Mining Gold From IBM Supplied CICS Samples

Steve Ware, UF

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Monterrey 1

http://nersp.cns.ufl.edu/~sfware/share110/s1050sfw.pdf (Updated: 02-06-2008)
Abstract

Often overlooked and underutilized, the IBM supplied CICS samples are a treasure hunter's dream come true. We'll spend time in this session mining gold from prefix.SDFHSAMP, prefix.CPSM.SEYUSAMP, /usr/lpp/cicsts/cicsts3x, the REXX for CICS supplied sample execs, and if there are any CICS Socket Interface attendees, we might even prospect through prefix.TCPIP.SEZAINST, as the IBM installation libraries have some valuable trinkets too!
Prospecting emphasis will be SOA related, with a focus on digging for CICS Web Services gold.

Whether your needs are for installation verification procedures (IVPs), proofs of concepts, 'how to' examples, best practices, demos, or new concepts, this session will attempt to help you help yourself.

IBM has said that they are listening to our requests for more and better samples. Are they listening? Let's find out.
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Special thanks to Dave Hrycewicz for inspiration from his SHARE presentation "Treasure Hunting in CICS.SDFHSAMP. What's In It For Me?".
Agenda/Topics

- Introduction
- Why a session on SDFHSAMP and IBM supplied samples?
- What's in SDFHSAMP and /samples today?
- How do I find information on sample materials?
- A brief overview of sample materials
- 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-Q02 with 16GB, running z/OS 1.7, CICS TS 3.2, DB2 7.1, RACF, JES2, etc.
- 3 LPARs - 1 internal "sysprog sandbox", 1 test "alternate", and 1 production or "primary".
- We have 12 CICS regions configured, and run ~1M prod. transactions/weekday, and ~2M on peak load days.
- 2 internal/test sandbox, 2 development/test, 4 test/QA, and 4 production CICS regions currently configured.
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 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 new z9 zAAP, we're looking at exploiting Java in CICS in the future.
Introduction (cont.)

- Are we now considered a **Nouveau** CICS site?
- "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 requester, 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 A Session On SDFHSAMP?

The simple answer is that it has continued to **grow** from CICS release to CICS release, and it's important to try to keep up with "what IBM is up to"!

Also, this isn't your father's CICS anymore - lots has changed in the past several years - lots of very good change!

Properties of "Treasure":
- Subjective (One man's treasure is...)
- May need a map to find it
SDFHSAMP Keeps Getting Bigger!

<table>
<thead>
<tr>
<th>CICS Release</th>
<th># Members</th>
</tr>
</thead>
<tbody>
<tr>
<td>CICS/VS 1.7.0</td>
<td>144</td>
</tr>
<tr>
<td>CICS/MVS 2.1.2</td>
<td>160</td>
</tr>
<tr>
<td>CICS/ESA 3.3.0</td>
<td>282</td>
</tr>
<tr>
<td>CICS/ESA 4.1.0</td>
<td>376</td>
</tr>
<tr>
<td>CICS TS 1.2</td>
<td>431</td>
</tr>
<tr>
<td>CICS TS 1.3</td>
<td>501</td>
</tr>
<tr>
<td>CICS TS 2.1</td>
<td>529</td>
</tr>
<tr>
<td>CICS TS 2.2</td>
<td>567</td>
</tr>
<tr>
<td>CICS TS 2.2 (EOL)</td>
<td>575</td>
</tr>
<tr>
<td>CICS TS 2.3</td>
<td>577</td>
</tr>
<tr>
<td>CICS TS 3.1</td>
<td>623</td>
</tr>
<tr>
<td>CICS TS 3.2 (I4)</td>
<td>634</td>
</tr>
<tr>
<td>CICS TS 3.2 (GA)</td>
<td>646</td>
</tr>
</tbody>
</table>

Some members are deleted and/or modified with each CICS release, so growth is actually bigger than what these numbers show.

Be sure to review after CICS SMP/E maintenance APPLYs.

Note: CICS TS 2.3 is at RSU 0602
CICS TS 3.1 is at RSU 0705
CICS TS 2.2 and prior are #s from Dave H.
HFS/zFS Keeps Getting Bigger?

What about the IBM supplied HFS/zFS samples?

```
du -k /usr/lpp/cicsts/cicsts31
  17940 /usr/lpp/cicsts/cicsts31

du -k /usr/lpp/cicsts/cicsts31/samples
  3044 /usr/lpp/cicsts/cicsts31/samples

du -k /usr/lpp/cicsts/cicsts32
  19020 /usr/lpp/cicsts/cicsts32

du -k /usr/lpp/cicsts/cicsts32/samples
  2628 /usr/lpp/cicsts/cicsts32/samples
```

Note: 59 for both du -k /usr/lpp/cicsts3#/samples|wc -l
Why Use Sample Materials?

- Learn - even the comments in the samples can be invaluable
- Empower application developers with working samples
- Test new functionality and develop a "Proof Of Concept"
- "Show me" better than "read about it"
- Speed adaptation of new technologies
- Expand upon the samples and build prototypes, etc.
- Save time, and possibly even save $$$
Use Sample Materials In Production?

You probably already do!

• For example, lots of sites use the IBM supplied URMs (User Replaceable Modules), but lots of sites customize, too

• Considerations:
  - Cautions/restrictions/limitations
  - Copyrights
  - Applicability to your environment

• Carefully review documentation, comments, security implications, maintainability, etc.
Session Specifics

• A general, high-level overview of the samples available in CICS TS 3.2 (and maybe a little about z/OS 1.7, too)
  - Running an earlier release of CICS? Much will still be relevant
• prefix.SDFHSAMP, HFS/zFS files, REXX for CICS, and CICS Socket Interface will all be discussed
• Some search ideas and techniques will be discussed
Sample Material Prospector Tools

- Primary tools:
  - CICS Information Center, with good search capabilities
  - ISRSUPC - "ISPF Super Compare and Scan" utility (interactive or batch)

```
//ISRSUPC JOB ...
//*
//SCAN EXEC PGM=ISRSUPC,
//   PARM=(L,SRCHCMP,ANYC,IDPFX,NOPRTCC)
//NEWDD DD DSN=target.dataset,DISP=SHR
//OUTDD DD SYSOUT=* 
//SYSIN DD *
   SRCHFOR 'search term' (Note: Multiple SRCHFORs ok)
/*
```

- find/grep for HFS/zFS files
- Google (or your favorite Web search engine)
The Samples Treasure Map

Looking for Gold? Search for "contents of the distribution tapes" (using tapes loosely), and be patient - there's gold in them there hills!
The Samples Treasure Map (cont.)

Looking for "sample" Gold?  Simply search for "sample" - over 500 results so only the first 500 are displayed.

Additional searches can be done for "sample programs", "sample applications", etc.
Looking for "SDFHSAMP" Gold? Simply search for "sdfhsamp" - 163 results.

A search for "seyusamp" yields 17 results, btw.
The Learning Path Treasures

Want to learn about Channels, Installing CPSM, or Managing and monitoring your CICS workload? The "Learning Paths" are at the end of the rainbow.

Session 1050, SHARE 110, Orlando, FL, Steve Ware, UF.
Looking for the "infamous" CICS Sample Application Primer? You guessed it - let's search on "sample application primer".
Looking for where to get started with Web Services? Try the "web services roadmap".

Session 1050, SHARE 110, Orlando, FL, Steve Ware, UF.
Looking for information about CICS and Web Services? Try "cics web services".
Looking for information about a Web services sample? Try "web services sample", then select the "Web services information roadmap", and scroll down and select "The CICS catalog manager example application (Information center)" link.
Sample Programs: Sending and Receiving HTTP requests in chunks

Looking for information about sending and receiving HTTP requests in chunks? A simple search for "web chunk sample" might work.
Any EXEC CICS INVOKE WEBSERVICE treasures?

• Using ISRSUPC, let's SRCHFOR 'INVOKE':

```
ISRSUPC - MVS/PDF FILE/LINE/WORD/BYTE/SFOR COMPARE UTILITY- ISPF FOR z/OS
MEMBER LINE-# SOURCE LINE SRCH DSN: CICS.V650.TEST.SDFHSAMP

CSQCAPX 33 * invoked before or after the MQ API call. If after ...
ICC$TRM 72 // until the 'flush' function is invoked.

LINES-FOUND  LINES-PROC  MEMBERS-W/LNS  MEMBERS-WO/LNS  COMPARE-COLS  LONGEST-LINE
427        231524  149          487            1:80      80

PROCESS OPTIONS USED: ANYC NOPRTCC IDPFX

THE FOLLOWING PROCESS STATEMENTS (USING COLUMNS 1:72) WERE PROCESSED:
SRCHFOR 'INVOKE'

• Hmmm, 149 members have "invoke", but let's refine our search.
```
Any EXEC CICS INVOKE WEBSERVICE treasures? (cont.)

• Using ISRSUPC, let's SRCHFOR 'INVOKE WEBSERVICE':

  ISRSUPC - MVS/PDF FILE/LINE/WORD/BYTE/SFOR COMPARE UTILITY- ISPF FOR z/OS
MEMBER   LINE-#  SOURCE LINE          SRCH DSN: CICS.V650.TEST.SDFHSAMP

  DFHEIDAL   434  INVOKE WEBSERVICE *
  DFHMNPDA   475  PDRWBIWC DS   XL4             No. Invoke Webservice requests
  DFH0XECC    7   *                  Web Service Client INVOKE WEBSERVICE
  DFH0XECC   286  EXEC CICS INVOKE WEBSERVICE('inquireCatalogClient')
  DFH0XECC   383  EXEC CICS INVOKE WEBSERVICE('inquireSingleClient')
  DFH0XECC   486  EXEC CICS INVOKE WEBSERVICE('placeOrderClient')
  DFH0XWOD   204  EXEC CICS INVOKE WEBSERVICE('WS-WEBSERVICE-NAME')

  LINES-FOUND  LINES-PROC MEMBERS-W/LNS MEMBERS-WO/LNS COMPARE-COLS LONGEST-LINE
               7       231524            4            632           1:80           80

  PROCESS OPTIONS USED: ANYC NOPRTCC IDPFX

  THE FOLLOWING PROCESS STATEMENTS (USING COLUMNS 1:72) WERE PROCESSED:
  SRCHFOR 'INVOKE WEBSERVICE'

• Nice. Let's consider one more search, just in case INVOKE and WEBSERVICE are on 2 lines instead of 1.
Any EXEC CICS INVOKE WEBSERVICE treasures? (cont.)

- Using ISRSUPC, let's SRCHFOR 'WEBSERVICE':

```
ISRSUPC   -   MVS/PDF FILE/LINE/WORD/BYTE/SFOR COMPARE UTILITY- ISPF FOR z/OS
MEMBER   LINE-#  SOURCE LINE              SRCH DSN: CICS.V650.TEST.SDFHSAMP

DFH$DB2T  641     WEBSERVICE    CHAR(32),
...       
DFH0XWOD  204     EXEC CICS INVOKE WEBSERVICE(WS-WEBSERVICE-NAME)
```

```
ISRSUPC   -   MVS/PDF FILE/LINE/WORD/BYTE/SFOR COMPARE UTILITY- ISPF FOR z/OS
SEARCH-FOR SUMMARY SECTION            SRCH DSN: CICS.V650.TEST.SDFHSAMP

LINES-FOUND  LINES-PROC  MEMBERS-W/LNS  MEMBERS-WO/LNS  COMPARE-COLS  LONGEST-LINE
          213       231524           26            610           1:80           80

PROCESS OPTIONS USED: ANYC NOPRTCC IDPFX

THE FOLLOWING PROCESS STATEMENTS (USING COLUMNS 1:72) WERE PROCESSED:
    SRCHFOR 'WEBSERVICE'
```

- Sometimes you have to try a variety of search terms, and they can all be specified in one invocation of ISRSUPC, if preferred.
What's in SDFHSAMP?

- Sample application code
  - COBOL
  - Assembler
  - C/C++
- Sample REXX execs
- Sample exit code
- Sample URM code
- Sample error handling code
- Sample object oriented code
- Dynamic allocation
- RDO/Autoinstall
- Database (EXEC SQL)
- GET/PUT CONTAINER
- CICS Web Services examples
- CICS Web Support examples
- Security related materials
- Java/JavaScript
- Sample tables
- Installation aids
- Operational aids
- Monitoring/statistics examples
- EXCI
- FEPI
- BTS
- And much, much more!
What's new in the CICS TS V3.2 SDFHSAMP since 3.1?

• As to be expected, members with comments have:
  * for z/OS, Version 3 Release 2
in place of:
  * for z/OS, Version 3 Release 1

• ISRSUPC says:

<table>
<thead>
<tr>
<th>Count</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>613</td>
<td>TOTAL MEMBER(S) PROCESSED AS A PDS</td>
</tr>
<tr>
<td>572</td>
<td>TOTAL MEMBER(S) PROCESSED HAD CHANGES</td>
</tr>
<tr>
<td>41</td>
<td>TOTAL MEMBER(S) PROCESSED HAD NO CHANGES</td>
</tr>
<tr>
<td>23</td>
<td>TOTAL NEW FILE MEMBER(S) NOT PAIRED</td>
</tr>
<tr>
<td>0</td>
<td>TOTAL OLD FILE MEMBER(S) NOT PAIRED</td>
</tr>
</tbody>
</table>
Here's the ISRSUPC step used to compare the 2 SDFHSAMPs:

```plaintext
//SUPERC EXEC PGM=ISRSUPC,
//          PARM=(DELTAL,LINECMP,
//               '',
//               '')
//NEWDD DD DSN=CICS.V650.TEST.SDFHSAMP,
//       DISP=SHR
//OLDDDD DD DSN=CICS.V640.TEST.SDFHSAMP,
//       DISP=SHR
//OUTDD DD SYSOUT=A
//*/
```
What's new in SDFHSAMP? (cont.)

- CSQCAPX
- DFH$APAD
- DFH$WBCA
- DFH$WBCC
- DFH$WBHA
- DFH$WBHC
- DFH$WBLD
- DFH$WBPA
- DFH$WPBC
- DFH$WBX1
- DFH$WBX2
- DFH$XISQ
- DFHISAIC
- DFHISAIP
- DFHISCIP
- DFHISDIP
- DFHISPIIP
- DFHMQPPLT
- DFHXIQDS
- DFH0IPCC
- DFH0WBCO
- DFH0WBHO
- DFH0WBPO
What's new in SDFHSAMP? (cont.)

• **CSQCAPX:**  
  TITLE 'CICS MQ ADAPTER - SAMPLE API CROSSING EXIT'

• **DFH$APAD:**  
  TITLE 'DFH$APAD - Sample XAPADMGR Global User Exit Program'

• **DFH$WBCA:**  
  FUNCTION = CICS Assembler Program that performs Chunking to a web server.  
  Versions of this program in other languages are also provided:  
  C - DFH$WBCC  
  COBOL - DFH0WBCO

• **DFH$WBHA:**  
  FUNCTION = CICS Assembler Program that performs HTTP chunking to a web client.  
  Versions of this program in other languages are also provided:  
  C - DFH$WBHC  
  COBOL - DFH0WBHO
What's new in SDFHSAMP? (cont.)

- **DFH$WBLD:**
  
  version: 1

  # This is a sample LDIF file to demonstrate how to add
  # Basic Authentication credentials to an LDAP server for
  # use by the sample XWBAUTH Global User Exit DFH$WBX1.

  # It must be copied to an HFS file and then used with an
  # ldapadd or ldapmodify to update the LDAP directory.

- **DFH$WBPA:**
  
  FUNCTION = CICS Assembler Program that performs PIPELINING to a
  web server.

  Versions of this program in other languages are also provided:
  
  C - DFH$WBPC
  COBOL - DFH0WBPO
What's new in SDFHSAMP? (cont.)

- **DFH$WBX1:**
  DESCRIPTION
  This is a sample version of the XWBAUTH global user exit that demonstrates how to use the DFHDDAPX exit program interface (XPI) to obtain Basic Authentication credentials from an LDAP server. The exit builds an LDAP "distinguished name" (DN) that is used as input to an LDAP search.

- **DFH$WBX2:**
  FUNCTION =
  Sample program to demonstrate how to use a Secure Token Service to obtain credentials for an HTTP Basic Authentication server.
What's new in SDFHSAMP? (cont.)

- **DFH$XISQ:**
  
  FUNCTION =

  DFH$XISQ acts as an exit program for the exit point XISQUE. The exit deals with the problems encountered when 'sickness' in a remote system causes allocates to queue in the sending system. This system develops 'sympathy sickness' as the allocate queue of tasks becomes too large.

  This sample program takes the queue limit specified on the IPCCONN definition (QUEUELIMIT) as the maximum queue length and issues RC 4 when this limit is reached.
What's new in SDFHSAMP? (cont.)

- **DFHISAIC:**
  DESCRIPTIVE NAME = CICS  (IS) IPCONN Autoinstall User Program Commarea

- **DFHISAIP:**
  DESCRIPTIVE NAME = CICS  (IS) ISC over TCP/IP
  IPCONN autoinstall user program (AUP)

  **Note:**
  - The equivalent COBOL program is DFHISCIP.
  - The equivalent C program is DFHISDIP.
  - The equivalent PL/1 program is DFHISPIP.
What's new in SDFHSAMP? (cont.)

- **DFHMQPLT:**
  
  TITLE 'CICS MQ ADAPTER - SAMPLE PLT CONNECT PROGRAM'

- **DFHXIQDS:**
  
  FUNCTION =
  
  This DSECT maps the information provided to the XISQUE exit.

- **DFH0IPCC:**
  
  FUNCTION =
  
  The purpose of this utility is to provide a means of migrating CONNECTION and SESSIONS definitions in a CSD file used for intercommunication via SNA over APPC to those used for IP interconnectivity (i.e. TCPIPSERVICE and IPCONN definitions).
What's new in SDFHSAMP? (cont.)

- **DFH0WBCO:**
  - DESCRIPTIVE NAME = CICS  
  - (WB) Web Client Chunking Sample

- **DFHWBHCO:**
  - DESCRIPTIVE NAME = CICS  
  - (WB) Web Chunking Sample

- **DFHWBHPO:**
  - DESCRIPTIVE NAME = CICS  
  - (WB) Web Pipelining Sample
What's in `/usr/lpp/cicsts/cicsts32/samples/`?

- `ls -lta /usr/lpp/cicsts/cicsts32/samples/`:

```plaintext
  drwxr-xr-x  8 CICSERV $CICS  480 Jul 2 14:39 ..
  drwxrwxr-x  3 CICSERV $CICS  416 Jul 2 14:39 ws-trust
  drwxrwxr-x  3 CICSERV $CICS  576 Jul 2 14:39 pipelines
  drwxrwxr-x  3 CICSERV $CICS  544 Jul 2 14:39 jdbc
  drwxrwxr-x  5 CICSERV $CICS  608 Jul 2 14:39 dfjcorb
  drwxrwxr-x  4 CICSERV $CICS  544 Jul 2 14:39 dfjcics
  drwxrwxr-x 11 CICSERV $CICS  544 Jul 2 12:10 .
  drwxrwxr-x  4 CICSERV $CICS  320 Jul 2 12:10 ejb
  drwxrwxr-x  3 CICSERV $CICS  288 Jul 2 12:10 useroutputclass
  drwxrwxr-x  6 CICSERV $CICS  384 Jul 2 12:10 webservices
```
Any XML or JCL treasures?

• Using a command shell in z/OS UNIX:

```bash
find /usr/lpp/cicsts/cicsts32|grep -i xml

/usr/lpp/cicsts/cicsts32/pipeline/configs/registrationservicePROV.xml
/usr/lpp/cicsts/cicsts32/pipeline/configs/registrationserviceREQ.xml
/usr/lpp/cicsts/cicsts32/samples/pipelines/basicsoap11provider.xml
/usr/lpp/cicsts/cicsts32/samples/pipelines/basicsoap11requester.xml
/usr/lpp/cicsts/cicsts32/samples/pipelines/wsatprovider.xml
/usr/lpp/cicsts/cicsts32/samples/pipelines/wsatrequester.xml

find /usr/lpp/cicsts/cicsts32|grep -i jcl

/usr/lpp/cicsts/cicsts32/samples/webservices/JCL
/usr/lpp/cicsts/cicsts32/samples/webservices/JCL/LS2WS
/usr/lpp/cicsts/cicsts32/samples/webservices/JCL/WS2LS
/usr/lpp/cicsts/cicsts32/samples/webservices/JCL/IBM
/usr/lpp/cicsts/cicsts32/samples/webservices/JCL/IBM/DFJ@H196
/usr/lpp/cicsts/cicsts32/samples/webservices/JCL/IBM/DFJ@H197
```
Any Java treasures?

• Using a command shell in z/OS UNIX:

find /usr/lpp/cicsts/cicsts32|grep -i java|wc -l
31

find /usr/lpp/cicsts/cicsts32|grep -i java|grep -i Hello
/usr/lpp/cicsts/cicsts32/samples/dfjcics/examples/HelloWorld/HelloCICSWorld.java
/usr/lpp/cicsts/cicsts32/samples/dfjcics/examples/HelloWorld/HelloWorld.java
/usr/lpp/cicsts/cicsts32/samples/dfjcorb/HelloWorld/client/HelloWorldClient.java
/usr/lpp/cicsts/cicsts32/samples/dfjcorb/HelloWorld/server/_HelloWorldImpl.java

• 31 "java" files were found, and 4 have "Hello" in the file name.
What's in 
/usr/lpp/cicsts/cicsts32/samples/webservices?

• `ls -lta /usr/lpp/cicsts/cicsts32/samples/webservices:

  drwxrwxr-x   3 CICSERV $CICS        608 Jul  2 14:39 client
  drwxrwxr-x   3 CICSERV $CICS        704 Jul  2 14:39 wsdl
  drwxrwxr-x   3 CICSERV $CICS        352 Jul  2 14:39 JCL
  drwxrwxr-x   6 CICSERV $CICS        384 Jul  2 12:10 .
  drwxrwxr-x  11 CICSERV $CICS        544 Jul  2 12:10 ..
  drwxrwxr-x   4 CICSERV $CICS        320 Jul  2 12:10 wsbind

• `ls /usr/lpp/cicsts/cicsts32/samples/webservices/client:

  DispatchOrderV6.ear          ExampleAppDispatchOrder.ear
  ExampleAppClient.ear          ExampleAppWrapperClient.ear
  ExampleAppClientV6.ear        IBM
What's in 
/usr/lpp/cicsts/cicsts32/samples/webservices?

- `ls /usr/lpp/cicsts/cicsts32/samples/webservices/wsdl:
  
<table>
<thead>
<tr>
<th>IBM</th>
<th>inquireSingle.wsdl</th>
</tr>
</thead>
<tbody>
<tr>
<td>dispatchOrder.wsdl</td>
<td>inquireSingleWrapper.wsdl</td>
</tr>
<tr>
<td>inquireCatalog.wsdl</td>
<td>placeOrder.wsdl</td>
</tr>
<tr>
<td>inquireCatalogWrapper.wsdl</td>
<td>placeOrderWrapper.wsdl</td>
</tr>
</tbody>
</table>

- `ls /usr/lpp/cicsts/cicsts32/samples/webservices/wsbind/provider:
  
<table>
<thead>
<tr>
<th>IBM</th>
<th>inquireSingle.wsbind</th>
</tr>
</thead>
<tbody>
<tr>
<td>dispatchOrderEndpoint.wsbind</td>
<td>inquireSingleWrapper.wsbind</td>
</tr>
<tr>
<td>inquireCatalog.wsbind</td>
<td>placeOrder.wsbind</td>
</tr>
<tr>
<td>inquireCatalogWrapper.wsbind</td>
<td>placeOrderWrapper.wsbind</td>
</tr>
</tbody>
</table>

- `ls /usr/lpp/cicsts/cicsts32/samples/webservices/wsbind/requester:
  
<table>
<thead>
<tr>
<th>IBM</th>
<th>inquireSingleClient.wsbind</th>
</tr>
</thead>
<tbody>
<tr>
<td>dispatchOrder.wsbind</td>
<td>placeOrderClient.wsbind</td>
</tr>
<tr>
<td>inquireCatalogClient.wsbind</td>
<td></td>
</tr>
</tbody>
</table>
What's in prefix.TCPIP.SEZAINST?

• Browse prefix.TCPIP.SEZAINST (the IBM z/OS TCP/IP and CICS Socket Interface install library) for EZACI* members:

EZACICAC – This is a very simple child server (Assembler)
EZACICAS – This is a sample iterative server (Assembler)
EZACICCT – RDO definitions for CICS Socket Interface (CSI)
EZACICDT – CSI DCT macro definitions
EZACICFG – CSI VSAM config. file load sample JCL
EZACICHD – CSI global variables C API
EZACICPT – CSI RDO Threadsafe program definitions
EZACICSC – CSI sample client application program (COBOL)
EZACICSS – CSI sample server application program (COBOL)
EZACIC6C – CSI sample client IPV6 (COBOL)
EZACIC6S – CSI sample server IPV6 (COBOL)
EZACIMCL – CSI MCT EMP entries for tasks
EZACIMCT – CSI MCT EMP entries for TRUE
What's prefix.SDFHRALT? (Alternate REXX run-time library for CPSM)

• New FMID JCI650R in CICS TS 3.2, which provides an alternate REXX run-time library for CPSM:

Two situations can arise where you may encounter abend code 878 in EYU9XDBT. This abend occurs when a program attempts to use more storage than it has allocated. In EYU9XDBT this is caused by an insufficient region size and the solution in both cases is to increase the region size. The two situations are:

• Switching from the alternate REXX run-time library to a pre-installed version of the REXX compiler library.

  EYU9XDBT requires a REXX run-time library. The alternate REXX run-time library is supplied with CICS® Transaction Server. However a pre-installed version of the REXX compiler library is also supported. Switching from the alternate library may cause an abend due to the increased storage requirements of the REXX compiler library. You need to increase the region size to take account of the larger size of the REXX compiler library.

• Not accounting for the retention by EYU9XDBT of large numbers of definitions in memory when setting your region size.
Don't neglect other treasures such as...

- Don't neglect the other IBM supplied datasets, such as:

  prefix.SDFHCOB
  prefix.SDFHC370
  prefix.SDFHINST
  prefix.SDFHMAC
  prefix.SDFHPL1
  prefix.SDFHPROC
  prefix.REXX.SCICCMDS
  prefix.REXX.SCICEXEC
  prefix.REXX.SCICJCL
  prefix.REXX.SCICPNL
  prefix.REXX.SCICUSER
What's in the REXX for CICS datasets?

Recall that CICS TS includes REXX for CICS - it's included "in the box":

This data set contains those execs which implement REXX Development System authorized commands:

prefix.REXX.SCICCMDS

This data set contains those execs which are supplied by the REXX Development System that use authorized commands:

prefix.REXX.SCICEXEC
What's in the REXX for CICS datasets?

This data set contains those execs which are supplied by the REXX Development System that do not use authorized commands:

prefix.REXX.SCICUSER

This data set contains sample JCL and code to install and customize REXX for CICS:

prefix.REXX.SCICJCL

This data set contains the REXX for CICS panels:

prefix.REXX.SCICPNL

Session 1050, SHARE 110, Orlando, FL, Steve Ware, UF.
Don't neglect other treasures (cont.)...

- Don't neglect the IBM Redbooks, which sometimes contain sample application code, JCL, WSDL, XML, etc.
- Don't neglect the IBM CICS SupportPacs.
- Don't neglect other vendors with sample code, such as:

  HostBridge Technology,
  Free CICS Sample Socket Programs:
  http://www.hostbridge.com/downloads
Summary

• There's gold in them there hills!
• IBM continues to listen to our needs for more samples, and they continue to deliver - SDFHSAMP continues to grow.
• Try to spend some time reviewing the IBM supplied samples, especially between releases and maintenance cycles.
• Search, search, and then search again - use any and all search tools available in your CICS toolbox.
Summary (cont.)

• **Thanks!** Have a great time for the remainder of the conference, and have a safe trip home.

• **Questions?** Comments? *Random thoughts?*
Appendix and Additional Information

• IBM CICS (Customer Information Control System):  
  http://www.ibm.com/cics (which recently resolved to)  

• IBM CICS Library:  
Appendix (cont.)

- SHARE ("It's not an acronym, it's what we do.")
  http://www.share.org/

- SHARE CICS Project:
  http://www.share.org/cics
Appendix (cont.)

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

• UF Computing & Networking Services (CNS):
  http://www.cns.ufl.edu/

• CICS at UF:
  http://cics.ufl.edu/
Presentation Information

- The **Slackware Linux** Project: http://www.slackware.com/
- **OpenOffice.org** 2.3.1 "Impress": http://www.openoffice.org/ (File -> Export as PDF) (Used SHARE PowerPoint template.)
- IBM (Lenovo) **ThinkPad** T40 2379-D5U: http://www.lenovo.com/think/us/en/