CICS Transaction Server
V4.1 – User Experience Panel

Steve Ware, UF
Session 1338, SHARE 113
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Denver Convention Center
Meeting Room 705

http://nersp.cns.ufl.edu/~sfware/share113/s1338sfw.pdf  (Updated: 08-04-2009)
Abstract

A panel of customers who are running CICS TS v4.1 will discuss their experiences in migrating to and using CICS Transaction Server 4.1. The session chair, who works at CICS Level 2 in Raleigh, will also discuss some experiences with other customers who are running CICS TS 4.1. Come and hear the story from those who have been there, done that.
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Agenda/Topics

- Introduction
- Why participate in a CICS beta?
- Why migrate from CICS TS 3.2 to 4.1?
- ISV Program Products and Early Support Issues
- CICS TS 4.1 Installation/Migration Considerations
- Summary and Q&A
- Appendix and Additional Information
Introduction

- **UF CNS**, University of Florida Computing & Networking Services (formerly known as **NERDC**), is the primary data center at the Gainesville, FL campus.

- Currently utilizing an IBM z9 BC 2096-S02 with 16GB and a zAAP, running **z/OS** 1.9 and 1.10, **CICS** TS 3.2 and 4.1, **DB2 V8**, **RACF**, **JES2**, etc.

- 3 LPARs - 1 internal "sysprog sandbox", 1 test "alternate", and 1 production or "primary".

- We have 9 CICS regions configured, and run ~.5 million production transactions/weekday, and ~1.5 million on peak load days (start of academic semester term).
Introduction (cont.)

• 2 internal/test sandbox, 2 development/test, 3 test/QA, and 2 production CICS regions currently configured.

• As of August 12, 2009, 7 out of our 9 configured CICS regions are running CICS TS 4.1. Due to the UF academic schedule, the remaining 2 regions are scheduled for conversion from CICS TS 3.2 in the middle of Sept. 2009.
Introduction (cont.)

- Founded in **1853**, became the **University of Florida** in **1905**. (East Florida Seminary -> Florida Agricultural College -> University of Florida)

- **UF** is a member of the **AAU**, the Association of American Universities.

- **UF** is one of the top five **largest** universities in the U.S., public or private.

- ~50K enrolled and ~250K alumni.
Introduction (cont.)

- We're considered a "Classic" CICS site. ("Legacy = It Works!")
- Web access to CICS is via the **CICS Socket Interface**, in use at our site since ~1997.
- ~60% of local CICS tasks utilize **sockets**.
- All locally developed CICS applications are **Assembler** and/or **COBOL**. We have ~8K CICS application load modules, and ~32 have CICS sockets API (for file/data transfer, email, web enablement, etc.).
- Several internal CICS applications written in **C/C++** and **REXX**. **Java** has only been IVP tested, but with our z9 BC zAAP, we're looking at exploiting Java in CICS in the future.
Introduction (cont.)

• Are we now considered a **Nouveau** CICS site?

• CICS Web Services in production since Sept. 2006:  
  http://docweb.cns.ufl.edu/update/u0610cics/u0610cics.html

• CNS & UF Registrar Implement "MyStudentBody.com"  
  Requirement using CICS Web Services.

• "On Friday, September 22nd, 2006, UF CNS CICS systems staff  
  and UF Office of the University Registrar application staff implemented a  
  new, secure (https) CICS Web service, with CICS acting as the  
  service requestor, for the MyStudentBody.com UF health requirement.  
  The new capabilities introduced to support this initiative pave the way  
  for implementation of encrypted Web services accessing real-time  
  student data, making applications more accurate, serving the UF  
  community better."
Why participate in a CICS Beta?

Interested in new CICS TS V4.1 features/function/exploitation:

• XML parsing performance improvements via z/OS XML System Services (XMLSS) direct from CICS, using above the bar storage and potential zAAP offload (z/OS 1.10 required)

• CICS ATOM/Web 2.0 style support, RESTful API, CICS Web Services and Open Standards enhancements

• Non-intrusive CICS Event Processing

• CICS Explorer and CICSPlex SM (System Manager) Single Server (SMSS) - CICS Management Client Interface (CMCI - "CPSM lite"?)

• IP V6 support
Why participate in a CICS Beta?

According to IBM, the objectives of providing a Beta for this release are:

• To give IBM Customers early access to the new function in CICS TS V4.1
• To enable customers to prepare CICS to work with complimentary products (ISV's) for "day one" support of CICS TS V4.1 at its general availability
• To provide feedback to Development, Marketing & Strategy
• To assist Marketing & Strategy in satisfying customer requirements
• To provide feedback to Development, Marketing & Sales on current features, deployability, performance
• To test the code in various and unique development environments
• To ensure that the code functions as designed and developed
• To assist with validation of the product's GA readiness
• To gain referencable material at General Availability
Why participate in a CICS Beta? (cont.)

Win-win knowledge transfer for IBM and Customers:

• Fun, but lots of hard work for IBM and customers
• Customers learn details about CICS and new release
• IBM learns details about customer needs and future requirements
• Future release enhancements discussed and prioritized
• CICS bugs and/or customer errors quickly resolved
• Beta process enhancements discussed and prioritized
• Encourage balance between "Classic" CICS and "New" CICS
• Encourage ISVs to have products ready at CICS GA
An example of satisfying customer requirements:

User Group Number - MR1026071658

Document Status - Announced

Title - Return CICS Web Services INVREQ message text to the CICS application programmer via the CICS API.

IBM believes that the request described has been addressed by an announced product/service/policy etc.

This function has been provided in CICS TS 4.1. The container name is:

DFH-XML-ERRORMSG
Why participate in a CICS Beta? (cont.)

CICS Betas very modern and efficient:

• Web-based IBM and customer discussion forum

• Web-based education (travel not required)

• Internet downloads for everything - CICS code, CICS Information Center, CICS Explorer, etc.

• Iterative development process very good - participation started at iteration #2 (March 2008), participated through GA (June 26, 2009), including iteration #5 "refresh", and GM (Gold Master - iteration #6) - a total of 7 CICS TS 4.1 installs at our site

• Quick and easy CICS SMP/E installation procedures, especially with the IBM provided DFHISTAR (CICS Installation Start) tool
Why participate in a CICS Beta? (cont.)

Provide current and modern CICS mainframe environment at UF:

- Attempt to never say never to customer needs and requirements
- SOA/Web Services becoming more important at UF
- Showcase benefits of CICS and the Mainframe
- Very easy/trivial migration from CICS TS 3.2 to 4.1, especially after installing CICS TS 4.1 seven times ;-) 
- All existing local applications are running unchanged in CICS TS 4.1
Why Migrate From CICS TS 3.2 to 4.1?

Lots of CICS enhancements to be exploited in 4.1, such as:

- CICS TS 4.1 XML Assistant - set of batch utilities to transform XML into high-level language structures and vise versa:
  - DFHLS2SC - language structure to XML schema
  - DFHSC2LS - XML schema to language structure
- TRANSFORM DATATOXML
- TRANSFORM XMLTODATA
- Support for Java 6
- Support for SCA (Service Component Architecture) - tooling in RDz and deployment in CICS via BUNDLE resources
ISV Program Products and Early Support Issues - What issues?

None in this CICS TS 4.1 "Managed Beta"!

- IBM Tivoli Omegamon for CICS development staff had latest CICS iteration toleration code within days of new CICS beta iteration releases - we're running OMEGAMON XE for CICS on z/OS Version 4.1.0 (Omegamon II for CICS V560)

- CA InterTest for CICS development staff had r8 code with CICS TS 4.1 toleration support very early in the CICS TS 4.1 beta and then r8.5 code in a very timely manner

- CA utilized secure FTP site for code/doc. downloads and existing issue management infrastructure - very nice

- Bottom line: Both had 4.1 code ready at GA, so both were "Migration Contributors" as opposed to "Migration Inhibitors" - many thanks!
ISV Program Products and Early Support Issues - What issues? (cont.)

• We're RACF, and had no ESM related issues ;-)
• As usual, be sure to check with all of your CICS ISVs
Migration Considerations

Order/installation considerations:

• Ordered on Mon., July 6, 2009 via IBM ShopzSeries, about 9am (But it went GA on June 26, 2009 - why wait? $$$)

• Specified "Internet Delivery" - CBPDO

• Available for download Wed., July 8, 2009, about 3:30pm (Why was there a "delay"? Entitlement - new version license and purchase order processing required.)

• Took about 3 hours from download to first local internal region running CICS TS 4.1 GA

• Used DFHISTAR type install, with SMP/E RECEIVE FROMNETWORK

• Easiest/smoothest CICS install ever!
Migration Considerations (cont.)

CICS TS 4.1 Order Details:

• Code and ISO images downloaded
• CICS Information Center(s), RDz, Program Directory, Documentation, and Licenses downloaded
• Spent about 45 min. downloading our CICS TS 4.1 order files
• Physical box arrived about a week later with April 2008 Transaction Processing and Data DVD. Note that the CICS TS 4.1 announcement letter says:

"The CICS TS V4.1 books are planned to be included in the Collection Kit, in the next refresh following general availability, scheduled for September 25, 2009."
Migration Considerations (cont.)

- z/OS 1.9 is minimum required for CICS TS 4.1
- IBM XML Toolkit for z/OS v1.10 required for Web Services Security in CICS TS 4.1 - it was installed by MVS sysprog
- Java 6 (31-bit) required for CICS TS 4.1 - note that we've also migrated all CICS TS 3.2 regions to Java 5 from Java 1.4.2
- MCT COMPRESS=YES is now the default - we added COMPRESS=NO to our local MCT tables assembler source
- Other?
Specific 3.2 to 4.1 considerations:

- We run all 3.2 and 4.1 regions with a single 4.1 CSD, and maintain the CSD from a 4.1 region and/or 4.1 DFHCSDDUP (starting with the GM or "Gold Master" Iteration #6 4.1 code).

- Our current CSD migration strategy is simply:
  - IDCAMS backup (DELETE/DEFINE/REPRO) 4.1 DFHCSDD
  - IDCAMS DELETE/DEFINE 4.1 DFHCSDD
  - IDCAMS REPRO 3.2 DFHCSDD into 4.1 DFHCSDD
  - DFHCSDDUP UPGRADE REPLACE 4.1 DFHCSDD

- Note: RDO compatibility group DFHCOMPD required in 4.1 CSD for 3.2 regions.
Specific 3.2 to 4.1 considerations:

- Built new CICS TS 4.1 DFHGCD, DFHLCD, DFHLRQ, DFHHTML, DFHEJOS, DFHEJIR, DFHADEM, DFHBRNSF, DFHPIDIR, and FILEA datasets.
- Reused CICS TS 3.2 DFHAUXT, DFHDMP, DFHTEMP, and DFHINTRA datasets.
Specific 3.2 to 4.1 considerations:

- SIT changes:
  
  MNIDN= new
  (MNIDN=OFF is default)
  
  USSHOME= new
  (USSHOME=/usr/lpp/cicsts/cicsts41/ is default - but cannot be found in DFHSIT** samples in prefix.SDFHSAMP, btw)

  Review changes to:

  INITPARM=, JVMPROFILEDIR=, MQCONN=, PSTYPE=,
Specific 3.2 to 4.1 considerations:

- RACF (ESM) changes for new Category 1 (never associated with a terminal), Category 2 (initiated by a terminal user), and Category 3 (exempt from security check)

- See "Security for CICS-supplied transactions" in the CICS Information Center, and review prefix.SDFHSAMP members DFH$CAT1 and DFH$CAT2

- Standard migration considerations - will need review and/or customization by the z/OS and/or CICS RACF (ESM) security administrator(s)
Migration Considerations (cont.)

CICS TS 4.1 FMIDs, COMPIDs, and Releases:

From the cicsts41.pgmdir.pdf (Program Directory):

<table>
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<th>FMID</th>
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Migration Considerations (cont.)

PSP (Preventive Service Planning) UPGRADE CICSTS41:

*********************************************************
* UPGRADE CICSTS41   *
*********************************************************

This upgrade contains installation information and/or high impact/pervasive APAR information for Version 4, Release 1, Modification 0 for CICS TS.

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*                      P R O D U C T   I N D E X                       *
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* UPGRADE CICSTS32   *
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This upgrade contains installation information and/or high impact/pervasive APAR information for Version 3, Release 2, Modification 0 for CICS TRANSACTION SERVER.

*********************************************************************
*                      P R O D U C T   I N D E X*
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### Summary

- **DFHSI1517** - Control is being given to CICS!
- Participation in CICS TS 4.1 "Managed Beta" a great experience. Lots of work, but very educational and rewarding - very highly recommended.
- With CICS TS we've enjoyed 99.999% ("five nines") scheduled availability. Same for z/OS. More of the same for our IBM System z and prior zSeries hardware.
- Migration to CICS TS 4.1 from 3.2 very quick and easy. There were no migration inhibitors with our ISV vendors.
Summary

- This migration was once again "transparent" to our CICS application developers.
- CICS TS 4.1 seems to be the best and most feature rich CICS release yet, and more to come from IBM. "It's the latest and the greatest."
- We now have ten Web services in production CICS, and except for one of our external providers moving the endpoint without telling us, and another local endpoint service going down, it's been rock solid.
- Thanks, and have a great conference!
- Questions? Comments? Random thoughts?
Appendix and Additional Information

- IBM Software -> Host Transaction Processing -> CICS (Customer Information Control System):
  http://www.ibm.com/cics

- CICS TS 4.1 Information Center (use the above link and select Library, or):
  https://publib.boulder.ibm.com/infocenter/cicsts/v4r1/index.jsp

- IBM CICS Beta and Early Test Programs:

  Note: For the most current plan, schedule, any questions or concerns, please contact the CICS ETP team at cicsETP@us.ibm.com for ISVs, or CICSEP@UK.IBM.COM for customers and customer beta info.

- IBM BetaWorks (formerly Product Information Center):
  https://www.ibm.com/software/productintro/
Appendix and Additional Information

- University of Florida (UF):  
  http://www.ufl.edu/

- UF CNS:  
  http://www.cns.ufl.edu/

- CICS at UF:  
  http://cics.ufl.edu/
Appendix and Additional Information

- OMEGAMON toleration support for CICS TS 4.1:
  (Google search: omegamon support for cics ts 4.1 ga)
  http://www.ibm.com/support/docview.wss?
  rs=2271&context=SSLSDR&dc=DB550&uid=swg1OA29440&loc=en_US&cs=UTF-8&lang=en&rss=ct2271tivoli

- CA-InterTest for CICS support information:
  https://support.ca.com/irj/portal/anonymous/prddtlshome?productID=1636
Presentation Information

• The **Slackware Linux** Project:  
  http://www.slackware.com/

• **OpenOffice.org** "Impress":  
  http://www.openoffice.org/  
  (File -> Export as PDF)

• **Acer Aspire® One A150 - 8.9"**:  
  http://us.acer.com/