

# CICS Nuts, Bolts, and Gotchas:

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# Agenda

- Introduction
- Problems
- Documentation and Technotes
- Recent HIPER APARs
- Questions / Feedback



# INTRODUCTION

# Introduction

In this session we will talk about some of the most recent high severity problems (and their causes) that have come through to the support center. This will hopefully aid you in quickly resolving, or outright avoiding, these issues.





# PROBLEMS

# CICS transaction fails to consume messages from MQ alias queue

**Problem:** In a CICS environment connected to an MQ Manager, messages are not being consumed from the MQ despite the queue being set with TRIGGER TYPE=EVERY.

**Business impact:** Normal throughput affected.

**Cause:** The issue started after a CICS region restart, and it was found that the MQ ALIAS QUEUE which is a pointer to the queue, was inadvertently set with 'GET DISABLE', preventing the application from retrieving messages.

## Multiple tasks Abend AZI4

Problem: CICS transactions failing in production

Business Impact: Multiple applications came down in production

Cause: Tasks abended AZI4 which indicate the connected system has become unavailable for interregion communication. The connected region experienced a slowdown due to a connectivity issue with an external application leading to tasks backing up and the region going SOS.

Consider implementing TCLASS with reasonable MAXACTIVE limits to prevent CICS regions from going Short On Storage during similar incidents.

## Transaction abends in DFHD2EX1 after upgrade

Problem: CICS transactions abends [AD2W](#) after a call to DB2 after upgrading to z/OS 3.1. AD2W indicates the CICS-DB2 attachment facility issued a single-phase commit call to DB2 but received an unexpected response.

Business Impact: Critical transactions abending, cannot connect to DB2

Cause: Old LE modules in the SCEERUN in the job's STEPLIB were incompatible with newer LE/Cobol modules after migrating to z/OS 3.1. This caused abends and errors in the CICS transaction.

Removing the SCEERUN from the STEPLIB allowed everything to be loaded from the SCEERUN in SYSLIST

# Looping transactions

Problem: CICS region encountered a Short-On-Storage (SOS) condition in the EDSA

Business Impact: Production Region had to be shutdown to recover the SOS. Need to know root cause quickly before it can reoccur

Cause: The region went into SOS due to a user program looping and starting numerous transactions which were not TCLASSed and caused the region to consume an excessive amount of storage erroneously

## Abend0C7 error detected

Problem: Abend 0C7 errors were detected in User transaction

Business Impact: Transactions cannot be executed impacting end users

Cause: 0C7 abends indicate a data exception. The failing instruction is a ZERO and ADD(ZAP) instruction and we can see that the second operand is not in the correct form as this instruction expects a value in signed packed decimal format. This was due to an application issue not setting the operand as expected.

## DFHZC2300 recovery action requested for connection

Problem: After applying maintenance The following message is periodically seen in the logs:

**DFHZC2300 xxxxxxxx recovery action requested for connection xxxx**

Business Impact: Frequently seeing error message in the log

Cause: Message [DFHZC2300](#) was being put out because tasks began to remain suspended for a long time waiting for IRLINK. Their corresponding mirroring tasks in a connected region (through the MRO connection) were delayed in the return of responses to their associated control tasks due to that region being Short on storage (SOS).

# ASRA abends after recompile of Exit program

Problem: Receiving recursive ASRA abends in CICS program DFHXTENF

**DFHAP0701 xxxxxxxx An abend (code 0C4/AKEA) has occurred in exit program DFHXTENF at exit point XALTENF.**

Business Impact: Affecting major transactions

Cause: Exit program was translated and assembled like a normal application program. Instead, just assemble and linkedit them, exit programs should not be translated

# Transactions queuing due to deadlock

Problem: Transactions are queuing

Business Impact: Performance degradation in production regions

Cause: The issue was caused by a transaction deadlock between two CSMI transactions. Each transaction held a record lock the other needed and timed out after 2 minutes when the deadlock timeout (DTIMOUT) was reached.

[Transaction deadlocks](#)

[Resolving Deadlocks](#)

# 0CA when program uses C language return statements

Problem: 0CA abends are being produced by the environment. Abend 0CA indicates a decimal overflow.

Business Impact: Issue is causing latency in the environment effecting end users

Cause: Decimal overflows that would usually be ignored have now been externalized due to mask bits inadvertently being turned on. This happens because of a known issue for COBOL programs running an XML parser (or any other C application). This can set the Decimal Overflow mask to on while COBOL programs normally run with it disabled.

To avoid the bit being left on end your C programs with a [EXEC CICS RETURN](#) rather than with a C language return statement .

## CICS pipeline HTTP transport mechanism failed

Problem: After upgrade to CICS 6.1 WEBSERVICE requester DFHPIRT invoking a pipeline produces message:

**DFHPI0400 xxxxxxxxx CSMI The CICS pipeline HTTP transport mechanism failed to send a request because SSL is not supported in CICS. Problem occurred for URI xxxxxxxxxxxxxx**

Business Impact: Some services are unavailable

Cause: This DFHPI0400 message is showing that this CICS region is not configured to support SSL. Please follow the actions described in this link in order to configure this CICS region to use SSL:

[Configuring CICS to use SSL - IBM Documentation](#)



# DOCUMENTATION AND TECHNOTES

# Classifying and Dealing with the problem

In the books we have the [Classifying the problem](#) section which gives details on ways to classify your problem into one of the categories that we use in the support center for procedures or approaches on specific types of problem.

As a follow on to this section, we have the [Dealing with the problem](#) section which gives some approaches to find the cause of problems in these different areas that are used to classify problems.

[Dealing with transaction abend codes](#)

[Dealing with CICS system abends](#)

[Dealing with waits](#)

[Dealing with loops](#)

[Dealing with performance problems](#)

[Dealing with incorrect output](#)

[Dealing with storage violations](#)

[Dealing with external CICS interface \(EXCI\) problems](#)

[Dealing with TCP/IP connectivity problems](#)

[Dealing with autoinstall problems](#)

[Dealing with log manager problems](#)

# Must Gather Documentation

After you collect general information, gather information that is specific to the problem you are having. In the [IBM documentation page](#) referenced on the previous slide you can click the problem type or component to view a listing of specific documentation that the support team requires to diagnose your problem. For example:

[Abend 878 or 80A](#)

[CICS-MQ adapter or CICS-MQ bridge](#)

[CMCI JVM server](#)

[Db2®](#)

[File control \(non-RLS\)](#)

[File control \(RLS\)](#)

[IMS Database Control \(DBCTL\)](#)

[IP interconnectivity \(IPIC\)](#)

[Java™ \(JVM server\)](#)

[Performance](#)

[Web services, XML, and JSON transformation](#)

# Collecting troubleshooting data for z/OS Connect Enterprise Edition

## Collecting troubleshooting data for z/OS Connect Enterprise Edition

**Support** Downloads ▾ Documentation ▾ Forums Cases ▾ Monitoring ▾ Manage support account ▾

### Problem

You are having a problem with z/OS Connect Enterprise Edition OpenAPI 2. You would like to know what documentation you must collect (MustGather) so that the support team can diagnose your problem. Gather this documentation before you contact support to expedite the troubleshooting process, save you time, and ensure that only one problem is reported on each case.

For MustGather information for z/OS Connect OpenAPI 3 see [Collecting troubleshooting data for z/OS Connect OpenAPI 3](#)

### Cause

Collecting MustGather data early, even before you open a case, to help IBM Support quickly determine whether:

- Symptoms match known problems (rediscovery).
- There is a nondefect problem that can be identified and resolved.
- There is a defect that identifies a work-around to reduce severity.

### Resolving The Problem

If you already contacted IBM Support, you can continue on to the following component-specific MustGather information. Otherwise, see [Collecting general information for z/OS Connect EE problems](#) for the information IBM needs for every type of problem.

#### Component-specific information

- [Collecting \(MustGather\) data: Enabling z/OS Connect EE server trace \(standard\)](#)
- [Collecting \(MustGather\) data: Enabling z/OS Connect EE server trace \(binary\)](#)
- [Collecting \(MustGather\) data for z/OS Connect EE installation problems](#)
- [Collecting \(MustGather\) data for z/OS Connect EE configuration problems](#)
- [Collecting \(MustGather\) data for z/OS Connect EE server runtime problems](#)
- [Collecting \(MustGather\) data for z/OS Connect EE data transformation problems](#)
- [Collecting \(MustGather\) data for z/OS Connect EE policy problems](#)
- [Collecting \(MustGather\) data for z/OS Connect EE RESTful client service provider problems](#)

#### Document Information

**More support for:**  
[IBM z/OS Connect](#)

**Component:**  
API Requester, API Toolkit, API Toolkit->Debug API, BAQLS2JS JS2LS, BAQSMFP SMF 123, Build Toolkit, CICS Service Provider, CICS Service Requester, DB2, Data Transformation, IMS DBSP, IMS Service Provider, Java, Performance, REST Client Service Provider, Runtime, Security, Service Interface Editor

**Software version:**  
3.0.0

**Operating system(s):**  
z/OS

**Document number:**  
540735

**Modified date:**  
18 July 2023

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# IBM Education for CICS TS and CICS Tools

## IBM Education for CICS TS and CICS Tools

The screenshot shows the IBM Support website interface. At the top left is the IBM logo. A navigation bar contains the following items: Support (underlined), Downloads, Documentation, Forums, Cases, Monitoring, and Manage support account. The main content area is titled "Abstract" and contains three paragraphs of text. The first paragraph describes the document's purpose. The second paragraph, under the heading "Content", describes the CICS Academy initiative. The third paragraph describes the CICS Insight Series. The fourth paragraph describes Mainframe education. The fifth paragraph describes IBM Redbooks video courses. On the right side, there is a "Document Information" sidebar with fields for More support for, Component, Software version, Operating system(s), Document number, and Modified date. At the bottom of the sidebar is a "Log in to Subscribe" button and a "Share your feedback" link.

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### Abstract

This document contains information about education, including webcasts and more, that IBM has given or will be giving for CICS Transaction Server for z/OS (CICS TS) and the CICS product family. You will learn about education provided by the CICS Academy initiative, CICS Insight Series, Washington System Center Wildfire Workshops and Seminars, and other miscellaneous initiatives.

### Content

The **CICS Academy initiative** is a NEW initiative started in September of 2025 to help provide education for early tenure systems programmers. A team at IBM has researched topic areas that these personas are most keen to learn more about and plan to provide ad hoc "lessons" between 60-90 minutes in live online events. The **FIRST CICS Academy session** provided an introduction to [CICS Trace, Dump, and Debugging](#). Future presentations will be will be posted on the [z/OS Academy Community](#) and promoted in various ways. IBM encourages you to register on the Community page by clicking "Join Group" to receive automatic updates when things like blogs and events are posted.

The **CICS Insight Series** includes free virtual technical seminars where you can learn how the latest CICS technology will help you optimize your CICS environment. This series focuses on providing in-depth discussion of practical concerns and is intended for experienced CICS systems programmers, application programmers, and architects. The sessions feature best practices, recommendations, and demos that aim to leave you with a better understanding of the subjects. For example, in September of 2025, IBM provided a series on [What's new in CICS TS V6.3](#). To register for future sessions and find links to many of the replays for presentations given in the past, click on the links for each year found on the [IBM CICS Insight Series page](#).

Mainframe education for many Z products including CICS TS is also provided in the form of **Wildfire Workshops and Seminars** given by the IBM Z Washington System Center (WSC). Each workshop delivers a series of lectures and labs that show customers how IBM's leading technology works on Mainframe Systems. Seminars deliver a set of lectures on topics of current interest on CICS administration and programming. Private seminars can be requested with the agenda customized by the customer. The workshops are no charge to qualified customers. All currently scheduled workshops and seminars, with the exception of customized seminars, are posted on the [Z Council Events website](#). For a more complete list of available workshops and seminars, refer to [Mainframe System Education -- Wildfire Workshops and Seminars](#).

There are also **IBM Redbooks video courses** that have been given in the past. To see if there are any new Redbooks video courses, search for "CICS video courses" and sort by "relevance" on the [IBM Redbooks web page](#).

### Document Information

**More support for:**  
[CICS Transaction Server](#)

**Component:**  
CICS Transaction Server

**Software version:**  
5.4.0, 5.5.0, 5.6.0, 6.1.0, 6.2.0, 6.3.0

**Operating system(s):**  
z/OS

**Document number:**  
712873

**Modified date:**  
12 November 2025

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# RECENT HIGH IMPACT OR PERVASIVE APARS (HIPER)

## Recent HIPER APARs

- [PH69721: CSOL CAUSES DEADLOCK TRYING TO GET EXCLUSIVE SOLOCK WHEN IT ALREADY HAS SHARED SOLOCK \(6.x\)](#)
- [PH69122: LIBERTY JVMSERVER REMAINS IN A DISABLING STATE AFTER DFHSJ1007 IS ISSUED \(6.x\)](#)
- [PH68195: Algorithm for PRTYAGE sit is sub-optimal \(6.3\)](#)
- [PH67838: REMOTE FILE READ ACCESSES TO A CICS SHARED DATA TABLE LOADED AND OWNED BY A CICS/TS 6.1 OR 6.2 FOR ARE ALWAYS FUNCTION SHIPPED\(6.x\)](#)
- [PH67658: ABOVE THE LINE PRIVATE STORAGE EXHAUSTION IN THE EXCI ADDRESS SPACE AFTER CICS TS 6.2 UPGRADE \(6.2/6.3\)](#)
- [PH67178: DFHFC0002 A severe error \(code x'042A'\) has occurred in module DFHFCTDS after 6.2 update \(6.2/6.3\)](#)
- [PH65323: DFHFC7111 AND REPEATED ABEND0C6 SEVERAL MINUTES AFTER THE CFDT SERVER FAILS AND THEN REPEATS \(6.1\)](#)



**QUESTIONS? FEEDBACK?**

# Want to attend an in-person IBM z/OS Academy?



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Training and presentations include topics on new z/OS capabilities, best practices, career tips, and **much more!**

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