

# CICS Nuts Bolts and Gotchas

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## 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. This APAR also fixes a storage overlay problem that can occur in certain situations. APAR PM02187 closed on 1 February 2010.
- 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.

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

- CICS Symptom:
  - DFHSM0002 CICSLA15 A severe error (code X'3026') has occurred in module DFHSMSU
  - 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

## 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 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](#) has been open to address this problem. If possible, you should not apply the PTFs for APAR [OA29566](#) until the PTFs for OA32088 become available. If you did APPLY one of the PTFs, REJECT it to back it off. You will also have to IPL to remove the PTF which is in error.

# 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 OPEN APAR PM07304 will allow READONLY Files to use NSR and Transaction Isolation.



## DFHSI1596 AFTER RUNNING DFH\$UMOD

- You run DFH\$UMOD to add DFHLETRU to the LPA. DFHLETRU is also a member of the CICS Nucleus and receives error message DFHSI1596 and ABENDU1800 causing CICS to terminate.
- APAR PM08478 / PTF UK55445
- Can also move DFHLETRU back to SDFHLOAD

# Running in BASESPACE after call to TRUE

- You are using Transaction Isolation. You have an application program defined as EXECKEY(USER) and Concurrency ( Threadsafe ). Following a call to the CICS/TCPIP Sockets TRUE, EZACIC01 (which is enabled as OPENAPI,) the program runs in basespace rather than in subspace
- DFHERM has been modified to avoid the switch to BASESPACE when calling an OPENAPI TRUE.
- See 3.2 APAR PK85198 PTF UK48737
- See 4.1 APAR PK90945 PTF UK48726

## 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

# New messages when accessing Extended ESDS



- You have a program that accessed an Extended ESDS in CICS and it worked fine. After an Upgrade to CICS TS V3.2 you receive the following messages when accessing the dataset:
  - DFHFC6037I Program xxxxxxxx has issued an RBA request against an extended addressing ESDS data set
  - DFHFC6038 Program xxxxxxxx has issued an unsupported type of RBA request against an extended addressing ESDS. The request has failed.
- Extended ESDS support was introduced in CICS TS V3.2. Prior to this release, if you accessed an Extended ESDS it would sometimes work and sometimes fail with DFHFC0966 with return code 8504,0008,0068
- At CICS TS V3.2 you may:
  - 1. Define the dataset as a regular ESDS like it should have been. Especially if you don't ever plan to go over 4G.
  - 2. Change the application to use XRBA

## ABEND0C4 / ABEND0C1 in DFHMQTRU

- After migrating to CICS TS 3.2 an application receives low value WebSphere MQ messages after going through data conversion
- WMQ messages which have been processed by the WMQ data converter, are arriving as low value messages. This is due to the addresses belonging to the L8 TCB upon which the data conversion table was originally loaded being invalid
- A new CICS/WMQ module DFHMQLTT has been introduced which will switch to the QR TCB prior to issuing the load of the WMQ translate table
- CICS R500 APAR PK58227 / PTF UK34407
- WebSphere MQ for z/OS V6 APAR PK59397 / PTF UK34250
- WebSphere MQ for z/OS V5.3.1 APAR PK59405 / PTF UK34261

## 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

## 878 or 80A abend with reason code x'0C' or x'10' when connected to MQ

- **Problem:** You are running WebSphere MQ for z/OS. After upgrading to CICS Transaction Server for z/OS (CICS TS) V3.2, you receive an abend 878 or 80A with reason code x'0C' or x'10'. Getmains fail due to lack of below the line LSQA storage
- **Cause:** A large proportion of LSQA storage had been allocated for PRHWs, program request handler control blocks. PRHWs are used by CICS tasks to communicate with MQ through the MQ-CICS adapter.
- In CICS releases before CICS TS 3.2, MQ allocated one PRHW for each of the eight subtask TCBS used for communication between CICS and MQ. In CICS TS 3.2 and above, where CICS has control of MQ-CICS adapter and bridge components, CICS attaches to MQ under the L8 Open TCB. Because of this there is now no limit to the number of PRHWs that can be allocated. This leads to the possibility of filling LSQA below the line.
- **Solution:** Apply PTF for MQ V6 APAR [PK68189](#) or MQ V7 APAR [PK69439](#) . Afterwards, MQ will getmain PRHW storage from extended LSQA.



# 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-01.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-01.ibm.com/support/docview.wss?rs=1083&context=SSGMGV&uid=swg21200934>

## The CICS catalog manager example application

- The CICS catalog example application is a working COBOL application that is designed to illustrate best practice when connecting CICS applications to external clients and servers.
- The example is constructed around a simple sales catalog and order processing application, in which the end user can perform these functions:
  - List the items in a catalog.
  - Inquire on individual items in the catalog.
  - Order items from the catalog.
- The catalog is implemented as a VSAM file.
- The base application has a 3270 user interface, but the application comes with Web service support, which is designed to illustrate how you can extend an existing application into the Web services environment. Find out more at:
  - [http://publib.boulder.ibm.com/infocenter/cicsts/v3r2/index.jsp?topic=/com.ibm.cics.ts.webservices.doc/sampleapp/topics/dfhxa\\_t100.html](http://publib.boulder.ibm.com/infocenter/cicsts/v3r2/index.jsp?topic=/com.ibm.cics.ts.webservices.doc/sampleapp/topics/dfhxa_t100.html)

## 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
  - Can be linked to from Fixes by version on the CICS Support page
    - <http://www.ibm.com/software/htp/cics/tserver/support/>
  - Direct URL is <http://www-1.ibm.com/support/docview.wss?rs=1083&uid=swg27008833>

# Preventive Service Planning

- CICS Document 1231874 has a listing of all PSP buckets for CICS Transaction Server and all CICS Tools
  - Can be linked to from the CICS Support page
    - <http://www.ibm.com/software/htp/cics/tserver/support/>
  - Direct URL is <http://www-1.ibm.com/support/docview.wss?rs=1083&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
  - Can be linked to from the CICS Support page
    - <http://www.ibm.com/software/htp/cics/tserver/support/>
  - Direct URL is <http://www-1.ibm.com/support/docview.wss?rs=1083&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
  - <http://www.ibm.com/software/htp/cics/tserver/support/>
  - Direct URL is:  
<http://www-1.ibm.com/support/docview.wss?rs=1083&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/info/supportlifecycle/list/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	



# Order processing for 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-1.ibm.com/support/docview.wss?fdoc=aimcics&rs=1083&context=SSGMGV&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-1.ibm.com/support/docview.wss?rs=1083&uid=swg21208053>

## PE and HIPER 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-1.ibm.com/support/docview.wss?rs=166&context=SSGMGV&uid=swg21182322>
- Note: CICS Home Page:  
<http://www.ibm.com/software/htp/cics/support/>

# Migration information for CICS when changing release or operating system



- CICS Document 1207399 may be used to see if there are Migration Issues with CICS and CPSM.
- You can find this item by going directly to:
  - <http://www-1.ibm.com/support/docview.wss?rs=166&context=SSGMGV&uid=swg21207399>
- Note: CICS Home Page:  
<http://www.ibm.com/software/http/cics/support/>

# Additional Product Resources

- CICS Transaction Server support Web page  
<http://www.ibm.com/software/htp/cics/tserver/support/>
- IBM\_CICS technical support news on Twitter  
<http://www.ibm.com/support/docview.wss?rs=1083&uid=swg21384915>
- Technical support emails  
<http://www.ibm.com/software/support/einfo.html>
- Webcasts for CICS products  
<http://www.ibm.com/support/docview.wss?rs=1083&uid=swg27007244>
- IBM Education Assistant modules  
<http://publib.boulder.ibm.com/infocenter/ieduasst/stgv1r0/index.jsp>