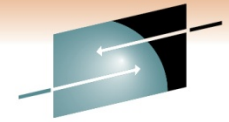


**SHARE**  
Technology • Connections • Results

# CICS Nuts Bolts and Gotchas

Ed Addison  
IBM





**SHARE**  
Technology • Connections • Results

Steve Ware

University of Florida

**SHARE**  
in Anaheim  
2011

# z/OS 1.12 APAR OA34311, PTF UA58696 ABEND CODE=0C4-03B



- Applies to z/OS 1.12 only
  - PTF UA58696 available 26JAN2011
  - No z/OS 1.11 PTF (does not apply to z/OS 1.11)
- CICS takes SVC dump for ABEND CODE=0C4-03B
  - Temporary circumvention SIT override TRANISO=NO
    - We were running with TRANISO=YES in CICS TS 4.1
    - Only change was z/OS 1.11 -> z/OS 1.12
- Noticed local test COBOL program to invoke IBM CICS Socket Interface program EZACIC25 getting error - not DFHRESP(NORMAL)

# z/OS 1.12 APAR OA34311, PTF UA58696 ABEND CODE=0C4-03B (continued)



- EZACIC25 does DNS lookup
  - gethostbyname without application coded socket call
- IBM ServiceLink says:
  - APAR Identifier ..... OA34311      Last Changed ..... 11/02/01  
RACHECK ABEND0C4 PIC 3B PIC3B SUBSPACE MODE
  - ERROR DESCRIPTION:

Abend0c4 pic 3b during racheck processing because the data being accessed is in high virtual storage and the caller is in subspace mode. High virtual storage is not accessible while running in subspace mode. This apar will enable access to high virtual storage while running in subspace mode.

# z/OS 1.12 APAR OA34311, PTF UA58696 ABEND CODE=0C4-03B (continued)



- CICS syslog/job log said:

IEA794I SVC DUMP HAS CAPTURED:

DUMPID=001 REQUESTED BY JOB (CICSTSTI)

DUMP TITLE=ICHRST00-RACF SVCS,ABEND CODE=0C4-03B,

SVC=IRRRCK00,USER=CICSRGN, GROUP=\$CICSRGN,EXIT=IRRGLS22

ICH409I 0C4-03B ABEND DURING RACHECK PROCESSING

IEC999I IFG0194C,CICSTSTI,CICS660

IEA911E COMPLETE DUMP ON SYS1.DUMP50

DUMPID=001 REQUESTED BY JOB (CICSTSTI)

## AD2R abend after upgrading to DB2 9.1 when running CICS TS 4.1

- Problem: After you upgrade to DB2 V9.1 or apply maintenance to CICS Transaction Server for z/OS (CICS TS) V4.1, transactions in your CICS TS V4.1 region start to fail with an abend AD2R (abendAD2R)
  - The CICS exception trace indicates that the DB2 thread abended with an 0C4 Reason 0003EB60 (RSN3EB60)
- Solution: Apply PTF UK60422 for DB2 V9.1 APAR [PM20489](#). This APAR was opened to address an abend 0C4 in DSNMLTOK at offset 4 and will fix this problem. You should apply this PTF before upgrading to DB2 V9.1 if running CICS TS V4.1.

# 0C4 in DFHFCVR and IAMACCKS while running with TRANISO



- Problem: You are running CICS Transaction Server for z/OS (CICS TS) V3.1 with transaction isolation active and you receive repeated 0C4 abends in DFHFCVR when using IAM. You might also receive message DFHRM0002
- Symptom: Abend0C4 reported in DFHFCVR, [DFHRM0002](#), and Abend0C4 in IAMACCKS while running in Subspace
- Solution: Apply IAM fixes P-90.0024 , P-90.0023 , and P-90.0031 from [Innovation Data Processing](#)
  - If you are not able to apply the above fixes immediately, you can circumvent the problem in one of two ways:
    - Change TRANISO to NO to turn off transaction isolation in the CICS region until the maintenance is applied
    - Change the IAM global option to INDEXSPACE=ALL so IAM will not use 64 bit storage for the index

## WHEN THE AGE OF A JVM EXCEEDS 49.7 DAYS AN S0C9 ABEND IN DFHSJIS OCCURS

- Problem: When the age of a JVM gets to 49.7 days, there will be an abend0C9 on the CVD instruction because the number of milli-seconds exceeds the number that will fit into the 4 bytes reserved.
- Solution: Monitor OPEN APAR PM31333



# CICS Region does not respond to CEMT P SHUT



- Symptom: You enter CEMT P SHUT and the CICS region does not terminate. The CICS region still shows as active.
  - Note: A second CEMT P SHUT works
- Solution: Apply Netec CAFC product PTF P0045L01



## Abends AEXU, AEY9 and/or S0C1abend in DFHEMS may occur

- Symptom: You receive ABEND0C1 and AEY9 in DFHEMS due to invalid BMS request into CICS. Invalid EIB Function Code is usually 1800.
- Solution: Apply Xpediter/CICS fixes XDOJ149 and XDOJ165

## UPGRADED TO CICS TS V4.1 AND NOW WHEN ACCESSING CICS WITH A QUERYSTRING IN THE PATH, THE URIMAP IS NOT FOUND.

- You upgraded to CICS TS v4.1 and notice that your URIMAPs are no longer matching as they did before the upgrade. You have your URIMAPs defined in CICS with a path as follows:
  - Path(/cicsts/test/path )
- The request coming in from the browser is:
  - `https://hostname/cicsts/test/path/?site=test`
- In CICS TS v3.2, the urimap would match if a request came in with the above url and querystring. In CICS TS v4.1 it no longer matches. The code assumes that the querystring is part of the PATH when the back slash precedes the querystring.
  - This will result in an HTTP/1.1 404 Not Found response
- Solution: Monitor OPEN APAR PM32422. You can also do one of the following:
  - 1. Change the URIMAP path so that it shows:
    - Path(/cicsts/test/path/\* )
  - 2. Change the request and remove the last backslash as follows:
    - `/cicsts/test/path?site=test`

## ABENDC78 or ABEND878 STORAGE SHORTAGE AFTER MANY SUCCESSFUL VSAM OPENS.

- VSAM OPEN processing does not free a temporary internal control block. On long running jobs this storage leak can cause ABENDx78 for lack of storage.
  - The control block ( IDACSL eyecatcher) is getmained in SP130
  
- Apply PTF for VSAM APAR OA30671
  - RA10 UA51154
  - RB10 UA51155
  - R180 UA51156
  - R190 UA51157

# CICS IS NOT WRITING THE CORRECT RBA IN THE WRITE-UPDATE RECORDS FORWARD RECOVERY LOG FOR AN EXTENDED ESDS



- PROBLEM: XRBA value in type x'82' forward recovery log records incorrect for extended ESDS files
  - If a record to be added to an Extended ESDS does not fit within the remaining space of the Control Interval it intends to write to, it is written instead to a new Control Interval
  - If the transaction that wrote to the extended ESDS then goes into backout, the logical deletion of the record results in a write update record being logged for forward recovery. However, this contains the XRBA of where the write had originally been expected to reside, rather than the higher XRBA that was actually returned
  - Because the XRBA is incorrect, forward recovery products cannot restore the records correctly and will fail
  
- Solution: R500 UK60625  
R600 UK49322

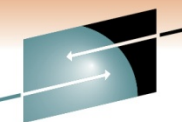
## DFHAP0001 ABEND0C4 INCORRECT VERSION OF DFHMQLTT USED FROM LPA

- Problem: CICS TS 3.1 and TS CICS 4.1 are on the same LPAR. An MQGET attempt to an MQ queue on CICS TS 3.1 with LPA=NO fails with an ASRA and CSQCTRUE fails with an 0C4 ABEND at offset x'FFFFFFFF'. A subsequent attempt leaves the region hanging
  - DFHMQLTT is included in CICS TS 4.1 modules eligible to be used from the MVS link pack area. In this case, the module is moved into the LPA and CICS TS 3.1 is also in the same LPAR
  - When CICS TS 3.1 starts with LPA=NO and an MQGET is attempted to one of its MQ queues, CSQALOCT identifies CICS is present and attempts an MVS link to DFHMQLTT, which is successful, except DFHMQLTT is not compatible with CICS TS 3.1 and the application fails with an ABEND 0C4
- Apply PTF R600 UK61544

## PM02187 provides new Web 2.0 samples for Atom support in CICS TS V4.1



- New Function (NF) APAR PM02187 supplies new sample programs and other files for several new Web 2.0 scenarios that demonstrate how to set up Atom feeds in CICS Transaction Server for z/OS (CICS TS) V4.1.
- To take advantage of this new functionality, see APAR [PM02187](#) for CICS TS V4.1 then apply the PTFs provided with the APAR.
- The CICS TS V4.1 information center has been updated to add three new scenarios to the [Web 2.0 scenarios](#) section. These scenarios are:
  - Creating an Atom feed from unstructured data in a temporary storage queue
  - Creating an Atom feed from a file
  - Creating an Atom feed from structured data in a temporary storage queue
- The topic 'How the Atom sample works' has been updated to include these additional artifacts.



**SHARE**

Technology • Connections • Results

## ABEND0C4-3B IN IAXHC WHEN ATTEMPTING TO CREATE A SUBSPACE

- CICS Symptom:
  - DFHSM0002 CICSLA15 A severe error (code X'3026') has occurred in module DFHSM0002
  - SMSU \*EXC\* - SMSVC\_call\_has\_failed - FUNCTION(CREATE\_SUBSPACE)  
RESPONSE() REASON() SUBSPACE\_STOKEN(00000000 , 00000000)  
REASON\_CODE(0) RETURN\_CODE(0)

This problem is described by z/OS APAR OA32338.

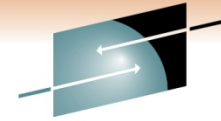
- Release 750 : UA54258
  - Release 760 : UA54259
  - Release 770 : UA54260
- 
- z/OS Symptom:
    - ABEND0C4-3B IN IAXHC WHEN ATTEMPTING TO CREATE A SUBSPACE



# HIGHER BELOW THE LINE STORAGE USED BY CICS SOCKETS AT Z/OS V1R11



- PROBLEM DESCRIPTION: CICS ends with ABEND878 when it has many CICS Sockets subtasks.
- NTASK parameter is set to 200 (same as in previous releases). The 200 reusable subtasks created by NTASK previously only used 7 or 8 pages of storage below the line but with V1R11 it is now using 200 pages.
- When the CICS Sockets interface is defined with OTE=NO and a positive NTASKS value, CICS Sockets initialization program attaches the number of subtasks specified by NTASKS specifying SZERO=NO on the ATTACH which means that the subpool zero storage is not to be shared with the main task.
- This causes MVS to allocate an extra page of below-the-line private storage for each reusable subtask.. If the CICS address space has many CICS Sockets subtasks then the excessive use of below-the-line private storage can cause an 878 ABEND.
- APAR : PM10451 / PTF UK56202
- This problem is fixed in the base code of the IBM Communications Server for z/OS Version 1 Release 12



## ABEND878 at offset x'01DC' in module DFHDSTCB

- The cause of the ABEND878 was fragmentation of LSQA storage. The fragmentation occurred because the CICS region issued a large number of attaches of open TCBs and each time a TCB is attached it will issue a LOAD of DFHDSAUT.
- DFHCSVC has been changed. When the job step TCB loads DFHDSAUT, it saves its address in the job step TCB's AFCB. This address is propagated down to the QR TCB's AFCB and also to any immediate daughters of the QR TCB, such as the L8
- PM04543
  - R400 UK54544
  - R500 UK54545
- PM05690
  - R600 UK54504
- Note: This is a CICS only fix. There is also a z/OS fix for any subsystem that issues many program loads.
  - z/OS APAR OA33234. This problem surfaces when upgrading to z/OS 1.11

## ABILITY TO OVERRIDE RLS CO-EXISTENCE PROTECTION FOR CICS

- VSAM will in general prevent simultaneous access to a data set in both RLS and non-RLS modes. However, a readonly non-RLS file can be opened if it is shareoptions 2 while RLS also has the dataset open.
- If a dataset is open to RLS within CICS, it will currently be rejected with DFHFC0512 to ensure applications get consistent views of the same underlying dataset.
- This apar will allow the user to override this co-existence protection for CICS and allow a non-RLS readonly open of a dataset that is opened in RLS mode if it is defined with shareoptions 2
- OPEN APAR PM09026 (R500)
- OPEN APAR PM12835 (R600)

## CICS TCP/IP port hangs until CICS is recycled after applying PTFs for OMVS APAR OA29566

- You are using CICS Transaction Server for z/OS (CICS TS) and TCP/IP. Your CICS TCP/IP port hangs and is not responding. There are no errors but all work on that PORT ceases. You have to bring CICS down and back up to resolve the problem. This occurs after you apply OMVS PTF UA51856 (z/OS V1.9), UA51857 (z/OS V1.10), or UA51830 (z/OS V1.11) for APAR OA29566.
- Severity 1 OMVS APAR [OA32088](#) fixes this problem. Refer to the APAR for PTFs needed for your release of z/OS.

# New CICS TS 4.1 Abend AFDK



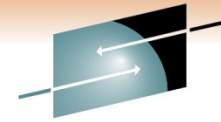
- AFDK
  - A file control request was made against a NSR file while transaction isolation was active for the task. Using NSR files with transaction isolation active is not supported. The TRANISO system initialization parameter is YES and the transaction definition has ISOLATE set to YES.
- CICS Manuals at all supported releases indicate:
  - VSAM nonshared resources (NSR) are not supported for transactions that use transaction isolation. You should specify ISOLATE(NO) when you define transactions that access VSAM files using NSR.
- NOTE: CICS APAR PM07304 / PTF UK55020 will allow READONLY Files to use NSR and Transaction Isolation.

## Recoverystatus for RLS Files

- RLS file shows that RECOVERY REQUIRED=NO.
- If the file is OPEN ENABLED for readonly then CICS SPI returns a value of RECOVERYSTATUS based on the RDO definition instead of what is defined on the VSAM ICF Catalog.
- CICS should use the VSAM ICF Catalog for all inquiries of a RLS dataset.
- Reference APAR PK86331
  - R500 UK50353
  - R600 UK50391

## CICS Region Stall using ICSF

- Using Integrated Cryptographic Services Facility (ICSF) to encrypt and decrypt data within a CICS region can cause the address space to stall if not properly setup
- You should have the WLM class for ICSF as high or higher as CICS
- You **MUST** have the ICSF TRUE (CSFATRUE) installed in the CICS region to ensure the crypto work is sub-tasked off the QR TCB



**SHARE**  
Technology • Connections • Results

## BPXI040I messages after upgrading CICS

- **Problem:** You have upgraded from CICS Transaction Server for z/OS (CICS TS) V2.2 to CICS TS V2.3, or later, and receive message:
  - BPXI040I PROCESS LIMIT MAXPROCUSER HAS REACHED nnn% OF ITS CURRENT CAPACITY OF limtot FOR PID=pid IN JOB name RUNNING IN ADDRESS SPACE asid.
- **Cause:** The way CICS TCBs were dubbed was changed in CICS TS V2.3 and above. Any daughter TCBs of the QR are now dubbed as a process. This increases the number of processes and might require an increase in the MAXPROCUSER value. For instance, "TCPIP Sockets for CICS" can use up to 300-400 TCBs at any time. These TCBs are not OPEN TCBs but rather use Unix System Services (USS). When running under CICS TS V2.2, these were not counted against MAXPROCUSER, but after CICS TS V2.2 they are counted
- **Solution:** Increase the value specified for MAXPROCUSER
- **Related information:** Review Documentation APARs PK02033 and PK04602 for explanation of TCB usage in a CICS region



# Detailed System Requirements for CICS Transaction Server



- Detailed System Requirements (DSR) contain the supported operating system requirements, hardware requirements, software requirements, and other related information for a product.
- From this document you can select DSR for CICS Transaction Server (CICS TS) for:
  - z/OS V4.1
  - V3.2
  - V3.1
  - V2.3
  - CICS TS for VSE/ESA V1.1.1
- **Website:** <http://www.ibm.com/support/docview.wss?uid=swg27006382>

# Finding CICS Information Centers

- How do you find CICS product documentation for CICS Transaction Server for z/OS (CICS TS) and the CICS tools?
- The best place to find CICS product documentation is to use the CICS TS information centers. Documentation for most of the CICS Tools is also included in the CICS TS information centers. Each release of CICS has its own information center that you can view on the [www.ibm.com](http://www.ibm.com) Web site or install on a workstation or server.
- Here is a link to an item that has all the Information Centers online, and directions to download to a workstation:
  - <http://www.ibm.com/support/docview.wss?uid=swg21200934>

## Fix lists for CICS TS

- Fix list documents summarize all of the APARs and PTFs for a particular product Version
- Fixes by version document 7008833 contains a link to the available Fix list documents
- Direct URL:
  - <http://www.ibm.com/support/docview.wss?uid=swg27008833>

# Preventive Service Planning

- CICS Document 1231874 has a listing of all PSP buckets for CICS Transaction Server and all CICS Tools
- Direct URL:
  - <http://www.ibm.com/support/docview.wss?uid=swg21231874>

## New Function APARs

- Flashes for all CICS New Function (NF) APARs are posted to CICS Support page and included in MySupport email
- CICS item 1238275 has a listing of links to all New Function APARs for CICS Transaction Server and all CICS Tools
- Direct URL:
  - <http://www.ibm.com/support/docview.wss?uid=swg21238275>

# Announcement Letters for CICS

- CICS item 1227090 contains links to all Announcement letters for CICS Transaction Server and all CICS Tools
- Can be linked to from Announcement Letters on the CICS Support page
- Direct URL:
  - <http://www.ibm.com/support/docview.wss?uid=swg21227090>

# IBM Software Support Lifecycle

You want to know when the end of service is for any IBM Software release.

You can find the End of Service dates by navigating to the following URL:

[http://www.ibm.com/software/support/lifecycle/index\\_c.html](http://www.ibm.com/software/support/lifecycle/index_c.html)

|                                                |             |             |
|------------------------------------------------|-------------|-------------|
| CICS Transaction Server for z/OS V2.2 5697-E93 | 25 Jan 2002 | 30 Apr 2008 |
| CiCS Transaction Server for z/OS V2.3 5697-E93 | 19 Dec 2003 | 30 Sep 2009 |
| CICS Transaction Server for z/OS V3.1 5655-M15 | 25 Mar 2005 |             |
| CICS Transaction Server for z/OS V3.2 5655-M15 | 29 Jun 2007 |             |

## Ordering CICS products and maintenance

- You would like to order a CICS® product or maintenance. You want to know what options are available for ordering the product, individual PTFs, and cumulative maintenance for CICS or any of the CICS tools
- See the following document for all product or maintenance ordering concerns

<http://www.ibm.com/support/docview.wss?uid=swg21049360>



# Must Gather Documentation

MustGather documents aid in problem determination and save time resolving problem management records (PMRs). These documents are located on the CICS® Web site and contain instructions about what documentation to gather for specific problems.

Collecting MustGather data early, even before opening a PMR, helps IBM® Support quickly determine if:

1. Symptoms match known problems (rediscovery).
2. There is a non-defect problem that can be identified and resolved.
3. There is a defect that identifies a workaround to reduce severity.
4. Locating root cause can speed development of a code fix.

You can find the MustGather – Read first document on the CICS Home Page or go directly to:

<http://www.ibm.com/support/docview.wss?uid=swg21208053>

## HIPER and PE APARs

- CICS DCF item 1182322 will dynamically show all PE and HIPER maintenance for all supported releases of CICS and CPSM
- You can find this item by going directly to:
  - <http://www.ibm.com/support/docview.wss?uid=swg21182322>

# Upgrading information for CICS when changing release of CICS, z/OS, or DB2



- CICS Document 1207399 may be used to see if there are Upgrade Issues with CICS and CPSM.
- You can find this item by going directly to:
  - <http://www.ibm.com/support/docview.wss?uid=swg21207399>

# Additional Product Resources



- CICS Transaction Server support Web page  
[http://www.ibm.com/support/entry/portal/Overview/Software/Other Software/CICS Transaction Server](http://www.ibm.com/support/entry/portal/Overview/Software/Other_Software/CICS_Transaction_Server)
- IBM\_CICS technical support news on Twitter  
<http://www.ibm.com/support/docview.wss?uid=swg21384915>
- WebSphere and CICS Support Blog  
<http://www.ibm.com/developerworks/mydeveloperworks/blogs/aimsupport/>
- WebSphere and CICS Support on Facebook (beta)  
<http://www.facebook.com/pages/WebSphere-and-CICS-Support-BETA/137468732967250>
- Technical support emails with My Notifications subscription  
<http://www.ibm.com/software/support/einfo.html>
- Webcasts for CICS products  
<http://www.ibm.com/support/docview.wss?uid=swg27007244>
- IBM Education Assistant modules  
<http://publib.boulder.ibm.com/infocenter/ieduasst/stgv1r0/index.jsp>