CICS Transaction Server for z/OS

SupportPac CS1I - CICSPlex SM IP Connector Utility

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Note!
Before using this information and the product it supports, be sure to read the general information under “Notices” on page 27

First edition (July 2007)

This edition applies to Version 1.0 of SupportPac CS1I - CICSPlex SM IP Connector Utility and to all subsequent versions, releases, and modifications until otherwise indicated in new editions.

Contents

CPSMIPCN, the CICSPlex SM IP Connector utility

This SupportPac™ describes the CICSPlex® SM Batch IP Connector utility program, CPSMIPCN. The CPSMIPCN utility program provides you with a specialized Batch command interface to the CICSPlex SM data repository. The command set provided will enable you to define all the objects necessary to establish an IP Interconnectivity environment in your CICSplex, with minimal User interface interactions. Providing that your command parameter content is correct, you should be able to define and install all of your IP connections from the submission of a single job stream. Once executed, you are able to tune and adjust your environment using the normal interactive facilities of the CICSPlex SM Web User Interface.

The intention of this utility is to allow you to execute a one-time job that will define the bulk of your IP Interconnections quickly and efficiently. If you decide that the resultant definition set is unsuitable in its default format and want to make some adjustments to the parameters in the job stream (or the model definition files), then we advise that you manually remove the TCPDEFs and IPCONDEFs that were generated. If the changes required are of a minor nature, you should implement them manually using the CICSPlex SM WUI, or the new EYU9XDBT utility. If you do not perform this manual process, your CICSPlex SM data repository may silt up with redundant IPCONDEF records.

Using the CICSPlex SM IP Connector utility, CPSMIPCN

CPSMIPCN, the CICSPlex SM IP Connector utility, uses the CICSPlex SM API to enable you to specify which CICS® regions are to be linked with IP Interconnectivity using some simple parameters in conjunction with a couple of model definition files. From these input sources, the utility will set up the CICSPlex SM definitions required for you to establish IP Interconnection links between CICS regions in your CICSplex. The model definition files and sample parameter files are all shipped in the CS1IJCL.XMT library.

Note: A CMAS that participates in the CICSplex in which you are creating definitions must be active when you run the CPSMIPC job – preferably the Maintenance Point for the CICSplex. Therefore, the CPSMIPC job must run in the same z/OS® image as the CMAS - there is no data set definition (DD) statement for the repository in the CPSMIPC JCL. This is because all access to the repository is through the CMAS, using the CICSPlex SM API.

You can use the CICSPlex SM IP Connector utility to perform all IPIC related definition activities once a CICSplex has been established. These activities are:

- Defining CICSPlex SM BAS TCPDEFs to a CICSplex
- Defining CICSPlex SM BAS IPCONDEFs to a CICSplex
- Defining CICSPlex SM BAS management objects to associate definitions to a target CICS region
- Installing the CICSPlex SM BAS definitions to activate them in a CICS region

A sample procedure provided, CPSMIPC0, shows you how to do these activities, see “Parameters used in CPSMIPC0” on page 6. This provides an easy example to allow you to try out the utility between a single pair of CICS regions. When you are satisfied that you understand how this program works, you may adapt CPSMIPC1 to perform a more widespread network configuration, see “Parameters used in CPSMIPC1” on page 9.

Data sets used by the CPSMIPCN utility program

If you look at the sample JCL provided in CPSMIPC or CPSMIPCP you will note that the actual program execution name is “IRXJCL”. This program is the MVS™ Batch REXX interpreter. CPSMIPCN is shipped as a REXX source file and is not executable in its native form. Therefore CPSMIPCN has to be identified to the REXX interpreter through the PARM value on the EXEC statement. Also, MVS needs to be instructed where to locate this REXX file, so a DD statement is necessary to identify its containing library:

SYSEXEC This DD statement references the library containing the CPSMIPCN REXX source file.

For initial setup, the CPSMIPCN utility program uses, in addition to information you provide, some predefined information supplied in the CS1IJCL.XMT library referenced by the following DD statements:

TCPDEF This DD statement references the member called CPUTLTCP, which provides default values in support of the LISTENER command. You can modify the TCPDEF attributes within it to suit your own installation requirements.

IPCONDEF This DD statement references the member called CPUTLIPC, which provides default values in support of the IPCONNECT command. You can modify the IPCONDEF attributes within it to suit your own installation requirements.

Note that the SENDCOUNT and RECEIVECOUNT values shipped in CPUTLIPC are identical. If you have requirement for and unbalanced specification (e.g. send count is 10, but receive count is 5), then the values in this member will be applied asis to the “From” region of an IPCONNECT command, but they will be flipped around before being applied to the “To” region partner. Please ensure that you understand this behaviour when defining unbalanced connections.

Parameters used in CPSMIPCP

CPSMIPCP is a JCL procedure used by the samples CPSMIPC0 and CPSMIPC1 to invoke the CPSMIPCN program. For descriptions of data sets used see “Data sets used by the CPSMIPCN utility program” on page 6

CS1IHLQ=’cpsm_level’
This is the data set high level qualifier that you unloaded the SupportPac files into.

CPSMHLQ=’cpsm_level’
This is the data set high level qualifier that your CICSPlex SM libraries have been assigned to.

Parameters used in CPSMIPC0

The CPSMIPC0 JCL sample provides a simple IP Connection sample between a pair of CICS regions, notionally named “CICS1” and “CICS2”. To execute this sample, you will have to define the CICS regions to CICSPlex SM, and provide values for their host names, port numbers and network IDs:

CPSMIPC0 is supplied with the following parameters, which you edit to specify your own names:

CONTEXT

This parameter sets the CICSPlex SM context within which the utility is to operate. It must specify a CICSplex name.

This parameter is used in the CPSMIPC0 job to enable the utility to locate your CICSplex. The format of the parameter to set the CICSplex context is:

```
CONTEXT plexname
```

where *plexname* is the name of the CICSplex to which you want the following IPIC definitions added.

OPTION FEEDBACK VERBOSE

This parameter sets a processing option for the job (or until the next OPTION FEEDBACK statement is encountered). FEEDBACK VERBOSE specifies that you want full CICSPlex SM API error reporting activated. The format of this parameter is:

```
OPTION FEEDBACK option
```

where *option* must specify VERBOSE or QUIET:

QUIET	means that only basic error messages are reported
VEROSE	means that CICSPlex SM feedback data (if available) will be reported

OPTION DUPREC UPDATE

This parameter sets a processing option for the job (or until the next OPTION DUPREC statement is encountered). DUPREC UPDATE specifies that if the current job encounters any Duplicate Record conditions when adding definitions, then an update is to be performed to modify the existing definition with the new one. The format of this parameter is:

```
OPTION DUPREC option
```

where *option* must specify UPDATE, SKIP or REJECT.

UPDATE	means that duplicate records will be updated. If a duplicate is detected for a base table that does not support update, then the resident record will be deleted, and a create operation will be performed for the new record.
SKIP	means that duplicate records will be skipped. The resident record will be left unmodified in the data repository and processing will continue as normal.
REJECT	means that a duplicate record condition is to be treated as a severe error, which will cause the current job stream to terminate.

We recommend that DUPREC UPDATE is the preferred setting for this parameter. Using DUPREC SKIP can cause inconsistencies between you TCPDEFs and IPCONDEFs that will not become apparent until execution time.

LISTENER REGION

This parameter specifies the name of the CICS region that is to have IP listener components defined to it.

The parameter and its sub-parameters have the following format:

```
LISTENER REGION  region_name –
         HOST    host_name –
         PORT    IP_port_number –
         NETID   Network_Id_of_region
```

where:

- REGION is the name of a CICS regions as defined to CICSPex SM in a CICS system definition (CSYSDEF) for the CICSplex.
- HOST is the name of the current CICS region according to the syntax rules for a CICS IPCONN definition.
- PORT is the IP port number that the region listens on
- NETID is the network identifier that your CICS region is associated with

IPCONNECT

This parameter specifies the names of the CICS regions that you want to couple using an IP Connection.

Note: Both of the region names must have LISTENER statements previously specified in the current parameter stream.

The format of this parameter for pairing CICS regions with IPIC is:

```
IPCONNECT fromRegionName TO toRegionName
```

There are no other sub-parameters. If the named CICS regions are active, then IP connections between them should activate after a brief delay. If the regions are not active, then the setting of the “Install BAS resources option” (AUTOINST) of the CSYSDEF of the target CICS region will determine the install action when the CICS region restarts.

Parameters used in CPSMIPC1

The CPSMIPC1 JCL sample provides a slightly more realistic parameter stream. It generates the definitions necessary to connect a notional TOR with three AORs:

CONTEXT

This parameter sets the CICSPlex SM context to the required CICSplex name.

OPTION FEEDBACK VERBOSE

This parameter sets the full error reporting process option.

OPTION DUPREC UPDATE

This parameter sets the Duplicate Record Update option. Note that with the supplied model definitions for the TCPDEF(CPUTLTCP) and the IPCONDEF(CPUTLIPC), the DEFVER specifies a value of 1. This means that if you resubmit the jobstream after it had previously completed some definitions successfully, then they should update without any modifications to the parameter stream.

LISTENER REGION xxxxxxx

This command is issued four times in sequence for regions MYTOR1 and MYAOR1 through MYAOR3. You should position all of the LISTENER commands together in your jobstream prior to any IPCONNECT commands.

IPCONNECT xxxxxxxx TO yyyyyyyy

This command is issued three times in sequence to connect the TOR to each of the AORs.

Objects generated by CPSMIPCN

CPSMIPCN uses standard existing CICSPlex SM API facilities to generate the definitions required to establish IP Interconnectivity. To enable this process, certain object naming standards have been employed:

LISTENER command objects

The parameters specified by the LISTENER command are amalgamated with existing CICSPlex SM definitions to produce the following object set:

RESDESC region_name:

A new RESDESC is created with the same name as that of the Region name specified by the LISTENER REGION parameter. The RESDESC will specify the CICS Region name as its Scope Name, and it will specify AUTOINSTALL(YES) to indicate that its associated definitions will install according to the "Install BAS resources option" (AUTOINST) setting of the CSYSDEF of the target CICS region startup. It will also state:
"**CPSMIPCN: ResDesc for rrrrrrrr**" in its DESCRIPTION attribute, where "rrrrrrrr" is the name of the target CICS region.

If a RESDESC is already defined with the same name as the CICS region, then the duplicate record rule specified by the OPTION DUPREC statement will dictate what action to take.

RESGROUP *region_name*:

A new RESGROUP is created with the same name as that of the Region name specified by the LISTENER REGION parameter. The RESGROUP will specify no other attributes other than a DESCRIPTION, which will state "**CPSMIPCN: Resgroup for rrrrrrrr**", where "rrrrrrrr" is the name of the target CICS region.

If a RESGROUP is already defined with the same name as the CICS region, then the duplicate record rule specified by the OPTION DUPREC statement will dictate what action to take.

RESINDSC *region_name region_name*:

A new RESINDSC is created to associate the previously defined RESGROUP and RESDESC objects. The RESINDSC will specify no other attributes.

If a RESINDSC is already defined, then the duplicate record rule specified by the OPTION DUPREC statement will dictate what action to take.

TCPDEF definition_name:

A new TCPDEF will be created whose name will be a concatenation of "IPCN" and the CICS SYSID value of the current LISTENER REGION specification. Therefore, if you specified a LISTENER definition for CICS region MYCICST1 that has a SYSID of MCT1, then the resulting TCPDEF will be named "IPCNMCT1". The TCPDEF DESCRIPTION attribute will comprise the port number and the region name. In this example the description value would be: "**CPSMIPCN: Port nnnnn (MYCICST1 Inbound)**", where nnnnn is the port number value.

The TCPDEF will be created with a version number of 1. This value is taken from the model definition member CPUTLTCP. It is recommended that you do not adjust this setting without due consideration of its implications. By setting it with a specific value (rather than 0), the definition is easily located should you decide to specify OPTION DUPREC UPDATE.

TCPINGRP region_name definition name:

A new TCPINGRP will be created to associate the new TCPDEF to the CICS region RESGROUP previously generated. This object is generated automatically by using the RESGROUP parameter within the CREATE TCPDEF command. Note that if the TCPDEF creation fails for any reason, then the TCPINGRP record will not be generated

Stacked IPCONDEF values

Some of the LISTENER attributes apply to the IP connection definition rather than the TCPIP Service definition. However, these values cannot be stored in an intermediate area with the CICSPlex SM Data repository. Therefore, they must be stacked internally within the program until an IPCONNECT command is executed that will exploit these values. This is why the program reports “Stacked IPCONDEF” parameters while executing a LISTENER command, and why an IPCONNECT command cannot execute unless a prior LISTENER command was executed in the current job stream for both regions being connected.

IPCONNECT command objects

The IPCONNECT command finalises a pair of IP connected regions by locating the parameter values stacked by the LISTENER command and amalgamating them with the model definitions in the CPUTLIPC member to produce the following object set:

IPCONDEF definition_name:

A new IPCONDEF will be created for each region named in an IPCONNECT command. Each IP Connection name will be generated from the SYSID value out of the CSYSDEF for each Region’s IP Connection Partner. Note that these IPCONDEF objects are models, and will have default values of “CPSMIPCN” specified for the TCP/IP service name, Remote application ID, Remote host name and Remote Network ID. The TCP/IP port number will be set to “12345”. All of these values will have appropriate substations applied to them by a RASGNDEF when the parent RESDESC is installed

The IPCONDEF will always be created with a version number of 1. This value is taken from the model definition member CPUTLIPC. Is is strongly recommended that you do not adjust this setting. Thus, the definition is easily located should you decide to specify OPTION DUPREC UPDATE.

Assume that you want to connect Region MYCICST1 (with SYSID “MCT1”) and Region MYCICSA5 (with SYSID MCA5). After the IPCONNECT command completes, MYCICST1 will have an IPCONDEF named MCA5 defined to it, and MYCICSA5 will have IPCONDEF MCT1 defined.

RESGROUP IPCN + Sysid:

A new RESGROUP is created with a name that is a concatenation of the characters “IPCN” and the CICS SYSID of the region that it will be associated with. This RESGROUP will be associated with the RESDESC object via a RASGNDEF. This group is required to hold the model IPCONDEF required by connection partner regions when building an IPCONN. The RESGROUP will specify no other attributes other than a DESCRIPTION, which will state “**CPSMIPCN: Resgroup for ssss RASGNDEFs**”, where “ssss” is the CICS SYSID of the target CICS region.

If a RESGROUP is already defined with the same name as the CICS region, then the duplicate record rule specified by the OPTION DUPREC statement will dictate what action to take.

RASGNDEF From_Sysid + To_Sysid:

A new RASGNEDF will be created to associate the new IPCONDEF to the CICS region RESDESC previously generated. Within this generated object, an override string will be included which will convert all of the model values in the source IPCONDEF to their required real values for the installed CICS environment. The RASGNEDEF name will be a concatenations of the “From” and “To” CICS region SYSIDs. The description field for each RASGNDEF will state: “**CPSMIPCN: RasgnDef for ssss**”, where “ssss” is the CICS SYSID of the “From” target region.

IPCINGRP Region_name Definition name:

A new IPCINGRP (RESINGRP) will be created to associate the new IPCONDEF model to the RASGNDEF RESGROUP previously generated. This object is generated automatically by concatenating the characters “IPCN” to the CICS SYSID of the region that is being processed. Note that if the IPCONDEF creation fails for any reason, then the IPCINGRP record will not be generated

Objects installed by CPSMIPCN

When the IPCONNECT command completes, its final action is to install each RESDESC identified by the regions named in the connection pair. This will cause all child subordinates of those RESDESCs to be installed in the Scope name specified in the RESDESC – which should be the CICS Region that matches the RESDESC name. Therefore each Region will have a new Listener TCPIPSERVICE installed, and a new IP Connection identified by the SYSID of its connection partner.

If one (or either) of the CICS regions is not active at IPCONNECT time, then the RESDESC should install automatically when the region is next started.

Note the subtle difference in use between the installed TCP/IP Service and the installed IP Connection: The TCP/IP Service pertains just to the local CICS region, and is installed through a static association between the definition and its parent RESDESC. However, an IP Connection identifies attributes associated with the local CICS region **and** its connection partner. Therefore discrete IP Connection definitions cannot be re-used between different IP Connections. A CICS region would require a separate IP Connection for each of its connection partners, and BAS has a limit of 15 definitions per object name. For this reason, an IPCONDEF model record is constructed for each CICS region, which specifies model values for all of its identifier attributes. These attributes are resolved into real values when the RASGNDEF associated with IPCONDEF is executed at RESDESC install time. This means that only one IPCONDEF is required for each CICS region, regardless of how many IP Connections a region will require. A separate, uniquely named RASGNDEF will be generated for each IP Connection required by a CICS region. This resolves the problem of exceeding the limit of multiple versions of an IPCONDEF with the same name.

Another point to be wary of is the use of the SENDCOUNT and RECEIVECOUNT model values shipped in the CPUTLIPC member. They are supplied with identical values. The values specified in the model file are applied directly to the “From” region IPCONDEF when executing an IPCONNECT command. However, the IPCONDEF build process allows for unbalanced specifications by flipping the SENDCOUNT and RECEIVECOUNT values before applying them to the “To” region IPCONDEF, thus pairing the SEND and RECEIVE values between the connection partners. Ensure that you understand this behaviour when defining unbalanced connections.

Handling multiple TCP/IP Ports on a Single Region

It may, in certain circumstances, be necessary to have multiple TCP/IP Ports on a single CICS Region dedicated to distinct sets of Target Region IPIC connections. Currently, only one TCPDEF is created and this will have the Port number of the last LISTENER command for the Region which successfully modified the definition.

In cases where multiple ports are required for a LISTENER Region, then these should be run as separate CPSMIPCN jobs. This will ensure that the IPCONNECT processing correctly assigns the appropriate port number to the IPIC Connection definitions. However, to provide the necessary TCPSERVICE definitions for these distinct IPIC connections, additional TCPDEFs must be defined and added to the RESGROUPs for each. Also the Resource Assignments that link the From_region with the To_region that use a new port number must be updated to reference the new TCPDEF. The RESDESC should then be explicitly installed, specifying FORCE=YES, to pick up the new resources.

For example:

- LISTENER TOR1 has port_number 1001 for IPIC connections to AOR1 and AOR2, and port_number 1002 for the IPIC connections to AOR3 and AOR4.

- Run a modified CPSMIPC1 job to build the definitions for TOR1 to AOR1 and AOR2. TCPDEF IPCNTOR1 has a port number of 1001 and is added to group applTOR1.

- Run a second modified CPSMIPC1 job with the definitions for TOR1 to AOR3 and AOR4 and OPTION DUPREC SKIP. This will create the IPIC connection definition setup which use port number 1002, but the TCPDEF IPCNTOR1 will still reference port number 1001.

- Use the Web User Interface to:
    1. Create a clone of TCPDEF IPCNTOR1 with a unique NAME e.g. IPCTOR1A, Resource Group = applTOR1 and Port Number = 1002.
    2. Update Resource Assignments TOR1AOR3 & TOR1AOR4 to change the referenced TCPIPSERVICE from IPCNTOR1 to IPCTOR1A
    3. Install Resdesc applTOR1 with Force Install Value = YES

Commands supported by the CPSMIPCN utility program

The CPSMIPCN utility program supports the following commands:

CONTEXT {*CICSplex_name***}**
Set the context for the commands that follow. The value of the CONTEXT parameter must be an existing CICSplex name. For examples of the CONTEXT command, see “Parameters used in CPSMIPC0” on page 6

OPTION *action*
Request the specified action that CPSMIPCN is to take during command processing. This can be either DUPREC or FEEDBACK. If you want both the DUPREC and FEEDBACK options, specify them on separate OPTION command statements. The DUPREC and FEEDBACK actions are defined as follows:

DUPREC {SKIP | UPDATE | REJECT}
DUPREC defines the action you want CPSMIPCN to take in the event of a duplicate record being found during processing. This must precede the LISTENER or IPCONNECT statement to which it refers. The possible options are as follows:

REJECT: If there is name duplication between an object being defined and an existing repository definition when processing a LISTENER or IPCONNECT 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 CPSMIPCN writes a message to the job log. CPSMIPCN raises return code 8 for a REJECT error. REJECT is the default option.

SKIP: If there is name duplication between an object being defined and an existing repository definition when processing a LISTENER or IPCONNECT 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 name duplication between an object being defined and an existing repository definition when processing a LISTENER or IPCONNECT command, the existing definition is updated with the attributes of the record being defined or imported. If the existing definition is one that cannot be updated by modifying specific attributes, it is deleted and recreated from the LISTENER or IPCONNECT command. This is handled as normal (return code 0). We recommend this option over SKIP and REJECT because it is possible for you to generate inconsistent IP connections that may not be discovered until execution time.

FEEDBACK {QUIET | VERBOSE}
FEEDBACK defines how you want CPSMIPCN to handle exception condition reporting in the event of an error being returned from the CICSPlex SM API. The possible options are as follows:

QUIET: CPSMIPCN writes only a basic CPSMIPCN message to the job log. See the CPSMI*nnnn* messages in “CICSPlex SM IP connector utility messages” on page 12. QUIET is the default FEEDBACK option.

VERBOSE: In addition to the CPSMI*nnnn* standard message reporting response and reason codes, CPSMIPCN writes any associated CICSPlex SM feedback data to the destination specified on the SYSTSPRT DD statement.

LISTENER *parameters*

Prepare the CICSPlex SM definitions necessary to establish a TCP/IP Listener environment on a CICS region. The associated parameter specifications are:

REGION regionName:

This is the name of the CICS region that is to have a TCP/IP listener defined. The Region name must be the same as the CICSPlex SM CSYSDEF that defines the CICS region.

HOST hostName:

This is the host name of the CICS region that this listener is being defined to. The name must take the same syntax as the CICS IPCONN HOST parameter.

PORT portNumber:

This is the number of the TCP/IP port to be associated with the TCPIPSERVICE definition that will result from the execution of the current LISTENER command. The number must take the same syntax as the CICS TCPIPSERVICE PORTNUMBER parameter.

NETID networkName:

This is the name of the Network that the current CICS region is defined to. The Network name must take the same syntax as the CICS IPCONN NETWORKID parameter.

CODEPAGE pageNo:

This is the value of the Codepage to be assigned to the Description attributes of the TCPDEF and IPCONDEF objects generated by this LISTENER command. It is optional and will be assigned a default value of 37.

IPCONNECT fromRegionName TO toRegionName

Complete the CICSPlex SM definitions necessary to establish an IP Interconnection between the named CICS Regions. Both named Regions must have a LISTENER definition in the current parameter stream prior to this IPCONNECT command.

Note: CPSMIPCN reads and processes all commands in the input stream sequentially. Ensure you specify the commands in the right sequence, with commands such as OPTION DUPREC and OPTION FEEDBACK preceding the commands to which they relate and operate on.

Error handling

There are two levels of error that can occur in CPSMIPCN utility program processing, which are as follows:

- Errors in the command parameter stream that are detected by CPSMIPCN. CPSMIPCN 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 terminates processing without reading any more commands, and issues message “CPSMI0048E Data stream rejected.” which gives RC 12.
- Errors in the CICSPlex SM API detected by CICSPlex SM when it is processing calls from CPSMIPCN. If a command and its parameters are recognized by CPSMIPCN it calls CICSPlex SM to perform the specified action. However, if CICSPlex SM detects an error, only that command fails (with return code 8 or 12) and CPSMIPCN continues with the next command.

Appendix. CICSPlex SM IP Connector utility messages

There are two groups of messages associated with CPSMIPCN. They are:

- "CICSPlex SM IP Connector utility messages"
- "Severity codes" on page 20

CICSPlex SM IP Connector utility messages

The following messages are issued by the CICSPlex SM batch utility program, CPSMIPCN, and written to the SYSTSPRT output queue.

CPSMI0001I Initializing CICSPlex SM API environment.

Explanation: This shows a successful start for the batch process.

System action: The CICSPlex SM IP Connector utility continues to run.

User response: None

CPSMI0002S CICSPlex SM API environment initialization has failed.

Explanation: The EYUINIT() program has failed to initialize because it was unable to access or run the CICSPlex SM initialization program.

System action: The CICSPlex SM IP Connector utility stops.

User response: Either your REXX or CICSPlex SM environment is not properly installed.

CPSMI0003E CONTEXT must be the first command parameter.

Explanation: The CONTEXT parameter in the CPSMIPC job is not the first option. The first occurrence of the CONTEXT command parameter in the CPSMIPC job defines the name of the CMAS.

System action: The CICSPlex SM IP Connector utility stops.

User response: Edit the CPSMIPC job and move the CONTEXT parameter to the beginning. Refer to "Parameters used in CPSMIPC0" on page 6 for more details.

CPSMI0004W Data following CONTEXT Value has been ignored.

Explanation: The only data that should be associated with the CONTEXT parameter is the name of the context.

System action: The CICSPlex SM IP Connector utility stops.

User response: Edit the CPSMIPC job and delete the extraneous data. Refer to "Parameters used in CPSMIPC0" on page 6 for more details.

CPSMI0005E CONTEXT must be the first command specification of the CPSMDEFS input stream.

Explanation: The CONTEXT parameter in the CPSMIPC job is not the first option.

System action: The CICSPlex SM IP Connector utility stops.

User response: Edit the CPSMIPC job and move the CONTEXT parameter to the beginning. Refer to "Parameters used in CPSMIPC0" on page 6 for more details.

CPSMI0013I Processing complete.

Explanation: This shows a successful end for the batch process.

System action: The CICSPlex SM IP Connector utility stops.

User response: None

CPSMU0015E LISTENER parameters incomplete.

Explanation: One or more of the parameters following the LISTENER command are missing. The parameters are REGION, HOST, PORT and NETID.

System action: The CICSPlex SM IP Connector utility stops.

User response: Edit the CPSMIPCN job and ensure that all the parameters are present for all your regions.

CPSMU0017E Resource *resourcetype* **not consistent with context type.**

Explanation: The CICSPlex is not defined as part of the CMAS name.

System action: The CICSPlex SM IP Connector utility stops.

User response: Edit the CPSMIPCN job and ensure that the context addresses the correct CICSplex name.

CPSMU0019I Installation objects already exist for for *resourcetype resourcename***.**

Explanation: An attempt to install the named object has failed because it already exists in the target region.

System action: The CICSPlex SM IP Connector utility continues to the next command.

User response: If the content of the currently installed object is different from that of your IPCONNECT command, then delete the current object and run CPSMIPCN again.

CPSMI0020W Object installation failed for *resourcetype resourcename***.**

Explanation: The named object has not been installed.

System action: The CICSPlex SM IP Connector utility continues.

User response: For further error diagnostics, re-run CPSMIPCN specifying OPTION FEEDBACK VERBOSE.

CPSMI0021I Object installation successful for *resourcetype resourcename***.**

Explanation: The object has been installed.

System action: The CICSPlex SM IP Connector utility continues.

User response: None

CPSMI0022I Object creation successful for *resourcetype resourcename***.**

Explanation: The object has been created successfully.

System action: The CICSPlex SM IP Connector utility continues.

User response: None

CPSMI0023E Object Creation failed for *resourcetype resourcename***.**

Explanation: There is already an object with the same name defined.

System action: The CICSPlex SM IP Connector utility stops.

User response: Either rename the new object or remove the existing object if appropriate.

CPSMI0024I Establishing connection to CONTEXT *contextname***.**

Explanation: The CICSPlex SM IP Connector utility is attempting to establish a connection to the named context.

System action: The CICSPlex SM IP Connector utility continues.

User response: None

CPSMI0025I Terminating connection from CONTEXT *contextname***.**

Explanation: The CICSPlex SM IP Connector utility is disconnecting from the named context.

System action: The CICSPlex SM IP Connector utility continues.

User response: None

CPSMI0026E Resource Type *resourcetype* **is not recognized, request rejected.**

Explanation: The Resource Type has not been recognized.

System action: The CICSPlex SM IP Connector utility stops.

User response: Edit the CPSMIPCN job and enter a valid CICSPlex SM resource type.

CPSMI0027E Object *objectType objectname* **within the current Context** *contextname* **could not be located in the CICSPlex SM data repository.**

Explanation: The named object is either not defined in the CICSPlex SM data repository, or it is defined - but not within the current CONTEXT assignment.

System action: CPSMIPCN processing will continue to the next command.

User response: If you know that the named object has been defined, ensure that is applicable to the previously set CONTEXT value. Otherwise the object name itself must be corrected. Refer to “Parameters used in CPSMIPC0” on page 6 to ensure that you have defined the CONTEXT correctly.

CPSMU0029E Object Deletion failed for *objectype objectname***.**

Explanation: The object could not be deleted as part of DUPREC UPDATE command processing.

System action: The CICSPlex SM IP Connector utility stops.

User response: Edit the CPSMIPCN job and enter a valid resource type.

CPSMI0030E Start of CICSPlex SM feedback data:

Explanation: This marks the start of the section that returns data from the system

System action: None

User response: None

CPSMI0031E End of CICSPlex SM feedback data.

Explanation: This marks the end of the section that returns data from the system

System action: None

User response: None

CPSMI0032E Command verb is invalid.

Explanation: The command verb in invalid.

System action: The CICSPlex SM IP Connector utility stops.

User response: Correct the CPSMIPCN input stream.

CPSMI0033E Mandatory resource name parameter omitted.

Explanation: A valid parameter is missing.

System action: The CICSPlex SM IP Connector utility stops.

User response: Correct the CPSMIPCN input stream.

CPSMU0034E Mandatory resource type parameter omitted.

Explanation: A valid resource type is missing.

System action: The CICSPlex SM IP Connector utility stops.

User response: Correct the CPSMIPCN input stream.

CPSMI0035E Command parameter repeated.

Explanation: A command parameter has been used twice in the batch program.

System action: The CICSPlex SM IP Connector utility stops.

User response: Correct the CPSMIPCN input stream.

CPSMI0036W *resourcetype resourcename* **has no active targets.**

Explanation: The named object could not be installed because its target CICS region was not active

System action: The CICSPlex SM IP Connector utility continues.

User response: Check that the objects installed by the current command are present when the target CICS region has initialized.

CPSMI0037E *DDname* **dataset is empty.**

Explanation: The named data set is empty or missing.

System action: The CICSPlex SM IP Connector utility stops.

User response: Ensure that the data set is present and that it has some contents.

CPSMI0038W No objects installed for *resourcetype resourcename*

Explanation: The installation request complete, but no objects were installed at the target region.

System action: The CICSPlex SM IP Connector utility continues.

User response: This has probably happened because the objects associated with the named object already exist in the target CICS region. If the installed objects do not have the same characteristics as those in the current job stream, then delete the CICS objects and run this job stream again.

CPSMI0039W Partial install completed for *resourcetype resourcename*

Explanation: The installation request complete, but not all objects were installed at the target region.

System action: The CICSPlex SM IP Connector utility continues.

User response: This has probably happened because some of the objects associated with the named object already exist in the target CICS region. If the installed objects do not have the same characteristics as those in the current job stream, then delete the CICS objects and run this job stream again.

CPSMI0040S TPARSE failed for ATTR data.

Explanation: The CICSPlex SM TPARSE command failed to access the attribute data in a resource table record. See the *CICSPlex SM Application Programming Guide* for more information about the TPARSE command.

System action: The CICSPlex SM IP Connector utility stops.

User response: Check the input stream is valid for the version of CICSPlex SM in use.

CPSMI0041S TBUILD failed for *resourceName* **data.**

Explanation: The CICSPlex SM TBUILD command failed to build a CICSPlex SM definition or a CICS resource table record from the data that was supplied. See the *CICSPlex SM Application Programming Guide* for more information about the TBUILD command.

System action: The CICSPlex SM IP Connector utility stops.

User response: Check the input stream is valid for the version of CICSPlex SM in use.

CPSMI0042S I/O error occurred reading *DDname* **dataset.**

Explanation: The CICSPlex SM IP Connector utility is unable to access the data set.

System action: The CICSPlex SM IP Connector utility stops.

User response: Check the attributes of the data set identified by DDname.

CPSMI0043S CICSPlex SM FEEDBACK OBJECT data is not available: RESP=*cpsmresponse* **REASON=***cpsmreason***.**

Explanation: CICSPlex SM is unable to create a buffer in preparation for receiving records.

System action: The CICSPlex SM IP Connector utility stops.

User response: Check the feedback *cpsmresponse* and *cpsmreason* codes to identify the reason for the feedback failure.

CPSMI0044S CICSPlex SM FEEDBACK data is not available: RESP=*cpsmresponse* **REASON=***cpsmreason***.**

Explanation: The feedback buffer has been created but there is no feedback date available to populate it.

System action: The CICSPlex SM IP Connector utility stops.

User response: Check the feedback *cpsmresponse* and *cpsmreason* codes to identify the cause of the feedback failure.

CPSMI0045S CICSPlex SM FEEDBACK cannot be extracted:

Explanation: This has received an attribute but CICSPlex SM is unable to provide feedback data.

System action: The CICSPlex SM IP Connector utility stops.

User response: Check for other messages to determine the cause of the problem.

CPSMI0046I CICSPlex SM API Response=*CPSMresponse* **Reason=***CPSMreason***.**

Explanation: This message is issued as part of another message.

System action: The CICSPlex SM IP Connector utility stops.

User response: Check the *cpsmresponse* and *cpsmreason* codes to identify the cause of the error.

CPSMI0047I Object *resourceType resourceName* **is a duplicate of an existing record. Record creation skipped.**

Explanation: The record already exists.

System action: The CICSPlex SM IP Connector utility continues.

User response: None

CPSMI0048E Data stream rejected.

Explanation: This message is issued as part of another message.

System action: The CICSPlex SM IP Connector utility stops.

User response: Refer to the initial message to decide the action that you should take.

CPSMI0049W Data following OPTION value has been ignored.

Explanation: There is invalid or additional data following the value associated with the OPTION parameter.

System action: The CICSPlex SM IP Connector utility continues.

User response: Edit the file to remove or modify the data.

CPSMI0050I *responseOption* **process OPTION has been set to** *responseValue***.**

Explanation: The values for *responseOption* are either FEEDBACK or DUPREC. The values of *responseValue* for the FEEDBACK option are either QUIET or VERBOSE. The values of *responseValue* for the DUPREC option are SKIP, OVERWRITE or REJECT. For more information, see the *CICSPlex SM Application Programming Reference* manual.

System action: The CICSPlex SM IP Connector utility continues.

User response: None

CPSMI0051I Object Update successful for *resourceType resourceName***.**

Explanation: The object has been updated successfully.

System action: The CICSPlex SM IP Connector utility continues.

User response: None

CPSMI0052E OPTION command verb is invalid.

Explanation: The OPTION command verb can be either DUPREC or FEEDBACK.

System action: The CICSPlex SM IP Connector utility stops.

User response: Check the syntax of your command. See “Commands supported by the CPSMIPCN utility program” on page 5.

CPSMI0053W *responseOption* **OPTION is invalid and has been forced to** *responseValue***.**

Explanation: The values for *responseOption* are either FEEDBACK or DUPREC. The values of *responseValue* for the FEEDBACK option are either QUIET or VERBOSE. The values of *responseValue* for the DUPREC option are SKIP, OVERWRITE or REJECT. For more information, see the *CICSPlex SM Application Programming Reference* manual. The CICSPlex SM IP Connector utility continues.

User response: None

CPSMI0054E *ModelType* **model record is invalid, and has been ignored.**

Explanation: The model record for the type reported is invalid.

System action: The CICSPlex SM IP Connector utility continues.

User response: None

CPSMI0056E ResourceType name is invalid

Explanation: You have tried to define a CICSPlex, region or group with a name that does not follow the CICSPlex SM naming standards.

System action: The program rejects the rest of the command stream and terminatess with return code 8.

User response: You should supply a name that follows the CICSPlex SM naming standards.

CPSMI0057I IPCONDEF parameters stacked for region *RegName* **are:**

Explanation: The program is reporting which values are being internally retained for reference by a later IPCONNECT command in the current parameter stream.

System action: The program retains the report parameter values internally.

User response: None.

CPSMI0058I Creating *ResourceType ResourceName* **for LISTENER|IPCONNECT objects:**

Explanation: The program is reporting the CICSPlex SM Object type and name that is about to be created in response to executing the reported Command.

System action: The program continues to construct the reported CICSPlex SM object.

User response: None.

CPSMI0059E Region *RegName* **is undefined. Cannot define LISTENER objects**

Explanation: You have tried to define a LISTENER for a CICS region whose name is unknown within the current CICSPlex context. The REGION parameter of a LISTENER command must identify a region name that has a CSYSDEF within the current CICSplex.

System action: The program rejects the rest of the command stream and terminates with return code 8.

User response: Either correct the REGION parameter to identify a known CICS region, or add a new CSYSDEF with the required name to the connected CICSplex (using the WUI or EYU9XDBT).

CPSMI0060E Region *RegName* **is undefined. Cannot generate IP Connection**

Explanation: You have tried to cpmplete an IPCONNECT command with a reference to a CICS region whose name is unknown within the current CICSPlex context. Both of the REGION parameters of an IPCONNECT command must identify region names that have CSYSDEFs within the current CICSplex.

System action: The program rejects the rest of the command stream and terminates with return code 8.

User response: Either correct the region names to identify known CICS Regions, or add new CSYSDEFs with the required names to the connected CICSplex (using the WUI or EYU9XDBT).

CPSMI0061E Unknown command verb: data. 'TO' expected

Explanation: You have not included the "TO" verb in an IPCONNECT command. The correct format is "IPCONNECT fromRegion TO toRegion".

System action: The program rejects the rest of the command stream and terminates with return code 8.

User response: Ensure that the "TO" verb is correctly inserted into your IPCONNECT commands.

CPSMI0062E No prior LISTENER for REGION *RegName* **was detected. Cannot generate IP Connection**

Explanation: You have tried to issue an IPCONNECT command for region that does not have a LISTENER command defined **in the current parameter stream**. IPCONNECT can only operate with CICS regions whose LISTENERs have been defined within the current parameter stream.

System action: The program rejects the rest of the command stream and terminates with return code 8.

User response: Either correct the IPCONNECT command to refer to CICS regions that have had LISTENERs defined with the current parameter stream, or add a LISTENER command for the missing CICS region into the parameter stream prior to the IPCONNECT command.

CPSMI0064I Installation of Listener definitions scheduled for Region *RegName*

Explanation: All definition objects for the named CICS region are complete. Their installation has been scheduled for the next available opportunity. If the region is currently active, then the connection should be established fairly quickly. Otherwise the connection will be established when both CICS regions have been started.

System action: The RESDESC that matches the CICS region's SYSID has been installed.

User response: Wait for the IPCONNs to activate before using them.

CPSMI0065W Object *ResourceName ResourceType* **has been defined, but could not be associated with RESGROUP** *RegName* **and may now be isolated**

Explanation: Having successfully created the named CICSPlex SM object, the program was unable to associate it with the named RESGROUP. This may be because of an existing link between the Object and the RESGROUP. Consequently, the resource created by the current command may be isolated and unusable.

System action: The program continues to complete the current command.

User response: USE the WUI MAP command to determine if there are any broken links between the object and the RESGROUP. These may be repaired manually by ensuring that the object just added is added to the name RESGROUP.

Severity codes

Certain messages, especially those associated with messages to terminal operators and messages which come from CICS utilities, have a severity code. (CPSMI0001S I, is an example.) A severity code indicates to the operator whether a message is associated with an error, and if so, how serious it is. The following severity codes are used:

E Error. Something has gone wrong and action is required of the user before CICSPlex SM processing can continue.

I Information only. No action is required.

W Alert. Something may have gone wrong, a program loop for example, but CICSPlex SM processing continues.

S Severe error. Something serious has gone wrong and immediate action is required. CICSPlex SM processing is suspended until action has been taken.

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