. They are not valid, however, when LUNAME is the primary filter because the user identifiers are not unique.

```
Entry Name      : EYUWMD01  EYUWMD02  EYUWMD03
Trangroup Name : EYUTNG01  EYUTNG01  EYUTNG01
Terminal Luname: LUR*      LUL*      LUT*
User ID        : PIE*      PIE*      PIE*
```

- When a generic name is specified, the pattern with the most matching leading characters has precedence. For example, with the following patterns:

```
A37AR*
A37+R*
```

Pattern A37AR\* is selected when the input is A37AR123. Pattern A37+R\* is selected when the input is A37TRAP.

- Terminal LU name patterns are matched on the concatenated values of network name and logical unit name. The following are valid terminal LU name patterns:

```
NETWORK1.LU12345678 - A specific luname
NETWORK1.LU1*      - Generic lunames in the network
NETWORK1.*         - All lunames in the network
NET*               - All lunames in a generic network
.LU12345678       - A specific luname within all networks
.* or *           - All lunames within all networks
```

To create a workload definition and add it to the data repository:

1. Click **Administration > Workload manager administration > Definitions** to open the **Workload management definition** view.

This view displays a list of existing workload management definitions. It has action buttons that allow you to create, update, remove and install workload definitions, and to add a workload definition to a workload group.

2. If you want to use some of the information from an existing definition in the creation of your new definition, select an existing definition by selection by selecting an adjacent check box in the **Record** column.
3. Click the **Create** action button.
4. Provide the following information, as appropriate:

**Workload management definition name**

Specify a 1- to 8-character name for the workload 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.

**Trangroup group name**

(Optional) Enter the specific or generic name of a transaction group. If you enter a generic value, a list of valid transaction groups is displayed.

If you do not identify a transaction group, the default transaction group for the specification is assumed.

### Terminal LU name

Enter a specific logical unit name or a pattern, using the format:

```
[network_qualifier_name][.luname]
```

where both the `network_qualifier_name` and the `luname` are between 1 and 8 characters in length. Both the `network_qualifier_name` and the `luname` are optional, however one must be specified. If the `luname` is specified it must be prefixed by a period sign.

A pattern can include the characters + (plus sign), \* (asterisk), or both; where the plus sign represents any non-blank character and can be specified anywhere in the pattern and the asterisk represents a range of zero or more characters that may include blanks. The asterisk must only be used at the end of the pattern.

### User ID

Enter a specific user ID or a pattern. A pattern can include the characters + (plus sign), \* (asterisk), or both.

**Note:** The Terminal Luname and User ID values are used when CICSplex SM attempts to match a transaction with this definition.

### BTS process type

Enter a specific process type or a pattern. A pattern may include + (plus sign), \* (asterisk), or both.

**Note:** If you specify anything other than an \* in this field, the luname and user id fields must be set to an \*. Similarly, if there is anything other than an \* in either luname and user id, this field must be set to \*. You cannot separate a workload by process type, luname and user id.

### Scope name of set of target systems

Enter the specific or generic name of a CICS system or CICS system group to be used as target regions for dynamic routing requests. If you enter a generic value, a list of valid CICS systems and CICS system groups is displayed.

**Note:** The specified CICS system or CICS system group must be accessible to the CICS systems identified as the routing scope with the workload specification to which this definition is associated. Therefore, you should verify that the appropriate CICS connections exist between each routing region and all of the CICS systems identified here as the target scope.

5. Click **Yes** to create the new definition.

The **Workload management definition** view is redisplayed and includes an entry for the new definition.

## Creating a workload group

A workload group is used to associate one or more related workload definitions.

An example of how to use this view can be found in [“Routing a specific transaction to a specific target region” on page 180](#). This section describes how to create a workload group definition and add it to the data repository.

- Click **Administration views—>Workload manager administration views—>Groups** to open the **WLM groups** view.

This view displays a list of your existing workload management group definitions. It has action buttons that allow you to create, update, remove and install workload groups, and to add a group to a workload specification.

- If you want to use some of the information from an existing definition in the creation of your new definition, select an existing definition by selecting an adjacent check box in the **Record** column.
- Click the **Create** action button.

- Provide the following information, as appropriate:

**Workload management group name**

Specify a 1- to 8-character name for the workload 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 workload group.

- Click **Yes** to create the new definition.

The **Workload management group** view is redisplayed and includes an entry for the new definition.

## About workload view route fields

Use the "Active workload target distribution factors" and "Summarized active target region distribution trends" views together with route fields statistics displayed in the active workload views to understand what is happening in workload management.

You can use the route fields statistics information in the "Summarized active target region distribution trends" view to verify that your existing workload is running correctly, and that it is not losing transactions. The "Summarized active target region distribution trends" view also provides a new perspective on events inside WLM during the routing process.

Using the "Active workload views", you can highlight potential issues with your setup. For example, if routing is called and continually retrying to discover other available targets.

You can see counts of what is happening inside WLM; for example, the number of Route completes versus the number of Route selects. An example of this is the Route notifies field which shows you when you are linking to a program that is defined as **DYNAMIC(YES)** and you have provided a SYSID.

Using the "Summarized active target region distribution trends" view with the "Active workload target distribution factors" view can help you understand WLM routing decisions and behavior of CICSplex SM. You might want to understand why some regions are receiving more work than others, and an analysis of Route Selections shows which regions are receiving more work than others.

Figure 20 on page 174 illustrates the route field processes involved in distributed routing.

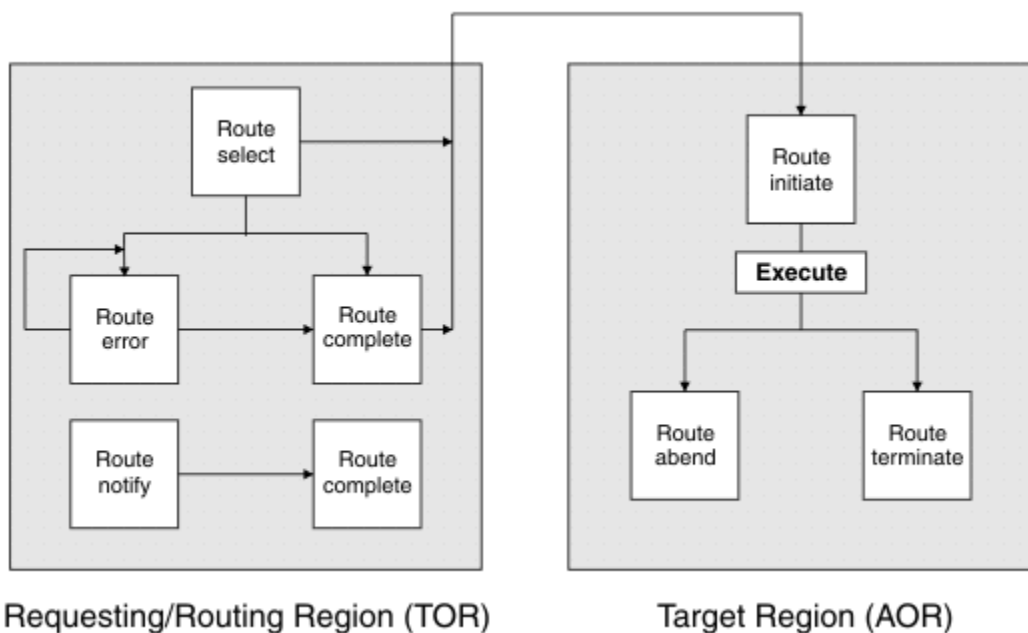
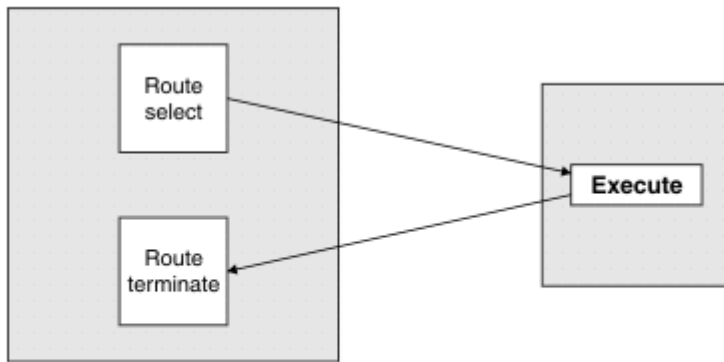


Figure 20. Conceptual view of distributed routing

Figure 21 on page 175 illustrates the route field processes involved in dynamic routing.





Requesting/Routing Region (TOR)      Target Region (AOR)

Figure 21. Conceptual view of dynamic routing

These definitions describe the route fields:

**Route select**

Route select is updated when this region is selected as a target by CICSplex SM workload management.

**Route initiate**

Route initiate is updated when a task routed using the distributed workload model starts on a target system.

**Route error**

Route error is updated when the region selected by CICSplex SM is unreachable; for example, the connection is out of service, or no sessions are available. CICSplex SM then attempts to select another region. This reselection is not counted as a Route select, and the Route select count for any subsequent region is not updated. A high number of route errors can indicate that there are insufficient sessions to run the workload. The lack of sessions can cause increased response time and CPU time because CICSplex SM must try the routing again, potentially several times.

**Route complete**

Route complete is updated when a task that is routed using the distributed workload model starts on the target system. Route complete indicates to the routing system that its responsibility for this task is complete.

**Route notify**

Route notify is updated when a task is routed to a target region that is selected by the SYSID option on the LINK or START command. Route notify informs CICSplex SM of the routing; CICSplex SM does not choose the region. Route notify is a variant of static routing, in which the program or transaction is defined as Dynamic, but the API that calls it specifies a SYSID.

**Route abend**

Route abend is updated when a task is routed to a target region and subsequently abends; for example, because the transaction is not defined in that system or the program is unavailable.

**Route terminate**

Route terminate is updated when a task has completed in a target region, whether at the end of a distributed program link (DPL) or a dynamic transaction routing (DTR) request, or when a task that is routed using the distributed workload model finishes.

## Example CICSplex SM workload management tasks

All the workload management examples are based on the same configuration. The CICSplex, PLXPROD1 consists of one TOR, CICSPT01, and three AORs, CICSAPA01, CICSAPA02, and CICSAPA03. You will see how the roles played by these CICS regions vary, depending on the nature of the individual task.

These sections include a number of typical workload management example tasks and illustrates how these tasks can be carried out using the Web User Interface (WUI).

For any task, you must be aware of the scope, that is, of the CICS systems, with which you are working. If the scope is a single CICS system, any data you retrieve from CICSplex SM relates to that single system. If the scope is a group of CICS systems, the data relates to all of the systems in the group. If the scope is a CICSplex, the data relates to every system in that CICSplex. For all of the examples in these sections, the initial scope is CICSplex PLXPROD1.

### Before you begin

To support optimized workload management, a CICS region status server must be set up and running in the CICSplex to share CICS region status data rapidly. For detailed instructions, see [Setting up and running a region status server](#).

### Managing a workload

This example describes how to use the Web User Interface (WUI) to get CICSplex SM to manage a workload: that is, to route all work from a single routing region to a suitable target region.

For this task, a "suitable" target region is the one with the shortest queue of work requests, relative to the maximum number of tasks permitted in the target region. This queue of work, also called the *load count*, is the queue of all active and queued user tasks. By default, tasks queued for both MAXTASKS and TRANCLASS are included in the load count. Use of the "Task load queue mode" attribute in the CSYSDEF resource table allows sites to exclude tasks queued for TRANCLASS from the load count. For more information about the "Task load queue mode" attribute in the CSYSDEF resource table, see [CICS system definitions - CSYSDEF](#).

The TOR (CICSPT01) is the requesting region and the routing region, and the three AORs (CICSAPA01, CICSAPA02, and CICSAPA03) are all target regions. None of the CICS regions are currently running.

If some of your work requests can't be routed freely (perhaps you want work requests from a particular user always to go to the same target region, for example), don't worry. You'll see how to add that requirement in a later example task ("[Routing a specific transaction to a specific target region](#)" on page 180).

1. Create a CICS system group that will include all of the target regions among which the work requests ("the workload") can be routed dynamically.

- From the main menu, click **Administration > Topology administration > System groups** to open the **System group definitions** tabular view.

If the current context is not PLXPROD1, specify PLXPROD1 in the **Context** field and click **Refresh**.

- Click **Create** to open the **System group definitions** create view.
- Type the following:

System group name	CSGTGTS1
Description	All target regions in CICSplex PLXPROD1

- Click **Yes** to create the system group

The **System group definitions** tabular view is redisplayed, this time showing an entry for CICS system group CSGTGTS1.

At this point, the group CSGTGTS1 exists, but is empty.

2. Specify to CICSplex SM which target regions belong to the group. To add target regions to CICS system group CSGTGTS1:
  - From the main menu click **Administration > Topology administration > System definitions** to open the **CICS system definitions** tabular view
  - Select the entries for the CICS systems CICSPA01, CICSPA02 and CICSPA03 and click **Add to CICS system group**.
  - In the **Group which member will join** field, type CSGTGTS1 and click **Yes to 3 remaining**. This adds the three selected systems to your new group.

3. Create a workload specification:

- From the main menu click **Administration > Workload manager administration > Specifications** to open the **WLM specifications** tabular view.
- Click **Create**, and type the following information:

WLM specification name	WLSPAY01
Description	Manage payroll workload in PLXPROD1
Primary search criterion	USERID
Default target scope	CSGTGTS1
Algorithm type	QUEUE

Leave the remaining fields empty or accept the defaults.

**Note:**

- A **Primary search criterion** value of USERID is shown in this example, though in fact it does not matter whether you specify USERID or LUNAME, because the **Primary search criterion** value has no effect on simple workload searching. It is used only for some kinds of workload separation, which is the subject of a later example. You must supply a value because CICSplex SM doesn't know, at this stage, that you aren't going to use this workload specification for workload separation.
- The **Default target scope** value is the name of the single target region, or group of target regions, to which work requests can be routed.
- The **Algorithm type** value, QUEUE, tells CICSplex SM to select the target region that has the shortest queue of work requests.
- The **Description** is optional, but is worth providing. (When you are confronted with a list of specification names, and have no way of telling one from another, you will appreciate its value.)

Click **Yes**. The **WLM specification** tabular view is redisplayed, this time showing an entry for the new WLM Specification, WLSPAY01.

4. Tell CICSplex SM about the region that is going to be routing the work requests to the target regions in group CSGTGTS1. To associate the workload specification with a routing region:

- In the **WLM specifications** view, select the entry for the WLSPAY01 specification, and click **Associate CICS system**.
- In the **CICS system** field, enter the name of the routing region (CICSPT01, in this example) and click **Yes**.

To check that the association between the routing region and the workload specification has worked:

- On the **WLM specifications** tabular view, click the name **WLSPAY01** to show the details of this specification.
- Click the link **CICS systems associated with this workload specification** to show the **WLM specifications to CICS system links** tabular view (LNKSWSCS object).

**Note:** You can also access this view from the main menu by clicking **Administration > Workload manager administration > Specifications to system links**.

5. Activate workload management in the routing region:

- From the main menu click **Administration > Topology administration > System definitions** to open the **CICS system definitions** tabular view.
- Select the entry for CICSPT01 and click **Update**, to open a detail view of CICSPT01.
- Change the **AOR dynamic routing mode** field to **YES**. Click **Yes** to return to the **CICS system definition** tabular view.

This change takes effect when the target region CICSPT01 is next started.

6. Activate workload management in the target regions:

- From the **CICS system definitions** tabular view, select the entry for CICSPT01 and click **Update** to open a detail view of CICSPT01.
- Change the **Workload manager status** field to **YES**. Click **Yes** to return to the **CICS system definitions** tabular view.

This change takes effect when the target region CICSPT01 is next started.

Repeat this step for target regions CICSPT02 and CICSPT03.

When the routing region and the target regions have been started, you can check that the workload is active from the main menu by clicking **Active workloads (WLM) > Active workloads**. This opens the **Active workloads** tabular view, showing the workload specification WLSPAY01 as active.

To see which target regions are being routed to, click **Active workloads (WLM) > Active workload target distribution factors**. The displayed view shows all active target regions being routed to by workload WLSPAY01. All of the target regions listed belong to the CICS system group CSGTGTS1.

## Adding a region to an existing target region scope

This example describes how to use the Web User Interface (WUI) to increase the number of regions in an existing target scope without disrupting an existing workload.

Assume that you have implemented workload routing in CICSplex PLXPROD1, via workload specification WLSPAY01, and that work requests are being routed among target regions CICSPT01, CICSPT02, and CICSPT03. These target regions all belong to CICS system group CSGTGTS1. Now you want to add a fourth region CICSPT04 to group CSGTGTS1. Region CICSPT04 has been defined to CICSplex PLXPROD1 and is running and is linked to the routing region CICSPT01

1. Add target region CICSPT04 to CICS system group CSGTGTS1:

- a. From the Web User Interface main menu click **Administration > Topology administration > System definitions** to open the **CICS system definitions** tabular view.

If the current context is not PLXPROD1, specify PLXPROD1 in the **Context** field and click **Refresh**.

- b. Select the entry for CICSPT04, and click the **Add to CICS system group** button. The **Add to CICS system group** view is displayed.
- c. In the **Group which member will join** field, enter the name CSGTGTS1 and click **Yes**.

2. Update the CICSplex SM definition of target region CICSPT04:

- a. From the **CICS system definitions** tabular view, select the entry for CICSPT04 and click **Update**.
- b. Change the **Workload manager status** field to **YES** from the menu. Click **Yes** to confirm the update.

This change takes effect when the target region CICSPT04 is next started.

When the target region CICSPT04 has been started, you can check that the workload is active by clicking **Active workloads (WLM) > Active workload target distribution factors**. This opens the **Active workload target distribution factors** view showing all target regions (including CICSPT04) to which work requests in this workload can be routed.

## Removing a region from a target region scope

CICS system group CSGTGTS1 contains four target regions (CICSPA01, CICSPA02, CICSPA03, and CICSPA04) in CICSplex PLXPROD1. Work requests are routed among these target regions, and the routing is controlled by workload specification WLSPAY01.

This example describes how to use the Web User Interface (WUI) to remove region CICSPA04 from the group CSGTGTS1, without disrupting the active workload.

1. Remove target region CICSPA04 from CICS system group CSGTGTS1:
  - From the Web User Interface main menu click **Administration > Topology administration > System groups** to open the **System group definitions** tabular view.  
If the current context is not PLXPROD1, specify PLXPROD1 in the **Context** field and click **Refresh**.
  - Click CSGTGTS1 in the **System group name** field to open a detail view and click the **CICS systems in this CICS system group** link. This opens the **CICS system to CICS system group links** tabular view.
  - Click the Record check box beside the entry for CICSPA04 and click the **Remove...** button. This opens the **Remove** confirmation view.
  - Click **Yes** to confirm the update.
2. To check that CICSPA04 has been removed, from the main menu click **Active workloads (WLM) > Active workload target distribution factors**. This opens the **Active workload target distribution factors** view showing all target regions to which the workload can be routed. CICSPA04 should not appear in the list.

## Adding a routing region to an active workload

Use the Web User Interface (WUI) to add a second routing region to an active workload, without disrupting that workload.

Assume that you are still routing the workload in CICSplex PLXPROD1, via workload specification WLSPAY01, and that work requests are being routed by CICSPT01 among the target regions in CICS system group CSGTGTS1. Now you want to add a second routing region - CICSPT02 - to the workload. Region CICSPT02 has been defined to CICSplex PLXPROD1 (using the **CICS system definitions** views), is running, and is linked to the target regions CICSPA01, CICSPA02, and CICSPA03.

1. Update the CICSplex SM definition for CICS system CICSPT02:
  - From the Web User Interface main menu click **Administration > Topology administration > System definitions** to open the **CICS system definitions** tabular view.  
If the current context is not PLXPROD1, specify PLXPROD1 in the **Context** field and click **Refresh**.
  - Select the record for CICSPT02 and click the **Update...** button.
  - Change the **AOR dynamic routing mode** field to YES.
  - Click **Yes** to confirm the update. This change takes effect when routing region CICSPT02 is next started.
2. Associate CICSPT02 with workload specification WLSPAY01:
  - From the main menu, click **Administration > Workload manager administration > Specifications**.
  - On the **WLM specifications** view, click the Record check box beside the entry for WLSPAY01 and click **Associate CICS system...**
  - In the **CICS system** field, type in CICSPT02 and click **Yes** to confirm the update.

When CICSPT02 has been restarted, you can verify that it has been added to WLSPAY01 as follows:

- Open the **WLM specification** tabular view and click the entry for WLSPAY01. This opens a detail view.
- Click the **CICS systems associated with this workload specification** link. Both CICSPT01 and CICSPT02 should be listed in the **WLM specifications to CICS system links** tabular view.

To check that CICSPT02 is part of the active workload, from the main menu, click **Active workloads (WLM) > Routing regions in an active workload**. This opens a tabular view showing entries for both CICSPT01 and CICSPT02.

## Quiescing a target region in an active workload

This example describes how to use the Web User Interface (WUI) to quiesce the target region CICSPT03, which belongs to the active workload WLSPAY01.

You might need to do this so that you can apply maintenance to a region, for example. The regions CICSPT01 and CICSPT02 are routing work requests among three target regions (CICSPT01, CICSPT02, and CICSPT03) when you perform this task.

If you want to prevent work routing to a region, regardless of whether work is already running there, you can set the region's z/OS WLM health open status to CLOSE or IMMEDIATE. For more information, see [“Effect of the z/OS WLM health service on CICSplex SM workload routing”](#) on page 155.

1. List the target regions associated with workload WLSPAY01.
  - From the Web User Interface main menu click **Active workloads (WLM) > Active workload target distribution factors** to open the **Active workload target distribution factors** view.  
If the current context is not PLXPROD1, specify PLXPROD1 in the **Context** field and click **Refresh**.
  - In the **Workload name** field type WLSPAY01 and click **Refresh**. This redisplay the **Active workload target distribution factors** view. The three CICS regions CICSPT01, CICSPT02 and CICSPT03 are listed. Their status is active.
2. Quiesce target region CICSPT03:
  - On the **Active workload target distribution factors** view, select the entry for target region CICSPT03 and click the **Quiesce...** button. This opens the **Quiesce** confirmation view.
  - Click **Yes** to confirm the action. The **Active workload target distribution factors** view is redisplayed, showing the **Target region status** value for CICSPT03 changed to QUIESCED. No new work requests are routed to the target region, though any work already running there is allowed to complete.

## Routing a specific transaction to a specific target region

Use the Web User Interface (WUI) to define some workload separation requirements to CICSplex SM.

This example describes how to use the Web User Interface (WUI) to always route the transaction PAY1 to the target region CICSPT02, which belongs to CICS system group CSGTGTS1. You are still working in CICSplex PLXPROD1, and workload routing, from a single CICSPT01 among target regions in the group CSGTGTS1, is in effect.

1. If the transaction to be routed is to be started with EXEC CICS START, it should be defined as ROUTABLE.
2. Create a transaction group:
  - From the main menu, click **Administration > Workload manager administration > Transaction group definitions**. This opens the **Transaction group definitions** view.  
If the current context is not PLXPROD1, specify PLXPROD1 in the **Context** field and click **Refresh**.
  - Click the **Create...** button, and provide the following information:

Name	TRGPAY01
Description	Send PAY1 to CICSPT02
Affinity relation and lifetime checking status	ACTIVE
Primary search criterion	USERID

You can leave the remaining fields blank or accept the defaults.

Click **Yes**. The **Transaction group definitions** view is redisplayed, now showing the name of the transaction group TRGPAY01.

3. Add transaction PAY1 to transaction group TRGPAY01:

- In the **Transaction group definitions** view, select the entry for TRGPAY01, and click the **Add transaction...** button.
- In the **Transaction name** field, type the name PAY1 and click **Yes** to confirm. The **Transaction group definitions** view is redisplayed.

4. Create a workload definition:

- From the main menu, click **Administration > Workload manager administration > Definitions**. This opens the **WLM definitions** view, listing any workload definitions already created in PLXPROD1.
- Click the **Create...** button, and provide the following information:

Workload management definition	WLDAPAY01
Description	Separate TRGPAY01 to CICSPA02
Transaction group name	TRGPAY01
Scope name of set of target systems	CICSPA02

- Click **Yes** to confirm.

5. Create a workload group. (A workload group is essential if you want a workload definition to be installed automatically when the routing region that's routing the transactions is started.)

- From the main menu, click **Administration > Workload manager administration > Groups**. This opens the **WLM groups** view, listing any workload groups already created in PLXPROD1.
- Click the **Create...** button, and type in the following:

Workload management group	WLGPAY01
Description	Workload group for WLDAPAY01

- Click **Yes** to confirm. The **WLM groups** view is redisplayed.

6. Add the workload group WLGPAY01 to the existing workload specification WLSPAY01:

- In the **WLM groups** view, select the entry for WLGPAY01, and click the **Add to WLM specification...** button.
- In the **Specification name** field, enter the name of the existing workload specification, WLSPAY01 and click **Yes**. The **WLM groups** view is redisplayed.

7. Add the workload definition to the workload group:

- From the main menu, click **Administration > Workload manager administration > Definitions** to open the **WLM definitions** view.
- Select the entry for WLDAPAY01, and click the **Add to WLM group...** button.
- In the **Resource group name** field, type WLGPAY01 and click **Yes**. The **WLM definition** view is redisplayed.

8. Install the workload group into the active workload.

Because the workload WLSPAY01 is already active, you have to install the new workload group WLGPAY01 explicitly. If you did not install WLGPAY01, it would not take effect until the routing region CICSP01 and the target regions in CICS system group CSGTGS1 were next started.

- From the main menu, click **Administration > Workload manager administration > Groups** to open the **WLM groups** tabular view.
- Select the entry for WLGPAY01 and click the **Install...** button.
- In the **Workload name** field, type WLSPAY01, and, in the **Workload owner** field, type in the SYSID of the system on which the workload specification WLSPAY01 was created.

Click **Yes** to confirm

Because you are reusing a workload specification that is already active in CICSplex PLXPROD1, and have installed the workload group, the workload separation you have defined in this example takes immediate effect.

You can check that the new workload definition WLDAPAY01 is active by opening the **WLM definitions** view. This should include an entry for WLDAPAY01 in workload WLSPAY01. When transaction PAY1 is next started, by any user and from any terminal, CICSplex SM will route it to target region CICSPA02.

## Routing particular transactions from a given user to a specific target region

This example describes how to use the Web User Interface (WUI) to route particular transactions from a given user to a specific target region.

This example task again describes how to use the Web User Interface in a refinement of the previous example (“Routing a specific transaction to a specific target region” on page 180). This time, the user ID value is to be an additional factor in determining where transactions are to be routed: transactions PAY6, PAY7, PAY8, and PAY9, when started from user ID USRPAY03, must be routed to target region CICSPA03 in CICSplex PLXPROD1.

### 1. Create a transaction group.

- From the Web User Interface main menu, click **Administration > Workload manager administration > Transaction group definitions**. This opens the **Transaction group definitions** tabular view.

If the current context is not PLXPROD1, specify PLXPROD1 in the **Context** field and click **Refresh**.

- Click the **Create...** button, and provide the following information:

Name	TRGPAY02
Description	Send USRPAY03's transactions to CICSPA03
Affinity relation and lifetime checking status	ACTIVE
Primary search criterion	USERID

You can leave the remaining fields or accept the defaults.

- Click **Yes** to confirm. The **Transaction group definitions** tabular view is redisplayed.

### 2. Identify the transactions that belong to group TRGPAY02:

- In the **Transaction group definitions** tabular view, select the entry for TRGPAY02, and click the **Add transaction...** button.
- In the **Transaction name** field, type in the name of the first transaction PAY6, and click **Yes** to confirm.

Repeat this step for three more transactions: PAY7, PAY8, and PAY9.

### 3. Create a workload definition:

- From the main menu, click , **Administration > Workload manager administration > Definitions**. This opens the **WLM definitions** tabular view, listing any workload definitions already created in PLXPROD1.
- Click the **Create...** button, and provide the following information:

Workload management definition	WLDAPAY02
Description	Separate TRGPAY02 to CICSPA03
Transaction group name	TRGPAY02
User ID	USRPAY03



Scope name of set of target systems

CICSPA03

- Click **Yes** to confirm.
4. Add the workload definition to the existing workload group:
    - From the main menu, click , **Administration > Workload manager administration—>Definitions** to open the **WLM definitions** view.
    - Select the entry for WLDAPY0 and click the **Add to WLM group** button.
    - In the **Resource group name** field, type WLGPAY01 (the name of the workload group you created in the previous example). Workload group WLGPAY01 is already associated with the active workload specification WLSPAY01.
    - Click **Yes** to confirm.
  5. Install the new workload definition into the active workload:

Because group WLGPAY01 is already associated with the active workload WLSPAY01, changes you make to that group will not take effect until the routing region CICSPT01, and the target regions in CICS system group CSGTGTS1, are next started. To make the new workload definition take effect immediately, you must install it explicitly in WLSPAY01:

- Open the **WLM definitions** view again, select the entry for WLDAPY02, and click the **Install...** button.
- In the **Workload name** field, type in WLSPAY01 and in the **Workload owner** field, type in the SYSID of the system on which the workload specification WLSPAY01 was created.

Because you have explicitly installed the workload definition WLDAPY02 in the active workload WLSPAY01, the workload separation requirements you have defined in this example take immediate effect.

## Honoring a pseudoconversational transaction

This example describes how to use the Web User Interface (WUI) to ensure that multiple transactions, among which there is an affinity, are routed to the same target region.

As before, you are working in CICSplex PLXPROD1 and are routing transactions from CICSPT01 to the target regions in CICS system group CSGTGTS1.

1. Create a transaction group:
  - From the main menu, click **Administration > Workload manager administration > Transaction group definitions**. This opens the **Transaction group definitions** tabular view.
  - If the current context is not PLXPROD1, specify PLXPROD1 in the **Context** field and click **Refresh**.
  - Click the **Create...** button, and provide the following information:

Name	TRGPAY03
Description	Pseudoconversational transaction
Affinity relation and lifetime checking status	ACTIVE
Primary search criterion	USERID
Affinity relationship	USERID
Affinity lifetime	PCONV

Notice that the **Affinity relationship** and **Affinity lifetime** fields must be completed. These values tell CICSplex SM that the transactions in this group constitute a pseudoconversational transaction (PCONV), and that this affinity lasts while those transactions are coming from the same user ID (USERID). If one of them is initiated from a different user ID, CICSplex SM can select a different target region. Of course, the same type of affinity will then come into play in that second target region. You can ignore any fields that have been left blank or accept the defaults.

- Click **Yes** to confirm. The **Transaction group definitions** tabular view is redisplayed.

2. Identify the transactions that belong to group TRGPAY03:

- In the **Transaction group definitions** tabular view, select the entry for TRGPAY03 and click the **Add transaction...** button.
- In the **Transaction name** field, type in the name of the first transaction PAY2 and click **Yes** to confirm.

Repeat this step for three more transactions: PAY3, PAY4, and PAY5.

You can see that PAY2 starts the pseudoconversation and PAY5 ends it.

3. Create a workload definition:

- From the main menu, click **Administration > Workload manager administration > Definitions**. This opens the **WLM definitions** view, listing any workload definitions already created in PLXPROD1.
- Click the **Create...** button, and provide the following information:

Workload management definition	WLDAPAY03
Description	TRGPAY03 to the same target region
Transaction group name	TRGPAY03
Scope name of set of target systems	CSGTGTS1

- Click **Yes** to confirm.

4. Add the workload definition to the workload group:

- From the main menu, click **Administration > Workload manager administration > Definitions** to open the **WLM definitions** tabular view.
- Select the entry for WLDAPAY03 and click the **Add to WLM group...** button.
- In the **Resource group name** field, type WLGPAY01.
- Click **Yes** to confirm.

5. Because group WLGPAY01 is already associated with the active workload WLSPAY01, changes you make to that group will not take effect until the routing region CICSPT01, and the target regions in CICS system group CSGTGTS1, are next started. To make the new workload definition take effect immediately, you must install it explicitly in WLSPAY01. To install the new workload definition into the active workload:

- Open the **WLM definitions** view again, select the entry for WLDAPAY03, and click the **Install...** button.
- In the **Workload name** field, type in WLSPAY01, and in the **Workload owner** field, type in the SYSID of the system on which the workload specification WLSPAY01 was created.

Because you have explicitly installed the workload definition WLDAPAY03 in the active workload WLSPAY01, CICSplex SM is able to honor this pseudoconversational transaction immediately. Be aware that you are able to use the single workload specification WLSPAY01 for both workload routing and workload separation because you did *not* specify default **Affinity relationship** and **Affinity lifetime** values in WLSPAY01. Had you done so, you would have had to create different workload specifications for workload routing and workload separation.

## Deactivating a workload definition

This example describes how to use the Web User Interface (WUI) to deactivate a workload definition.

This example describes how to use the Web User Interface (WUI) to deactivate the workload definition WLDAPAY02 created in the example [“Routing particular transactions from a given user to a specific target region”](#) on page 182.

1. Display active workload definitions:

- From the main menu, click **Active workloads (WLM) > Definitions**. This opens the **Active workload definitions** view.

If the current context is not PLXPROD1, specify PLXPROD1 in the **Context** field and click **Refresh**.

- In the **Active workload definitions** view, type WLSPAY01 and click **Refresh**. The active workload definitions associated with workload specification WLSPAY01 are listed.

2. Discard workload definition WLDAPAY02:

- a. Select the entry for WLDAPAY02, and click the **Discard...** button. This opens the **Discard** confirmation view.
- b. Click **Yes** to confirm the action.

Be aware that, when you deactivate an active workload definition, you also deactivate any transaction groups associated with it if they aren't referenced by another workload definition in the same workload.

## Updating an active workload definition

This example describes how to use the Web User Interface (WUI) to update an active workload definition and then reinstall it in the active workload.

In the example “Routing particular transactions from a given user to a specific target region” on page 182, you created the transaction group TRGPAY02 and named it in the workload definition WLDAPAY02. In this example, you'll see how to remove TRGPAY02 and replace it with a new transaction group, TRGPAY04, which has already been created.

1. Display active workload definitions:

- From the main menu, click **Active workloads (WLM) > Definitions**. This opens the **Active workload definitions** tabular view.

If the current context is not PLXPROD1, specify PLXPROD1 in the **Context** field and click **Refresh**.

- In the **Active workload definitions** view, type WLSPAY01 and click **Refresh**. The active workload definitions associated with workload specification WLSPAY01 are listed.

Make a note of the value in the **System ID of workload owner** field for WLDAPAY02 (CM1B, in this example).

2. Update workload definition WLDAPAY02.

- From the main menu, click **Administration > Workload manager administration > Definitions** to open the **WLM definition** tabular view.
- Select the entry for WLDAPAY02 and click the **Update...** button. The **WLM definitions** create view is displayed.
- In the **WLM definitions** create view, change the **Transaction group name** to TRGPAY04 and change the **Description** text to "Separate TRGPAY04 to CICSPA03"
- Click **Yes**. The **WLM definitions** tabular view is redisplayed.

3. Install the updated workload definition in WLSPAY01:

In the **WLM definitions** tabular view, select the entry for WLDAPAY02 and click the **Install...** view. The **Install** view is displayed. In the **Workload name** field, type WLSPAY01. In the **Workload owner** field, type the 4-character ID of the workload owner that you made a note of in step “1” on page 185. Click **Yes**. The updated workload definition is installed in workload WLSPAY01.

4. Check that the updated workload definition has been installed:

- From the main menu, click **Active workloads (WLM) > Definitions**. This opens the **Active workload definitions** tabular view showing the updated definition. Check that TRGPAY02 has been replaced by TRGPAY04.

5. Check that transaction group TRGPAY02 is inactive and that transaction group TRGPAY04 is now active:

- From the main menu, click **Active workloads (WLM) > Transaction groups** to view the status of the two transaction groups.

**Note:**

Updating the **User ID**, **Terminal LU name**, **BTS process type**, or **Scope name of set of target systems** fields in a workload definition prevents the workload definition from being reinstalled dynamically. To reinstall the workload definition into an active workload, you must:

- From the **Active workload definitions** tabular view, click the **Discard...** button to discard the active workload definition
- From the workload management **Definitions** view, click the **Install...** button to install the workload definition into the workload.

Alternatively, to reinstall workload definitions with changed attributes, use a batch API program to disable access to the affected application, discard the **Active workload definitions** view, install the **WLM definitions** view, and re-enable the affected application.

## Discarding an active transaction from a workload

This example describes how to use the Web User Interface (WUI) to discard an active transaction from a workload.

1. Display active transactions.

- From the main menu, click **Active workloads (WLM) > Dynamic transactions**.

If the current context is not PLXPROD1, specify PLXPROD1 in the **Context** field and click **Refresh**.

- The **Active workload dynamic transactions** tabular view shows the active transactions associated with workload specification EYUWLS02

2. Discard transaction PAY2:

- From the **Active workload dynamic transactions** view, select transaction PAY2, and click the **Force...** button. The **Force** confirmation view is displayed.
- Click **Yes** to confirm the action.

## Updating a workload specification

This example describes how to use the Web User Interface to update a workload specification.

### About this task

In this example, the workload specification to be updated is WLSPAY01, which you created in the example [“Managing a workload” on page 176](#).

Consider the effects of this task carefully. In particular, the updated workload specification cannot take effect immediately. For the update to take immediate effect, you must stop and then restart both the routing region with which the workload specification is associated and the target regions to which the routing region routes transactions.

### Procedure

1. Update workload specification WLSPAY01.

- a. From the Web User Interface main menu, click **Administration > Workload manager administration > Specifications** to open the **WLM specifications** (WLMSPEC) tabular view.

If the current context is not PLXPROD1, specify PLXPROD1 in the **Context** field and click **Refresh**.

- b. Select the entry for WLSPAY01 and click the **Update** button.
- c. Change the **Algorithm type** field from QUEUE to GOAL.
- d. Click **Yes**. The view is redisplayed showing the updated entry for WLSPAY01.

2. Display the **Active workload** view:

- a. From the main menu, click **Active workloads (WLM) > Active workloads**.
- b. In the **Active workloads** tabular view, type in the workload name WLSPAY01 and click **Refresh**.

The **Active workloads** tabular view is redisplayed. You will see that the algorithm type for WLM specification WLSPAY01 is still QUEUE. This is because region CICSPT01 doesn't know about the changes you've made.

## What to do next

If you want the updated workload specification to take effect immediately, use the **CICS regions** view to stop the routing regions and the target regions to which they route, and then restart them. The regions must all be shut down together and not restarted until each CMAS that had CICS elements participating in the named workload issues message EYUWM0410I confirming that the workload specification has terminated successfully. If CICS regions that are members of the workload restart before receiving message EYUWM0410I, the existing workload specification will continue to be used and the updates to the workload specification will not be in effect. After the routing regions are restarted, display the **Active workloads** tabular view and you will see that the **Algorithm type** field has been updated to GOAL.

## Using real-time analysis to select a target region for workload routing

Use CICSplex SM's real-time analysis functions to produce data that will help in the selection of a target region during workload routing.

The number of items on the temporary storage queue will be monitored for each target region to which work can be routed. When the number of items rises above 50, a real-time analysis event notification (severity HS) and an external message will be issued. When an event notification is issued, CICSplex SM's workload-routing function is notified and uses the information, in addition to the standard queue algorithm criteria, in selecting the best target region.

A CICS system group CSGTGTS3 has already been created and contains four target regions (CICSPA01, CICSPA02, CICSPA03, and CICSPA04). The target regions are currently running. Work is currently being routed among these target regions by the routing region CICSPT03.

### 1. Create a real-time analysis evaluation definition:

- From the main menu, click **Administration > RTA MAS resource monitoring > Evaluations**. This opens the **Evaluation definitions** tabular view, listing any evaluation definitions already created in PLXPROD1.

If the current context is not PLXPROD1, specify PLXPROD1 in the **Context** field and click **Refresh**.

- Click the **Create...** button, and provide the following information:

Name	RTEPAY15
Description	TSQ NUMITEMS > 50
Sample interval	300
Resource table name	MTSQGBL
Instance identifier of evaluated resource	*
Method of evaluating results in result set	ANY
Separate task indicator	NO
Name of field being evaluated	PUTQAUX
Evaluation type	VALUE
Evaluation logical operator	GT
Evaluation data value	50
Severity assigned when result meets criteria	HS
Name of a view that may provide extra information	MTSQGBL

- Click **Yes** to create the new evaluation definition.

2. Create a real-time analysis action definition:

- From the main menu, click **Administration > RTA MAS resource monitoring > Actions**. This opens the **Action definitions** view.
- Click the **Create...** button, and provide the following information:

Action	RTAPAY15
Description	NUMITEMS IN TSQ > 50
Generate event option	YES
Name of view that may provide useful information	TSQ
Action priority	255
Message to send when event occurs	AUX TSQUEUE PUTQ ITEMS > 50
Generate external message option	YES
External message sent when event occurs	AUX TSQUEUE PUTQ ITEMS > 50
External message sent when event is cleared	AUX TSQUEUE PUTQ ITEMS < 50
Generate SNA generic alert option	NO
MVS automatic restart	NO

- Click **Yes** to create the new RTA action definition. The **Action definitions** tabular view is redisplayed.

3. Create an analysis definition:

- From the main menu, click **Administration > RTA MAS resource monitoring > Definitions**. This opens the **RTA definitions** view.
- Click the **Create...** button, and provide the following information:

Name	RTDPAY15
Description	TSQ NUMITEMS FOR WLM /RTA
Execute evaluation modification string	NO
Analysis interval	300
Action definition name	RTAPAY15
Count of true evaluations before VLS raised	0001
Count of false evaluations before VLS resolved	0001
Count of true evaluations before LS raised	001
Count of false evaluations before LS resolved	001
Count of true evaluations before LW raised	001
Count of false evaluations before LW resolved	001
Count of true evaluations before HW raised	001
Count of false evaluations before HW resolved	001
Count of true evaluations before HS raised	001
Count of false evaluations before HS resolved	0001
Count of true evaluations before VHS raised	0001
Count of false evaluations before VHS resolved	0001

Count of false evaluations before VHS resolved	0001
Evaluation expression	RTEPAY15

- Click **Yes** to create the new analysis definition. The **Analysis definitions** tabular view is redisplayed.
4. Create an analysis group:
- From the main menu, click **Administration > RTA MAS resource monitoring > Groups**. This opens the **RTA groups** tabular view.
  - Click the **Create...** button, and provide the following information:
- |             |               |
|-------------|---------------|
| RTA group   | RTGPAY09      |
| Description | RTA/WLM Group |
- Click **Yes** to create the new analysis group. The **RTA groups** tabular view is redisplayed.
5. Add the analysis definition to the analysis group:
- From the main menu, click **Administration > RTA MAS resource monitoring > Definitions**. This opens the **RTA definitions** view.
  - Click the record check box beside the entry for RTDPAY15 and click the **Add to RTA group...** button. The **Add to RTA group** view is displayed
  - In the **Resource group name** field type RTGPAY09 and click **Yes**. The **RTA definitions** tabular view is redisplayed
6. Create an analysis specification:
- From the main menu, click **Administration > RTA MAS resource monitoring > Specifications**. This opens the **RTA specifications** tabular view.
  - Click the **Create...** button, and provide the following information:
- |                        |                           |
|------------------------|---------------------------|
| RTA specification name | RTSPAY09                  |
| Description            | Workload routing with RTA |
- Click **Yes** and the **RTA specifications** tabular view is redisplayed, listing the new RTA specification.
7. Add the analysis group to the analysis specification:
- From the main menu, click **Administration > RTA MAS resource monitoring > Groups**. This opens the **RTA groups** tabular view.
  - Click the record check box beside the entry for RTGPAY09 and click the **Add to RTA specification...** button. The **Add to RTA specification** view is displayed
  - In the **RTA specname** field, type RTSPAY09 and click **Yes**. The **RTA groups** tabular view is redisplayed
8. Set the scope of the analysis specification.:
- From the main menu, click **Administration > RTA MAS resource monitoring > Specifications**. This opens the **RTA specifications** tabular view.
  - Click the record check box beside the entry for RTGPAY09 and click the **Associate CICS group...** button. The **Associate CICS group** view is displayed
  - In the **CICS system group** field, type CSGTGTS3 and select the **Force** option. Click **Yes** and the **RTA specifications** tabular view is redisplayed.
9. Activate real-time analysis in the target regions in CSGTGTS3:
- From the main menu, click **Administration > RTA system availability monitoring > CICS system definitions**. This opens the **CICS system definitions** tabular view.
  - Click the record check box beside the entry for CICS system CICSPA01, click the **Update...** button, and provide the following information:

CICS system definition name	CICSPA01
Description	Target region 1 on System A
Real time analysis status	YES
Severity for system availability monitoring event	NO
Severity for short-on-storage (SOS) event	NO
Severity for system dump event	NO
Severity for transaction dump event	NO
Severity for CICS-at-maximum-tasks event	NO
Severity for CICS-stalled event	NO

- Click **Yes** to confirm the change. The CICS system definition is updated and the change, which is permanent, takes immediate effect. You do not have to restart CICS system CICSPA01. Repeat this step for the target regions CICSPA02, CICSPA03, and CICSPA04.

10. The workload specification WLSPAY02 is already being used for workload routing among the target regions in CSGTGTS3. You must update the specification to add the real-time analysis data to the standard target region selection criteria. To update the workload specification:

- From the main menu, click **Administration > Workload manager administration > Specifications**. This opens the **WLM specifications** tabular view.
- Click the record check box beside the entry for WLSPAY02, click the **Update...** button, and provide the following information:

Name	WLSPAY02
Description	Workload using RTA for target region selection
Primary search criterion	USERID
Default target scope	CSGTGTS3
RTA event name	RTDPAY15
Acceptable level of abend probability	0
Acceptable abend load threshold	0
Algorithm type	QUEUE

- Click **Yes** to update the specification.

Notice that the **RTA event** field value is the name of the analysis definition you created in step [“3”](#) on [page 188](#).

When the routing region CICSP03 and the target regions in CICS system group CSGTGTS3 are next started, the routing region routes transactions among the target regions using both the standard queue algorithm criteria and the analysis definition RTDPAY15 to select a target region.

## Dynamic routing with EXEC CICS START TERMID

Use the Web User Interface (WUI) to set up dynamic routing capability for a transaction started with **EXEC CICS START**, that specifies a terminal ID and a transaction ID, and to use the GOAL algorithm to select the target region.

**Note:** You should check the system requirements before trying to route **EXEC CICS START TERMID** dynamically. See [CICSplex SM workload requirements](#).

In this example, a program running in CICSPA01 begins with **EXEC CICS START**, which is associated with terminal TRM1, to run transaction PAY1, for which you require a 2-second response time. Terminal



TRM1 is associated with region CICSPT01. Transaction PAY1 may execute in any region connected to CICSPT01, that is, in CICSPA01, CICSPA02, or CICSPA03.

This example uses the environment that has already been created as part of earlier examples. You are working in CICSplex PLXPROD1, which comprises TOR CICSPT01 and AORs CICSPA01, CICSPA02, and CICSPA03 in CICS system group CSGTGTS1. Transaction group TRGPAY03 has transactions PAY1, PAY2, PAY3, and PAY4 associated with it. Workload definition WLDAPAY03 was defined to tell CICSplex SM that transactions in group TRGPAY03 must be routed to a target region in CICS system group CSGTGTS1.

As you want to use the GOAL algorithm, you need to define, in MVS Workload Manager, a Service Class with the required response time and allocate that Service Class to transaction PAY1. For example, you could specify:

- A Service Class of Fast that has an average response time of 2 seconds.
- A classification rule that associates Classification Subsystem CICS with transaction ID PAY1 and Service Class Fast.

For more information about Service Classes, see the information about the goal algorithm in [Management of the work in a workload](#).

In CICSplex SM:

1. Create a workload specification.

- From the main menu, click **Administration > Workload manager administration > Specifications**. This opens the **WLM specifications** tabular view.

If the current context is not PLXPROD1, specify PLXPROD1 in the **Context** field and click **Refresh**.

- Click the **Create** button, and provide the following information:

Name	WLSDYN01
Description	Dynamic routing START
Primary search criterion	USERID
Default target scope	CSGTGTS1
Acceptable level of abend probability	0
Acceptable abend load threshold	0
Algorithm type	GOAL

- Click **Yes** to create the specification.

You must supply:

- A name for the specification (WLSDYN01 in this example).
- A **Primary search criterion** value. USERID is shown in this example, though in fact it doesn't matter whether you specify USERID or LUNAME, because the **Primary search criterion** value has no effect on simple workload routing. It is used only for some kinds of workload separation, but you have to supply a value because CICSplex SM doesn't know, at this stage, that you aren't going to use this workload specification for workload separation.
- A **Default target scope** value, which is the name of the single target region, or group of target regions, to which transactions can be routed.
- An **Algorithm type** value. For this example, use GOAL, because the criteria for selecting the target region are based on the requirement that the transaction has a response time of 2 seconds.

When you click **Yes**, the **WLM specifications** tabular view is redisplayed, this time showing an entry for the new workload specification, WLSDYN01.

2. The next step is to tell CICSplex SM about the region that's going to be routing the work requests to the target regions in group CSGTGTS1. To associate the workload specification with a routing region:

- On the **WLM specifications** tabular view, click the Record check box beside the entry for the WLSHDYN01 specification and click the **Associate CICS system** button.
  - Type WLSHDYN01 in the **CICS system** field and click **Yes**. The **WLM specifications** tabular view is redisplayed and you can check that the association between the routing region and the workload specification has been created.
3. Activate workload routing in the routing region:
- From the main menu, click **Administration > Topology administration > System definitions**. This opens the **CICS system definitions** tabular view.
  - Click the Record check box beside the entry for CICSPT01 and click the **Update** button.
  - In the **Workload manager status** field, select YES from the drop-down menu. This change takes effect when CICSPT01 is next started.
4. Activate workload routing in the target regions.
- From the main menu, click **Administration > Topology administration > System definitions**. This opens the **CICS system definitions** tabular view.
  - Click the Record check box beside the entry for CICSPOA01 and click the **Update** button.
  - In the **AOR dynamic routing mode** field, select YES from the drop-down menu. This change takes effect when the target region CICSPOA01 is next started.

Repeat this step for target regions CICSPOA02 and CICSPOA03.

5. Install program definitions:
- From the main menu, click **Administration > Basic CICS resource administration > Resource definitions > Program definitions**. This opens the **Program definitions** tabular view.
  - Click the Record check box beside the entry for CICSPOA01 and click the **Update** button.
  - Set the **Dynamic routing status** field to NO from the drop-down box.
  - Click **Yes** to confirm. The **Program definitions** tabular view is redisplayed.
  - Click the Record check box beside the entry for CICSPOA01 and click the **Install** button.
  - Type CICSPOA01 in the **Target scope value** field and click Yes to confirm.

Repeat this step for CICSPOA02 and CICSPOA03.

6. Install transaction definitions:
- From the main menu, click **Administration > Basic CICS resource administration > Resource definitions > Transaction definitions**. This opens the **Transaction definitions** tabular view.
  - From the **Transaction definitions** view, select PAY1 and click the **Install** button. Type CICSPOA01 in the **Target scope value** field.
  - Click Yes to confirm.

You can either update the transaction definitions to specify these field values, or you can specify override values when you install the transaction definitions.

In this example task, a program running in CICSPOA01, the requesting region, issues an **EXEC CICS START** command that specifies a transaction ID of PAY1 and a terminal ID TRM1. The START command is function shipped to CICSPT01, the TOR that owns the specified terminal. CICSPT01 acts as the routing region and invokes the dynamic routing exit, which selects the target region. All the AORs in CICS system group CSGTGS1 are possible target regions; the actual target region is selected on the basis of the GOAL criterion of a response time of 2 seconds. CICSplex SM obtains the Service Class of transaction PAY1 and the identity of the target region to which that Service Class is allocated, from a CICSplex SM-maintained table.

## Dynamic routing of an inbound client DPL request

This example describes how to use the Web User Interface (WUI) to set up dynamic routing capability for a DPL request from a CICS client, and to use the GOAL algorithm to select the target region.

### Before you begin

You should check the system requirements before trying to dynamically route inbound client DPL requests. See [CICSplex SM workload requirements](#).

### About this task

In this example, a request is received to run transaction PAY1 to invoke client program PAYPROG1. PAYPROG1 issues an **EXEC CICS LINK** command to server program PAYPROG2. You require transaction PAY1 to have a 2-second response time.

This example uses the environment that was used for [“Dynamic routing with EXEC CICS START TERMID”](#) on page 190.

As you want to use the GOAL algorithm, you need to define, in MVS Workload Manager, a Service Class with the required response time and allocate that Service Class to the transaction. For example, you could specify:

- A Service Class of Fast with a average response time of 2 seconds.
- A classification rule that associates Classification subsystem CICS with transaction ID PAY1 and Service Class Fast.

For more information about Service Classes, see the information about the goal algorithm in [Management of the work in a workload](#).

Perform the following procedure in CICSplex SM.

### Procedure

1. Set the dynamic routing status value for program PAYPROG1.
  - a) From the main menu, click **Administration > Basic CICS resource administration > Resource definitions > Program definitions > .**  
This opens the **Program definitions** tabular view.
  - b) If the current context is not PLXPROD1, specify PLXPROD1 in the **Context** field and click **Refresh**.
  - c) Click the Record check box beside the entry for PAYPROG1 and click the **Update** button. From the drop-down box, set the **Dynamic routing status** field to NO.
  - d) Click **Yes** to confirm.
2. Install program definitions.
  - a) From the **Program definitions** tabular view, click the Record check box beside the entry for PAYPROG1 and click the **Install** button.
  - b) Type CICSIPA01 in the **Target scope value** field.
  - c) Click **Yes** to confirm.

Repeat this step to install PAYPROG1 in target scopes CICSIPA02 and CICSIPA03.

For details of defining and installing program definitions, see [Creating resources with BAS: PROGRAM resource definitions](#).

3. Install the transaction definition.
  - a) From the main menu, click **Administration > Basic CICS resource administration > Resource definitions > Transaction definitions**.  
This opens the **Transaction definitions** tabular view.
  - b) If the current context is not PLXPROD1, specify PLXPROD1 in the **Context** field and click **Refresh**.

- c) From the **Transaction definitions** view, click the Record check box beside the entry for PAY1 and click the **Install** button.
- d) Type CICSPA01 in the **Target scope value** field.
- e) Click **Yes** to confirm.

Repeat this step to install PAY1 in target scopes CICSPA02 and CICSPA03.

The transaction definition should point to the mirror program DFHMIRS. For details of defining and installing transaction definitions, see [Creating resources with BAS: Transaction resource definitions](#).

## Dynamic routing of a peer-to-peer DPL request

This example describes how to use the Web User Interface (WUI) to set up dynamic routing for a peer-to-peer DPL request, and to use the GOAL algorithm to select the target region.

**Note:** You should check the system requirements before trying to dynamically route peer-to-peer DPL requests. See [CICSplex SM workload requirements](#).

In this example, transaction PAY1 runs program PAYPROG1, which issues an **EXEC CICS LINK** command to program PAYPROG2. You require transaction PAY1 to have a response time of 4 seconds.

This example uses the environment that was used for [“Dynamic routing with EXEC CICS START TERMID” on page 190](#). However, because this is a peer-to-peer dynamic linking request, only the AORs are involved and each AOR may act as a requesting, routing, or target region.

As you want to use the GOAL algorithm, you need to define, in MVS Workload Manager, a Service Class with the required response time and allocate that Service Class to the transaction. For example, you could specify:

- A Service Class of Medium with an average response time of 4 seconds.
- A classification rule associating Classification Subsystem CICS with transaction ID PAY1 and Service Class Medium.

For more information about Service Classes, see the information about the goal algorithm in [Management of the work in a workload](#).

In CICSplex SM:

1. The first step is to set the dynamic routing status value for program PAYPROG1. To do this:
  - From the main menu, click **Administration > Basic CICS resource administration > Resource definitions > Program definitions**. This opens the **Program definitions** tabular view.
  - If the current context is not PLXPROD1, specify PLXPROD1 in the **Context** field and click **Refresh**.
  - Click the Record check box beside the entry for PAYPROG1 and click the **Update...** button.
  - Set the **Dynamic routing status** field to NO from the drop-down box.
  - Click **Yes** to confirm.
2. Install program definitions:
  - From the **Program definitions** tabular view, click the Record check box beside the entry for PAYPROG1 and click the **Install...** button.
  - Type CICSPA01 in the **Target scope value** field.
  - Click **Yes** to confirm.

Repeat this step to install PAYPROG1 in target scopes CICSPA02 and CICSPA03.

For details of defining and installing program definitions, see [Creating resources with BAS: PROGRAM resource definitions](#).

You don't need to install program definition PAYPROG2 in the regions, but if you do, PAYPROG2 should be defined as dynamic.

3. Install the transaction definition:

- From the main menu, click **Administration > Basic CICS resource administration > Resource definitions > Transaction definitions**. This opens the **Transaction definitions** tabular view.

If the current context is not PLXPROD1, specify PLXPROD1 in the **Context** field and click **Refresh**.

- From the **Transaction definitions** tabular view, Click the Record check box beside the entry for PAY2 and click the **Install...** button.
- Type CICSPA01 in the **Target scope value** field.
- Click **Yes** to confirm.

The transaction definition should point to the mirror program DFHMIRS.

Repeat this step to install PAY2 in target scopes CICSPA02 and CICSPA03.

## Routing CICS BTS activities

Use the Web User Interface (WUI) to route a CICS BTS-related workload.

This example uses the configuration that has been used for earlier examples. You are working in CICSplex PLXPROD1, which comprises AORs CICSPA01, CICSPA02, and CICSPA03 in CICS system group CSGTGTS1. These three systems may act as routing and target regions. In addition, it is assumed that the RLS file for the BTS process type is accessible to all CICS system in CICS system group CSGTGTS1, and that all the systems in CICS system group CSGTGTS1 are interconnected.

**Note:** You should check the system requirements before trying to dynamically route CICS BTS activities. See [“Separating CICS BTS activities”](#) on page 196 and [CICS release requirements for dynamic routing](#).

1. Activate workload routing for the systems in CSGTGTS1.

- From the main menu, click **Administration > Topology administration > System definitions**. This opens the **System Definitions** tabular view.

If the current context is not PLXPROD1, specify PLXPROD1 in the **Context** field and click **Refresh**.

- Click the record check box beside the entry for CICSPA01 and click the **Update...** button.
- Select YES from the drop-down box for both the **Workload manager status** field and in the **AOR dynamic routing mode** field . These changes takes effect when the target region CICSPA01 is next started.

Repeat this step for target regions CICSPA02 and CICSPA03.

2. Create a workload specification:

- From the main menu, click **Administration > Workload manager administration > Specifications**. This opens the **WLM specifications** tabular view.
- Click the **Create...** button, and provide the following information:

Name	WLSCBTS
Description	Routing CICS BTS activity
Primary search criterion	USERID
Default target scope	CSGTGTS1
Acceptable level of abend probability	0
Acceptable abend load threshold	0
Algorithm type	LNQUEUE

- Click **Yes** to confirm. The **WLM specifications** tabular view is redisplayed.

You must supply :

- A name for the specification (WLSCBTS in this example).
- A primary search criterion value. USERID is shown in this example, though in fact it does not matter whether you specify USERID or LUNAME, because the primary search criterion value has no effect

on simple workload routing. It is used only for some kinds of workload separation, but you have to supply a value because CICSplex SM cannot determine, at this stage, that you are not going to use this workload specification for workload separation.

- A default target scope value, which is the name of the single target region, or group of target regions, to which transactions can be routed. In this example, use CSGTGTS1.
  - An algorithm Type value. For this example, use LNQUEUE. The LNQUEUE (link neutral queue) algorithm ignores the type of link between routing and target regions but otherwise uses the same routing criteria as the QUEUE algorithm.
3. Associate the workload specification with routing region scope CSGTGTS1.
    - Click the Record check box beside the entry for WLSCBTS and click the **Associate CICS system...** button.
    - In the **CICS system** field, type CSGTGTS1.
    - Click **Yes** to confirm. The **WLM specifications** tabular view is redisplayed.
  4. Specify the system initialization parameter DSRTPGM is set to EYU9XL0P.

You can do this either in the system initialization parameter of each region in the CICS system group, or by using the **CICS system definitions** view.

5. Activate workload management:
  - From the main menu, click **CICSplex SM operations > MASs known to CICSplex**. This opens the **MASs known to CICSplex** tabular view.
  - Click CICS system name CICSPA01 open the **MASs known to CICSplex** detailed view for CICSPA01.
  - In the **Workload manager status** field, select YES from the drop-down list to start managing workloads for this CICS system.
  - Click **Apply changes**.

Repeat this step to activate workload management for CICSPA02 and CICSPA03.

6. Program your BTS activities to run asynchronously.

When the routing and target regions in system group CSGTGTS1 are next started, BTS activities are routed among the target regions.

## Separating CICS BTS activities

This example describes how to use the Web User Interface (WUI) to separate a CICS BTS-related workload.

In this example, BTS activity BTSACT1 has an affinity of LIFETIME and runs under transaction ID BTS1 and process type SALES. This example uses the configuration that has been used for the example in [“Routing CICS BTS activities” on page 195](#). Similarly, the system initialization parameter DSRTPGM must be set to EYU9XL0P.

**Note:** You should check the system requirements before trying to dynamically route CICS BTS activities. See [CICS release requirements for dynamic routing](#).

1. Create a transaction group:
  - From the main menu, click **Administration views > Workload manager administration views > Transaction groups definitions**. This opens the **Transaction group definitions** tabular view.  
If the current context is not PLXPROD1, specify PLXPROD1 in the **Context** field and click **Refresh**.
  - Click the **Create...** and provide the following information:

Name	TRGCBTS1
Description	CICS BTS transaction group
Affinity relation and lifetime checking status	ACTIVE

Primary search criterion	USERID
Affinity relationship	BAPPL
Affinity lifetime	ACTIVITY
Acceptable level of abend probability	0
Acceptable abend load threshold	0
Algorithm type	QUEUE

You can ignore any fields that have been left blank.

- Click **Yes** to redisplay the **Transaction group definitions** tabular view, now showing the name of the transaction group TRGCBTS1.

Notice that the **Affinity relationship** and **Affinity lifetime** fields must be completed. These values tell CICSplex SM that the transactions in this group constitute a BTS affinity, and that this affinity lasts while those transactions are coming from the same BTS application. If one of them is initiated from a different BTS application, CICSplex SM can select a different target region. Of course, the same type of affinity will then come into play in that second target region.

## 2. Identify the transactions in group TRGCBTS1:

- From the **Transaction group definitions** view select the entry for TRGCBTS1 and click the **Add transaction...** to open the **Add transaction** tabular view.
- In the **Transaction name** field, type BTS1 and click **Yes** to add the transaction to the Transaction group. The **Transaction group definition** view is redisplayed.

## 3. Create a workload definition:

- From the main menu, click **Administration > Workload manager administration > Definitions**. This opens the **WLM definitions** tabular view.
- Click the **Create...** button and provide the following information:

Workload management definition	WLDCBTS3
Description	Separate CICS BTS activities
Transaction group name	TRGCBTS1
BTS process type	SALES
Scope name of set of target systems	CSGTGTS1

- Click **Yes** and the **WLM definitions** tabular view is redisplayed.

These values tell CICSplex SM that transactions in group TRGCBTS1, and of process type SALES, must go to a target region in group CSGTGTS1. CICSplex SM can select the most appropriate target region at the time the transaction is initiated.

## 4. Add the workload definition to the workload group:

- In the **WLM definition** tabular view, click the Record check box beside the entry for the WLDCBTS1 and click the **Add to WLM group...** button. The **Add to WLM group** view is displayed.
- In the **Resource group name** field, type WLGCBTS1 and click **Yes**. The **WLM definitions** tabular view is redisplayed.

## 5. Add the workload group to a workload specification:

- From the main menu, click **Administration views > Workload manager administration views > Groups**. This opens the **WLM group** tabular view.
- In the **WLM group** view, click the Record check box beside the entry for the WLDCBTS1 and click the **Add to WLM specification...** button. The **Add to WLM specification** view is displayed.
- In the **Specification name** field, type WLGCBTS1 and click **Yes**. The **WLM groups** tabular view is redisplayed.

## Managing a Link3270 bridge workload

These examples describe how to use the Web User Interface (WUI) to manage a Link3270 bridge workload.

In the case of Link3270 bridge requests, the client application in the requester region calls the Link3270 bridge using **EXEC CICS LINK**, EXCI or ECI, and passes a communication area to the bridge router program, DFHL3270, which runs in the router region. The transaction ID that is used for Link3270 bridge workload routing is the name that is passed to DFHL3270 in the communication area and is not necessarily the same as the transaction name entered at the terminal or workstation. The target regions contain the bridge environment in which the target transaction runs.

When CICSplex SM is in use and the CICSplex SM routing exit, EYU9XLOP, is specified as the **DTRPGM** system initialization parameter, DFHL3270 uses CICS distributed program linking to pass control to EYU9XLOP. The mirror program, DFHMIRS, passes the following information to EYU9XLOP in the DFHDYPDS communication area:

- A DYRTYPE value of 8, which indicates a Link3270 bridge request type
- An eight-character bridge token in the DYRBRTK field
- The transaction ID of the transaction that is to run in the target region in the DYRTRAN field.

For more information about the Link3270 bridge, see [Introduction to the 3270 bridge](#).

For more information about CICS distributed program linking, see [CICS distributed program link](#).

### ***Routing a Link3270 bridge workload***

In this example CICSPT01 is the router region and the target regions are CICSSPA01, CICSSPA02 and CICSSPA03.

1. If the current context is not PLXPROD1, specify PLXPROD1 in the **Context** field and click **Refresh**.
2. Set the **DTRPGM** system initialization parameter to EYU9XLOP in all regions.
3. Update definitions
  - a. From the Web User Interface main menu, click **Administration > Topology administration > System definitions** to open the **CICS system definition** tabular view.
  - b. Select the entry for CICSPT01 and click **Update** to open a detail view of CICSPT01.
  - c. Scroll down to the **Workload manager status** field and select **YES** from the menu.
  - d. Scroll down to the **AOR dynamic routing mode** field and select **YES** from the menu .
  - e. Click **Yes** at the bottom of the view to return to the **CICS system definitions** tabular view. See [Administering CICSplex SM](#) for a description of the CICS system definition view.

This change takes effect when the target region CICSSPA01 is next started.

Repeat this for the regions CICSSPA01, CICSSPA02 and CICSSPA03.

4. Create a CICS system group
  - a. From the main menu click **Administration > Topology administration > System groups** to open the **System group definitions** tabular view.
  - b. Scroll to the bottom of the view and click **Create**, to create a system group called CSGTGTS1  
CSGTGTS1, in this example, is to contain the regions that are to act as targets. See [Administering CICSplex SM](#) for a description of the **System group definitions** view.)
5. Add the target regions to CSGTGTS1.
6. Create a workload specification
  - a. From the main menu click **Administration > Workload manager administration > Specifications** to open the **WLM specifications** tabular view (WLMSPEC object).
  - b. Scroll to the bottom of the view, click **Create**, and provide the following information:



**WLM specification name**

BRSPEC01

**Description**

Link3270 Bridge Workload

**Primary search criterion**

USERID

**Automatic affinity creation option**

N/A

**Default target scope**

BRITGTS1

**Algorithm type**

QUEUE

Leave the remaining fields empty or accept the defaults.

You must supply:

- The name of the workload specification. In this example it is called BRSPEC01.
  - A **Primary search criterion** value. USERID is shown in this example, though in fact it doesn't matter whether you specify USERID or LUNAME, because the **Primary search criterion** value has no effect on simple workload routing. It is used only for some kinds of workload separation, but you have to supply a value because CICSplex SM doesn't know, at this stage, that you aren't going to use this workload specification for workload separation.
  - A **Default target scope**, which is the name of the region or group of regions (BRITGTS1 in this example) to which work is to be routed.
  - An **Algorithm type**. This example uses QUEUE but you can specify either QUEUE, LNQUEUE, GOAL, or LNGOAL for Link3270 bridge requests.
7. Associate the workload specification with the routing region scope
- On the **WLM specifications** tabular view, select the record for BRSPEC01 and click the **Associate CICS system...** button.
  - Enter the routing region scope into the **CICS system** field and click **Yes**.

When the regions are next restarted, the workload will be routed across the target regions. You can use the **Active workloads** view (WLMWORK object) to check that workload specification BRSPEC01 is active. You can use the **Active workload target distribution factors** view (WLMAWAOR object) to see to which target regions workloads are being routed.

### ***Separating a Link3270 bridge workload***

You can separate Link3270 bridge workloads by user ID, transaction group, or LU name.

#### **About this task**

You can separate by LU name only if you are overriding the NETNAME that the bridge generates automatically. Be aware of the restrictions on the use of LUNAME when separating Link3270 bridge workloads. For more information, see [Separating Link3270 bridge workloads](#). For Link3270 bridge workloads, the LU name is the eight-character NETNAME of the terminal running the client transaction that started the Link3270 bridge, rather than the NETNAME of the bridge facility itself.

To separate by bridge facility NETNAME, you must modify the EYU9WRAM module. For more information, see [Separating Link3270 bridge workloads](#). CICS routes all transactions running under the same bridge facility to the same target region. You cannot force them to go to different regions.

The following example describes how to separate a bridge workload by userid and transaction group. The example uses the same configuration as that described in [“Creating workload management definitions” on page 168](#).

Add the following definitions to the definitions that you created in [“Creating workload management definitions”](#) on page 168.

## Procedure

1. Create a transaction group.

- a) From the Web User Interface main menu, click **Administration > Workload manager administration > Transaction group definitions**.

The **Transaction group definition** view opens, listing any transaction groups already defined in PLXPROD1.

If the current context is not PLXPROD1, specify PLXPR0D1 in the **Context** field and click **Refresh**.

- b) Scroll to the bottom of the view, click **Create**, and provide the following information:

**Transaction group name**

TRGBRIO1

**Description**

Link3270 bridge transaction group

**Affinity relation and lifetime checking status**

ACTIVE

**Primary search criterion**

User ID

**Automatic affinity creation option**

N/A

You can leave the remaining fields or accept the defaults.

- c) Click **Yes**.

The **Transaction group definition** view is redisplayed, now showing the name of the transaction group TRGBRIO1.

Leave the **Affinity relationship** and **Affinity lifetime** fields blank and the **Automatic affinity creation option** field set to **N/A** because CICSplex SM does not handle affinities between Link3270 bridge transactions.

**Note:** If you want to separate by LUNAME, you must enter LUNAME in the **Primary search criterion** field of the **Transaction group definition** create view.

2. Identify the transactions in group TRGBRIO1.

- a) In the **Transaction group definition** view, select the entry for TRGPAY03, and click **Add transaction**.

- b) Type the name BRI1 in the **Transaction name** field, and click **Yes** to confirm.

The **Transaction group definition** view is redisplayed.

3. Repeat the previous two steps for any further transactions that you want to be routed to different regions.

4. Create a workload definition.

- a) From the main menu, click **Administration > Workload manager administration > Definitions**.

The **Workload management definition** view opens.

- b) Scroll to the bottom of the view, click **Create**, and provide the following information:

**Workload management definition name**

WLDBRIO1

**Description**

Separate Link3270 bridge activities

**Transaction group name**

TRGBRIO1

**Terminal LU name**

\*

**User ID**

BRIUSER1

**BTS process type**

\*

**Scope name of set of target systems**

CICSPA01

These values indicate that transactions in group TRGBRIO1 entered by BRIUSER1 are to be routed to CICSPA01.

c) Click **Yes** to confirm.

**Note:** If you want to separate by LUNAME, you must enter the LUNAME in the **Terminal LU name** field of the **Workload management definition** create view.

5. Repeat the previous step for any further transaction groups you have created for transactions that are to be routed to different regions.

6. Create a workload group.

A workload group is essential if you want a workload definition to be installed automatically when the routing region that is routing the transactions is started.

a) From the main menu, click **Administration > Workload manager administration > Groups**.

The **Workload management group** view opens, listing any workload groups already created in PLXPROD1.

b) Click **Create** and type in the following information:

**Workload management group name**

WLGBRIO1

**Description**

Workload Group for WLDBRIO1

c) Click **Yes** to confirm.

The **Workload management group** view is redisplayed.

7. Add the workload definition WLDBRIO1 and any other workload definitions you have created to WLGBRIO1.

a) From the main menu, click **Administration > Workload manager administration > Definitions**.

The **Workload management definition** view opens.

b) Select the entry for WLDBRIO1, click **Add to WLM group**, and provide the following information:

**Workload management definition name**

WLDAPY01

**Description**

Link3270 bridge workload definition

**Resource group name**

WLGBRIO1

c) Click **Yes** to confirm.

d) Repeat for any additional workload definitions that you created earlier.

8. Add workload group WLGBRIO1 to workload specification BRSPEC01.

a) From the main menu, click **Administration > Workload manager administration > Groups**.

The **Workload management (WLM) group** view opens.

b) Select the entry for WLGBRIO1, click **Add to WLM specification**, and type BRSPEC01 in the **Specification name** field.

c) Click **Yes** to confirm.

9. Install definition into the active workload.
  - a) From the main menu, click **Administration > Workload manager administration > Definitions**.  
The **Workload management definition** view opens.
  - b) Select the entry for WLDBRIO1, and click **Install** to install it into the active workload. Click **Yes** to confirm.  
The workload separation definitions you created take effect immediately.
  - c) Click **Yes** to confirm.

## What to do next

You can check that the workload definition is active using the **Workload definition installed in active workload** view.

## Administering resources with CICSplex SM

---

You can manage all of your CICS and CICSplex SM resources through any of the following interfaces; the CICS Explorer, the CICS Management Client Interface (CMCI), a WUI view, or using the CICSplex SM API.

Manage your resource definitions in the following ways:

- Using the CMCI, which accepts HTTP requests from your application.
- Using the CICS Explorer, which takes advantage of CMCI.
- Using the CICSplex SM Web User Interface (WUI).
- Adding CICSplex SM API commands directly to your application.

### Managing and installing resources

Use Business Application Services (BAS) to manage and install CICS resources that are stored on the CICSplex SM data repository.

Use CSD to manage and install CICS resources that are stored on the CICS System Definition (CSD) repository.

You must define a CSDGROUP for a CSD resource and a DEFVER for a BAS resource.

## Managing resources using Business Application Services (BAS)

Business Applications Services is the component of CICSplex SM that you use to manage the CICS resource definition and installation process for business applications at your enterprise.

### What is Business Application Services (BAS)?

Business Application Services (BAS) is an alternative to resource definition online (RDO) that enables you to manage CICS resources in terms of the business application to which they belong, rather than their physical location in the CICSplex.

A business application can be any set of resources that represent a meaningful entity in your enterprise. Within the application, you can group together resources of a particular type and define the run-time characteristics of that group. At run-time, you can refine the selection of resources to be installed by using a filter expression, and you can change the resource attributes by using an override expression.

### Limitations of RDO

RDO is the traditional CICS method of defining resources to CICS systems.

With RDO, resource definitions are tied to a single group and groups that are processed sequentially from a group list. Any duplicate definition found later in the process overrides any earlier one. In addition, the very nature of the definitions that RDO requires and the extent to which they are available to multiple CICS systems can prove limiting. RDO has several disadvantages in a CICSplex SM environment:

- Resources are assigned to groups that are assigned to specified CICS systems.
- Resource definitions have to be duplicated across CICS systems, unless the CSD is shared.
- Each end of every communications link has to be defined explicitly.

### ***BAS concepts***

BAS enables you to view and manage your resources in terms of their use in your business, and independently of their physical location.

This section introduces the basic concepts of the BAS function.

#### *Logical scoping*

Once your CICS resources are defined to CICSplex SM, you can monitor and control resources in terms of their participation in a named business application, rather than their physical location in the CICSplex.

Logically-related resources can be identified and referred to as a set, regardless of where they reside at any given time.

Sets of definitions can be reused and associated with any number of other logical associations of resources that reflect your business needs, rather than your system configuration.

If you set the scope to be your application, any operation or monitoring views will display only those resources that satisfy your selection criteria. This gives you the power to control precisely how those resources are managed.

#### *Centralized resource definition*

RDO definitions are held in a CICS System Definition (CSD) file. BAS resources are held on a central data repository that is accessed by all the CICS systems in the CICSplex.

The CICSplex SM data repository (EYUDREP) serves as the central repository for all your CICS resource definitions. This minimizes the number of resource definitions you need for your CICSplex by:

- Providing a single system image approach to defining CICS resources across all supported platforms.
- Producing both local and remote instances of a resource from a single definition.
- Managing multiple versions of a definition. For example, you can have different versions of the resources for an application as it progresses through a number of test phases.
- Generating multiple CICS communication links from a single set of connection and session definitions.

#### *CICS system links*

With Business Application Services, you can create one set of BAS resource objects to define the connection definitions and reuse them in many CICS regions by using a system link (SYSLINK) object. The established method of defining connections between CICS regions is to use RDO to manually create and install definitions that describe the connection. Each resource definition is unique to the CICS region and cannot be reused in other regions.

The system link definition describes the type of connection and connection definitions that are required to create a connection between a pair of CICS regions. You can use these connection definitions as a model to create any number of system links that share the same characteristics.

You can define different types of connections using SYSLINK objects:

- MRO or ISC connections require CONNDEF and SESSDEF resource objects to describe the CONNECTION and SESSION resources.
- IPIC connections require IPCONDEF and TCPDEF resource objects to describe the IPCONN and TCPIPSERVICE resources.

When you install a SYSLINK that uses these model definitions, the resource definitions are installed in the CICS regions automatically to create the connection.

### *Distributed resource installation*

Resources that are defined to CICSplex SM must still be installed in the appropriate systems, either by CICS or by CICSplex SM.

You can use BAS to install your resources either automatically, at CICS initialization, or dynamically, while a system is running. A single resource can be installed in multiple CICS systems either locally or remotely, as appropriate.

### **Two forms of BAS**

You can use BAS in two ways; The migration form, or in the full-function form. You can use either or both of these forms, depending on the situation and degree of precision you require.

- Migration form, in which resource groups are associated with resource descriptions. In this form, resource descriptions are similar to group lists. See [Figure 22 on page 205](#) and [“Using migration form BAS” on page 212](#).
- Full-function form, in which resource assignments are used to qualify the contents of resource groups and resource descriptions, and to control the assignment of resources to CICS systems. See [Figure 23 on page 206](#) and [“Using full-function form BAS” on page 212](#).

The simplest form is the migration form using resource descriptions. You create resource definitions and resource groups, and associate them with one or more resource descriptions. It is the resource description that defines the logical scope for the resources. The resources are assigned to specific CICS systems and you therefore still need separate definitions for a resource that is local to one system and remote to another. This approach to BAS is similar to using RDO, in that the resource description is analogous to the group list. You in effect create a version of your CSD on the CICSplex SM data repository. Though this is a good position from which to establish your CICSplex SM resources environment, you cannot take advantage of all the facilities offered by BAS.

To take advantage of the facilities offered by BAS to manage your resources in terms of the business application rather than location, you need to use resource assignments. A resource assignment selects resources of a particular type from a group, and assigns them to the appropriate CICS system. A resource assignment is associated with a resource description. The resource description then no longer functions like a group list, but becomes a user-defined, logical set of resources, such as an application.

Using resource assignments allows you to manage your individual resources and change their attributes for individual systems, or to suit special circumstances. You can:

- Control resources of a given type in a given group.
- Identify resources as either local or remote, and assign them to various CICS systems with a single resource definition.
- Process selected resources from a group by specifying a filter expression.
- Modify resource attributes for a particular use by specifying override expressions.

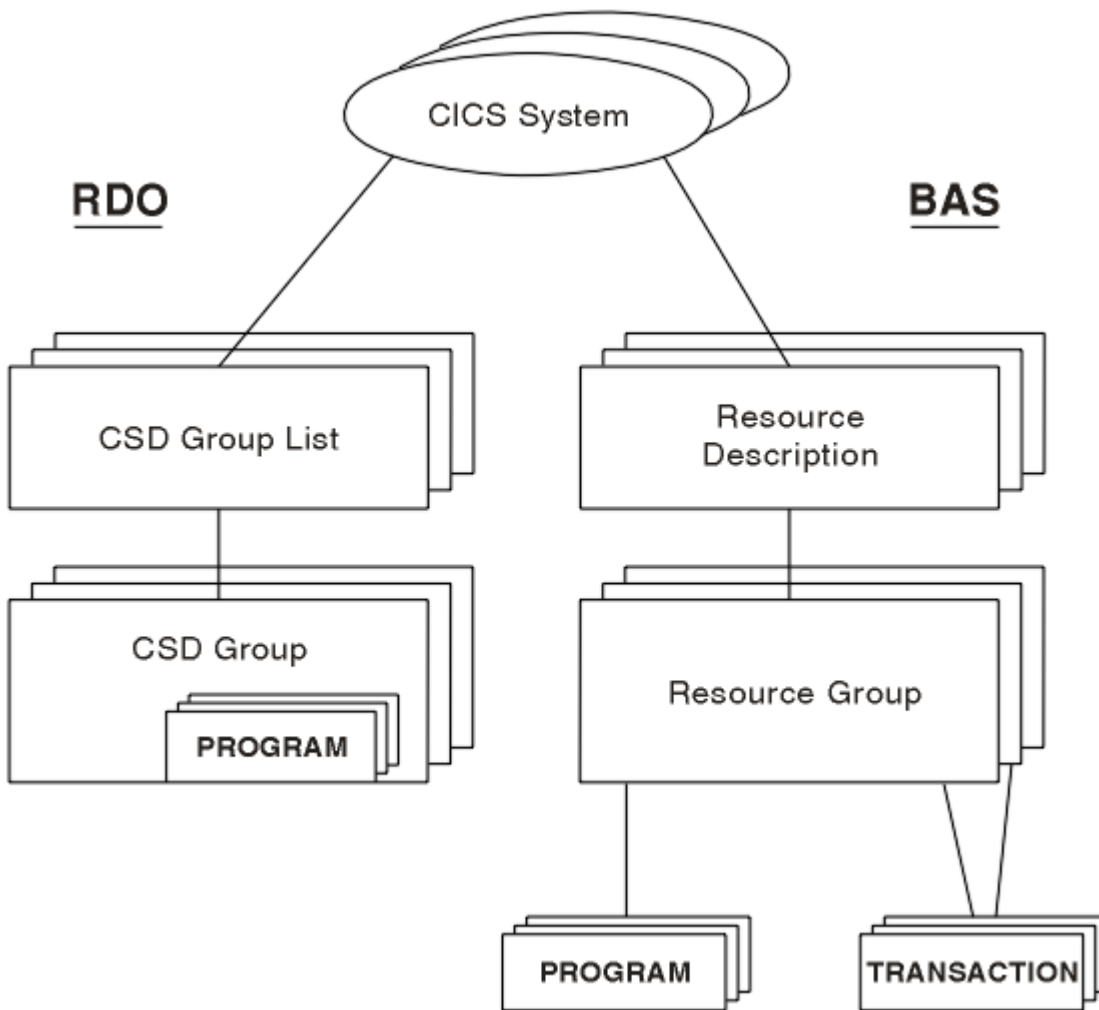


Figure 22. Migration form BAS

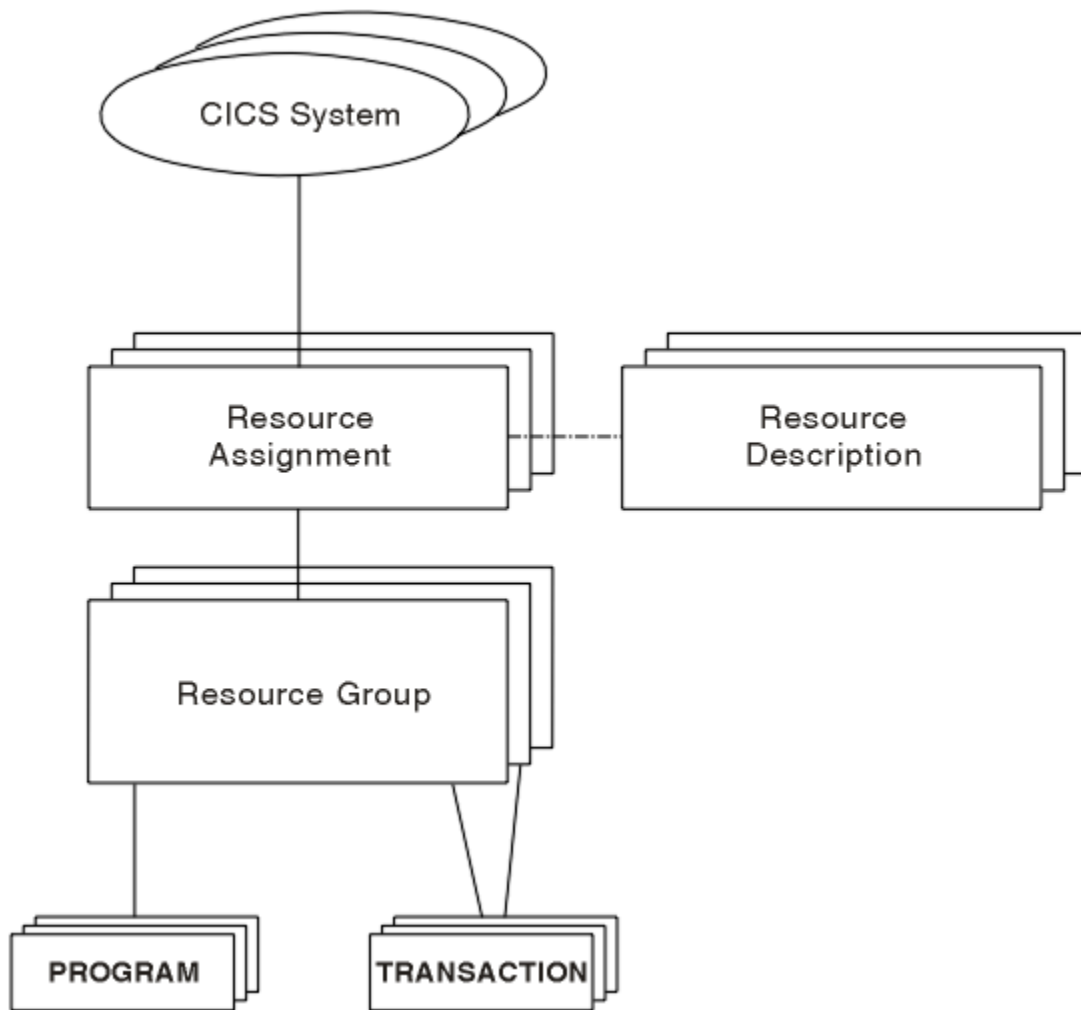


Figure 23. Full-function BAS

### **Advantages of using BAS**

The BAS approach to the management of resources offers several advantages over RDO.

The advantages are as follows:

- A familiar, RDO-like definition process with a choice of interfaces (WUI, batch or API).
- Logical scoping, that allows you to handle your resources in terms of business application rather than location.
- A common definition repository for all resources in a CICSplex, across all supported CICS platforms.
- A reduction in the number of definitions required, with the ability to reuse definitions and override individual attributes as needed.
- Consistent resource definitions and a great deal of control over the definition process.
- A resource can be added to additional regions by adding it to the groups that define where the application will run.
- Because the application is known to CICSplex SM, commands can be directed to a scope that matches the application, not to an arbitrary group of regions.



## Managing BAS

Your BAS environment is set up and managed using these WUI view sets and resource administration objects.

WUI view set	Object name	Description
Resource assignment definitions	RASGNDEF	A resource assignment describes the characteristics of the selected resource definition type, and how those resources are to be assigned to CICS systems. The assigned resources must all be of one type, for example, files, and must belong to a resource group. A resource can be assigned as both local and remote in one or more CICS systems. Before you can use the resource assignment, you must associate with a resource description; see the <b>Resource description definitions</b> (RESDESC) view. This object is also used to identify the attributes to be used in selecting the resources to be assigned and any attribute values to be changed when the resources are assigned.
Resource assignments in resource description	RASINDSC	This view displays information about resource descriptions, and the resource assignments associated with them. This information includes, for each resource, its resource group and any assigned CICS system to CICS system group.
Resource selected by resource assignments	RASPROC	This view displays the resources that will be processed when the specified resource assignment is processed. The resources displayed are selected from those in the associated resource group, using any supplied selection criteria.
Resource selected by resource description	RDSCPROC	This view displays the resources that will be selected when a specified resource description is processed. The resources can be selected from resource groups that are directly related to the resource description, as in migration form BAS, and from resource assignments, using any selection criteria currently in effect.
Resource description definitions	RESDESC	A resource description identifies a set of resource groups, and hence resource definitions. You use this object to specify whether or not you want to use logical scoping for this resource description, and the CICS systems for the associated resource groups.
Resource group definitions	RESGROUP	This object is used to associate one or more related resource definitions. The resource definitions may be of the same or different types.
Resource groups in descriptions	RESINDSC	This view displays information about existing resource descriptions and the resource groups associated with them.
Resource definitions in resource groups	RESINGRP	This view displays information about existing resource groups and the resource definitions associated with them.
CICS system link definitions	SYSLINK	This view displays information about the links that exist between CICS systems in the CICSplex. The information includes the names of the CICS systems and the names of the connection and session definitions used in defining the link.

Table 14. WUI view sets and resource administration objects (continued)

WUI view set	Object name	Description
CICS system resources	SYSRES	This view displays the resources that will be assigned to a specified CICS system. The resources are selected on the basis of the resource descriptions currently associated with the CICS system.
Resource definitions	<i>res</i> DEF where <i>res</i> identifies the resource being defined	For each resource definition type, there is a resource definition object that defines the attributes for that definition. For the available resource types and the WUI views used to define them for CICSplex SM, see <a href="#">CICS resource definitions views</a> .

The object models showing the relationships between these objects are shown in [Figure 24 on page 209](#) and [Figure 25 on page 210](#). The view titles are followed by the resource name in parentheses.

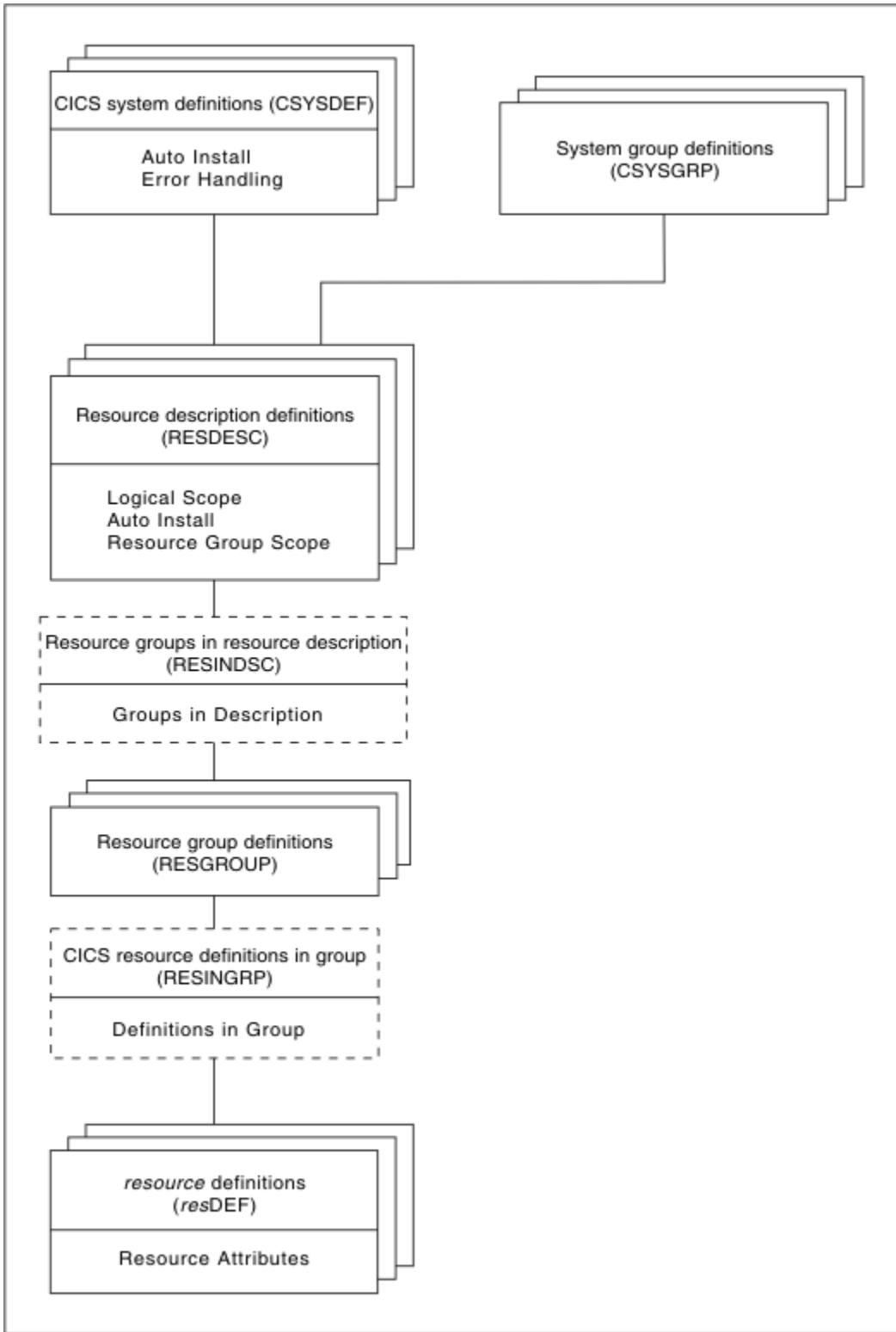


Figure 24. The migration from BAS object model

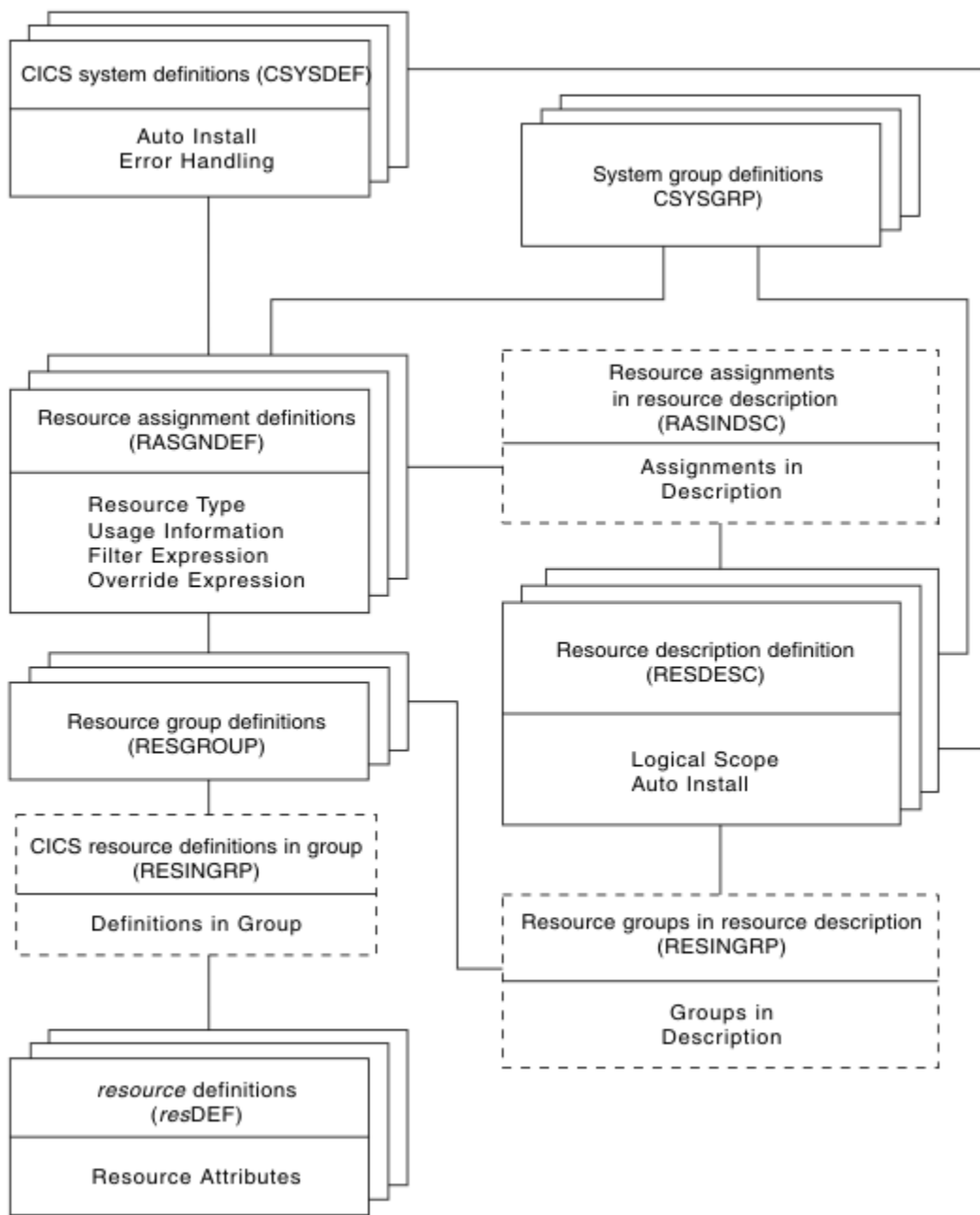


Figure 25. The full-function BAS object model

## Migrating your resource definitions

You do not have to re-create your resource definitions and resource groups in BAS. You can migrate your existing CSD structures.

### About this task

To move your resource definitions and resource groups from your CSDs to the data repository, use the following process. This process maintains the relationship between resources and groups. You can migrate all or part of a CSD, or more than one CSD, at any one time.

### Procedure

1. Use the EXTRACT command of the DFHCSDUP utility routine to read the CSD records.

2. Use the CICSplex SM extract routine EYU9BCSD to create batched repository-update facility commands.
3. Input these commands to [The batched repository-update facility](#) to create resource definitions and resource groups, and the objects that link them.

## Defining resources

You can use BAS to define and maintain resource definitions across a CICSplex. By creating resource definition objects in the data repository, you can use these objects as templates for creating large numbers of resource definitions.

The definition of resources for CICSplex SM is similar to CICS RDO. To define a resource, you create a *resource definition object*. You describe the attributes of the resource in the definition but you do not have to define every occurrence of every resource; you can use a small number of resource definitions as templates for the creation of large numbers of resources. The resource definitions are stored in the data repository for the CICSplex.

The differences between CICSplex SM resource definition objects and CICS resource definitions are:

- The same resource definition can be used by any CICS region in the CICSplex, across all supported platforms.
- You can define to CICSplex SM all the attributes of each resource, including both local and remote values. CICSplex SM determines the correct subset of attributes to use when the resource definition is assigned to a CICS region.
- You do not have to define every instance of your resources from scratch. You can create a resource definition as a “template” for many resources with similar, even identical, attribute values. You can specify temporary or permanent variations, called *overrides*, for CICSplex SM to create resources with different sets of values.
- You can create multiple versions of the same named resource definition. Each version is effectively a different resource definition, and can be used by different CICS systems or for different system requirements. For example, you might have different resource requirements for development and test systems. See [“Validating resources” on page 211](#).

You can create resource definition objects in three ways:

- Use the administration views in CICS Explorer or the BAS administration and definition views in the Web User Interface.
- Use the batched repository-update facility; see [The batched repository-update facility](#).
- Use the CICSplex SM API; see [Developing CICSplex SM applications](#).

## Validating resources

BAS performs many of the same resource definitions checks as RDO does.

As individual resources are defined and installed, BAS checks:

- Individual attributes of a resource
- Interdependent resources attributes
- Release-specific resource attributes

In addition, BAS checks that each *set* of resources is consistent. Every time you make a change to a resource set, BAS checks that the resource being added or updated is not in conflict with a resource already in the CICS system. For example, you would get an inconsistent set error if you tried to assign different versions of the same resource to the same CICS system, or assign a resource as both local and remote.

BAS also provides a MAP function that allows you to check that your resource associations are what you want. You use this facility to display the structure of your resource associations, starting at any point in hierarchy.

## **Defining resource groups**

A *resource group* is a set of related resource definitions that you want to manage as a unit. Resources groups are defined using the **Resource group** view (RESGROUP object). The resource definitions in a group may be of the same type or of different types, but usually have something in common. They might be logically related by their use in a given application or communications network, or geographically related by their use at a given site.

There is no real limit to the number or combination of resource definitions that can make up a group. However, only one version of any given resource can be included in a resource group at one time. You have to maintain each version of a resource definition in a different resource group.

## **Using migration form BAS**

With migration form BAS, your resource groups are associated directly with *resource descriptions*.

A resource description specifies whether or not you are using logical scoping, and the CICS systems for the resource groups associated with the resource description. See [Figure 24 on page 209](#).

When you have migrated or defined your resources and resource groups, you need to create resource descriptions to define your applications. Resource descriptions are defined using the RESDESC object. A resource description is directly related to one or more resource groups that are to be managed as an entity. In the migration form BAS model, this relationship can be considered to represent a logical scope, but the resource description is really analogous to a RDO group list, in that all the resources are tied to a given CICS system or CICS system group.

## **Using full-function form BAS**

With full-function form BAS, resource groups are not associated directly with resource descriptions.

An additional object, the *resource assignment* (RASGNDEF), defines the characteristics and usage of a selected resource type from a resource group. The resource assignment is associated with a resource description, which can then be used to represent a business application. See [Figure 25 on page 210](#).

These objects are used to define your resources in terms of their business application.

## **Using resource assignments**

Power and flexibility in the management of resources is offered by the *resource assignment* (RASGNDEF) object.

**Note:** If you are using the migration form of BAS, you do not use resource assignments.

Each resource assignment relates to one resource type within a resource group, and it must be associated with a resource description, if it is to be used in logical scoping or automatically installed. Each resource group can be in more than one resource assignment.

You can further refine the selection of resources within the type specified by the resource assignment by using a filter expression, and you can change the resource attributes using an override expression. You can combine in the expression an unlimited number of attribute values, using the logical operators AND, OR, and NOT. When the resource description is specified as the scope, CICSplex SM processes only those resources that meet the specified selection criteria. This gives you a great deal of control over the management of your resources.

Each resource assignment must be added to a resource description, if it is to be installed and used in logical scoping. Creating resource assignments and adding them to a resource description enables you to manage sets of resources with a logical scope that can span many CICS systems. In this case, the resource description becomes, in effect, a user-defined, logical set of resources, such as an application. You might have several different resource descriptions associated with a given CICS system, each one representing a different set of resources.

For example, with a resource assignment, you can:

- Select specific resources from a resource group.

- Identify the CICS systems where local and remote instances of a resource should be assigned.
- Temporarily override the values of specific resource attributes.

The resources selected by a resource assignment cannot be managed independently. The resources must be members of a *resource group* and the resource assignment must be associated with at least one resource description.

### **Using resource descriptions**

With full-function BAS, a resource description represents an application, that is, a set of logically-related resources that can span more than one CICS system. The resource description thus identifies the *logical scope* of the application.

Each resource group to be used as part of the application must be added to the resource description. You can associate whole resource groups with a resource description to create a larger set of resources (much like a CSD group list). This allows you to manage the resources more efficiently. The set of resources identified in a resource description can be:

- Identified as a logical scope (such as an application) for use in subsequent CICSplex SM requests
- Installed either automatically, when the CICS system identifies itself to CICSplex SM as a MAS, or dynamically, while the CICS system is up and running.

The BAS objects that are used for creating and managing these resource associations shown in [Figure 24 on page 209](#) and their functions are summarized in [Table 14 on page 207](#).

## **Installing applications and resources**

Optionally, as an alternative to installing resources from the CSD, you can use BAS to install your resources, from the data repository.

BAS allows you to install all the resources associated with an application, by installing the resource description, or one resource group. BAS applies any resource assignments you have associated with the application resource description or resource group, and selects the actual resources to be installed on the basis of those criteria. Alternatively, you can install an individual resource into one or more CICS systems, either locally or remotely, as appropriate.

BAS can install resources either automatically at system initialization time or dynamically into an active CICS system. Before installing a resource, CICSplex SM performs checks to determine whether the resource already exists in the CICS system. The normal situation is that if the resource exists, the new resource is considered a duplicate and is not installed. However, when you dynamically install resources, BAS offers the option of bypassing the duplicate resource checking and forcing the unconditional installation of resources.

### **Automatic installation**

When a CICS system initializes and identifies itself to a CMAS, BAS reviews the resources associated with that system and decides the set of resources to be installed.

### **Dynamic installation**

You can install resources dynamically into an active CICS system by clicking the **install** button either from the appropriate resource definition view, or from one of the following views:

- **Resource group definitions** view.
- **Resource description definitions** view.
- **System link definitions** view.

## **Security considerations**

Because of the importance of resource definitions to your CICSplex SM environment, you need to consider carefully the implications of allowing users access to certain types of resource or to certain functions.

You can allow a user to have access to all resource definition views and their related administration views, or you can restrict access to the definition views for a particular resource type. You can also

define the type of access a user has, for example, one user might have read-only access to **ISC/MRO connection definitions** views (CONNDEF object) and **Session definitions** views (SESSDEF object), but update access (which permits creation and administration of resources) to all other resource types. You need to make sure that the BAS views are adequately protected, so that unauthorized users cannot create and administer resources.

You should also take care if you are running CICS TS, and are using the EXEC CICS CREATE command to build new resources. Any definition created with the CICSplex as the context is automatically distributed to all CMASs in the CICSplex. Therefore, giving a user authority to create BAS objects is potentially equivalent to giving authority to install resources on any CICS system in the CICSplex. When the CICS system starts, there is no check on who installed the resource in the system.

For details on setting up security for CICSplex SM at your enterprise, see [BAS security considerations](#).

## Planning for BAS

BAS allows you to create CICSplex SM objects that define your resources and to group them in such a way that you have close control over the running of your applications.

You do not have to transfer all your CSD resources to CICSplex SM at the same time, neither do you have to decide at the outset which approach you will use. You can extract the resource definition records from one or more CSDs, or only a subset of records from one CSD. You can move directly to using full-function BAS, or you can use migration form BAS, and gradually move towards full-function BAS. You can use RDO, migration form BAS, and full-function BAS in the same CICSplex.

This section poses some of the questions you might like to consider when you start planning to implement BAS in your enterprise:

- If you are going to use the extract facilities:
  - In what order do you want to extract your CSDs?
  - Do you want all the records from a CSD or a subset?
  - Are you going to extract more than one CSD at a time?
- Are you going to use the migration form approach?
- Are you going to implement full-function BAS? You then need to think about how your business applications use resources and the assignments you need to create.
- Which resources are to be installed automatically and which are to be installed dynamically?
- Which definitions are required before PLT processing? Definitions required before PLT phase 2 processing must be in the CSD.
- Where are the resources to be installed?
- Do you need to define manually any resources that are not defined in the CSD?
- What security measures do you need to implement? (See [“Security considerations”](#) on page 213).

The CICS Interdependency Analyzer can assist you in the planning and understanding of your application resource flow; it shows you:

- Transaction resource dependencies; that is, the sets of resources used by individual CICS transactions, and on which the transactions depend in order to run successfully
- Transaction affinities; that is, those groups of transactions that have affinities with each other, meaning that the whole group must be installed in the same region, or in a particular region

For more information about CICS Interdependency Analyzer, see [CICS Interdependency Analyzer for z/OS Overview](#).



## Implementing BAS

This section describes a route you could take to implement BAS on your CICSplex.

### ***Creating migration for BAS***

The first stage in the process of moving to using BAS is to migrate your resources from CICS to CICSplex SM:

- Move your resource definitions, resource groups, and the relationships between them, from the CSD to the CICSplex SM data repository. This process, which is described in [“Migrating your resource definitions” on page 210](#), gives you an intermediary resource hierarchy that is very like CEDA, in that each resource definition is in a resource group.
- Create definitions and groups for any resources that are not held on the CSD.
- Create applications by associating each resource group with a resource description.

There are no resource assignments and, although you can now run your CICSplex SM system perfectly satisfactorily, you will not be taking advantage of the special functionality offered by BAS.

Once you have extracted your CEDA definitions, you can proceed to migrate your resource definitions to full BAS function, as described in [“Migrating to the use of resource assignments” on page 215](#).

### ***Migrating to the use of resource assignments***

You don't have to migrate all your resources to resource assignments at the same time.

You can identify certain resources in which you are interested, remove them from direct association with resource definitions, and create resource assignments, using the **Resource assignment definitions** view (RASGNDEF object) for them. When you are happy with the resource assignments, you can move on to defining another set of resource definitions.

As you move towards processing your resource definitions more full-functionally, you should remove resource groups from direct association with a resource description and identify them instead in one or more resource assignments.

**Note:** You can use the same resource description to manage both whole resource groups and selected resources identified in resource assignments. As you begin to take advantage of the resource assignment capabilities, you may have to update some of the underlying resource definitions. For example, a resource definition that was previously associated as is with a CICS system might require additional attributes before it can be assigned as both a local and remote resource in different CICS systems.

### ***A recommended approach***

When you decide to implement BAS functions in your enterprise, you should begin by defining the appropriate objects.

This section summarizes the preceding sections. You should:

- Extract resource definitions and resource groups from the CSD, as described in [“Migrating your resource definitions” on page 210](#). Alternatively:
  - Use the appropriate resource definition views to create resource definitions.
  - Use the **Resource group definitions** view to create resource groups (RESGROUP objects).
- Use the **Resource assignment definitions** view to create resource assignments (RASGNDEF object).
- Use the **Resource description definitions** view to create resource description to associate the definitions and assignments just created (RESDESC object).

Then, to create associations between these objects:

- Use the appropriate resource definition view to add resource definitions to a resource group (RESINGRP object).
- Use the **Resource group definitions** (RESGROUP) view to add the resource group to a resource description (RESINDESC object).

- Use the **Resource assignment definitions** view (RASGNDEF object) to associate the resource assignment with a resource description (RASINDSC object).
- Use the **Resource assignment definitions** view (RASGNDEF object) to associate the resource assignment with a CICS system or CICS system groups.

You can use the **Map** action button to display a visual map of the BAS definitions in your data repository. If you want to see a list of the objects and associations you have already defined, use the **Resource definitions in resource groups** view (RESINGRP object).

## Where next?

Once you have identified your BAS requirements, you need to set up your resources and their associations.

This is described in [Creating resources with BAS](#).

## The Discovery Library Adapter for CICS

---

The Discovery Library Adapter (DLA) for CICS is a utility that collects information during runtime about CICS and CICSplex SM resources. It generates XML files that can be used by a discovery library reader to track these resources and their interdependencies across your enterprise.

The CICS DLA uses CICSplex SM services to generate XML files that conform to the Discovery Library IdML XML schema and Common Data Model. The XML files called discovery library books can be loaded by several products including Tivoli® Change and Configuration Management Database (CCMDB) and Tivoli Business Service Management (TBSM).

The CICS DLA operates against all the CICSplexes that are associated with a specified CMAS. The specified CMAS must be running at the current release level; however, the CICS regions discovered by the DLA can be at earlier release levels, as allowed by the cross-release support rules for CICSplex SM.

To use the CICS DLA you run EYUJXDD0 as a batch job on a z/OS system. Running the DLA creates IdML discovery library books in a PDS data set. The DLA also writes control files and debug information to this data set.

When you run the DLA, it can generate three types of discovery library books:

- One CTSPLEX discovery library book containing summary information about discovered CICSplexes
- One or more CICSplex discovery library books containing information about the CICS system topology in a CICSplex and also the CICSplex SM logical scopes and their associated resources.
- One or more CICSREGION discovery library books containing information about CICS resources associated with a CICS region

The DLA also generates FTP PUT and RENAME statements to facilitate the transfer of the discovery library books to the discovery library file store (DLFS) located on your local system or accessible through a network connection. You control whether the FTP transfer is carried out as part of the DLA run or is done later as an independent operation.

From the DLFS you can load the discovery library books into CCMDB or TBSM using FTP or another transfer mechanism.

You control the output of the DLA using input parameters. These parameters control the range and depth of the discovery and specify which discovery library books are created. The parameters also set general options about the operating environment, including the name of the CMAS under which the discovery takes place. You can supply these parameters in startup JCL or in an input file referred to by the parameter DD statement in the JCL.

You can run the DLA in either create mode or refresh mode:

- Create mode is the default. In this mode, the DLA produces a snapshot of your CICSplexes. The DLA produces discovery library books that might not contain information about all affected resources because some are not currently active.

- In refresh mode, the discovery library books contain everything known about the environment. The reader treats as obsolete anything that was previously loaded from a similar discovery library book and is not in this discovery library book. CCMDB and TBSM support refresh mode by deleting these obsolete resources. Refresh mode can be useful when there has been a significant configuration change but you should use it with caution because of the large amount of processing that might be involved.

## Running the CICS DLA

To use the CICS DLA, you specify the necessary DLA parameters with startup JCL file, run the DLA utility as a batch program, then transfer the discovery library books in the resulting data set to the discovery library file store for exploitation by a discovery library reader.

### Before you begin

- Ensure that CICS and CICSplex SM are properly installed and configured. You must install CICSplex SM because the CICS DLA uses the CICSplex SM API.
- Ensure that you have the necessary update access to the partitioned data set used for the IdML output of the DLA.

### About this task

This task assumes that you want to use FTP to transfer the DLA output to your DLFS. If you use a transfer mechanism other than FTP, you must ensure the discovery library books are saved in the DLFS using the correct naming conventions. See [“IdML file naming conventions”](#) on page 226 for more information about naming DLFS files correctly.

To run the DLA:

### Procedure

1. Open the sample JCL file EYUJXDD0 in the SEYUSAMP library for editing.  
EYUJXDD0 contains startup JCL and sample input parameters for controlling the operation of the DLA.
2. Enter high-level qualifiers for CICS, CICSplex SM, and for the CICS DLA partitioned data set by overtyping the parameter values in CPSMHLQ=@th1q@ .CPSM, CICS HLQ=@th1q@ .CICS with your own values.
3. Specify the CMAS, your z/OS IP host name, and your organization name using the mandatory **SET CMAS**, **SET HOSTNAME**, and **SET ORGNAME** parameters respectively.
4. Ensure that the **SET FTP** parameter is set to YES, the default.  
With this parameter set to YES, if the operation runs successfully, the DLA automatically transfers the discovered data to the DLFS as part of the DLA operation. FTP PUT and RENAME statements are always generated as part of the DLA run regardless of the SET FTP parameter.
5. Specify the remaining **SET** parameters. If you want to accept the default values, you do not have to make any changes. If you want to make changes to any parameters, overtype the defaults with your own values. For example, if you want to run the DLA in refresh mode, specify SET REFRESH YES.
6. Specify the **BOOK TYPE** parameters.

These three parameters control which of the three types of discovery library books are generated, and also which information the discovery library books contain.

You can include multiple instances of each of the three types of discovery library books and use the optional *cplexname* or *cics\_name* attributes to include or exclude the specific CICSplexes or CICS regions from the information gathering process. The default for each of these parameters is YES, which means that all discovery library books of the specified type are included in the discovery. If you want to select specific discovery library books, set the parameter to NO, to suppress the discovery of all discovery library books of that type, and then add one or more subsequent parameters specifying the discovery

library books to be selected. For example, if you want to select only the CICSplex discovery library book named `p1ex1` specify:

```
BOOK TYPE CICSplex NO
BOOK TYPE CICSplex.p1ex1 YES
```

If you specify `BOOK TYPE CICSplex.p1ex1 NO`, the DLA generates an discovery library book for each CICSplex associated with the CMAS except CICSplex `p1ex1`.

You can also specify partial CICSplex or CICS region names. For example, to select only CICS regions beginning with the letter `a`, specify:

```
BOOK TYPE CICSREGION NO
BOOK TYPE CICSREGION.a YES
```

If you omit `plexname` or `cics_name` attributes, the parameter applies to all of the CICSplexes or CICS regions associated with the CMAS.

Using multiple instances of the same **BOOK TYPE** parameter can lead to consequences that are difficult to predict. The DLA processes these parameters in the order that they are included in the input file. It is therefore possible for one parameter to conflict with an earlier one.

#### 7. Save and submit the EYUJXDD0 module to start the DLA operation.

The DLA populates a partitioned data set with discovery library books containing the discovered data. The default name of the data set is `hlq.cmas.CICSTS.DLAnnn.IDML`, where `hlq` is the high-level qualifier you supply, `cmas` is the name of the CMAS specified in the **SET CMAS** parameter, and `nnn` is the CICS version number, for example 660. If the data set already exists, its contents are overwritten with the newly discovered data.

The DLA also creates FTP PUT and RENAME statements in to facilitate the transfer of the data.

See “DLA output” on page 225 for more information about the output files produced by the DLA.

If the DLA operation is successful, it generates a return code of zero, then continues and transfers the discovered data to the DLFS using the FTP statements in the data set member `@FTPRUN`.

If the DLA generates a nonzero return code, or if you have specified **SET FTP NO**, the DLA does not carry out the FTP part of the operation. You can run the EYUJXDD1 module at any time to carry out the FTP step independently. In this case, the DLA uses the FTP statements from the `@FTPALLP` or `@FTPCHGP` data set members to transfer the data.

## Results

After transferring the DLA output, your DLFS contains the discovery library books required for validation and exploitation by your discovery library reader.

## The CICS DLA package

The CICS DLA is shipped as a series of modules in the SEYUAUTH, SEYULOAD, SEYUSAMP, and SEYUPROC CICSplex SM libraries.

Table 15. DLA modules

Modules	Library	Description
EYU9XDDA	SEYULOAD	Includes the main program and any other EYU9XDDc programs it calls.
EYUJXDD0	SEYUSAMP	Batch JCL for calling procedure EYUJXDDP to run the DL and transfer the IdML members to the DLFS.
EYUJXDD1	SEYUSAMP	Batch JCL to transfer the IdML members to the DLFS as a stand-alone job.
EYUJXDDP	SEYUPROC	Procedural JCL for running the DLA.

Table 15. DLA modules (continued)

Modules	Library	Description
EYUMCT1C EYUMCT2C	SEYUAUTH	Simplified Chinese message load modules.
EYUMCT1E EYUMCT2E	SEYUAUTH	English language message load modules.
EYUMCT1K EYUMCT2K	SEYUAUTH	Japanese Kanji message load modules.

## CICS DLA sample module EYUJXDD0

EYUJXDD0 contains JCL for starting EYUJXDDP to run the DLA.

```
//EYUJXDD0 JOB CLASS=A,MSGCLASS=A,NOTIFY=&SYSUID
//          JCLLIB ORDER=(@thlq@.SEYUPROC)
//*
//*****
//*
//*  MODULE NAME = EYUJXDD0
//*
//*  DESCRIPTIVE NAME = %PRODUCT CPSM Batch Utility Program
//*                   Sample JCL for invoking EYU9XDDA
//*
//*  @BANNER_START          02
//*  Licensed Materials - Property of IBM
//*  "Restricted Materials of IBM"
//*  5655-M15
//*  (C) Copyright IBM Corp. 1990, 2006
//*  @BANNER_END
//*
//*  STATUS = %EUR
//*
//*  CHANGE ACTIVITY :
//*
//*          $MOD(EYUJXDD0),COMP(DAT),PROD(%PRODUCT):
//*
//*  PN= REASON REL YYMMDD HDXIII : REMARKS
//*  $L0= 906 %EU 080723 HDJXSRW: Walkthrough updates
//*  $P1= D22432 %EU 081009 HDJXSRW: Sample JCL changes
//*  $P2= D22801 %EU 081128 HDGFAH: Correct DLA JCL
//*  $P3= D26284 %EU 090429 HDGPGRK: JCL Error in EYUJXDD0
//*  $P4= D26354 %EU 090505 HD4HAPF: JCL errors
//*
//*****
//*
//* Member EYUJXDD0 required variables are:
//* -----
//* @thlq@ - High level target library index
//* @hlq@ - A user defined qualifier for the DLA
//* -----
//* The following in-stream procedure is executed by step EYUJXDD0.
//* The parameters should be defined before execution, including
//* the parameter outlined in the SYSIN statement. Also SET any
//* optional input parameters required in the SYSIN statement.
//*****
//*
//EYUJXDD0 EXEC EYUJXDDP,REGION=4096K,
//          CPSMHLQ=@thlq@.CPSM,
//          CICSHLQ=@thlq@.CICS
//*
//EYU9XDDA.SYSIN DD *
SET CMAS CMASNAME
SET HOSTNAME HOST_NAME
SET ORGNAME ORGANIZATION_NAME
/*
```

```

/**
/**EYU9XDDA Syntax Quick Reference:
/**
/**comments: a * in column one indicates a comment line
/**wildcards: resource_type and resource_id may be set to a * to
/**          indicate a generic value.
/**
/**SET MESSAGE_LANGUAGE CHS|ENU|JPN
/** Sets the required language for message outputs. The default is
/** English (ENU).
/**
/**SET CMAS CMASNAME
/** Sets the CMAS name for which the CICS TS DLA run is to be
/** performed.
/**
/**SET FEEDBACK QUIET|VERBOSE
/** Controls the amount of information displayed by EYU9XDDA
/** when a CICSplex SM API error occurs:
/**   QUIET (the default) only basic error messages are
/**   written.
/**   VERBOSE CICSplex SM Feedback data (if available) will be
/**   displayed.
/**
/**SET HOSTNAME hostname
/** Sets the name of host session. No default exists.
/**
/**SET ORGNAME ORGANIZATION_NAME
/** Sets the name of the organization. The default is SET ORGNAME
/** <defaultOrg>. This is a special value that tells CCMDDB that the
/** CICS resources are related to the CCMDDB defined default
/** organization.
/**
/**SET LIMIT (1-99999999)
/** An integer specifying a limit to the number of resources to be
/** discovered. The default is 10000.
/**
/**SET REFRESH YES|NO
/** Sets the type of DLA run to be performed. SET REFRESH YES will
/** cause readers of the books (CCMDDB and TBSM) to delete existing
/** data from the corresponding books provided by the CICS TS DLA.
/** The default is NO.
/**
/**SET FTP YES|NO
/** Sets the type of FTP run to be performed.
/** The default is YES.
/** SET FTP NO will transfer no books to the DLFS
/**
/** SET FTP YES will transfer books to the DLFS, based upon the
/** setting of the SET REFRESH parameter as follows:.
/** When SET REFRESH YES, then the @FTPALLP member is used to
/** transfer all IDML books generated by EYU9XDDA.
/**
/** When SET REFRESH NO, then the @FTPCHGP member is used to
/** transfer all IDML books which have been changed by EYU9XDDA.
/**
/**SET IGNORE_CHECKSUMS YES|NO
/** The DLA calculates a CHECKSUM for each book it creates and only
/** replaces a previously discovered book if the CHECKSUM is
/** different. The default is NO, meaning that the CHECKSUM will be
/** calculated.
/**
/**SET CONSOLE_MESSAGES YES|NO
/** Allows an MVS SLIP trap to be set and triggers a dump for a
/** specified message to aid covered problem determination.
/** Can only be used with English messages.
/**
/**BOOK TYPE CICSplex.nnnnnnnn YES|NO
/** Checks whether the CICS TS DLA should produce an output book for
/** the data about all the discovered CICSplexes. The default is YES.
/** You can suppress outputting of books by supplying a full or
/** partial CICSplex name
/**
/**BOOK TYPE CICSREGION.nnnnnnnn YES|NO
/** Checks whether the CICS TS DLA should produce an output book with
/** a summary of all the discovered CICSregions. The default is YES.
/** You can suppress outputting of books by supplying a full or parti
/** partial CICSregion name
/**
/**BOOK TYPE CTSplex.nnnnnnnn YES|NO
/** Checks whether the CICS TS DLA should produce an output book with
/** a summary of all the discovered CICSplexes. The default is YES.
/**

```

```

/**
/** If the DLA completed successfully then the FTP program is
/** invoked to transfer the IDML to the DLFS.
/**
/**EYU9XDDA FTP Syntax Quick Reference:
/**
/**<dlfs-hostname>
/** Define the name of the DLFS server to FTP the IDML books to.
/**
/**<username>
/** The name of the user to login in to the DLFS server.
/**
/**<password>
/** Password required for <username>.
/**
/**</u/userdirectory>
/** Define the target directory to store the IDML book in.
/**
/** IF (RC = 0) THEN ; Only FTP if the DLA was successful
/**FTPSTEP EXEC PGM=FTP,REGION=2048K
/**SYSPRINT DD SYSOUT=*
/**SYSABEND DD SYSOUT=*
/**INPUT DD *
<dlfs-hostname>
<username>
<password>
pwd
cd </u/userdirectory>
lcd //DD:EYU9XDDA.IDMLFILE
/**
/** DD DISP=SHR,DSN=@hlq@.CMAS.CICSTS.DLANNN.IDML (@FTPUN)
/** ENDIF
/**
/**

```

## CICS DLA sample module EYUJXDD1

The EYUJXDD1 module contains JCL for transferring IdML members to the DLFS as a stand-alone job.

```

//EYUJXDD1 JOB CLASS=A,MSGCLASS=A,NOTIFY=&SYSUID
/**
/*******
/**
/** MODULE NAME = EYUJXDD1 *
/**
/** DESCRIPTIVE NAME = %PRODUCT CPSM Batch Utility Program *
/** Sample JCL for CICS DLA FTP *
/** *
/** @BANNER_START 02 *
/** Licensed Materials - Property of IBM *
/** *
/** "Restricted Materials of IBM" *
/** *
/** 5655-M15 *
/** *
/** (C) Copyright IBM Corp. 1990, 2006 *
/** *
/** @BANNER_END *
/**
/** STATUS = %EUR *
/**
/** CHANGE ACTIVITY : *
/** *
/** $MOD(EYUJXDD1),COMP(DAT),PROD(%PRODUCT): *
/** *
/** PN= REASON REL YMMDD HDXIII : REMARKS *
/** $L0= 906 %EU 090126 HDGFAH: Initial development *
/** *
/*******
/**
/**EYU9XDDA FTP Syntax Quick Reference:
/**
/**<dlfs-hostname>
/** Define the name of the DLFS server to FTP the IDML books to.
/**
/**<username>
/** The name of the user to login in to the DLFS server.
/**
/**<password>

```

```

/** Password required for <username>.
/**
/**</u/userdirectory>
/** Define the target directory to store the IDML book in.
/**
/**
/**FTPSTEP EXEC PGM=FTP,REGION=2048K
/**SYSPRINT DD SYSOUT=*
/**SYSABEND DD SYSOUT=*
/**IDMLFILE DD DISP=SHR,DSN=HLQ.CMAS.CICSTS.DLANNN.IDML
/**INPUT DD *
<difs-hostname>
<username>
<password>
pwd
cd </u/userdirectory>
lcd //DD:IDMLFILE
/**
// DD DISP=SHR,DSN=HLQ.CMAS.CICSTS.DLANNN.IDML(@FTPRUN)
/**

```

## CICS DLA sample module EYUJXDDP

The EYUJXDDP module contains procedural JCL for running the DLA.

```

/*****
/**
/** MODULE NAME = EYUJXDDP
/**
/** DESCRIPTIVE NAME = %PRODUCT CPSM Batch Utility Program
/** Sample JCL for invoking EYU9XDDA
/**
/** @BANNER_START 02
/** Licensed Materials - Property of IBM
/**
/** "Restricted Materials of IBM"
/**
/** 5655-M15
/**
/** @BANNER_END
/**
/** STATUS = %EUR
/**
/** CHANGE ACTIVITY :
/**
/** $MOD(EYUJXDDP),COMP(DAT),PROD(%PRODUCT):
/**
/** PN= REASON REL YYMDD HDXIII : REMARKS
/** $L0= 906 %EU 080613 HDJSRW : Initial development
/** $L1= 906 %EU 080723 HDJSRW: Walkthrough updates
/** $P1= D22432 %EU 081009 HDJSRW: Sample JCL changes
/** $P2= D22801 %EU 081128 HDGFAH: Correct DLA JCL
/** $P3= D26122 %EU 090423 HDGPGRK: JCL error in EYUJXDDP
/** $P4= D26354 %EU 090505 HD4HAPF: JCL errors
/**
/*****
/**
/** Member EYUJXDDP required variables are:
/** -----
/** @thlq@ - High level target library index
/** @hlq@ - A user defined qualifier for the DLA
/*****
/**EYUJXDDP PROC CPSMHLQ=@thlq@.CPSM,
/** CICSHLQ=@thlq@.CICS
/**
/**EYU9XDDA EXEC PGM=EYU9XDDA
/**
/**STEPLIB DD DISP=SHR,DSN=&CPSMHLQ..SEYULOAD
/** DD DISP=SHR,DSN=&CPSMHLQ..SEYUAUTH
/** DD DISP=SHR,DSN=&CICSHLQ..SDFHAUTH
/** DD DISP=SHR,DSN=&CICSHLQ..SDFHLOAD
/**
/**SYSPRINT DD SYSOUT=*
/**SYSDUMP DD SYSOUT=*
/**IDMLFILE DD DSN=@hlq@.CMAS.CICSTS.DLANNN.IDML,
/** DISP=(NEW,CATLG,DELETE),
/** DCB=(DSORG=PS,RECFM=FB,LRECL=250,BLKSIZE=4000),
/** SPACE=(CYL,(25,10,25),RLSE)

```



```

//*
//*SYSDUMP DD DISP=(,CATLG),DSN=@userid@.EYU9XDDA.SYSDUMP,
//* UNIT=SYSDA,SPACE=(CYL,(50,25)),
//* DCB=(DSORG=PS,RECFM=FBS,LRECL=4160,BLKSIZE=24960)
//* Un-comment the SYSDUMP DD statement if you need to add a
//* SYSDUMP DD.
//* You may need to modify this statement to meet your
//* installations requirements
//*
//EYUSYSIN DD DDNAME=SYSIN
// PEND

```

## DLA parameters

You control the output of the CICS DLA using parameters that you include in the SYSIN DD card of the EYUJXDD0 JCL file. The DLA SET parameters specify general options such as the organization name and debug options. DLA BOOK TYPE parameters control which discovery library books are written.

The DLA parameters are as follows:

### **BOOK TYPE CICSplex.cplexname {YES | NO}**

Determines whether the DLA creates a CICSplex discovery library book and controls which CICSplexes to include in the discovery. Specify one of the following values:

- YES to include the selected CICSplexes in the discovery.
- NO to suppress the selected CICSplexes from the discovery.

The default is YES.

*cplexname* is an optional character string containing the name of a CICSplex. You can use partial names or a trailing asterisk (\*) as a wildcard character. You can use *cplexname* with either the YES or NO option to restrict the discovery to specific CICSplexes. If you omit *cplexname*, all the CICSplexes associated with the CMAS are included in or excluded from the discovery.

You can use multiple BOOK TYPE CICSplex parameters. The DLA processes multiple parameters in the order in which you include them in the input file.

### **BOOK TYPE CICSREGION.cics\_name{YES | NO}**

Determines whether the DLA creates a CICSREGION discovery library book and controls which CICS regions to include in the discovery. Specify one of the following values:

- YES to include the selected CICS regions in the discovery.
- NO to suppress the selected CICS regions from the discovery.

The default is YES.

*cics\_name* is an optional character string containing the name of a CICS region. You can use partial names or a trailing asterisk (\*) as a wildcard character. You use *cics\_name* with either the YES or NO options to restrict the discovery to specific CICS regions. If you omit *cics\_name*, all of the CICS regions associated with the CMAS are included in or excluded from the discovery.

You can use multiple BOOK TYPE CICSREGION parameters. The DLA processes multiple parameters in the order in which you include them in the input file.

### **BOOK TYPE CTSPLEX {YES | NO}**

Determines whether the DLA creates a CTSPLEX discovery library book containing a summary of the discovered CICSplexes. Specify one of the following values:

- YES to produce a CTSPLEX discovery library book with a summary of all CICSplexes discovered by the DLA
- NO to suppress the output discovery library book for the CTSPLEX CICSplex summary.

The default is YES. You can include no more than one instance of this parameter.

**SET CMAS *CMAS\_name***

The name of a CMAS. The CMAS must be running at the CICS TS 4.1 release level. The DLA discovers information about the CICSplexes connected directly to this CMAS, and about CICSplexes connected to other CMASs associated with this CMAS.

**SET CONSOLE\_MESSAGES {YES | NO}**

Use this parameter only under the supervision of IBM support staff.

Specify one of the following values:

- YES to copy messages to the MVS console.
- NO to bypass copying messages to the MVS console.

The default is NO.

Console messages are always displayed in English because the console does not support the double-byte character sets necessary to display the alternative languages.

**SET FEEDBACK {QUIET | VERBOSE}**

FEEDBACK specifies how the DLA handles exception condition reporting if an error is returned from the CICSplex SM API. The options are as follows:

- QUIET: the DLA writes only progress messages and exception conditions. QUIET is the default FEEDBACK option.
- VERBOSE: in addition to the standard message reporting response and reason codes, the DLA writes any associated CICSplex SM feedback data.

All feedback information is sent to the SYSPRINT DD destination and the @DIALOG file.

**SET FTP {YES | NO}**

Specify one of the following values:

- YES to transfer discovered data to the discovery library file store (DLFS) as part of the DLA run.
- NO to suppress the transfer.

The FTP transfer takes place only if the DLA discovery operation completed successfully with a return code of zero. If you specify NO, or if the DLA run does not complete successfully, you can transfer the data to the DLFS as a separate operation by running the EYUJXDD1 module.

During operation the DLA generates FTP PUT and RENAME in the following PDSE data set members:

- @FTPALLP: contains FTP statements to PUT and RENAME all discovery library books.
- @FTPCHGP: contains FTP statements to PUT and RENAME all changed discovery library books.

The contents of either @FTPALLP or @FTPCHGP are copied to the @FTPRUN data set member depending on the settings of the SET IGNORE\_CHECKSUMS and SET REFRESH parameters.

**SET HOSTNAME *host\_name***

Specify the z/OS IP host name.

**SET IGNORE\_CHECKSUMS {YES | NO}**

Specify one of the following values:

- YES, to bypass checksum processing for the discovery library books.
- NO, to calculate checksums for the discovery library books.

The default is NO.

Checksum processing determines whether each discovery library book has changed since the last DLA run. The DLA calculates a checksum for each discovery library book that it creates. The @FTPCHGP member contains a list of the discovery library books that the DLA has changed. You can then transfer only the changed discovery library books to the DLFS.

The advantage of checksum processing is that it reduces the amount of data transferred to the DLFS. The disadvantage is that it increases the DLA run time. Because the checksum processing increases DLA processing, you might want to bypass it by setting SET IGNORE\_CHECKSUMS YES.

**SET LIMIT {1 - 9999999}**

An integer between 1 and 9999999 specifying a limit to the number of resources to be discovered. The default is 10000.

The DLA issues warning messages if the limit is exceeded. Processing continues, but a non-zero DLA return code is set so that the FTP step, to transfer the discovery library books to the DLFS, will not run.

**SET MESSAGE\_LANGUAGE {CHN | ENU | JPN}**

This parameter determines the language used for the messages written to the destination specified on the SYSOUT option of the SYSPRINT file. Specify CHN for simplified Chinese, ENU for English, and JPN for Japanese Kanji. The default language is English. The Chinese and Japanese options use double-byte character sets.

**SET ORGNAME *organization\_name***

A single word without imbedded blanks denoting the name of your organization. This parameter can contain alphanumeric and national characters, with XML escape characters being used for other characters (for example: &lt; for < and &gt; for >).

The z/OS SMFID and SYSPLEX names are typically unique in an enterprise. In some cases, for example in the case of a company acquisition, duplicates can exist: for example, two independent z/OS systems with SMFID called MVS1. In order to maintain separate instances with a CCMD, set different ORGNAME values.

The default is SET ORGNAME <defaultOrg>. This default is a special value that informs CCMD that the CICS resources are related to the CCMD defined default organization. Use this default setting unless your site has duplicate z/OS SMFIDs and SYSPLEXes that you want to have loaded into the same CCMD.

**SET REFRESH {YES | NO}**

Specify one of the following values:

- YES to produce refresh-type discovery library books
- NO to produce create-type discovery library books.

The default is NO.

Specifying SET REFRESH YES causes the output XML files to be refresh-type discovery library books. This setting indicates the discovery library books contain everything known about the environment. The readers of the discovery library books (such as CCMD and TBSM) delete data loaded from corresponding discovery library books provided by the CICS DLA. Specify SET REFRESH YES only after a major configuration change.

Specifying SET REFRESH NO causes the output XML files to be create-type discovery library books. This setting indicates that the generated discovery library books contain information only about resources that have changed since the last DLA run.

## DLA output

Each time you run the CICS TS DLA, it creates or reuses a partitioned data set. The DLA writes the discovery library books, control files, and debug information to this data set. You can control which discovery library books the DLA generates by setting the appropriate input parameters.

The default name of the partitioned (PDS or PDSE) data set is: *hlq.cmas.CICSTS.DLA410.IDML*, where *hlq* is a high-level qualifier that you supply and *cmas* is the name of the CMAS as specified on the SET CMAS parameter.

The DLA writes, or rewrites the following data set members:

- IdML member for the CTSPLEX discovery library book. This member contains a summary of the CICSplexes discovered by the DLA.
- IdML members for each CICSplex discovery library book that you request. The member name is the CICSplex name.

- IdML members for each CICSREGION discovery library book that you request. The member name is assigned by the DLA. The @CICSNAM member translates these names to the CICS region name and CICSplex associated with the CICS region.
- @CHCKSUM containing an entry for each of the discovery library book members on the data set.
- The @DLALOG message log from the latest DLA run.
- @FTPALLP containing FTP PUT and RENAME statements for all discovery library book members from the latest DLA run.
- @FTPCHGP containing FTP PUT and RENAME statements for some or all discovery library book members depending on the DLA run.

If you set the **IGNORE\_CHECKSUMS** and **SET REFRESH** parameters to NO, this member contains FTP PUT and RENAME statements for any changed discovery library book members from the previous DLA run that used the same data set. If there are no changes, this member is empty. In all other circumstances, this member contains FTP statements for all the discovery library book members from the latest DLA run, and it is therefore identical in content to @FTPALLP.

- @FTPRUN containing FTP statements or a **QUIT** statement depending on the following conditions:
  - If you have set the **SET FTP** parameter to NO, this member contains only the statement **QUIT**.
  - If you have set the **SET FTP** parameter to YES and the **SET REFRESH** parameter to YES, this member contains the FTP statements copied from @FTPALLP.
  - If you have set the **SET FTP** parameter to YES and the **SET REFRESH** parameter to NO, this member contains the FTP statements copied from @FTPCHGP.

The DLA uses the contents of @FTPRUN to make the FTP transfer if you set the **SET FTP** parameter to YES and the DLA runs successfully with a return code of zero. You can also run the FTP step independently. To do this you use the EYUJXDD1 module in which you specify either @FTPRUN, @FTPALLP or @FTPCHGP.

## IdML file naming conventions

Discovery library books are stored in plain text XML files that must follow a consistent file naming convention. The file name includes information to uniquely identify the discovery library book in the DLFS and to help developers and administrators quickly identify the source and creation date of the discovery data.

The names of discovery library books generated by the CICS DLA consist of the following segments:

- The CICS application code *CICSTSnnnbooktype.application.*, where:
  - *nnn* is the CICS version identifier, for example “410”.
  - *booktype* identifies the type of discovery library book, for example “CTSPLEX”.
  - *application* is the name of the CICSplex or CICS region from which the data is derived, which is the CMAS name for the CTSPLEX summary discovery library book.
- The host name, for example: @mvs2c.example.com.
- An ISO 8601 time stamp UTC (Coordinated Universal Time), with colons (:) replaced by dots (.), for example: 2008-03-08T12.05.31Z.
- The text string “.refresh” when the discovery library book contains a refresh operation.
- A file name extension of “.xml”.

A slightly different naming convention applies to discovery library books when they are being written or copied to the DLFS. In this case, the file name of the discovery library book must contain the suffix “.partial” following .xml. The “.partial” suffix is removed from the file name when the operation of writing the file to the DLFS has been successfully completed.

## Sample file names

The following file name example is for a discovery library book that is in the DLFS:

```
CICSTS410CICSPLEX.plex1@mvs2c.example.com.2008-11-07T14.32.31Z.xml
```

The following file name example is for a discovery library book that is in the DLFS that contains a refresh operation:

```
CICSTS410CTSPLEX.cmasa@mvs2c.example.com.2008-11-07T14.32.31Z.refresh.xml
```

The following file name example is for a discovery library book that is being copied to the DLFS:

```
CICSTS410CICSREGION.plex1.cicsa@mvs2c.example.com.2008-11-08T14.32.31Z.xml.partial
```

## Classes and relationships in CICSPLEX discovery library books

CICSPLEX discovery library books contain information about CICSplex SM resources associated with a specific CICSplex. These discovery library books have names starting CICSTS410CICSPLEX.*cicsplex\_name*, where *cicsplex\_name* is the name of a CICSplex as supplied in the CPLEXDEF attribute CPLEXDEF\_CICSPLEX.

The DLA populates all attributes discovered about the following classes:

### ManagementSoftwareSystem

The product that discovered the resources in the discovery library book. It includes these attributes:

- **ProductName:** IBM CICS TS Discovery Library Adapter
- **ProductVersion:** The current version of CICS TS; for example, 410

### Organization

A global name to preserve uniqueness in the CCMDB. This name is needed because you might have multiple z/OS systems with the same identifiers; for example, a copy of a production z/OS running on different hardware for testing purposes. You set the global name from the ORGNAME input parameter at DLA run time or from the default value when the discovery library book is loaded into the CCMDB.

### CICSplex

Information about CICSplexes.

### CICSRegionGroup

Information about CICS region groups.

### CICSManagingAddressSpace

Information about CICSplex SM CMASs.

### CICSWUIEndPoint

Information about CICSplex SM Web User Interface (WUI) servers. This class includes the WUI URL as an attribute. You can use this URL to launch the WUI. The CICSWUIEndPoint instances in a given CICSPLEX discovery library book might be for WUI servers that are running in different CICSplexes. Each CICSPLEX discovery library book must contain a CICSWUIEndPoint instance with a relationship type of Accesses for each WUI server associated with the CMAS.

### Application

Data for business applications that you have defined using BAS logical scopes. You obtain the application names from logical scope names; that is, from the RESDESC\_LSCOPE attribute specified in the BAS resource description (RESDESC) resource table.

The following classes exist as stub instances in the discovery library book. The only attributes produced are those attributes needed to satisfy the naming rules for relationships to these classes.

### CICSRegion

CICS region resources

### CICSFile

File resources

**CICSLIBRARY**

LIBRARY resources

**CICSDocumentTemplate**

Document template resources

**CICLSLRPool**

VSAM LSR pool resources

**CICSTDQueue**

Transient data queue resources

**CICSTransaction**

Transaction resources

**CICSProgram**

Program resources

**CICSProfile**

Transaction profile resources

**CICSDb2Entry**

Db2 entry resources

**CICSDb2EntryTransaction**

Db2 entry associated transaction resources

The relationships in Table 16 on page 228 apply to a CICSplex. The Manages relationship between CICSManagingAddressSpace (CMAS) and CICSplex identifies which CMASs participate in managing the CICSplex. The Controls relationship identifies the maintenance point CMAS. A maintenance point CMAS is responsible for notifying the other CMASs about changes of topology in the CICSplex. Each CICSplex has one maintenance point CMAS but a CMAS can act as a maintenance point for several CICSplexes.

<i>Table 16. Relationships for CICSplex</i>		
<b>Relationship type</b>	<b>Source</b>	<b>Target</b>
Accesses	CICSWUIEndPoint	CICSplex
Controls	CICSManagingAddressSpace	CICSplex
Federates	CICSplex	Application
Federates	CICSplex	CICSRegionGroup
Federates	CICSplex	CICSRegion
Manages	CICSManagingAddressSpace	CICSplex
Owns	Organization	CICSplex

The relationships in Table 17 on page 228 apply to CICS region groups. A CICS region group can include multiple CICS regions and other CICS region groups.

<i>Table 17. Relationships for CICS region groups</i>		
<b>Relationship type</b>	<b>Source</b>	<b>Target</b>
Federates	CICSplex	CICSRegionGroup
Federates	CICSRegionGroup	CICSRegion
Federates	CICSRegionGroup	CICSRegionGroup
Owns	Organization	CICSRegionGroup

The relationships in Table 18 on page 229 apply to the technology providing the DLA data to the CICSManagingAddressSpace, CICSWUIEndPoint classes, and CICSRegion classes.

Table 18. Relationships for CICSManagingAddressSpace, CICSWUIEndPoint and CICSRegion classes

Relationship type	Source	Target
Contains	MSSInstance	CICSManagingAddressSpace
Contains	MSSInstance	CICSWUIEndPoint
Relates	MSSObjectLink	CICSRegion

The relationships in Table 19 on page 229 associate an application with a CICSplex and with installed resource instances in CICS regions.

Table 19. Relationships that associate an application with a CICSplex and with installed resources

Relationship type	Source	Target
Contains	CICSRegion	CICSFile
Contains	CICSRegion	CICSDb2Entry
Contains	CICSRegion	CICSDb2EntryTransaction
Contains	CICSRegion	CICSProfile
Contains	CICSRegion	CICSDocumentTemplate
Contains	CICSRegion	CICSLibrary
Contains	CICSRegion	CICLSRPool
Contains	CICSRegion	CICSProgram
Contains	CICSRegion	CICSTDQueue
Contains	CICSRegion	CICSTransaction
Federates	CICSplex	Application
Uses	Application	CICSDb2Entry
Uses	Application	CICSDb2EntryTransaction
Uses	Application	CICSDocumentTemplate
Uses	Application	CICSFile
Uses	Application	CICSLibrary
Uses	Application	CICLSRPool
Uses	Application	CICSProfile
Uses	Application	CICSProgram
Uses	Application	CICSTDQueue
Uses	Application	CICSTransaction

## Classes and relationships in CICSREGION discovery library books

CICSREGION discovery library books contain information about CICS resources associated with a specific CICS region. These discovery library books have names starting CICSTS410CICSREGION.*cicsplex\_name.cics\_name*, where *cicsplex\_name* is the name of a CICSplex associated with the CICS region and *cics\_name* is the name with which the CICS region is defined to CICSplex SM (as defined by the CSYSDEF attribute CSYSDEF\_NAME).

The DLA populates all attributes discovered about the following classes:

## ManagementSoftwareSystem

The product that discovered the resources in the discovery library book. It includes these two attributes:

- **ProductName:** IBM CICS TS Discovery Library Adapter
- **ProductVersion:** The current version of CICS TS; for example, 410

## CICSRegion

CICS regions

## CICSProgram

Program resources

## CICSFile

File resources

## CICSTransaction

Transaction resources

## CICSLIBRARY

LIBRARY resources

## CICSDocumentTemplate

Document template resources

## CICSLSRPool

VSAM LSR pool resources

## CICSProfile

Transaction profile resources

## CICSPipeline

CICS pipeline resources

## CICSWebService

Web services resources

## CICSURIMap

URI map resources

## CICSTCPIPService

TCP/IP services

## CICSIPICConnection

IPIC connection resources

## CICISCMROConnection

ISC and MRO connection resources

## CICSDb2Connection

Db2 connection resources

## CICSDb2Entry

Db2 entry resources

## CICSDb2EntryTransaction

Db2 entry associated transaction resources

## CICSTDQueue

Transient data queue resources

The relationships in [Table 20 on page 230](#) associate CICS regions with various resources that are installed on them.

<i>Table 20. Relationships for CICS region</i>		
<b>Relationship type</b>	<b>Source</b>	<b>Target</b>
Contains	CICSRegion	CICSDb2Connection
Contains	CICSRegion	CICSDb2Entry



<i>Table 20. Relationships for CICS region (continued)</i>		
<b>Relationship type</b>	<b>Source</b>	<b>Target</b>
Contains	CICSRegion	CICSDb2EntryTransaction
Contains	CICSRegion	CICSDocumentTemplate
Contains	CICSRegion	CICSFile
Contains	CICSRegion	CICSIPIConnection
Contains	CICSRegion	CICSLibrary
Contains	CICSRegion	CICSLSRPool
Contains	CICSRegion	CICSISCMROConnection
Contains	CICSRegion	CICSPipeline
Contains	CICSRegion	CICSProfile
Contains	CICSRegion	CICSProgram
Contains	CICSRegion	CICSTCPIPService
Contains	CICSRegion	CICSTDQueue
Contains	CICSRegion	CICSTransaction
Contains	CICSRegion	CICSURIMap
Contains	CICSRegion	CICSWebService

The following relationships associate a transaction with a transaction profile and with a program.

<i>Table 21. Relationship for transaction and transaction profile</i>		
<b>Relationship type</b>	<b>Source</b>	<b>Target</b>
Uses	CICSTransaction	CICSProfile
Uses	CICSTransaction	CICSProgram

The following relationship associates a program with the LIBRARY from which it was loaded by CICS.

<i>Table 22. Relationship for program and LIBRARY</i>		
<b>Relationship type</b>	<b>Source</b>	<b>Target</b>
Resolvesfrom	CICSProgram	CICSLIBRARY

The following relationship relates the technology providing the DLA data to the CICSRegion class:

<i>Table 23. Relationship for CICS region</i>		
<b>Relationship type</b>	<b>Source</b>	<b>Target</b>
Relates	MSSObjectLink	CICSRegion

## **Classes and relationships in CTSPLEX discovery library books**

CTSPLEX discovery library books contain summary information about CICSplex class instances for all CICSplexes that are managed by the CMAS specified by the DLA SET CMAS parameter. The DLA can create only one CTSPLEX discovery library book each time it is run.

The name of all discovery library books start `CICSTS410CTSPLEX.cmas_name`, where `cmas_name` is the name of the CMAS.

The DLA populates attributes discovered about the following class:

### **CICSManagingAddressSpace**

Identifies which CMASs participate in managing the CICSplex. The DLA creates one instance of this class for each CMAS that is assigned to managing one or more CICSplexes. Only those attributes needed to satisfy the naming rules for relationships to these classes are produced as output.

### **CICSplex**

Information about CICSplexes.

The relationships in [Table 24 on page 232](#) associate a CMAS with a CICSplex.

<b>Relationship type</b>	<b>Source</b>	<b>Target</b>
Contains	MSSInstance	CICSManagingAddressSpace
Controls	CICSManagingAddressSpace	CICSplex
Manages	CICSManagingAddressSpace	CICSplex
Owns	Organization	CICSplex

The Controls relationship identifies the maintenance point CMAS. The Manages relationship between CICSManagingAddressSpace (CMAS) and CICSplex identifies which CMASs participate in managing the CICSplex.

## **DLA security**

The DLA runs as a CICSplex SM API program and is therefore subject to CICSplex SM security for accessing the CICS TS data.

You need update access to the PDSE data set used for the IdML output when running the DLA. When using FTP to transfer the PDSE data set members to the Discovery Library File Store, you need read access to the PDS and both write access and rename ability to the Discovery Library File Store.

## **DLA problem determination**

The CICS DLA issues messages with identifiers in the range EYUXD1000 through EYUXD1031.

If a CICSplex API request returns an error response, messages identify the request made and the responses received.

You control the destination and level of detail returned for any errors using the `CONSOLE_MESSAGES` and `FEEDBACK` input parameters.

If a run of the CICS DLA stalls, perform the following steps before cancelling the job.

- Take an SDUMP to include the DLA address space, the CMAS to which the utility is connected, and the associated DMDS, DAT, TOP, COM, and QUE data spaces.
- Save the DLA job log, the CMAS job log, and the output partitioned data set.

---

## Chapter 2. Creating resources with BAS

You can use the CICS Explorer or Web User Interface to create BAS resource objects to model and install the required CICS resources.

### About this task

Creating resource objects is a three stage process.

### Procedure

1. Access the appropriate resource definition view.
2. Create the definition.
3. Install the definition.

### What to do next

After you install the resource object, you can use the CICS Explorer or Web User Interface to inquire on the resulting resources.

---

## Working with BAS ATOMSERVICE resource definitions

ATOMSERVICE resource definitions specify the resources that CICS uses to produce an Atom service, feed, collection, or category document.

### Viewing BAS ATOMSERVICE definitions

You can view information about your existing ATOMSERVICE resource definitions using the CICS Explorer or the Web User Interface.

#### About this task

The BAS resource definition that represents an ATOMSERVICE resource is called ATOMDEF. The **Atomservice definitions** view in the Web User Interface displays the list of ATOMDEF definitions.

#### Procedure

1. From the main menu, click **Administration**.
2. From the Administration views menu, click either **Basic CICS resource administration** or **Fully functional Business Application Services (BAS) administration**.
3. Click **Resource definitions** to display the **CICS resource definitions menu**.
4. Click **Atomservice definitions**.

#### Results

The Web User Interface displays the list of ATOMDEF definitions for the current context.

#### What to do next

From this view you can create, update, remove, or install ATOMSERVICE resource definitions.

#### Related tasks

[Defining ATOMSERVICE resources using BAS](#)

You define a resource definition for an Atom service, feed, collection, or category document by creating a BAS resource object, ATOMDEF.

[Installing BAS ATOMSERVICE definitions](#)

Install the BAS resource object for the ATOMSERVICE resource to make the resource available to the CICS region.

## Defining ATOMSERVICE resources using BAS

You define a resource definition for an Atom service, feed, collection, or category document by creating a BAS resource object, ATOMDEF.

### About this task

You can define the resource object using the CICS Explorer or the Web User Interface. These instructions explain the procedure for the Web User Interface.

### Procedure

1. From the main menu, click **Administration > Basic CICS resource administration > Resource definitions > Atomservice definitions** to view the list of ATOMDEF resource definitions.
2. Click the **Create...** button.  
To use an existing definition as the basis for the new definition, click the check box before clicking the **Create...** button.  
The **Atomservice definitions** view displays.
3. Complete the relevant fields and click **Yes** to create the definition.

### Results

The **Atomservice definitions** view displays showing the new definition.

### What to do next

To add the definition to a resource group, click the **Add to resource group...** button.

#### Related tasks

##### [Viewing BAS ATOMSERVICE definitions](#)

You can view information about your existing ATOMSERVICE resource definitions using the CICS Explorer or the Web User Interface.

##### [Installing BAS ATOMSERVICE definitions](#)

Install the BAS resource object for the ATOMSERVICE resource to make the resource available to the CICS region.

## Installing BAS ATOMSERVICE definitions

Install the BAS resource object for the ATOMSERVICE resource to make the resource available to the CICS region.

### Before you begin

You must have created the required ATOMDEF resource object in the data repository to install the ATOMSERVICE resource in the CICS region.

### About this task

You can install the BAS resource object using the CICS Explorer or the Web User Interface. These instructions explain the procedure for the Web User Interface.

### Procedure

1. From the main menu, click **Administration > Basic CICS resource administration > Resource definitions > Atomservice definitions** to view the list of ATOMDEF resource definitions.
2. Click the Record check box to select an ATOMDEF definition and click the **Install...** button.

Alternatively, click an ATOMDEF definition name and click the **Install...** button on the **ATOMDEF definitions** detailed view.

## Results

The ATOMSERVICE resource is installed in the specified CICS region.

## What to do next

After the resource definition installs successfully, you can inquire about the resource from the main menu by clicking **CICS operations > TCP/IP service operations views > Atomservice definitions**.

### Related tasks

[Viewing BAS ATOMSERVICE definitions](#)

You can view information about your existing ATOMSERVICE resource definitions using the CICS Explorer or the Web User Interface.

[Defining ATOMSERVICE resources using BAS](#)

You define a resource definition for an Atom service, feed, collection, or category document by creating a BAS resource object, ATOMDEF.

## Working with BAS BUNDLE resource definitions

---

BUNDLE resource definitions describe bundles, the unit of deployment for an application. The BUNDLE resource defines where the bundle is deployed on z/OS UNIX and its status.

## Viewing BUNDLE definitions

You can view information about your existing BUNDLE definitions using the IBM CICS Explorer or the Web User Interface.

### About this task

The BAS resource definition that represents a BUNDLE is called BUNDDEF. The **Bundle definitions** view in the Web User Interface displays the list of BUNDDEF definitions.

### Procedure

1. From the main menu, click **Administration**.
2. From the Administration views menu, click either **Basic CICS resource administration** or **Fully functional resource administration**.
3. Click **Resource definitions > BUNDLE definitions**.

### Results

The Web User Interface displays the list of BUNDDEF definitions for the current context.

### What to do next

From this view you can create, remove, or install BUNDLE resource definitions.

## Defining a bundle using BAS

You define a resource definition for an application bundle by creating a BAS resource object, BUNDDEF.

### About this task

You can define the resource object using the IBM CICS Explorer or the Web User Interface. These instructions explain the procedure for the Web User Interface.

## Procedure

1. From the main menu, click **Administration > Basic CICS resource administration > Resource definitions > Bundle definitions** to view the list of BUNDDDEF resource definitions.
2. Click the **Create...** button.  
To use an existing definition as the basis for the new definition, click the check box before clicking the **Create...** button.  
The Bundle definitions create view displays.
3. Complete the relevant fields and click **Yes** to create the definition.

## Results

The Bundle definitions view displays showing the new definition.

## What to do next

To add the definition to a resource group, click the **Add to resource group...** button.

## Installing BAS bundle definitions

Install the BAS resource object for the bundle to make it available to the CICS region.

## Before you begin

You must have created the required BUNDDDEF resource object in the data repository to install the bundle in the CICS region.

## About this task

You can install the BAS resource object using the IBM CICS Explorer or the Web User Interface. These instructions explain the procedure for the Web User Interface.

## Procedure

1. From the main menu, click **Administration > Basic CICS resource administration > Resource definitions > Bundle definitions** to view the list of BUNDDDEF resource definitions.
2. Click the Record check box to select a definition and click the **Install...** button. Alternatively, click on a bundle definition name and click the **Install...** button on the Bundle definitions detailed view.

## Results

The application bundle installs in the specified CICS region. CICS dynamically creates any additional resources that are defined in the bundle manifest.

## What to do next

After the resource definition installs successfully, you can inquire about enabled application bundles from the WUI main menu by selecting **CICS operations > Application operations views > Bundles**. You can view the status of all the resources that are installed as part of the bundle using the IBM CICS Explorer.

## Working with BAS Db2 connection resource definitions

---

A Db2 connection definition establishes the global characteristics of connections between CICS regions and a Db2 subsystem that use the Db2 attachment facility.

### Viewing BAS Db2 connection definitions

You can view information about your existing Db2 connection definitions using the CICS Explorer or the Web User Interface.

#### About this task

The BAS resource definition that represents a Db2 connection is called DB2CDEF. The **DB2 connection definitions** view in the Web User Interface displays the list of DB2CDEF definitions.

#### Procedure

1. From the main menu, click **Administration**.
2. From the Administration views menu, click either **Basic CICS resource administration** or **Fully functional Business Application Services (BAS) administration**.
3. Click **Resource definitions** to display the **CICS resource definitions menu**.
4. Click **DB2 connection definitions**.

#### Results

The Web User Interface displays the list of Db2 connection definitions for the current context.

#### What to do next

From this view you can also create, update, remove, or install Db2 connection definitions.

#### Related tasks

[Defining Db2 connections using BAS](#)

You define a resource definition for a Db2 connection by creating a BAS resource object, DB2CDEF.

[Installing BAS Db2 connection definitions](#)

Install the BAS resource object for the Db2 connection to make the connection available to the CICS region.

## Defining Db2 connections using BAS

You define a resource definition for a Db2 connection by creating a BAS resource object, DB2CDEF.

#### About this task

You can define the resource object using the CICS Explorer or the Web User Interface. These instructions explain the procedure for the Web User Interface.

#### Procedure

1. From the main menu, click **Administration > Basic CICS resource administration > Resource definitions > DB2 connection definitions** to view the list of DB2CDEF resource definitions.
2. Click the **Create...** button.  
To use an existing definition as the basis for the new definition, click the check box before clicking the **Create...** button.  
The **DB2 connection definitions** view displays.
3. Complete the relevant fields and click **Yes** to create the definition.

## Results

The **DB2 connection definitions** view displays showing the new definition.

## What to do next

To add the definition to a resource group, click the **Add to resource group...** button.

### Related tasks

[Viewing BAS Db2 connection definitions](#)

You can view information about your existing Db2 connection definitions using the CICS Explorer or the Web User Interface.

[Installing BAS Db2 connection definitions](#)

Install the BAS resource object for the Db2 connection to make the connection available to the CICS region.

## Installing BAS Db2 connection definitions

Install the BAS resource object for the Db2 connection to make the connection available to the CICS region.

### Before you begin

You must have created the required DB2CDEF resource object in the data repository to install the Db2 connection in the CICS region.

### About this task

You can install the BAS resource object using the CICS Explorer or the Web User Interface. These instructions explain the procedure for the Web User Interface.

### Procedure

1. From the main menu, click **Administration > Basic CICS resource administration > Resource definitions > DB2 connection definitions** to view the list of DB2CDEF resource definitions.
2. Click the Record check box to select a Db2 connection definition and click the **Install...** button.  
Alternatively, click a Db2 connection definition name and click the **Install...** button on the **DB2 connection definitions** detailed view.

## Results

The Db2 connection is installed in the specified CICS region.

## What to do next

After the resource definition installs successfully, you can inquire about the resource from the main menu by clicking **CICS operations > DB2, DBCTL and IBM MQ operations views > Connections**.

### Related tasks

[Viewing BAS Db2 connection definitions](#)

You can view information about your existing Db2 connection definitions using the CICS Explorer or the Web User Interface.

[Defining Db2 connections using BAS](#)



You define a resource definition for a Db2 connection by creating a BAS resource object, DB2CDEF.

## Working with BAS Db2 entry resource definitions

---

A Db2 entry definition specifies the resources required by CICS transactions that use the Db2 attachment facility to access a Db2 subsystem.

### Viewing Db2 entry definitions

You can view information about your existing Db2 entry definitions using the CICS Explorer or the Web User Interface.

#### About this task

The BAS resource definition that represents a Db2 entry is called DB2EDEF. The **DB2 entry definitions** view in the Web User Interface displays the list of DB2EDEF definitions.

#### Procedure

1. From the main menu, click **Administration**.
2. From the **Administration views** menu, click either **Basic CICS resource administration** or **Fully functional Business Application Services (BAS) administration**.
3. Click **Resource definitions** to display the **CICS resource definitions** view.
4. Click **DB2 entry definitions**.

#### Results

The Web User Interface displays the list of Db2 entry definitions for the current context.

#### What to do next

From this view you can also create, update, remove, or install Db2 entry definitions.

#### Related tasks

[Defining Db2 entries using BAS](#)

You define a resource definition for a CICS-deployed JAR file by creating a BAS resource object, DB2EDEF.

[Installing BAS Db2 entry definitions](#)

Install the BAS resource object for the Db2 entry to make the definition available to the CICS region.

## Defining Db2 entries using BAS

You define a resource definition for a CICS-deployed JAR file by creating a BAS resource object, DB2EDEF.

#### About this task

You can define the resource object using the CICS Explorer or the Web User Interface. These instructions explain the procedure for the Web User Interface.

#### Procedure

1. From the main menu, click **Administration > Basic CICS resource administration > Resource definitions > DB2 entry definitions**
2. From the **DB2 entry definitions** view, click the **Create...** button.  
To use an existing definition as the basis of the new one, click the check box before clicking the **Create...** button.  
The **DB2 entry definitions** create view displays.
3. Complete the relevant fields and click **Yes** to create the definition.

## Results

The **DB2 entry definitions** view displays showing the new definition.

## What to do next

To add the definition to a resource group, click the **Add to resource group...** button.

### Related tasks

[Viewing Db2 entry definitions](#)

You can view information about your existing Db2 entry definitions using the CICS Explorer or the Web User Interface.

[Installing BAS Db2 entry definitions](#)

Install the BAS resource object for the Db2 entry to make the definition available to the CICS region.

## Installing BAS Db2 entry definitions

Install the BAS resource object for the Db2 entry to make the definition available to the CICS region.

### Before you begin

You must have created the required DB2EDEF resource object in the data repository to install the Db2 entry in the CICS region.

### About this task

You can install the BAS resource object using the CICS Explorer or the Web User Interface. These instructions explain the procedure for the Web User Interface.

### Procedure

1. From the main menu, click **Administration > Basic CICS resource administration > Resource definitions > DB2 entry definitions** to view the list of DB2EDEF resource definitions.
2. Click the Record check box to select a JAR file definition and click the **Install...** button.  
Alternatively, click a Db2 entry definition name and click the **Install...** button on the **DB2 entry definitions** detailed view.

## Results

The Db2 entry resource is installed in the specified CICS region.

## What to do next

After the resource definition installs successfully, you can inquire about the resource from the main menu by clicking **CICS operations > DB2, DBCTL and IBM MQ operations views > DB2 operations views > Entries**.

### Related tasks

[Viewing Db2 entry definitions](#)

You can view information about your existing Db2 entry definitions using the CICS Explorer or the Web User Interface.

[Defining Db2 entries using BAS](#)

You define a resource definition for a CICS-deployed JAR file by creating a BAS resource object, DB2EDEF.

## Working with BAS Db2 transaction resource definitions

---

A Db2 transaction definition identifies transactions that use the resources specified in a Db2 entry definition.

### Viewing Db2 transaction definitions

You can view information about your existing Db2 transaction definitions using the CICS Explorer or the Web User Interface.

#### About this task

The BAS resource definition that represents a Db2 transaction is called DB2TDEF. The **DB2 transaction definitions** view in the Web User Interface displays the list of DB2TDEF definitions.

#### Procedure

1. From the main menu, click **Administration**.
2. From the **Administration views** menu, click either **Basic CICS resource administration** or **Fully functional Business Application Services (BAS) administration**.
3. Click **CICS resource definitions** to display the **CICS resource definitions** view.
4. Click **DB2 transaction definitions**.

#### Results

The Web User Interface displays the list of Db2 transaction definitions for the current context.

#### What to do next

From this view you can also create, update, remove, or install Db2 transaction definitions.

#### Related tasks

[Defining Db2 transactions using BAS](#)

You define a resource definition for a Db2 transaction by creating a BAS resource object, DB2TDEF.

[Installing BAS Db2 transaction definitions](#)

Install the BAS resource object for the Db2 transaction to make the definition available in the CICS region.

## Defining Db2 transactions using BAS

You define a resource definition for a Db2 transaction by creating a BAS resource object, DB2TDEF.

#### About this task

You can define the resource object using the CICS Explorer or the Web User Interface. These instructions explain the procedure for the Web User Interface.

#### Procedure

1. From the main menu, click **Administration > Basic CICS resource administration > Resource definitions > DB2 transaction definitions**
2. From the **DB2 transaction definitions** view, click the **Create...** button.  
To use an existing definition as the basis of the new one, click the check box before clicking the **Create...** button.  
The **DB2 transaction definitions** create view displays.
3. Complete the relevant fields and click **Yes** to create the definition.

## Results

The **DB2 transaction definitions** view displays showing the new definition.

## What to do next

To add the definition to a resource group, click the **Add to resource group...** button.

### Related tasks

[Viewing Db2 transaction definitions](#)

You can view information about your existing Db2 transaction definitions using the CICS Explorer or the Web User Interface.

[Installing BAS Db2 transaction definitions](#)

Install the BAS resource object for the Db2 transaction to make the definition available in the CICS region.

## Installing BAS Db2 transaction definitions

Install the BAS resource object for the Db2 transaction to make the definition available in the CICS region.

### Before you begin

You must have created the required DB2TDEF resource object in the data repository to install the Db2 transaction definition in the CICS region.

### About this task

You can install the BAS resource object using the CICS Explorer or the Web User Interface. These instructions explain the procedure for the Web User Interface.

### Procedure

1. From the main menu, click **Administration > Basic CICS resource administration > Resource definitions > DB2 transaction definitions** to view the list of DB2TDEF resource definitions.
2. Click the Record check box to select a Db2 transaction definition and click the **Install...** button.  
Alternatively, click a Db2 connection definition name and click the **Install...** button on the **DB2 transaction definitions** detailed view.

## Results

The Db2 transaction installs in the specified CICS region.

## What to do next

After the resource definition installs successfully, you can inquire about the resource by clicking **CICS operations > DB2, DBCTL and IBM MQ operations views > DB2 operations views**.

### Related tasks

[Viewing Db2 transaction definitions](#)

You can view information about your existing Db2 transaction definitions using the CICS Explorer or the Web User Interface.

[Defining Db2 transactions using BAS](#)

You define a resource definition for a Db2 transaction by creating a BAS resource object, DB2TDEF.

## Working with BAS document template resource definitions

---

Document template definitions define document templates for use in managed CICSregions.

### Viewing document template definitions

You can view information about your existing document template definitions using the CICS Explorer or the Web User Interface.

#### About this task

The BAS resource definition that represents a document template is called DOCDEF. The **Document template definitions** view in the Web User Interface displays the list of DOCDEF definitions.

#### Procedure

1. From the main menu, click **Administration**.
2. From the **Administration views menu**, click either **Basic CICS resource administration** or **Fully functional Business Application Services (BAS) administration**.
3. Click **CICS resource definitions** to display the **CICS resource definitions** view.
4. Click **Document template definitions**.

#### Results

The Web User Interface displays the list of document template definitions for the current context.

#### What to do next

From this view you can also create, update, remove, or install document template definitions.

#### Related tasks

[Defining document templates using BAS](#)

You define a resource definition for a document template by creating a BAS resource object, DOCDEF.

[Installing BAS document template definitions](#)

Install the BAS resource object for the document template to make the definition available in the CICS region.

## Defining document templates using BAS

You define a resource definition for a document template by creating a BAS resource object, DOCDEF.

#### About this task

You can define the resource object using the CICS Explorer or the Web User Interface. These instructions explain the procedure for the Web User Interface.

#### Procedure

1. From the main menu, click **AdministrationBasic CICS resource administrationResource definitionsDocument definitions**.
2. From the **Document definitions** view, click the **Create...** button.  
To use an existing definition as the basis of the new one, click the check box before clicking the **Create...** button.  
The **Document template definitions** create view displays.
3. Complete the relevant fields and click **Yes** to create the definition.

## Results

The **Document definitions** view displays showing the new definition.

## What to do next

To add the definition to a resource group, click the **Add to resource group...** button.

### Related tasks

[Viewing document template definitions](#)

You can view information about your existing document template definitions using the CICS Explorer or the Web User Interface.

[Installing BAS document template definitions](#)

Install the BAS resource object for the document template to make the definition available in the CICS region.

## Installing BAS document template definitions

Install the BAS resource object for the document template to make the definition available in the CICS region.

### Before you begin

You must have created the required DOCDEF resource object in the data repository to install the document template in the CICS region.

### About this task

You can install the BAS resource object using the CICS Explorer or the Web User Interface. These instructions explain the procedure for the Web User Interface.

### Procedure

1. From the main menu, click **Administration > Basic CICS resource administration > Resource definitions > Document template definitions** to view the list of DOCDEF resource definitions.
2. Click the Record check box to select a document template definition and click the **Install...** button.  
Alternatively, click a document template definition name and click the **Install...** button on the **Document template definitions** detailed view.

## Results

The document template resource installs in the specified CICS region.

## What to do next

After the resource definition installs successfully, you can inquire about the resource by clicking **CICS operations > Document template operations views > Document template**.

### Related tasks

[Viewing document template definitions](#)

You can view information about your existing document template definitions using the CICS Explorer or the Web User Interface.

[Defining document templates using BAS](#)

You define a resource definition for a document template by creating a BAS resource object, DOCDEF.

## Working with FEPI node list resource definitions

---

FEPI node list definitions describe the physical and operational characteristics of FEPI nodes.

### Viewing FEPI node list definitions

You can view information about your existing FEPI node list definitions using the CICS Explorer or the Web User Interface.

#### About this task

The BAS resource definition that represents a FEPI node list is called FENODDEF. The FEPI node list definitions view in the Web User Interface displays information about existing FEPI node definitions.

#### Procedure

1. From the main menu, click **Administration**.
2. From the **Administration views menu**, click either **Basic CICS resource administration** or **Fully functional Business Application Services (BAS) administration**.
3. Click **CICS resource definitions** to display the **CICS resource definitions** view.
4. Click **FEPI node list definitions**.

#### Results

The Web User Interface displays the list of FEPI node definitions.

#### What to do next

From this view you can also create, update, remove, or install FEPI node list definitions.

#### Related tasks

[Defining FEPI node lists using BAS](#)

You define a resource definition for a FEPI node list by creating a BAS resource object, FENODDEF.

[Installing BAS FEPI node list definitions](#)

Install the BAS resource object for the FEPI node list to make the definition available in the CICS region.

## Defining FEPI node lists using BAS

You define a resource definition for a FEPI node list by creating a BAS resource object, FENODDEF.

#### About this task

You can define the resource object using the CICS Explorer or the Web User Interface. These instructions explain the procedure for the Web User Interface.

#### Procedure

1. From the main menu, click **AdministrationBasic CICS resource administrationResource definitionsFEPI node list definitions**.
2. From the **FEPI node list definitions** view, click the **Create...** button.  
To use an existing definition as the basis of the new one, click the check box before clicking the **Create...** button.  
The **FEPI node list definitions** create view displays.
3. Complete the relevant fields and click **Yes** to create the definition.

## Results

The **FEPI node list definitions** view displays showing the new definition.

## What to do next

To add the definition to a resource group, click the **Add to resource group...** button.

### Related tasks

[Viewing FEPI node list definitions](#)

You can view information about your existing FEPI node list definitions using the CICS Explorer or the Web User Interface.

[Installing BAS FEPI node list definitions](#)

Install the BAS resource object for the FEPI node list to make the definition available in the CICS region.

## Installing BAS FEPI node list definitions

Install the BAS resource object for the FEPI node list to make the definition available in the CICS region.

### Before you begin

You must have created the required FENODDEF resource object in the data repository to install the FEPI node list in the CICS region.

### About this task

You can install the BAS resource object using the CICS Explorer or the Web User Interface. These instructions explain the procedure for the Web User Interface.

### Procedure

1. From the main menu, click **Administration > Basic CICS resource administration > Resource definitions > FEPI node list definitions** to view the list of FENODDEF resource definitions.
2. Click the Record check box to select a FEPI node list definition and click the **Install...** button.  
Alternatively, click a FEPI node list definition name and click the **Install...** button on the **FEPI node list definitions** detailed view.

## Results

The FEPI node list resource installs in the specified CICS region.

## What to do next

After the resource definition installs successfully, you can inquire about the resource by clicking **CICS operations > FEPI operations views > Nodes**.

### Related tasks

[Viewing FEPI node list definitions](#)

You can view information about your existing FEPI node list definitions using the CICS Explorer or the Web User Interface.

[Defining FEPI node lists using BAS](#)



You define a resource definition for a FEPI node list by creating a BAS resource object, FENODDEF.

## Working with FEPI pool resource definitions

---

FEPI pool definitions describe the physical and operational characteristics of FEPI pools.

### Viewing FEPI pool definitions

You can view information about your existing FEPI pool definitions using the CICS Explorer or the Web User Interface.

#### About this task

The BAS resource definition that represents a FEPI pool is called FEPOODEF. The FEPI pool definitions view in the Web User Interface displays information about existing FEPI pool definitions.

#### Procedure

1. From the main menu, click **Administration**.
2. From the **Administration views menu**, click either **Basic CICS resource administration** or **Fully functional Business Application Services (BAS) administration**.
3. Click **CICS resource definitions** to display the **CICS resource definitions** view.
4. Click **FEPI pool definitions**.

#### Results

The Web User Interface displays the list of FEPI pool definitions.

#### What to do next

From this view you can also create, update, remove, or install FEPI pool definitions.

#### Related tasks

[Defining FEPI pools using BAS](#)

You define a resource definition for a FEPI pool by creating a BAS resource object, FEPOODEF.

[Installing BAS FEPI pool definitions](#)

Install the BAS resource object for the FEPI pool to make the definition available in the CICS region.

### Defining FEPI pools using BAS

You define a resource definition for a FEPI pool by creating a BAS resource object, FEPOODEF.

#### About this task

You can define the resource object using the CICS Explorer or the Web User Interface. These instructions explain the procedure for the Web User Interface.

#### Procedure

1. From the main menu, click **Administration Basic CICS resource administrationResource definitionsFEPI pool definitions**.
2. From the **FEPI pool definitions** view, click the **Create...** button. To use an existing definition as the basis of the new one, click the check box before clicking the **Create...** button. The **FEPI pool definitions** create view is displayed.
3. Complete the relevant fields and click **Yes** to create the definition.

#### Results

The **FEPI pool definitions** view displays showing the new definition.

## What to do next

To add the definition to a resource group, click the **Add to resource group...** button.

### Related tasks

[Viewing FEPI pool definitions](#)

You can view information about your existing FEPI pool definitions using the CICS Explorer or the Web User Interface.

[Installing BAS FEPI pool definitions](#)

Install the BAS resource object for the FEPI pool to make the definition available in the CICS region.

## Installing BAS FEPI pool definitions

Install the BAS resource object for the FEPI pool to make the definition available in the CICS region.

### Before you begin

You must have created the required FEPOODEF resource object in the data repository to install the FEPI pool in the CICS region.

### About this task

You can install the BAS resource object using the CICS Explorer or the Web User Interface. These instructions explain the procedure for the Web User Interface.

### Procedure

1. From the main menu, click **AdministrationBasic CICS resource administrationResource definitionsFEPI pool definitions** to view the list of FEPOODEF resource definitions.
2. Click the Record check box to select a FEPI pool definition and click the **Install...** button.  
Alternatively, click a FEPI pool definition name and click the **Install...** button on the **FEPI pool definitions** detailed view.

### Results

The FEPI pool resource installs in the specified CICS region.

## What to do next

After the resource definition installs successfully, you can inquire about the resource by clicking **CICS operations > FEPI operations views > Pools**.

### Related tasks

[Viewing FEPI pool definitions](#)

You can view information about your existing FEPI pool definitions using the CICS Explorer or the Web User Interface.

[Defining FEPI pools using BAS](#)

You define a resource definition for a FEPI pool by creating a BAS resource object, FEPOODEF.

## Working with FEPI property set resource definitions

---

FEPI property set definitions describe the physical and operational characteristics of FEPI property sets.

### Viewing FEPI property set definitions

You can view information about your existing FEPI property set definitions using the CICS Explorer or the Web User Interface.

#### About this task

The BAS resource definition that represents a FEPI property set is called FEPRODEF. The **FEPI property set definitions** view in the Web User Interface displays information about existing FEPI property set definitions.

#### Procedure

1. From the main menu, click **Administration**.
2. From the **Administration views menu**, click either **Basic CICS resource administration** or **Fully functional Business Application Services (BAS) administration**.
3. Click **CICS resource definitions** to display the **CICS resource definitions** view.
4. Click **FEPI property set definitions**.

#### Results

The Web User Interface displays the list of FEPI property set definitions.

#### What to do next

From this view you can also create, update, remove, or install FEPI property set definitions.

#### Related tasks

[Defining FEPI property sets using BAS](#)

You define a resource definition for FEPI property set by creating a BAS resource object, FEPRODEF.

[Installing BAS FEPI property set definitions](#)

Install the BAS resource object for the FEPI property set to make the definition available in the CICS region.

### Defining FEPI property sets using BAS

You define a resource definition for FEPI property set by creating a BAS resource object, FEPRODEF.

#### About this task

You can define the resource object using the CICS Explorer or the Web User Interface. These instructions explain the procedure for the Web User Interface.

#### Procedure

1. From the main menu, click **AdministrationBasic CICS resource administrationResource definitionsFEPI property set definitions**.
2. From the **FEPI property set definitions** view, click the **Create...** button.  
To use an existing definition as the basis of the new one, click the check box before clicking the **Create...** button.  
The **FEPI property set definitions** create view displays.
3. Complete the relevant fields and click **Yes** to create the definition.

## Results

The **DB2 entry definitions** view displays showing the new definition.

## What to do next

To add the definition to a resource group, click the **Add to resource group...** button.

### Related tasks

[Viewing FEPI property set definitions](#)

You can view information about your existing FEPI property set definitions using the CICS Explorer or the Web User Interface.

[Installing BAS FEPI property set definitions](#)

Install the BAS resource object for the FEPI property set to make the definition available in the CICS region.

## Installing BAS FEPI property set definitions

Install the BAS resource object for the FEPI property set to make the definition available in the CICS region.

### Before you begin

You must have created the required FEPRODEF resource object in the data repository to install the FEPI property set in the CICS region.

### About this task

You can install the BAS resource object using the CICS Explorer or the Web User Interface. These instructions explain the procedure for the Web User Interface.

### Procedure

1. From the main menu, click **Administration > Basic CICS resource administration > Resource definitions > FEPI property set definitions** to view the list of FEPRODEF resource definitions.
2. Click the Record check box to select a FEPI node list definition and click the **Install...** button.  
Alternatively, click a property set definition name and click the **Install...** button on the **FEPI property set definitions** detailed view.

## Results

The FEPI property set resource installs in the specified CICS region.

## What to do next

After the resource definition installs successfully, you can inquire about the resource by clicking **CICS operations > FEPI operations views > Property sets**.

### Related tasks

[Viewing FEPI property set definitions](#)

You can view information about your existing FEPI property set definitions using the CICS Explorer or the Web User Interface.

[Defining FEPI property sets using BAS](#)

You define a resource definition for FEPI property set by creating a BAS resource object, FEPRODEF.

## Working with FEPI target list resource definitions

---

FEPI target list definitions describe the physical and operational characteristics of FEPI targets.

### Viewing FEPI target list definitions

You can view information about your existing FEPI property set definitions using the CICS Explorer or the Web User Interface.

#### About this task

The BAS resource definition that represents a FEPI target list is called FETRGDEF. The **FEPI target list definitions** view in the Web User Interface displays information about existing FEPI target list definitions.

#### Procedure

1. From the main menu, click **Administration views**.
2. From the **Administration views menu**, click either **Basic CICS resource administration views** or **Fully functional Business Application Services (BAS) administration views**.
3. Click **CICS resource definitions** to display the **CICS resource definitions** view.
4. Click **FEPI target list definitions**.

#### Results

The Web User Interface displays the list of FEPI target list definitions.

#### What to do next

From this view you can also create, update, remove, or install FEPI target list definitions.

#### Related tasks

[Defining FEPI target lists using BAS](#)

You define a resource definition for FEPI target list by creating a BAS resource object, FETRGDEF.

[Installing BAS FEPI target list definitions](#)

Install the BAS resource object for the FEPI target list to make the definition available in the CICS region.

### Defining FEPI target lists using BAS

You define a resource definition for FEPI target list by creating a BAS resource object, FETRGDEF.

#### About this task

You can define the resource object using the Web User Interface. These instructions explain this procedure.

#### Procedure

1. From the main menu, click **Administration > Basic CICS resource administration > Resource definitions > FEPI target list definitions**.
2. From the **FEPI target list definitions** view, click the **Create...** button.  
To use an existing definition as the basis of the new one, click the check box before clicking the **Create...** button.  
The **FEPI target list definitions** create view displays.
3. Complete the relevant fields and click **Yes** to create the definition.

## Results

The **FEPI target list definitions** view displays showing the new definition.

## What to do next

To add the definition to a resource group, click the **Add to resource group...** button.

### Related tasks

[Viewing FEPI target list definitions](#)

You can view information about your existing FEPI property set definitions using the CICS Explorer or the Web User Interface.

[Installing BAS FEPI target list definitions](#)

Install the BAS resource object for the FEPI target list to make the definition available in the CICS region.

## Installing BAS FEPI target list definitions

Install the BAS resource object for the FEPI target list to make the definition available in the CICS region.

### Before you begin

You must have created the required FETRGDEF resource object in the data repository to install the FEPI target list in the CICS region.

### About this task

You can install the BAS resource object using the CICS Explorer or the Web User Interface. These instructions explain the procedure for the Web User Interface.

### Procedure

1. From the main menu, click **Administration > Basic CICS resource administration > Resource definitions > FEPI target list definitions** to view the list of FETRGDEF resource definitions.
2. Click the Record check box to select a FEPI target list definition and click the **Install...** button.  
Alternatively, click a FEPI target list definition name and click the **Install...** button on the **FEPI target list definitions** detailed view.

## Results

The FEPI target list resource installs in the specified CICS region.

## What to do next

After installation of a FEPI target list resource definition, you can enquire about the resultant object using: **CICS operations > FEPI operations views > Targets**

### Related tasks

[Viewing FEPI target list definitions](#)

You can view information about your existing FEPI property set definitions using the CICS Explorer or the Web User Interface.

[Defining FEPI target lists using BAS](#)

You define a resource definition for FEPI target list by creating a BAS resource object, FETRGDEF.

## Working with BAS FILE resource definitions

---

FILE resource definitions describe the physical and operational characteristics of files.

### Viewing BAS file definitions

You can view information about your existing FILE definitions using the CICS Explorer or the Web User Interface.

#### About this task

The BAS resource definition that represents a FILE resource is called FILEDEF. The **File definitions** view in the Web User Interface displays information about existing FILE definitions.

#### Procedure

1. From the main menu, click **Administration views**.
2. From the **Administration views menu**, click either **Basic CICS resource administration views** or **Fully functional Business Application Services (BAS) administration views**.
3. Click **CICS resource definitions** to display the **CICS resource definitions** view.
4. Click **File definitions**.

#### Results

The Web User Interface displays the list of FILE definitions.

#### What to do next

From this view you can also create, update, remove, or install FILE definitions.

#### Related tasks

[Defining files using BAS](#)

You define a resource definition for a file by creating a BAS resource object, FILEDEF.

[Installing BAS file definitions](#)

Install the BAS resource object for the FILE definition to make the file available in the CICS region.

### Defining files using BAS

You define a resource definition for a file by creating a BAS resource object, FILEDEF.

#### About this task

You can define the resource object using the CICS Explorer or the Web User Interface. These instructions explain the procedure for the Web User Interface.

#### Procedure

1. From the main menu, click **AdministrationBasic CICS resource administrationResource definitionsFile definitions**
2. From the **File definitions** view, click the **Create...** button. To use an existing definition as the basis of the new one, click the check box before clicking the **Create...** button. The **File definitions** create view is displayed.
3. Complete the relevant fields and click **Yes** to create the definition.

#### Results

The **File definitions** view displays showing the new definition.

## What to do next

To add the definition to a resource group, click the **Add to resource group...** button.

### Related tasks

[Viewing BAS file definitions](#)

You can view information about your existing FILE definitions using the CICS Explorer or the Web User Interface.

[Installing BAS file definitions](#)

Install the BAS resource object for the FILE definition to make the file available in the CICS region.

## Installing BAS file definitions

Install the BAS resource object for the FILE definition to make the file available in the CICS region.

### Before you begin

You must have created the required FILEDEF resource object in the data repository to install the FILE resource in the CICS region.

### About this task

You can install the BAS resource object using the CICS Explorer or the Web User Interface. These instructions explain the procedure for the Web User Interface.

### Procedure

1. From the main menu, click **Administration > Basic CICS resource administration > Resource definitions > File definitions**
2. Click the Record check box to select a file definition and click the **Install...** button.  
Alternatively, click a file definition name and click the **Install...** button on the **File definitions** detailed view.

### Results

The FILE resource installs in the specified CICS region.

## What to do next

After the resource definition installs successfully, you can inquire about the resource by clicking **CICS operations > File operations views**. Select the file type that you are interested in from the menu.

### Related tasks

[Viewing BAS file definitions](#)

You can view information about your existing FILE definitions using the CICS Explorer or the Web User Interface.

[Defining files using BAS](#)

You define a resource definition for a file by creating a BAS resource object, FILEDEF.

## File key segment resource definitions

---

File key segment definitions describe the parts of a Windows file record that are to be used as the record key.

Key segments are valid only for:

- Entry-sequenced files (type E)
- Key-sequenced files (type K)

Key segments are not valid for:

- Alternate index files (type A)



- Relative-record files (type R)
- Remote files

You cannot install file key segment definitions.

## Viewing file segment definitions

You can view information about your existing file segment definitions using the CICS Explorer or the Web User Interface.

### About this task

The BAS resource definition that represents a file segment resource is called FSEGDEF. The **File segment definitions** view in the Web User Interface displays information about existing file segment definitions.

### Procedure

1. From the main menu, click **Administration**.
2. From the **Administration views menu**, click either **Basic CICS resource administration** or **Fully functional Business Application Services (BAS) administration**.
3. Click **CICS resource definitions** to display the **CICS resource definitions** view.
4. Click **File segment definitions**.

### Results

The Web User Interface displays the list of file segment definitions.

### What to do next

From this view you can also create, update, or remove file segment definitions.

#### Related tasks

[Defining file key segments using BAS](#)

You define a resource definition for a file key segment by creating a BAS resource object, FSEGDEF.

[Installing file key segment definitions](#)

## Defining file key segments using BAS

You define a resource definition for a file key segment by creating a BAS resource object, FSEGDEF.

### About this task

You can define the resource object using the CICS Explorer or the Web User Interface. These instructions explain the procedure for the Web User Interface.

### Procedure

1. From the main menu, click **Administration > Basic CICS resource administration > Resource definitions > File key segment definitions**.
2. From the **File key segment definitions** view, click the **Create...** button.  
To use an existing definition as the basis of the new one, click the check box before clicking the **Create...** button.  
The **File key segment definitions** create view displays.
3. Complete the relevant fields and click **Yes** to create the definition.

### Results

The **File key segment definitions** view displays showing the new definition.

## What to do next

To add the definition to a resource group, click the **Add to resource group...** button.

### Related tasks

[Viewing file segment definitions](#)

You can view information about your existing file segment definitions using the CICS Explorer or the Web User Interface.

[Installing file key segment definitions](#)

## Installing file key segment definitions

### About this task

You cannot install file key segment definitions.

### Related tasks

[Viewing file segment definitions](#)

You can view information about your existing file segment definitions using the CICS Explorer or the Web User Interface.

[Defining file key segments using BAS](#)

You define a resource definition for a file key segment by creating a BAS resource object, FSEGDEF.

## Working with BAS enqueue model definitions

---

Enqueue model definitions describe how enqueue models are to run in a CICS region.

## Viewing global enqueue model definitions

You can view information about your existing global enqueue model definitions using the CICS Explorer or the Web User Interface.

### About this task

The BAS resource definition that represents a global enqueue model resource is called ENQMDEF. The **Global enqueue model definitions** view in the Web User Interface displays information about existing global enqueue model definitions.

### Procedure

1. From the main menu, click **Administration**.
2. From the **Administration views menu**, click either **Basic CICS resource administration** or **Fully functional Business Application Services (BAS) administration**.
3. Click **CICS resource definitions** to display the **CICS resource definitions** view.
4. Click **Global enqueue model definitions**.

### Results

The Web User Interface displays the list of global enqueue model definitions.

## What to do next

From this view you can also create, update, install, or remove global enqueue model definitions.

### Related tasks

[Defining global enqueue models using BAS](#)

You define a resource definition for a global enqueue model by creating a BAS resource object, ENQMDEF.

[Installing BAS global enqueue model definitions](#)

Install the BAS resource object for the global enqueue model definition to make it available in the CICS region.

## Defining global enqueue models using BAS

You define a resource definition for a global enqueue model by creating a BAS resource object, ENQMDEF.

### About this task

You can define the resource object using the CICS Explorer or the Web User Interface. These instructions explain the procedure for the Web User Interface.

### Procedure

1. From the main menu, click **Administration > Basic CICS resource administration > Resource definitions > Global enqueue model definitions**.
2. From the **Global enqueue model definitions** view, click the **Create...** button.  
To use an existing definition as the basis of the new one, click the check box before clicking the **Create...** button.  
The **Global enqueue model definitions** create view displays.
3. Complete the relevant fields and click **Yes** to create the definition.

### Results

The **Global enqueue models definitions** view displays showing the new definition.

### What to do next

To add the definition to a resource group, click the **Add to resource group...** button.

### Related tasks

[Viewing global enqueue model definitions](#)

You can view information about your existing global enqueue model definitions using the CICS Explorer or the Web User Interface.

[Installing BAS global enqueue model definitions](#)

Install the BAS resource object for the global enqueue model definition to make it available in the CICS region.

## Installing BAS global enqueue model definitions

Install the BAS resource object for the global enqueue model definition to make it available in the CICS region.

### Before you begin

You must have created the required ENQMDEF resource object in the data repository to install the global enqueue model definition in the CICS region.

### About this task

Enqueue models forming nested generic enqueue names must be installed either in the disabled state or in order, from the most specific (for example, ABCD) to the least specific (for example, AB\*). If another enqueue model with the same or a less specific nested enqueue name is already installed and enabled, the installation fails. You can install disabled enqueue models in any order, but you must enable them in order from most specific to least specific.

You can install the BAS resource object using the CICS Explorer or the Web User Interface. These instructions explain the procedure for the Web User Interface.

## Procedure

1. From the main menu, click **Administration > Basic CICS resource administration > Resource definitions > Global enqueue model definitions**
2. Click the Record check box to select a enqueue model definition and click the **Install...** button.  
Alternatively, click a enqueue model definition name and click the **Install...** button on the **Global enqueue** detailed view.

## Results

The global enqueue model definition installs in the specified CICS region.

## What to do next

After the resource definition installs successfully, you can inquire about the resource by clicking **CICS operations > Global enqueue model operations views > Global enqueue model**.

### Related tasks

[Viewing global enqueue model definitions](#)

You can view information about your existing global enqueue model definitions using the CICS Explorer or the Web User Interface.

[Defining global enqueue models using BAS](#)

You define a resource definition for a global enqueue model by creating a BAS resource object, ENQMDEF.

## Working with BAS IPCONN resource definitions

---

IPCONN resource definitions define the outbound attributes of an IP interconnectivity (IPIC) connection from a local CICS region to a remote CICS region or system.

## Viewing BAS IPIC connection definitions

You can view information about your existing IPIC connection definitions using the CICS Explorer or the Web User Interface.

### About this task

The BAS resource definition that represents an IPCONN resource is called IPCONDEF. The **IPIC connection definitions** view in the Web User Interface displays the list of IPCONDEF definitions.

## Procedure

1. From the main menu, click **Administration**.
2. From the **Administration views** menu, click either **Basic CICS resource administration** or **Fully functional Business Application Services (BAS) administration**.
3. Click **Resource definitions** to display the **CICS resource definitions** view.
4. Click **IPIC connection definitions** to display a list of the IPIC connections that are defined.

## Results

The Web User Interface displays the list of IPIC connection definitions.

## What to do next

From this view you can also create, update, install, or remove IPIC connection definitions.

### Related tasks

[Defining IPIC connections using BAS](#)

You can define IPIC connections by creating a BAS resource object, IPCONDEF.

[Installing BAS IPIC connection definitions](#)

Install the BAS resource object for the IPCONN resource definition to make the resource available in the CICS region.

## Defining IPIC connections using BAS

You can define IPIC connections by creating a BAS resource object, IPCONDEF.

### About this task

You can define the resource object using the CICS Explorer or the Web User Interface. The steps in this task use the Web User Interface.

### Procedure

1. From the main menu, click **Administration > Basic CICS resource administration > Resource definitions > IPIC connection definitions** to view the list of IPCONDEF resource definitions.
2. Click **Create...**

To use an existing definition as the basis for the new definition, click the check box before clicking **Create...**

The **IPIC connection definitions** create view is displayed.
3. Complete the relevant fields:
  - a) The name of the IPCONDEF must be the same as the SYSID of the partner CICS region.

You can view this information in the **CICS system definitions** view.
  - b) The APPLID of the IPCONDEF must be the APPLID of the partner CICS region.

You can view this information in the **CICS system definitions** view.
  - c) Optional: The host, network ID, and port number of the IPCONDEF are populated from the partner CICS region if defined in the system definition. If the values are not populated, you can specify a host name and network ID if the partner CICS region is in a different network.

The combination of APPLID and the network ID ensures that the remote CICS region is referred to by a unique name. You can also specify a port number for the partner CICS region. If you specify different values from the definitions in the partner region, your values are overridden when the definition is created.
  - d) Specify the name of the TCPDEF resource object on the local CICS region that define the inbound attributes of the IPIC connection.
  - e) Click **Yes** to create the definition.

### Results

The **IPIC connection definitions** view displays the new definition.

### What to do next

To add the definition to a resource group, click **Add to resource group...** You must also create an IPCONDEF resource object for the partner CICS region and ensure there are suitable TCPDEF resource objects for each region.

#### Related tasks

[Viewing BAS IPIC connection definitions](#)

You can view information about your existing IPIC connection definitions using the CICS Explorer or the Web User Interface.

[Installing BAS IPIC connection definitions](#)

Install the BAS resource object for the IPCONN resource definition to make the resource available in the CICS region.

## Installing BAS IPIC connection definitions

Install the BAS resource object for the IPCONN resource definition to make the resource available in the CICS region.

### Before you begin

You must have created the required IPCONDEF resource object in the data repository to install the IPCONN resource in the CICS region.

### About this task

You can either install IPIC connection definitions into each CICS region manually, using the CICS Explorer or the Web User Interface, or use the SYSLINK resource object to install the required definitions automatically into target CICS regions. The steps in this task use the Web User Interface.

### Procedure

1. From the main menu, click **Administration > Basic CICS resource administration > Resource definitions > IPIC connection definitions** to view the list of IPCONDEF resource definitions.
2. Click the **Record** check box to select a CICS system and click **Install...** Alternatively, click a CICS system name and click **Install...** on the **IPIC connection definitions** detailed view.
3. Install the TCPDEF resource object to create a TCPIP SERVICE resource that references the IPCONN resource.

You must have both IPCONN and TCPIP SERVICE resources installed in the local and remote CICS regions to establish an IPIC connection.

### Results

The IPIC connection is installed in the specified CICS region.

### What to do next

After the IPIC connection definition installs successfully, you can inquire about the connection from the main menu by clicking **CICS operations > Connection operations views**.

#### Related tasks

[Viewing BAS IPIC connection definitions](#)

You can view information about your existing IPIC connection definitions using the CICS Explorer or the Web User Interface.

[Defining IPIC connections using BAS](#)

You can define IPIC connections by creating a BAS resource object, IPCONDEF.

## Working with BAS ISC/MRO connection resource definitions

---

ISC/MRO connection definitions identify remote regions or systems that a CICS region communicates with using intersystem communication (ISC) or multiple region operation (MRO).

### Viewing BAS ISC and MRO connection definitions

You can view information about your existing ISC and MRO connection definitions using the CICS Explorer or the Web User Interface.

#### About this task

The BAS resource definition that represents an ISC or MRO CONNECTION resource is called CONNDEF. The **ISO/MRO connection definitions** view in the Web User Interface displays the list of CONNDEF definitions.

#### Procedure

1. From the main menu, click **Administration**.
2. From the **Administration** menu, click either **Basic CICS resource administration** or **Fully functional Business Application Services (BAS) administration**.
3. Click **Resource definitions** to display the **CICS resource definitions** view.
4. Click **ISC/MRO connection definitions** to display a list of the ISC and MRO connections that are defined.

#### Results

The Web User Interface displays the list of ISC and MRO connection definitions.

#### What to do next

From this view you can also create, update, install, or remove ISC and MRO connection definitions.

#### Related tasks

[Defining ISC and MRO connections using BAS](#)

You define a resource definition for an ISC or MRO connection by creating a BAS resource object, CONNDEF.

[Installing BAS ISC and MRO connection definitions](#)

Install the BAS resource object for the CONNECTION resource definition to make the resource available in the CICS region.

### Defining ISC and MRO connections using BAS

You define a resource definition for an ISC or MRO connection by creating a BAS resource object, CONNDEF.

#### About this task

You can define the resource object using the CICS Explorer or the Web User Interface. These instructions explain the procedure for the Web User Interface.

#### Procedure

1. From the main menu, click **Administration > Basic CICS resource administration > Resource definitions > ISC/MRO connection definitions**.
2. From the **ISC/MRO connection definitions** view, click the **Create...** button.

To use an existing definition as the basis of the new one, click the check box before clicking the **Create...** button.

The **ISO/MRO connection definitions** create view displays.

3. Complete the relevant fields and click **Yes** to create the definition.

## Results

The **ISC/MRO connection definitions** view displays showing the new definition.

## What to do next

To add the definition to a resource group, click the **Add to resource group...** button.

### Related tasks

[Viewing BAS ISC and MRO connection definitions](#)

You can view information about your existing ISC and MRO connection definitions using the CICS Explorer or the Web User Interface.

[Installing BAS ISC and MRO connection definitions](#)

Install the BAS resource object for the CONNECTION resource definition to make the resource available in the CICS region.

## Installing BAS ISC and MRO connection definitions

Install the BAS resource object for the CONNECTION resource definition to make the resource available in the CICS region.

### Before you begin

You must have created the required CONNDEF resource object in the data repository to install the CONNECTION resource in the CICS region.

### About this task

You can either install the connections into each CICS region manually, using the CICS Explorer or the Web User Interface, or use the SYSLINK resource object to install the required definitions automatically into target CICS regions. These instructions explain the procedure for the Web User Interface.

### Procedure

1. From the main menu, click **Administration > Basic CICS resource administration > Resource definitions > ISC/MRO connection definitions**.
2. Click the Record check box to select a CICS system and click the **Install...** button.  
Alternatively, click a CICS system name and click the **Install...** button on the **ISO/MRO connection definitions** detailed view.

## Results

The ISC or MRO connection is installed in the specified CICS region.

## What to do next

After the connection installs successfully, you can inquire about the connection from the main menu by clicking **CICS operations > Connection operations views**.

### Related tasks

[Viewing BAS ISC and MRO connection definitions](#)

You can view information about your existing ISC and MRO connection definitions using the CICS Explorer or the Web User Interface.

[Defining ISC and MRO connections using BAS](#)



You define a resource definition for an ISC or MRO connection by creating a BAS resource object, CONNDEF.

## Working with BAS journal model resource definitions

---

Journal model definitions describe the association between a CICS journal name and the MVS system log streams or the SMF log.

### Viewing journal model definitions

You can view information about your existing journal model definitions using the CICS Explorer or the Web User Interface.

#### About this task

The BAS resource definition that represents a journal model resource is called JRNMDEF. The **Journal model definitions** view in the Web User Interface displays the list of JRNMDEF definitions.

#### Procedure

1. From the main menu, click **Administration**.
2. From the **Administration views menu**, click either **Basic CICS resource administration** or **Fully functional Business Application Services (BAS) administration**.
3. Click **Resource definitions** to display the **CICS resource definitions** view.
4. Click **Journal model definitions**.

#### Results

The Web User Interface displays the list of journal model definitions.

#### What to do next

From this view you can also create, update, install, or remove journal model definitions.

#### Related tasks

[Defining journal models using BAS](#)

You define a resource definition for journal model by creating a BAS resource object, JRNMDEF.

[Installing BAS journal model definitions](#)

Install the BAS resource object for the journal model to make the resource available in the CICS region.

## Defining journal models using BAS

You define a resource definition for journal model by creating a BAS resource object, JRNMDEF.

#### About this task

You can define the resource object using the CICS Explorer or the Web User Interface. These instructions explain the procedure for the Web User Interface.

#### Procedure

1. From the main menu, click **Administration > Basic CICS resource administration > Resource definitions > Journal model definitions**.
2. From the **Journal model definitions** view, click the **Create...** button.  
To use an existing definition as the basis of the new one, click the check box before clicking the **Create...** button.  
The **Journal model definitions** create view is displayed.
3. Complete the relevant fields and click **Yes** to create the definition.

## Results

The **Journal model definitions** view is displayed showing the new definition.

## What to do next

To add the definition to a resource group, click the **Add to resource group...** button.

### Related tasks

[Viewing journal model definitions](#)

You can view information about your existing journal model definitions using the CICS Explorer or the Web User Interface.

[Installing BAS journal model definitions](#)

Install the BAS resource object for the journal model to make the resource available in the CICS region.

## Installing BAS journal model definitions

Install the BAS resource object for the journal model to make the resource available in the CICS region.

### Before you begin

You must have created the required JRNMDEF resource object in the data repository to install the journal model resource in the CICS region.

### About this task

You can install the BAS resource object using the CICS Explorer or the Web User Interface. These instructions explain the procedure for the Web User Interface.

### Procedure

1. From the main menu, click **Administration > Basic CICS resource administration > Resource definitions > Journal model definitions**.
2. Click the Record check box to select a journal model definition and click the **Install...** button.  
Alternatively, click a journal model definition name and click the **Install...** button on the **Journal model definitions** detailed view.

## Results

The journal model definition installs in the specified CICS region.

## What to do next

After the journal model installs successfully, you can inquire about the resource by clicking **CICS operations > Journal operations views > Models**.

### Related tasks

[Viewing journal model definitions](#)

You can view information about your existing journal model definitions using the CICS Explorer or the Web User Interface.

[Defining journal models using BAS](#)

You define a resource definition for journal model by creating a BAS resource object, JRNMDEF.

## Working with BAS JVMSERVER resource definitions

---

A JVMSERVER resource definition defines the runtime environment for a JVM server. The JVMSERVER resource defines the location of the JVM profile, the Language Environment enclave options, and other configuration information to control the initialization of the JVM.

### Viewing JVMSERVER definitions

You can view information about your existing JVMSERVER definitions using the IBM CICS Explorer or the Web User Interface.

#### About this task

The BAS resource definition that represents a JVMSERVER resource is called JVMSVDEF. The **JVMSERVER definitions** view in the Web User Interface displays the list of JVMSVDEF definitions.

#### Procedure

1. From the main menu, click **Administration**.
2. From the Administration views menu, click either **Basic CICS resource administration** or **Fully functional resource administration**.
3. Click **Resource definitions > JVMSERVER definitions**.

#### Results

The Web User Interface displays the list of JVMSVDEF definitions for the current context.

#### What to do next

From this view you can create, remove, or install JVMSERVER resource definitions.

#### Related tasks

[Defining JVMSERVER resources using BAS](#)

You define a resource definition for a JVM server by creating a BAS resource object, JVMSVDEF.

[Installing BAS JVMSERVER definitions](#)

Install the BAS resource object for the JVM server to make it available to the CICS region.

## Defining JVMSERVER resources using BAS

You define a resource definition for a JVM server by creating a BAS resource object, JVMSVDEF.

#### About this task

You can define the resource object using the IBM CICS Explorer or the Web User Interface. These instructions explain the procedure for the Web User Interface.

#### Procedure

1. From the main menu, click **Administration > Basic CICS resource administration > Resource definitions > Bundle definitions** to view the list of JVMSVDEF resource definitions.
2. Click the **Create...** button.  
To use an existing definition as the basis for the new definition, click the check box before clicking the **Create...** button.  
The Bundle definitions create view displays.
3. Complete the relevant fields and click **Yes** to create the definition.

## Results

The JVM server definitions view displays showing the new definition.

## What to do next

To add the definition to a resource group, click the **Add to resource group...** button.

### Related tasks

[Viewing JVMSERVER definitions](#)

You can view information about your existing JVMSERVER definitions using the IBM CICS Explorer or the Web User Interface.

[Installing BAS JVMSERVER definitions](#)

Install the BAS resource object for the JVM server to make it available to the CICS region.

## Installing BAS JVMSERVER definitions

Install the BAS resource object for the JVM server to make it available to the CICS region.

### Before you begin

You must have created the required JVMSVDEF resource object in the data repository to install the JVM server in the CICS region.

### About this task

You can install the BAS resource object using the IBM CICS Explorer or the Web User Interface. These instructions explain the procedure for the Web User Interface.

### Procedure

1. From the main menu, click **Administration > Basic CICS resource administration > Resource definitions > JVM server definitions** to view the list of JVMSVDEF resource definitions.
2. Click the Record check box to select a definition and click the **Install...** button. Alternatively, click on a JVM server definition name and click the **Install...** button on the JVM server definitions detailed view.

## Results

The JVM server installs in the specified CICS region.

## What to do next

After the resource definition installs successfully, you can inquire about enabled JVM servers from the WUI main menu by selecting **CICS operations > Enterprise Java component operations views > JVM server**.

### Related tasks

[Viewing JVMSERVER definitions](#)

You can view information about your existing JVMSERVER definitions using the IBM CICS Explorer or the Web User Interface.

[Defining JVMSERVER resources using BAS](#)

You define a resource definition for a JVM server by creating a BAS resource object, JVMSVDEF.

## Working with BAS LIBRARY resource definitions

---

LIBRARY definitions describe the attributes for dynamic program LIBRARY resources.

### Viewing LIBRARY definitions

You can view information about your existing LIBRARY definitions using the CICS Explorer or the Web User Interface.

#### About this task

The BAS resource definition that represents a LIBRARY resource is called LIBDEF. The **LIBRARY definitions** view in the Web User Interface displays information about existing LIBRARY definitions.

#### Procedure

1. From the main menu, click **Administration views**.
2. From the **Administration views menu**, click either **Basic CICS resource administration views** or **Fully functional Business Application Services (BAS) administration views**.
3. Click **Resource definitions** to display the **CICS resource definitions** view.
4. Click **LIBRARY definitions**.

#### Results

The Web User Interface displays the list of LIBRARY definitions.

#### What to do next

From this view you can also create, update, install, or remove LIBRARY definitions.

#### Related tasks

[Defining LIBRARY resources using BAS](#)

You define a LIBRARY resource definition by creating a BAS resource object, LIBDEF.

[Installing BAS LIBRARY definitions](#)

Install the BAS resource object for the LIBRARY resource to make the definition available in the CICS region.

## Defining LIBRARY resources using BAS

You define a LIBRARY resource definition by creating a BAS resource object, LIBDEF.

#### About this task

You can define the resource object using the CICS Explorer or the Web User Interface. These instructions explain the procedure for the Web User Interface.

#### Procedure

1. From the main menu, click **Administration > Basic CICS resource administration > Resource definitions > LIBRARY definitions**.
2. From the **LIBRARY definitions** view, click the **Create...** button.  
To use an existing definition as the basis of the new definition, click the check box before clicking the **Create...** button.  
The **LIBRARY definitions** create view displays.
3. Complete the relevant fields and click **Yes** to create the definition.

## Results

The **LIBRARY definitions** view displays showing the new definition.

## What to do next

To add the definition to a resource group, click the **Add to resource group...** button.

### Related tasks

[Viewing LIBRARY definitions](#)

You can view information about your existing LIBRARY definitions using the CICS Explorer or the Web User Interface.

[Installing BAS LIBRARY definitions](#)

Install the BAS resource object for the LIBRARY resource to make the definition available in the CICS region.

## Installing BAS LIBRARY definitions

Install the BAS resource object for the LIBRARY resource to make the definition available in the CICS region.

### Before you begin

You must have created the required resource object in the data repository to install the LIBRARY resource in the CICS region.

### About this task

You can install the BAS resource object using the CICS Explorer or the Web User Interface. These instructions explain the procedure for the Web User Interface.

### Procedure

1. From the main menu, click **Administration > Basic CICS resource administration > Resource definitions > LIBRARY definitions**.
2. Click the Record check box to select a program definition and click the **Install...** button.  
Alternatively, click a LIBRARY definition name and click the **Install...** button on the **LIBRARY definitions** detailed view.

## Results

The LIBRARY resource installs in the CICS region.

## What to do next

After the LIBRARY resource installs successfully, you can inquire about the resource by clicking **CICS operations > Program operations views > LIBRARYs, including DFHRPL**.

### Related tasks

[Viewing LIBRARY definitions](#)

You can view information about your existing LIBRARY definitions using the CICS Explorer or the Web User Interface.

[Defining LIBRARY resources using BAS](#)

You define a LIBRARY resource definition by creating a BAS resource object, LIBDEF.

## Working with BAS LSR pool resource definitions

---

LSR pool definitions describe the size and characteristics of local shared resource pools that VSAM uses for certain files.

### Viewing LSR pool definitions

You can view information about your existing LSR pool definitions using the CICS Explorer or the Web User Interface.

#### About this task

The BAS resource definition that represents an LSR pool is called LSRDEF. The **LSR pool definitions** view in the Web User Interface displays information about existing LSR pool definitions.

#### Procedure

1. From the main menu, click **Administration**.
2. From the **Administration views menu**, click either **Basic CICS resource administration** or **Fully functional Business Application Services (BAS) administration**.
3. Click **CICS resource definitions** to display the **CICS resource definitions** view.
4. Click **LSR pool definitions**.

#### Results

The Web User Interface displays the list of LSR pool definitions.

#### What to do next

From this view you can also create, update, install, or remove LSR pool definitions.

#### Related tasks

[Defining LSR pools using BAS](#)

You define an LSR pool resource by creating a BAS resource object, LSRDEF.

[Installing BAS LSR pool definitions](#)

Install the BAS resource object for the LSR pool resource to make the definition available in the CICS region.

## Defining LSR pools using BAS

You define an LSR pool resource by creating a BAS resource object, LSRDEF.

#### About this task

You can define the resource object using the CICS Explorer or the Web User Interface. These instructions explain the procedure for the Web User Interface.

#### Procedure

1. From the main menu, click **Administration > Basic CICS resource administration > Resource definitions > LSR pool definitions**.
2. From the **LSR pool definitions** view, click the **Create...** button.  
To use an existing definition as the basis of the new definition, click the check box before clicking the **Create...** button.  
The **LSR pool definitions** create view displays.
3. Complete the relevant fields and click **Yes** to create the definition.

## Results

The **LSR pool definitions** view displays showing the new definition.

## What to do next

To add the definition to a resource group, click the **Add to resource group...** button.

### Related tasks

[Viewing LSR pool definitions](#)

You can view information about your existing LSR pool definitions using the CICS Explorer or the Web User Interface.

[Installing BAS LSR pool definitions](#)

Install the BAS resource object for the LSR pool resource to make the definition available in the CICS region.

## Installing BAS LSR pool definitions

Install the BAS resource object for the LSR pool resource to make the definition available in the CICS region.

### Before you begin

You must have created the required resource object in the data repository to install the LSR pool resource in the CICS region.

### About this task

You can install the BAS resource object using the CICS Explorer or the Web User Interface. These instructions explain the procedure for the Web User Interface.

### Procedure

1. From the main menu, click **Administration > Basic CICS resource administration > Resource definitions > LSR pool definitions**.
2. Click the Record check box to select a LSR pool definition and click the **Install...** button.  
Alternatively, click a LSR pool definition name and click the **Install...** button on the **LSR pool definitions** detailed view.

## Results

The LSR pool resource installs in the CICS region.

## What to do next

After the LSR pool resource definition installs successfully, you can inquire about the resource by clicking **CICS operations > File operations views**. From the **File operations views** menu, select either **VSAM LSR pool buffers** or **VSAM LSR pools**.

### Related tasks

[Viewing LSR pool definitions](#)

You can view information about your existing LSR pool definitions using the CICS Explorer or the Web User Interface.

[Defining LSR pools using BAS](#)



You define an LSR pool resource by creating a BAS resource object, LSRDEF.

## Working with BAS map set resource definitions

---

Map set definitions describe the characteristics of a group of related screen layouts, or maps.

### Viewing map set definitions

You can view information about your existing map set definitions using the CICS Explorer or the Web User Interface.

#### About this task

The BAS resource definition that represents a map set is called MAPDEF. The **Map set definitions** view in the Web User Interface displays information about existing map set definitions.

#### Procedure

1. From the main menu, click **Administration**.
2. From the **Administration views menu**, click either **Basic CICS resource administration** or **Fully functional Business Application Services (BAS) administration**.
3. Click **CICS resource definitions** to display the **CICS resource definitions** view.
4. Click **Map set definitions**.

#### Results

The Web User Interface displays the list of map set definitions.

#### What to do next

From this view you can also create, update, install, or remove map set definitions.

#### Related tasks

[Defining map sets using BAS](#)

You define a map set resource by creating a BAS resource object, MAPDEF.

[Installing BAS map set definitions](#)

Install the BAS resource object for the map set resource to make the definition available in the CICS region.

## Defining map sets using BAS

You define a map set resource by creating a BAS resource object, MAPDEF.

#### About this task

You can define the resource object using the CICS Explorer or the Web User Interface. These instructions explain the procedure for the Web User Interface.

#### Procedure

1. From the main menu, click **Administration > Basic CICS resource administration > Resource definitions > Map set definitions**.
2. From the **Map set definitions** view, click the **Create...** button.  
To use an existing definition as the basis of the new definition, click the check box before clicking the **Create...** button.  
The **Map set definitions** create view displays.
3. Complete the relevant fields and click **Yes** to create the definition.

## Results

The **Map set definitions** view displays showing the new definition.

## What to do next

To add the definition to a resource group, click the **Add to resource group...** button.

### Related tasks

[Viewing map set definitions](#)

You can view information about your existing map set definitions using the CICS Explorer or the Web User Interface.

[Installing BAS map set definitions](#)

Install the BAS resource object for the map set resource to make the definition available in the CICS region.

## Installing BAS map set definitions

Install the BAS resource object for the map set resource to make the definition available in the CICS region.

### Before you begin

You must have created the required resource object in the data repository to install the map set resource in the CICS region.

### About this task

You can install the BAS resource object using the CICS Explorer or the Web User Interface. These instructions explain the procedure for the Web User Interface.

### Procedure

1. From the main menu, click **Administration > Basic CICS resource administration > Resource definitions > Map set definitions**.
2. Click the Record check box to select a map set definition and click the **Install...** button.  
Alternatively, click a map set definition name and click the **Install...** button on the **Map set definitions** detailed view.

## Results

The map set resource installs in the specified CICS region.

### Related tasks

[Viewing map set definitions](#)

You can view information about your existing map set definitions using the CICS Explorer or the Web User Interface.

[Defining map sets using BAS](#)

You define a map set resource by creating a BAS resource object, MAPDEF.

## Working with BAS MQCONN resource definitions

---

The MQCONN resource definition for the CICS region defines the attributes of the connection between CICS and IBM MQ.

### Viewing BAS MQCONN definitions

You can view information about your existing MQCONN resource definitions using the CICS Explorer or the Web User Interface.

#### About this task

The BAS resource definition that represents an MQCONN resource is called MQCONDEF. The **IBM MQ connection definitions** view in the Web User Interface displays the list of MQCONDEF definitions. Only one MQCONN resource definition can be installed and used at a time in a CICS region.

#### Procedure

1. From the main menu, click **Administration**.
2. From the Administration views menu, click either **Basic CICS resource administration** or **Fully functional Business Application Services (BAS) administration**.
3. Click **Resource definitions** to display the **CICS resource definitions menu**.
4. Click **IBM MQ connection definitions**.

#### Results

The Web User Interface displays the list of MQCONDEF definitions for the current context.

#### What to do next

From this view you can create, update, remove, or install MQCONN resource definitions.

#### Related tasks

[Defining MQCONN resources using BAS](#)

You define a resource definition for the connection between CICS and IBM MQ by creating a BAS resource object, MQCONDEF.

[Installing BAS MQCONN definitions](#)

Install the BAS resource object for the MQCONN resource to replace the existing IBM MQ connection definition for the CICS region with your new definition.

## Defining MQCONN resources using BAS

You define a resource definition for the connection between CICS and IBM MQ by creating a BAS resource object, MQCONDEF.

#### About this task

You can define the resource object using the CICS Explorer or the Web User Interface. These instructions explain the procedure for the Web User Interface.

#### Procedure

1. From the main menu, click **Administration > Basic CICS resource administration > Resource definitions > IBM MQ connection definitions** to view the list of MQCONDEF resource definitions.
2. Click the **Create...** button.  
To use an existing definition as the basis for the new definition, click the check box before clicking the **Create...** button.

The **IBM MQ connection definitions** view displays.

3. Complete the relevant fields and click **Yes** to create the definition.

## Results

The **IBM MQ connection definitions** view displays showing the new definition.

## What to do next

To add the definition to a resource group, click the **Add to resource group...** button.

### Related tasks

[Viewing BAS MQCONN definitions](#)

You can view information about your existing MQCONN resource definitions using the CICS Explorer or the Web User Interface.

[Installing BAS MQCONN definitions](#)

Install the BAS resource object for the MQCONN resource to replace the existing IBM MQ connection definition for the CICS region with your new definition.

## Installing BAS MQCONN definitions

Install the BAS resource object for the MQCONN resource to replace the existing IBM MQ connection definition for the CICS region with your new definition.

### Before you begin

You must have created the required MQCONDEF resource object in the data repository to install the MQCONN resource in the CICS region.

### About this task

You can install the BAS resource object using the CICS Explorer or the Web User Interface. These instructions explain the procedure for the Web User Interface. Only one MQCONN resource definition can be installed at a time in a CICS region, so when you install a second MQCONN resource definition, CICS implicitly discards the existing MQCONN definition before proceeding with the installation, unless you are reinstalling an MQCONN resource definition with the same name.

### Procedure

1. From the main menu, click **Administration > Basic CICS resource administration > Resource definitions > IBM MQ connection definitions** to view the list of MQCONDEF resource definitions.
2. Click the Record check box to select an MQCONDEF definition and click the **Install...** button.  
Alternatively, click an MQCONDEF definition name and click the **Install...** button on the **MQCONDEF definitions** detailed view.

## Results

The MQCONN resource is installed in the specified CICS region.

## What to do next

After the resource definition installs successfully, you can inquire about the resource from the main menu by clicking **CICS operations > DB2, DBCTL and IBM MQ operations views > IBM MQ connection definitions**.

### Related tasks

[Viewing BAS MQCONN definitions](#)

You can view information about your existing MQCONN resource definitions using the CICS Explorer or the Web User Interface.

[Defining MQCONN resources using BAS](#)

You define a resource definition for the connection between CICS and IBM MQ by creating a BAS resource object, MQCONDEF.

## Working with BAS MQMONITOR resource definitions

---

MQMONITOR resource definitions define attributes for WebSphere MQ message consumers, such as the trigger monitor transaction CKTI.

### Viewing BAS MQMONITOR definitions

You can view information about your existing MQMONITOR resource definitions using the CICS Explorer or the Web User Interface.

#### About this task

The BAS resource definition that represents an MQMONITOR resource is called MQMONDEF. The **WebSphere MQ monitor definitions** view in the Web User Interface displays the list of MQMONDEF definitions.

#### Procedure

1. From the main menu, click **Administration**.
2. From the Administration views menu, click either **Basic CICS resource administration** or **Fully functional Business Application Services (BAS) administration**.
3. Click **Resource definitions** to display the **CICS resource definitions menu**.
4. Click **WebSphere MQ monitor definitions**.

#### Results

The Web User Interface displays the list of MQMONDEF definitions for the current context.

#### What to do next

From this view you can create, update, remove, or install MQMONITOR resource definitions.

### Defining MQMONITOR resources using BAS

You define a resource definition for an MQ monitor, which can be a trigger monitor, an MQ bridge monitor, or a user-written monitor, by creating a BAS resource object, MQMONDEF.

#### About this task

You can define the resource object using the CICS Explorer or the Web User Interface. These instructions explain the procedure for the Web User Interface.

#### Procedure

1. From the main menu, click **Administration > Basic CICS resource administration** or **Fully functional Business Application Services (BAS) administration > Resource definitions > WebSphere MQ monitor definitions** to view the list of MQMONDEF resource definitions.
2. Click the **Create** button.  
To use an existing definition as the basis for the new definition, click the check box before clicking the **Create** button.  
The **WebSphere MQ monitor definition** view displays.
3. Complete the relevant fields and click **Yes** to create the definition.

## Results

The **WebSphere MQ monitor definitions** view displays showing the new definition.

## What to do next

To add the definition to a resource group, click the **Add to resource group** button.

## Installing BAS MQMONITOR definitions

Install the BAS resource object for the MQMONITOR resource to make the definition available in the CICS region.

## Before you begin

You must have created the MQMONDEF resource object in the data repository to install the MQMONITOR resource in the CICS region.

## About this task

You can install the BAS resource object using the CICS Explorer or the Web User Interface. These instructions explain the procedure for the Web User Interface.

## Procedure

1. From the main menu, click **Administration > Basic CICS resource administration > Resource definitions > WebSphere MQ monitor definitions** to view the list of MQMONDEF resource definitions.
2. Click the Record check box to select an MQMONDEF definition and click the **Install** button.  
Alternatively, click an MQMONDEF definition name and click the **Install** button on the **WebSphere MQ monitor definitions** detailed view.

## Results

The MQMONITOR resource is installed in the CICS region.

## What to do next

After the resource definition installs successfully, you can inquire about the resource from the main menu by clicking **CICS operations > DB2, DBCTL and WebSphere MQ operations views > WebSphere MQ monitors**.

## Working with BAS partition set resource definitions

---

Partition set definitions describe the characteristics of a display partition configuration.

## Viewing partition set definitions

You can view information about your existing partition set definitions using the CICS Explorer or the Web User Interface.

## About this task

The BAS resource definition that represents a partition set is called PRTNDEF. The **Partition set definitions** view in the Web User Interface displays information about existing partition set definitions.

## Procedure

1. From the main menu, click **Administration**.
2. From the **Administration views menu**, click either **Basic CICS resource administration** or **Fully functional Business Application Services (BAS) administration**.

3. Click **CICS resource definitions** to display the **CICS resource definitions** view.
4. Click **Partition set definitions**.

## Results

The Web User Interface displays the list of partition set definitions.

## What to do next

From this view you can also create, update, install, or remove partition set definitions.

### Related tasks

[Defining partition sets using BAS](#)

You define a partition set resource by creating a BAS resource object, PRTNDEF.

[Installing BAS partition set definitions](#)

Install the BAS resource object for the partition set resource to make the definition available in the CICS region.

## Defining partition sets using BAS

You define a partition set resource by creating a BAS resource object, PRTNDEF.

### About this task

You can define the resource object using the CICS Explorer or the Web User Interface. These instructions explain the procedure for the Web User Interface.

### Procedure

1. From the main menu, click **Administration > Basic CICS resource administration > Resource definitions > Partition set definitions**.
2. From the **Partition set definitions** view, click the **Create...** button.  
To use an existing definition as the basis of the new one, click the check box before clicking the **Create...** button.  
The **Partition set definitions** create view displays.
3. Complete the relevant fields and click **Yes** to create the definition.

### Results

The **Partition set definitions** view displays showing the new definition.

### What to do next

To add the definition to a resource group, click the **Add to resource group...** button.

### Related tasks

[Viewing partition set definitions](#)

You can view information about your existing partition set definitions using the CICS Explorer or the Web User Interface.

[Installing BAS partition set definitions](#)

Install the BAS resource object for the partition set resource to make the definition available in the CICS region.

## Installing BAS partition set definitions

Install the BAS resource object for the partition set resource to make the definition available in the CICS region.

### Before you begin

You must have created the required resource object in the data repository to install the partition set resource in the CICS region.

### About this task

You can install the BAS resource object using the CICS Explorer or the Web User Interface. These instructions explain the procedure for the Web User Interface.

### Procedure

1. From the main menu, click **Administration** > **Basic CICS resource administration** > **Resource definitions** > **Partition set definitions**.
2. Click the Record check box to select a partition set definition and click the **Install...** button.  
Alternatively, click a partition set definition name and click the **Install...** button on the **Partition set definitions** detailed view.

### Results

The partition set resource installs in the specified CICS region.

### Related tasks

[Viewing partition set definitions](#)

You can view information about your existing partition set definitions using the CICS Explorer or the Web User Interface.

[Defining partition sets using BAS](#)

You define a partition set resource by creating a BAS resource object, PRTNDEF.

## Working with BAS partner resource definitions

---

Partner definitions enable CICS application programs to communicate with a partner application program running on a remote region using APPC protocols.

## Viewing partner definitions

You can view information about your existing partner definitions using the CICS Explorer or the Web User Interface.

### About this task

The BAS resource definition that represents a partner definition is called PARTDEF. The **Partition definitions** view in the Web User Interface displays information about existing partner definitions.

### Procedure

1. From the main menu, click **Administration**.
2. From the **Administration views menu**, click either **Basic CICS resource administration** or **Fully functional Business Application Services (BAS) administration**.
3. Click **CICS resource definitions** to display the **CICS resource definitions** view.
4. Click **Partner definitions**.



## Results

The Web User Interface displays the list of partner definitions.

## What to do next

From this view you can also create, update, install, or remove partner definitions.

### Related tasks

[Defining partner definitions using BAS](#)

You define a partner resource by creating a BAS resource object, PARTDEF.

[Installing BAS partner definitions](#)

Install the BAS resource object for the partner resource to make the definition available in the CICS region.

## Defining partner definitions using BAS

You define a partner resource by creating a BAS resource object, PARTDEF.

### About this task

You can define the resource object using the CICS Explorer or the Web User Interface. These instructions explain the procedure for the Web User Interface.

### Procedure

1. From the main menu, click **Administration > Basic CICS resource administration > Resource definitions > Partner definitions**.
2. From the **Partner definitions** view, click the **Create...** button.  
To use an existing definition as the basis of the new one, click the check box before clicking the **Create...** button.  
The **Partner definitions** create view displays.
3. Complete the relevant fields and click **Yes** to create the definition.

## Results

The **Partner definitions** view displays showing the new definition.

## What to do next

To add the definition to a resource group, click the **Add to resource group...** button.

### Related tasks

[Viewing partner definitions](#)

You can view information about your existing partner definitions using the CICS Explorer or the Web User Interface.

[Installing BAS partner definitions](#)

Install the BAS resource object for the partner resource to make the definition available in the CICS region.

## Installing BAS partner definitions

Install the BAS resource object for the partner resource to make the definition available in the CICS region.

### Before you begin

You must have created the required resource object in the data repository to install the partner resource in the CICS region.

## About this task

You can install the BAS resource object using the CICS Explorer or the Web User Interface. These instructions explain the procedure for the Web User Interface.

## Procedure

1. From the main menu, click **Administration > Basic CICS resource administration > Resource definitions > Partner definitions**.
2. Click the Record check box to select a partner definition and click the **Install...** button.  
Alternatively, click a partner definition name and click the **Install...** button on the **Partner definitions** detailed view.

## Results

The partner definition installs in the specified CICS region.

### Related tasks

#### [Viewing partner definitions](#)

You can view information about your existing partner definitions using the CICS Explorer or the Web User Interface.

#### [Defining partner definitions using BAS](#)

You define a partner resource by creating a BAS resource object, PARTDEF.

## Working with BAS pipeline resource definitions

---

A PIPELINE resource definition is used when a CICS application is acting as a web service provider or requester. It provides information about the message handler programs that act on a web service request and on the response.

## Viewing pipeline definitions

You can view information about your existing pipeline definitions using the CICS Explorer or the Web User Interface.

### About this task

The BAS resource definition that represents a pipeline definition is called PIPEDEF. The **Pipeline definitions** view in the Web User Interface displays information about existing pipeline definitions.

### Procedure

1. From the main menu, click **Administration views**.
2. From the **Administration views** menu, click either **Basic CICS resource administration views** or **Fully functional Business Application Services (BAS) administration views**.
3. Click **CICS resource definitions** to display the **CICS resource definitions** view.
4. Click **Pipeline definitions**.

### Results

The Web User Interface displays the list of pipeline definitions.

### What to do next

From this view you can also create, update, install, or remove pipeline definitions.

#### Related tasks

#### [Defining pipeline definitions using BAS](#)

You define a PIPELINE resource by creating a BAS resource object, PIPEDEF.

#### [Installing BAS pipeline definitions](#)

Install the BAS resource object for the pipeline resource to make the definition available in the CICS region.

## Defining pipeline definitions using BAS

You define a PIPELINE resource by creating a BAS resource object, PIPEDEF.

### About this task

You can define the resource object using the CICS Explorer or the Web User Interface. These instructions explain the procedure for the Web User Interface.

### Procedure

1. From the main menu, click **Administration > Basic CICS resource administration > Resource definitions > Pipeline definitions**.
2. From the **Pipeline definitions** view, click the **Create...** button.  
To use an existing definition as the basis of the new definition, click the check box before clicking the **Create...** button.  
The **Pipeline definitions** create view displays.
3. Complete the relevant fields and click **Yes** to create the definition.

### Results

The **Pipeline definitions** view displays showing the new definition.

### What to do next

To add the definition to a resource group, click the **Add to resource group...** button.

### Related tasks

#### [Viewing pipeline definitions](#)

You can view information about your existing pipeline definitions using the CICS Explorer or the Web User Interface.

#### [Installing BAS pipeline definitions](#)

Install the BAS resource object for the pipeline resource to make the definition available in the CICS region.

## Installing BAS pipeline definitions

Install the BAS resource object for the pipeline resource to make the definition available in the CICS region.

### Before you begin

You must have created the required resource object in the data repository to install the PIPELINE resource in the CICS region.

### About this task

You can install the BAS resource object using the CICS Explorer or the Web User Interface. These instructions explain the procedure for the Web User Interface.

### Procedure

1. From the main menu, click **Administration > Basic CICS resource administration > Resource definitions > Pipeline definitions**.
2. Click the Record check box to select a pipeline definition and click the **Install...** button.  
Alternatively, click a pipeline definition name and click the **Install...** button on the **Pipeline definitions** detailed view.

## Results

The PIPELINE resource installs in the specified CICS region.

### Related tasks

#### [Viewing pipeline definitions](#)

You can view information about your existing pipeline definitions using the CICS Explorer or the Web User Interface.

#### [Defining pipeline definitions using BAS](#)

You define a PIPELINE resource by creating a BAS resource object, PIPEDEF.

## Working with BAS PROCESSTYPE definitions

---

PROCESSTYPE resource definitions describe the physical and operational characteristics of CICS business transaction services (BTS) process types.

### Viewing process type definitions

You can view information about your existing process type definitions using the CICS Explorer or the Web User Interface.

#### About this task

The BAS resource definition that represents a pipeline definition is called PROCDEF. The **Process type definitions** view in the Web User Interface displays information about existing process type definitions.

#### Procedure

1. From the main menu, click **Administration**.
2. From the **Administration views menu**, click either **Basic CICS resource administration** or **Fully functional Business Application Services (BAS) administration**.
3. Click **CICS resource definitions** to display the **CICS resource definitions** view.
4. Click **Process type definitions**.

#### Results

The Web User Interface displays the list of process type definitions.

#### What to do next

From this view you can also create, update, install, or remove process type definitions.

#### Related tasks

#### [Defining process types using BAS](#)

You define a PROCESSTYPE resource by creating a BAS resource object, PROCDEF.

#### [Installing BAS process type definitions](#)

Install the BAS resource object for the PROCESSTYPE resource to make the definition available in the CICS region.

### Defining process types using BAS

You define a PROCESSTYPE resource by creating a BAS resource object, PROCDEF.

#### About this task

You can define the resource object using the CICS Explorer or the Web User Interface. These instructions explain the procedure for the Web User Interface.

## Procedure

1. From the main menu, click **Administration > Basic CICS resource administration > Resource definitions > Process type definitions**.
2. From the **Process types definitions** view, click the **Create...** button.  
To use an existing definition as the basis of the new definition, click the check box before clicking the **Create...** button.  
The **Process types definitions** create view displays.
3. Complete the relevant fields and click **Yes** to create the definition.

## Results

The **Process types definitions** view displays showing the new definition.

## What to do next

To add the definition to a resource group, click the **Add to resource group...** button.

### Related tasks

[Viewing process type definitions](#)

You can view information about your existing process type definitions using the CICS Explorer or the Web User Interface.

[Installing BAS process type definitions](#)

Install the BAS resource object for the PROCESSTYPE resource to make the definition available in the CICS region.

## Installing BAS process type definitions

Install the BAS resource object for the PROCESSTYPE resource to make the definition available in the CICS region.

### Before you begin

You must have created the required resource object in the data repository to install the PROCESSTYPE resource in the CICS region.

### About this task

You can install the BAS resource object using the CICS Explorer or the Web User Interface. These instructions explain the procedure for the Web User Interface.

## Procedure

1. From the main menu, click **Administration > Basic CICS resource administration > Resource definitions > Process type definitions**.
2. Click the Record check box to select a process type definition and click the **Install...** button.  
Alternatively, click a process type definition name and click the **Install...** button on the **Process type definitions** detailed view.

## Results

The PROCESSTYPE resource installs successfully in the specified CICS region.

### Related tasks

[Viewing process type definitions](#)

You can view information about your existing process type definitions using the CICS Explorer or the Web User Interface.

[Defining process types using BAS](#)

You define a PROCESSTYPE resource by creating a BAS resource object, PROCDEF.

## Working with BAS profile resource definitions

---

Profile definitions control the interactions between transactions and terminals or logical units.

### Viewing profile resource definitions

You can view information about your existing profile definitions using the CICS Explorer or the Web User Interface.

#### About this task

The BAS resource definition that represents a profile definition is called PROFDEF. The **Profile definitions** view in the Web User Interface displays information about existing profile definitions.

#### Procedure

1. From the main menu, click **Administration**.
2. From the **Administration views menu**, click either **Basic CICS resource administration** or **Fully functional Business Application Services (BAS) administration**.
3. Click **CICS resource definitions** to display the **CICS resource definitions** view.
4. Click **Profile definitions**.

#### Results

The Web User Interface displays the list of profile definitions.

#### What to do next

From this view you can also create, update, install, or remove profile definitions.

#### Related tasks

[Defining profiles using BAS](#)

You define a PROFILE resource by creating a BAS resource object, PROFDEF.

[Installing BAS profile definitions](#)

Install the BAS resource object for the PROFILE resource to make the definition available in the CICS region.

## Defining profiles using BAS

You define a PROFILE resource by creating a BAS resource object, PROFDEF.

#### About this task

You can define the resource object using the CICS Explorer or the Web User Interface. These instructions explain the procedure for the Web User Interface.

#### Procedure

1. From the main menu, click **Administration > Basic CICS resource administration > Resource definitions > Profile definitions**.
2. From the **Profile definitions** view, click the **Create...** button.  
To use an existing definition as the basis of the new one, click the check box before clicking the **Create...** button.  
The **Profile definitions** create view displays.
3. Complete the relevant fields and click **Yes** to create the definition.

## Results

The **Profile definitions** view displays showing the new definition.

## What to do next

To add the definition to a resource group, click the **Add to resource group...** button.

### Related tasks

[Viewing profile resource definitions](#)

You can view information about your existing profile definitions using the CICS Explorer or the Web User Interface.

[Installing BAS profile definitions](#)

Install the BAS resource object for the PROFILE resource to make the definition available in the CICS region.

## Installing BAS profile definitions

Install the BAS resource object for the PROFILE resource to make the definition available in the CICS region.

### Before you begin

You must have created the required resource object in the data repository to install the PROFILE resource in the CICS region.

### About this task

You can install the BAS resource object using the CICS Explorer or the Web User Interface. These instructions explain the procedure for the Web User Interface.

### Procedure

1. From the main menu, click **Administration > Basic CICS resource administration > Resource definitions > Profile definitions**.
2. Click the Record check box to select a profile definition and click the **Install...** button.  
Alternatively, click a profile definition name and click the **Install...** button on the **Profile definitions** detailed view.

## Results

The PROFILE resource installs successfully in the specified CICS region.

### Related tasks

[Viewing profile resource definitions](#)

You can view information about your existing profile definitions using the CICS Explorer or the Web User Interface.

[Defining profiles using BAS](#)

You define a PROFILE resource by creating a BAS resource object, PROFDEF.

## Working with BAS PROGRAM resource definitions

---

PROGRAM resource definitions describe the control information for a program that is stored in the program library and used to process a transaction.

### Viewing program definitions

You can view your existing program definitions using the CICS Explorer or the Web User Interface.

#### About this task

The BAS resource definition that represents a program definition is called PROGDEF. The **Program definitions** view in the Web User Interface displays information about existing program definitions.

#### Procedure

1. From the main menu, click **Administration views**.
2. From the **Administration views menu**, click either **Basic CICS resource administration views** or **Fully functional Business Application Services (BAS) administration views**.
3. Click **CICS resource definitions** to display the **CICS resource definitions** view.
4. Click **Program definitions**.

#### Results

The Web User Interface displays the list of program definitions.

#### What to do next

From this view you can also create, update, install, or remove program definitions.

#### Related tasks

[Defining programs using BAS](#)

You define a PROGRAM resource by creating a BAS resource object, PROGDEF.

[Installing BAS program definitions](#)

Install the BAS resource object for the PROGRAM resource to make the definition available in the CICS region.

## Defining programs using BAS

You define a PROGRAM resource by creating a BAS resource object, PROGDEF.

#### About this task

You can define the resource object using the CICS Explorer or the Web User Interface. These instructions explain the procedure for the Web User Interface.

#### Procedure

1. From the main menu, click **Administration > Basic CICS resource administration > Resource definitions > Program definitions**.
2. From the **Program definitions** view, click the **Create...** button.  
To use an existing definition as the basis of the new one, click the check box before clicking the **Create...** button.  
The **Program definitions** create view displays.
3. Complete the relevant fields and click **Yes** to create the definition.



## Results

The **Program definitions** view displays showing the new definition.

## What to do next

To add the definition to a resource group, click the **Add to resource group...** button.

### Related tasks

[Viewing program definitions](#)

You can view your existing program definitions using the CICS Explorer or the Web User Interface.

[Installing BAS program definitions](#)

Install the BAS resource object for the PROGRAM resource to make the definition available in the CICS region.

## Installing BAS program definitions

Install the BAS resource object for the PROGRAM resource to make the definition available in the CICS region.

### Before you begin

You must have created the required resource object in the data repository to install the PROGRAM resource in the CICS region.

### About this task

You can install the BAS resource object using the CICS Explorer or the Web User Interface. These instructions explain the procedure for the Web User Interface.

### Procedure

1. From the main menu, click **Administration > Basic CICS resource administration > Resource definitions > Program definitions**.
2. Click the Record check box to select a program definition and click the **Install...** button.  
Alternatively, click a program definition name and click the **Install...** button on the **Program definitions** detailed view.

## Results

The PROGRAM resource installs successfully in the specified CICS region.

## What to do next

After the resource installs, you can inquire on the resource by clicking **CICS operations > Program operations views**.

### Related tasks

[Viewing program definitions](#)

You can view your existing program definitions using the CICS Explorer or the Web User Interface.

[Defining programs using BAS](#)

You define a PROGRAM resource by creating a BAS resource object, PROGDEF.

## Working with BAS session resource definitions

---

Session definitions describe the nature of logical links between regions or systems that communicate using intersystem communication (ISC) or multiple region operation (MRO).

### Viewing session definitions

You can view your existing session definitions using the CICS Explorer or the Web User Interface.

#### About this task

The BAS resource object that represents a session definition is called SESSDEF. The **Session definitions** view in the Web User Interface displays information about existing session definitions.

#### Procedure

1. From the main menu, click **Administration**.
2. From the **Administration views menu**, click either **Basic CICS resource administration** or **Fully functional Business Application Services (BAS) administration**.
3. Click **CICS resource definitions** to display the **CICS resource definitions** view.
4. Click **Session definitions**.

#### Results

The Web User Interface displays the list of session definitions.

#### What to do next

From this view you can also create, update, or remove session definitions.

#### Related tasks

[Defining sessions using BAS](#)

You define a SESSION resource by creating a BAS resource object, SESSDEF.

## Defining sessions using BAS

You define a SESSION resource by creating a BAS resource object, SESSDEF.

#### About this task

You can define the resource object using the CICS Explorer or the Web User Interface. These instructions explain the procedure for the Web User Interface.

#### Procedure

1. From the main menu, click **Administration > Basic CICS resource administration > Resource definitions > Session definitions**.
2. From the **Session definitions** view, click the **Create...** button.  
To use an existing definition as the basis of the new one, click the check box before clicking the **Create...** button.  
The **Session definitions** create view displays.
3. Complete the relevant fields and click **Yes** to create the definition.

#### Results

The **Session definitions** view is displayed showing the new definition.

## What to do next

To add the definition to a resource group, click the **Add to resource group...** button.

### Related tasks

[Viewing session definitions](#)

You can view your existing session definitions using the CICS Explorer or the Web User Interface.

## Working with BAS TCPIPSERVICE resource definitions

---

TCPIPSERVICE resource definitions define which TCP/IP services are to use internal sockets support.

### Viewing TCP/IP service definitions

You can view your existing TCPIPSERVICE resource definitions using the CICS Explorer or the Web User Interface.

#### About this task

The BAS resource object that represents a TCPIPSERVICE definition is called TCPDEF. The **TCP/IP service definitions** view in the Web User Interface displays information about existing TCPIPSERVICE definitions.

#### Procedure

1. From the main menu, click **Administration**.
2. From the **Administration views menu**, click either **Basic CICS resource administration** or **Fully functional Business Application Services (BAS) administration**.
3. Click **CICS resource definitions** to display the **CICS resource definitions** view.
4. Click **TCP/IP service definitions**.

#### Results

The Web User Interface displays the list of TCPIPSERVICE definitions.

## What to do next

From this view you can also create, update, install, or remove TCPIPSERVICE definitions.

### Related tasks

[Defining TCP/IP services using BAS](#)

You define a TCPIPSERVICE resource by creating a BAS resource object, TCPDEF.

[Installing a BAS TCP/IP service definition](#)

Install the BAS resource object for the TCPIPSERVICE resource to make the definition available in the CICS region.

## Defining TCP/IP services using BAS

You define a TCPIPSERVICE resource by creating a BAS resource object, TCPDEF.

#### About this task

You can define the resource object using the CICS Explorer or the Web User Interface. These instructions explain the procedure for the Web User Interface.

#### Procedure

1. From the main menu, click **Administration > Basic CICS resource administration > Resource definitions > TCP/IP service definitions**.
2. From the **TCP/IP service definitions** view, click the **Create...** button.

To use an existing definition as the basis of the new one, click the check box before clicking the **Create...** button.

The **TCP/IP service definitions** create view displays.

3. Complete the relevant fields and click **Yes** to create the definition.

## Results

The **TCP/IP service definitions** view displays showing the new definition.

## What to do next

To add the definition to a resource group, click the **Add to resource group...** button.

### Related tasks

[Viewing TCP/IP service definitions](#)

You can view your existing TCPIP SERVICE resource definitions using the CICS Explorer or the Web User Interface.

[Installing a BAS TCP/IP service definition](#)

Install the BAS resource object for the TCPIP SERVICE resource to make the definition available in the CICS region.

## Installing a BAS TCP/IP service definition

Install the BAS resource object for the TCPIP SERVICE resource to make the definition available in the CICS region.

### Before you begin

You must have created the required resource object in the data repository to install the TCPIP SERVICE resource in the CICS region.

### About this task

You can install the BAS resource object using the CICS Explorer or the Web User Interface. The following procedure uses the Web User Interface.

### Procedure

1. From the main menu, click **Administration > Basic CICS resource administration > Resource definitions > TCP/IP service definitions**.
2. Click the Record check box to select a TCP/IP service definition and click the **Install...** button.  
Alternatively, click a TCP/IP service definition name and click the **Install...** button on the **TCP/IP service definitions** detailed view.

## Results

The TCPIP SERVICE installs in the specified CICS region.

## What to do next

After the resource installs successfully, you can inquire on the resource by clicking **CICS operations > TCP/IP service operations views**

### Related tasks

[Viewing TCP/IP service definitions](#)

You can view your existing TCPIP SERVICE resource definitions using the CICS Explorer or the Web User Interface.

[Defining TCP/IP services using BAS](#)

You define a TCPIP SERVICE resource by creating a BAS resource object, TCPDEF.

## Working with BAS transient data queue resource definitions

---

Transient data queue definitions describe intrapartition, extrapartition, indirect, and remote transient data destinations.

### Viewing transient data queue definitions

You can view information about your existing TDQUEUE resource definitions using the CICS Explorer or the Web User Interface.

#### About this task

The BAS resource object that represents a TDQUEUE definition is called TDQDEF. The **Transient data queue definitions** view in the Web User Interface displays information about existing TDQUEUE definitions.

#### Procedure

1. From the main menu, click **Administration**.
2. From the **Administration views menu**, click either **Basic CICS resource administration** or **Fully functional Business Application Services (BAS) administration**.
3. Click **CICS resource definitions** to display the **CICS resource definitions** view.
4. Click **Transient data queue definitions**.

#### Results

The Web User Interface displays the list of TDQUEUE definitions.

#### What to do next

From this view you can also create, update, install, or remove TDQUEUE definitions.

#### Related tasks

[Defining transient data queues using BAS](#)

You define a TDQUEUE resource by creating a BAS resource object, TDQDEF.

[Installing BAS transient data queue definitions](#)

Install the BAS resource object for the TDQUEUE resource to make the definition available in the CICS region.

## Defining transient data queues using BAS

You define a TDQUEUE resource by creating a BAS resource object, TDQDEF.

#### About this task

You can define the resource object using the CICS Explorer or the Web User Interface. These instructions explain the procedure for the Web User Interface.

#### Procedure

1. From the main menu, click **Administration > Basic CICS resource administration > Resource definitions > Transient data queue definitions**.
2. From the **Transient data queue definitions** view, click the **Create...** button.  
To use an existing definition as the basis of the new one, click the check box before clicking the **Create...** button.  
The **Transient data queue definitions** create view is displays.
3. Complete the relevant fields and click **Yes** to create the definition.

## Results

The **Transient data queue definitions** view displays showing the new definition.

## What to do next

To add the definition to a resource group, click the **Add to resource group...** button.

### Related tasks

[Viewing transient data queue definitions](#)

You can view information about your existing TDQUEUE resource definitions using the CICS Explorer or the Web User Interface.

[Installing BAS transient data queue definitions](#)

Install the BAS resource object for the TDQUEUE resource to make the definition available in the CICS region.

## Installing BAS transient data queue definitions

Install the BAS resource object for the TDQUEUE resource to make the definition available in the CICS region.

### Before you begin

You must have created the required resource object in the data repository to install the TDQUEUE resource in the CICS region.

### About this task

You can install the BAS resource object using the CICS Explorer or the Web User Interface. These instructions explain the procedure for the Web User Interface.

### Procedure

1. From the main menu, click **Administration > Basic CICS resource administration > Resource definitions > Transient data queue definitions**.
2. Click the Record check box to select a transient data queue definition and click the **Install...** button.  
Alternatively, click a transient data queue definition name and click the **Install...** button on the **Transient data queue definitions** detailed view.

## Results

The TDQUEUE resource installs in the specified CICS region.

## What to do next

After the resource installs successfully, you can inquire about the resource by clicking **CICS operations > Transient data queue (TDQ) operations views**.

### Related tasks

[Viewing transient data queue definitions](#)

You can view information about your existing TDQUEUE resource definitions using the CICS Explorer or the Web User Interface.

[Defining transient data queues using BAS](#)

You define a TDQUEUE resource by creating a BAS resource object, TDQDEF.

## Working with BAS terminal resource definitions

---

Terminal resource definitions describe the unique characteristics of the terminal devices, including visual display units, printers, and operating system consoles, with which CICS communicates.

### Viewing terminal definitions

You can view information about your existing TERMINAL resource definitions using the CICS Explorer or the Web User Interface.

#### About this task

The BAS resource object that represents a TERMINAL definition is called TERMDEF. The **Terminal definitions** view in the Web User Interface displays information about existing TERMINAL definitions.

#### Procedure

1. From the main menu, click **Administration**.
2. From the **Administration views menu**, click either **Basic CICS resource administration** or **Fully functional Business Application Services (BAS) administration**.
3. Click **CICS resource definitions** to display the **CICS resource definitions** view.
4. Click **Terminal definitions**.

#### Results

The Web User Interface displays the list of TERMINAL definitions.

#### What to do next

From this view you can also create, update, install, or remove TERMINAL definitions.

#### Related tasks

[Defining terminals using BAS](#)

You define a TERMINAL resource by creating a BAS resource object, TERMDEF.

[Installing BAS terminal definitions](#)

Install the BAS resource object for the TERMINAL resource to make the definition available in the CICS region.

## Defining terminals using BAS

You define a TERMINAL resource by creating a BAS resource object, TERMDEF.

#### About this task

You can define the resource object using the CICS Explorer or the Web User Interface. These instructions explain the procedure for the Web User Interface.

#### Procedure

1. From the main menu, click **Administration > Basic CICS resource administration > Resource definitions > Terminal definitions**.
2. From the **Terminal definitions** view, click the **Create...** button.  
To use an existing definition as the basis of the new one, click the check box before clicking the **Create...** button.  
The **Terminal definitions** create view displays.
3. Complete the relevant fields and click **Yes** to create the definition.

## Results

The **Terminal definitions** view displays showing the new definition.

## What to do next

To add the definition to a resource group, click the **Add to resource group...** button.

### Related tasks

#### [Viewing terminal definitions](#)

You can view information about your existing TERMINAL resource definitions using the CICS Explorer or the Web User Interface.

#### [Installing BAS terminal definitions](#)

Install the BAS resource object for the TERMINAL resource to make the definition available in the CICS region.

## Installing BAS terminal definitions

Install the BAS resource object for the TERMINAL resource to make the definition available in the CICS region.

### Before you begin

You must have created the required resource object in the data repository to install the TERMINAL resource in the CICS region.

### About this task

You can install the BAS resource object using the CICS Explorer or the Web User Interface. These instructions explain the procedure for the Web User Interface.

### Procedure

1. From the main menu, click **Administration > Basic CICS resource administration > Resource definitions > Terminal definitions**.
2. Click the Record check box to select a terminal definition and click the **Install...** button.  
Alternatively, click a terminal definition name and click the **Install...** button on the **Terminal definitions** detailed view.

## Results

The TERMINAL resource installs in the specified CICS region.

## What to do next

After the TERMINAL resource installs successfully, you can inquire on the resource by clicking **CICS operations > Terminal operations views**.

### Related tasks

#### [Viewing terminal definitions](#)

You can view information about your existing TERMINAL resource definitions using the CICS Explorer or the Web User Interface.

#### [Defining terminals using BAS](#)



You define a TERMINAL resource by creating a BAS resource object, TERMDEF.

## Working with BAS transaction resource definitions

---

Transaction definitions describe how transactions are to run in a CICS region.

### Viewing transaction definitions

You can view information about your existing transaction resource definitions using the CICS Explorer or the Web User Interface.

#### About this task

The BAS resource object that represents a transaction definition is called TRANDEF. The **Transaction definitions** view in the Web User Interface displays information about existing transaction definitions.

#### Procedure

1. From the main menu, click **Administration**.
2. From the **Administration views menu**, click either **Basic CICS resource administration** or **Fully functional Business Application Services (BAS) administration**.
3. Click **CICS resource definitions** to display the **CICS resource definitions** view.
4. Click **Transaction definitions**.

#### Results

The Web User Interface displays the list of transaction definitions.

#### What to do next

From this view you can also create, update, install, or remove transaction definitions.

#### Related tasks

[Defining transactions using BAS](#)

You define a transaction resource by creating a BAS resource object, TRANDEF.

[Installing BAS transaction definitions](#)

Install the BAS resource object for the transaction resource to make the definition available in the CICS region.

### Defining transactions using BAS

You define a transaction resource by creating a BAS resource object, TRANDEF.

#### About this task

You can define the resource object using the CICS Explorer or the Web User Interface. These instructions explain the procedure for the Web User Interface.

#### Procedure

1. From the main menu, click **Administration > Basic CICS resource administration > Resource definitions > Transaction definitions**.
2. From the **Transaction definitions** view, click the **Create...** button.  
To use an existing definition as the basis of the new one, click the check box before clicking the **Create...** button.  
The **Transaction definitions** create view is displayed.
3. Complete the relevant fields and click **Yes** to create the definition.

## Results

The **Transaction definitions** view displays showing the new definition.

## What to do next

To add the definition to a resource group, click the **Add to resource group...** button.

### Related tasks

[Viewing transaction definitions](#)

You can view information about your existing transaction resource definitions using the CICS Explorer or the Web User Interface.

[Installing BAS transaction definitions](#)

Install the BAS resource object for the transaction resource to make the definition available in the CICS region.

## Installing BAS transaction definitions

Install the BAS resource object for the transaction resource to make the definition available in the CICS region.

### Before you begin

You must have created the required resource object in the data repository to install the transaction resource in the CICS region.

### About this task

You can install the BAS resource object using the CICS Explorer or the Web User Interface. These instructions explain the procedure for the Web User Interface.

### Procedure

1. From the main menu, click **Administration > Basic CICS resource administration > Resource definitions > Transaction definitions**.
2. Click the Record check box to select a transaction definition and click the **Install...** button.  
Alternatively, click a transaction definition name and click the **Install...** button on the **Transaction definitions** detailed view.

## Results

The TRANSACTION resource installs in the specified CICS region.

## What to do next

After the resource installs successfully, you can inquire on the resource by clicking **CICS operations > Transaction operations views**.

### Related tasks

[Viewing transaction definitions](#)

You can view information about your existing transaction resource definitions using the CICS Explorer or the Web User Interface.

[Defining transactions using BAS](#)

You define a transaction resource by creating a BAS resource object, TRANDEF.

## Working with BAS transaction class definitions

---

Transaction class definitions describe the operational characteristics for transactions belonging to the class.

### Viewing transaction class definitions

You can view existing information about your transaction class definitions using the CICS Explorer or the Web User Interface.

#### About this task

The BAS resource object that represents a transaction class definition is called TRNCLDEF. The **Transaction definitions** view in the Web User Interface displays information about existing transaction class definitions.

#### Procedure

1. From the main menu, click **Administration views**.
2. From the **Administration views menu**, click either **Basic CICS resource administration views** or **Fully functional Business Application Services (BAS) administration views**.
3. Click **CICS resource definitions** to display the **CICS resource definitions** view.
4. Click **Transaction definitions**.

#### Results

The Web User Interface displays the list of transaction class definitions.

#### What to do next

From this view you can also create, update, install, or remove transaction class definitions.

#### Related tasks

[Defining transaction classes using BAS](#)

You define a transaction class resource by creating a BAS resource object, TRNCLDEF.

[Installing BAS transaction class definitions](#)

Install the BAS resource object for the transaction class resource to make the definition available in the CICS region.

## Defining transaction classes using BAS

You define a transaction class resource by creating a BAS resource object, TRNCLDEF.

#### About this task

You can define the resource object using the CICS Explorer or the Web User Interface. These instructions explain the procedure for the Web User Interface.

#### Procedure

1. From the main menu, click **Administration > Basic CICS resource administration > Resource definitions > Transaction class definitions**.
2. From the **Transaction class definitions** view, click the **Create...** button.  
To use an existing definition as the basis of the new one, click the check box before clicking the **Create...** button.  
The **Transaction class definitions** create view is displayed.
3. Complete the relevant fields and click **Yes** to create the definition.

## Results

The **Transaction class definitions** view displays showing the new definition.

## What to do next

To add the definition to a resource group, click the **Add to resource group...** button.

### Related tasks

[Viewing transaction class definitions](#)

You can view existing information about your transaction class definitions using the CICS Explorer or the Web User Interface.

[Installing BAS transaction class definitions](#)

Install the BAS resource object for the transaction class resource to make the definition available in the CICS region.

## Installing BAS transaction class definitions

Install the BAS resource object for the transaction class resource to make the definition available in the CICS region.

### Before you begin

You must have created the required resource object in the data repository to install the transaction class resource in the CICS region.

### About this task

You can install the BAS resource object using the CICS Explorer or the Web User Interface. These instructions explain the procedure for the Web User Interface.

### Procedure

1. From the main menu, click **Administration > Basic CICS resource administration > Resource definitions > Transaction class definitions**.
2. Click the Record check box to select a transaction class definition and click the **Install...** button.  
Alternatively, click a transaction class definition name and click the **Install...** button on the **Transaction class definitions** detailed view.

## Results

The resource installs into the specified CICS region.

### Related tasks

[Viewing transaction class definitions](#)

You can view existing information about your transaction class definitions using the CICS Explorer or the Web User Interface.

[Defining transaction classes using BAS](#)

You define a transaction class resource by creating a BAS resource object, TRNCLDEF.

## Working with BAS temporary storage model definitions

---

Temporary storage definitions describe the attributes that govern the characteristics of CICS temporary storage queues.

### Viewing temporary storage model definitions

You can view existing information about your temporary storage model definitions using the CICS Explorer or the Web User Interface.

#### About this task

The BAS resource object that represents a transaction class definition is called TSMDEF. The **Temporary storage model definitions** view in the Web User Interface displays information about existing transaction class definitions.

#### Procedure

1. From the main menu, click **Administration**.
2. From the **Administration views menu**, click either **Basic CICS resource administration** or **Fully functional Business Application Services (BAS) administration**.
3. Click **CICS resource definitions** to display the **CICS resource definitions** view.
4. Click **Temporary storage model definitions**.

#### Results

The Web User Interface displays the list of temporary storage model definitions.

#### What to do next

From this view you can also create, update, install, or remove temporary storage model definitions.

#### Related tasks

[Defining temporary storage models using BAS](#)

You define a temporary storage queue by creating a BAS resource object, TSMDEF.

[Installing BAS temporary storage model definitions](#)

Install the BAS resource object for the TSMODEL resource to make the definition available in the CICS region.

## Defining temporary storage models using BAS

You define a temporary storage queue by creating a BAS resource object, TSMDEF.

#### About this task

You can define the resource object using the CICS Explorer or the Web User Interface. These instructions explain the procedure for the Web User Interface.

#### Procedure

1. From the main menu, click **Administration > Basic CICS resource administration > Resource definitions > Temporary storage model definitions**.
2. From the **Temporary storage model definitions** view, click the **Create...** button.  
To use an existing definition as the basis of the new one, click the check box before clicking the **Create...** button.  
The **Temporary storage model definitions** create view displays.
3. Complete the relevant fields and click **Yes** to create the definition.

## Results

The **Temporary storage model definitions** view displays showing the new definition.

## What to do next

To add the definition to a resource group, click the **Add to resource group...** button.

### Related tasks

[Viewing temporary storage model definitions](#)

You can view existing information about your temporary storage model definitions using the CICS Explorer or the Web User Interface.

[Installing BAS temporary storage model definitions](#)

Install the BAS resource object for the TSMODEL resource to make the definition available in the CICS region.

## Installing BAS temporary storage model definitions

Install the BAS resource object for the TSMODEL resource to make the definition available in the CICS region.

### Before you begin

You must have created the required resource object in the data repository to install the TSMODEL resource in the CICS region.

### About this task

You can install the BAS resource object using the CICS Explorer or the Web User Interface. These instructions explain the procedure for the Web User Interface.

### Procedure

1. From the main menu, click **Administration > Basic CICS resource administration > Resource definitions > Temporary storage model definitions**.
2. Click the Record check box to select a temporary storage model definition and click the **Install...** button.  
Alternatively, click a temporary storage model definition name and click the **Install...** button on the **Temporary storage model definitions** detailed view.

## Results

The temporary storage model resource installs in the specified CICS region.

## What to do next

After the temporary storage definition installs, you can inquire about the resource by clicking **CICS operations > Temporary storage queue (TSQ) operations views**

### Related tasks

[Viewing temporary storage model definitions](#)

You can view existing information about your temporary storage model definitions using the CICS Explorer or the Web User Interface.

[Defining temporary storage models using BAS](#)

You define a temporary storage queue by creating a BAS resource object, TSMDEF.

## Working with BAS typeterm resource definitions

---

Typeterm definitions are partial terminal definitions that describe a set of common attributes for a group of terminals.

### Viewing typeterm definitions

You can view existing information about your typeterm definitions using the CICS Explorer or the Web User Interface.

#### About this task

The BAS resource object that represents a typeterm definition is called TYPTMDEF. The **Typeterm definitions** view in the Web User Interface displays information about existing typeterm definitions.

#### Procedure

1. From the main menu, click **Administration**.
2. From the **Administration views menu**, click either **Basic CICS resource administration** or **Fully functional Business Application Services (BAS) administration**.
3. Click **CICS resource definitions** to display the **CICS resource definitions** view.
4. Click **Typeterm definitions**.

#### Results

The Web User Interface displays the list of typeterm definitions.

#### What to do next

From this view you can also create, update, install, or remove typeterm definitions.

#### Related tasks

[Defining typeterms using BAS](#)

You define a typeterm resource by creating a BAS resource object, TYPTMDEF.

[Installing BAS typeterm definitions](#)

Install the BAS resource object for the TYPETERM resource to make the definition available in the CICS region.

## Defining typeterms using BAS

You define a typeterm resource by creating a BAS resource object, TYPTMDEF.

#### About this task

You can define the resource object using the CICS Explorer or the Web User Interface. These instructions explain the procedure for the Web User Interface.

#### Procedure

1. From the main menu, click **Administration > Basic CICS resource administration > Resource definitions > Typeterm definitions**.
2. From the **Typeterm definitions** view, click the **Create...** button.  
To use an existing definition as the basis of the new one, click the check box before clicking the **Create...** button.  
The **Typeterm definitions** create view displays.
3. Complete the relevant fields and click **Yes** to create the definition.

## Results

The **Typeterm definitions** view displays showing the new definition.

## What to do next

To add the definition to a resource group, click the **Add to resource group...** button.

### Related tasks

[Viewing typeterm definitions](#)

You can view existing information about your typeterm definitions using the CICS Explorer or the Web User Interface.

[Installing BAS typeterm definitions](#)

Install the BAS resource object for the TYPETERM resource to make the definition available in the CICS region.

## Installing BAS typeterm definitions

Install the BAS resource object for the TYPETERM resource to make the definition available in the CICS region.

### Before you begin

You must have created the required resource object in the data repository to install the TYPETERM resource in the CICS region.

### About this task

You can install the BAS resource object using the CICS Explorer or the Web User Interface. These instructions explain the procedure for the Web User Interface.

### Procedure

1. From the main menu, click **Administration > Basic CICS resource administration > Resource definitions > Typeterm definitions**.
2. Click the Record check box to select a typeterm definition and click the **Install...** button.  
Alternatively, click a typeterm definition name and click the **Install...** button on the **Typeterm definitions** detailed view.

## Results

The TYPETERM resource installs in the specified CICS region.

## What to do next

After the resource installs successfully, you can inquire on the resource by clicking **CICS operations > Terminal operations views**

### Related tasks

[Viewing typeterm definitions](#)

You can view existing information about your typeterm definitions using the CICS Explorer or the Web User Interface.

[Defining typeterms using BAS](#)



You define a typeterm resource by creating a BAS resource object, TYPTMDEF.

## Working with BAS URIMAP resource definitions

---

A URIMAP resource definition matches the URIs of HTTP or web service requests.

### Viewing URI mapping definitions

You can view information about your existing URIMAP resource definitions using the CICS Explorer or the Web User Interface.

#### About this task

The BAS resource object that represents a URIMAP resource definition is called URIMPDEF. The **URI mapping definitions** view in the Web User Interface displays information about existing typeterm definitions.

#### Procedure

1. From the main menu, click **Administration views**.
2. From the **Administration views menu**, click either **Basic CICS resource administration views** or **Fully functional Business Application Services (BAS) administration views**.
3. Click **CICS resource definitions** to display the **CICS resource definitions** view.
4. Click **URI mapping definitions**.

#### Results

The Web User Interface displays the list of URIMAP definitions.

#### What to do next

From this view you can also create, update, install, or remove URIMAP definitions.

#### Related tasks

[Defining URIMAP definitions using BAS](#)

You define a URIMAP resource by creating a BAS resource object, URIMPDEF.

[Installing BAS URI mapping definitions](#)

Install the BAS resource object for the URIMAP resource to make the definition available in the CICS region.

## Defining URIMAP definitions using BAS

You define a URIMAP resource by creating a BAS resource object, URIMPDEF.

#### About this task

You can define the resource object using the CICS Explorer or the Web User Interface. These instructions explain the procedure for the Web User Interface.

#### Procedure

1. From the main menu, click **Administration > Basic CICS resource administration > Resource definitions > URI mapping definitions**.
2. From the **URI mapping definitions** view, click the **Create...** button.  
To use an existing definition as the basis of the new one, click the check box before clicking the **Create...** button.  
The **URI mapping definitions** create view is displayed.
3. Complete the relevant fields and click **Yes** to create the definition.

## Results

The **URI mapping definitions** view displays showing the new definition.

## What to do next

To add the definition to a resource group, click the **Add to resource group...** button.

### Related tasks

[Viewing URI mapping definitions](#)

You can view information about your existing URIMAP resource definitions using the CICS Explorer or the Web User Interface.

[Installing BAS URI mapping definitions](#)

Install the BAS resource object for the URIMAP resource to make the definition available in the CICS region.

## Installing BAS URI mapping definitions

Install the BAS resource object for the URIMAP resource to make the definition available in the CICS region.

### Before you begin

You must have created the required resource object in the data repository to install the URIMAP resource in the CICS region.

### About this task

You can install the BAS resource object using the CICS Explorer or the Web User Interface. These instructions explain the procedure for the Web User Interface.

### Procedure

1. From the main menu, click **Administration > Basic CICS resource administration > Resource definitions > URI mapping definitions**.
2. Click the Record check box to select a URI map definition and click the **Install...** button. Alternatively, click a URI map definition name and click the **Install...** button on the **URI mapping definitions** detailed view.

## Results

The URIMAP resource installs in the specified CICS region.

### Related tasks

[Viewing URI mapping definitions](#)

You can view information about your existing URIMAP resource definitions using the CICS Explorer or the Web User Interface.

[Defining URIMAP definitions using BAS](#)

You define a URIMAP resource by creating a BAS resource object, URIMPDEF.

## Working with BAS web service resource definitions

---

A web service resource definition defines aspects of the runtime environment for a CICS application program deployed as a web service, where mapping between application data structure and SOAP messages has been generated using the CICS web services assistant.

### Viewing web service definitions

You can view information about your existing WEBSERVICE resource definitions using the CICS Explorer or the Web User Interface.

#### About this task

The BAS resource object that represents a WEBSERVICE resource definition is called WEBSVDEF. The **Web service definitions** view in the Web User Interface displays information about existing web service definitions.

#### Procedure

1. From the main menu, click **Administration views**.
2. From the **Administration views menu**, click either **Basic CICS resource administration views** or **Fully functional Business Application Services (BAS) administration views**.
3. Click **CICS resource definitions** to display the **CICS resource definitions** view.
4. Click **Web service definitions**.

#### Results

The Web User Interface displays the list of WEBSERVICE definitions.

#### What to do next

From this view you can also create, update, install, or remove WEBSERVICE definitions.

#### Related tasks

[Defining web service definitions using BAS](#)

You define a URIMAP resource by creating a BAS resource object, WEBSVDEF.

[Installing BAS web service definitions](#)

Install the BAS resource object for the WEBSERVICE resource to make the definition available in the CICS region.

## Defining web service definitions using BAS

You define a URIMAP resource by creating a BAS resource object, WEBSVDEF.

#### About this task

You can define the resource object using the CICS Explorer or the Web User Interface. This procedure uses the Web User Interface.

#### Procedure

1. From the main menu, click **Administration > Basic CICS resource administration > Resource definitions > Web service definitions**.
2. From the **Web service definitions** view, click the **Create...** button.  
To use an existing definition as the basis of the new one, click the check box before clicking the **Create...** button.  
The **Web service definitions** create view displays.

3. Complete the relevant fields and click **Yes** to create the definition.

## Results

The **Web service definitions** view displays showing the new definition.

## What to do next

To add the definition to a resource group, click the **Add to resource group...** button.

### Related tasks

#### Viewing web service definitions

You can view information about your existing WEBSERVICE resource definitions using the CICS Explorer or the Web User Interface.

#### Installing BAS web service definitions

Install the BAS resource object for the WEBSERVICE resource to make the definition available in the CICS region.

## Installing BAS web service definitions

Install the BAS resource object for the WEBSERVICE resource to make the definition available in the CICS region.

### Before you begin

You must have created the required resource object in the data repository to install the WEBSERVICE resource in the CICS region.

### About this task

You can install the BAS resource object using the CICS Explorer or the Web User Interface. These instructions explain the procedure for the Web User Interface.

### Procedure

1. From the main menu, click **Administration > Basic CICS resource administration > Resource definitions > Web service definitions**.
2. Click the Record check box to select a web service definition and click the **Install...** button.  
Alternatively, click a web service definition name and click the **Install...** button on the **Web service definitions** detailed view.

## Results

The WEBSERVICE resource installs in the specified CICS region.

### Related tasks

#### Viewing web service definitions

You can view information about your existing WEBSERVICE resource definitions using the CICS Explorer or the Web User Interface.

#### Defining web service definitions using BAS

You define a URIMAP resource by creating a BAS resource object, WEBSVDEF.

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- [Developing applications](#)
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- Business Transaction Services

- Customization Guide
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- CICS Transactions
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