Mining Gold From IBM Supplied CICS Samples

Steve Ware, UF

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Manchester Grand Hyatt San Diego
Manchester I

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!
Abstract (cont.)

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 3.1** and **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. As of July 12, 2007, 7 of these 12 regions are running CICS TS 3.2 GA.
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 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 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)

```plaintext
//ISRSUPC JOB ...
// *
//SCAN EXEC PGM=ISRSUPC,
// PARM=(L,SRC,CMP,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!
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.
Looking for the "infamous" CICS Sample Application Primer? You guessed it - let's search on "sample application primer".

CICS Sample Application Primer

The CICS Application Programming Primer

You can use this Sample application to demonstrate the design and programming of a traditional CICS® application. It provides online inquiry and maintenance facilities for a Sample customer credit file in a department store. The application uses VSAM files, and 3270 display and printer terminals. It was written before publication of the Common User Access® guidelines, and provides similar function (without CUA® support) as the CUA Sample Application.

Creating the data sets
Making the data sets available to CICS

Parent topic: Defining the Sample application's data sets

Can also be found in: Installation Guide

Feedback

Last updated: June 14, 2007 12:16:8
Web Services Roadmap

Looking for where to get started with Web Services? Try the "web services roadmap".

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CICS and Web Services

Looking for information about CICS and Web Services? Try "cics web services".
CICS Web Services Sample

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':

<table>
<thead>
<tr>
<th>MEMBER</th>
<th>LINE-#</th>
<th>SOURCE LINE</th>
<th>SRCH DSN: CICS.V650.TEST.SDFHSAMP</th>
</tr>
</thead>
<tbody>
<tr>
<td>DFHEIDAL</td>
<td>434</td>
<td>INVOKE WEBSERVICE *</td>
<td></td>
</tr>
<tr>
<td>DFHMNPDA</td>
<td>475</td>
<td>PDRWBIWC DS XL4</td>
<td>No. Invoke Webservice requests</td>
</tr>
<tr>
<td>DFH0XECC</td>
<td>7</td>
<td>*</td>
<td>Web Service Client INVOKE WEBSERVICE</td>
</tr>
<tr>
<td>DFH0XECC</td>
<td>286</td>
<td>EXEC CICS INVOKE WEBSERVICE('inquireCatalogClient')</td>
<td></td>
</tr>
<tr>
<td>DFH0XECC</td>
<td>383</td>
<td>EXEC CICS INVOKE WEBSERVICE('inquireSingleClient')</td>
<td></td>
</tr>
<tr>
<td>DFH0XECC</td>
<td>486</td>
<td>EXEC CICS INVOKE WEBSERVICE('placeOrderClient')</td>
<td></td>
</tr>
<tr>
<td>DFH0XWOD</td>
<td>204</td>
<td>EXEC CICS INVOKE WEBSERVICE(WS-WEBSERVICE-NAME)</td>
<td></td>
</tr>
</tbody>
</table>

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
  instead of:
  * for z/OS, Version 3 Release 1

- ISRSUPC says:

  613  TOTAL MEMBER(S) PROCESSED AS A PDS
  572  TOTAL MEMBER(S) PROCESSED HAD CHANGES
  41  TOTAL MEMBER(S) PROCESSED HAD NO CHANGES
  23  TOTAL NEW FILE MEMBER(S) NOT PAIRED
  0  TOTAL OLD FILE MEMBER(S) NOT PAIRED
What's new in SDFHSAMP? (cont.)

Here's the ISRSUPC step used to compare the 2 SDFHSAMPs:

```
//SUPERC EXEC PGM=ISRSUPC,
//      PARM=(DELTAL,LINECMP, *
//             ',
//             ')
//NEWDD DD DSN=CICS.V650.TEST.SDFHSAMP,
//      DISP=SHR
//OLDDD 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$WBPA
- DFH$WBPC
- DFH$WBX1
- DFH$WBX2
- DFH$XISQ

- DFHISAIC
- DFHISAIP
- DFHISCIP
- DFHISDIP
- DFHISPIP
- DFHMQPLT
- 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**
  
  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/`:

  - `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  3 CICSERV  $CICS  608 Jul 2 14:39 cci`
  - `drwxrwxr-x  5 CICSERV  $CICS  416 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:

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/bsatprovider.xml
/usr/lpp/cicsts/cicsts32/samples/pipelines/bsatrequirer.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

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What's in /usr/lpp/cicsts/cicsts32/samples/webservices?

- `ls /usr/lpp/cicsts/cicsts32/samples/webservices/wsdl`:
  - IBM
    - dispatchOrder.wsdl
    - inquireCatalog.wsdl
    - inquireCatalogWrapper.wsdl
  - inquireSingle.wsdl
  - inquireSingleWrapper.wsdl
  - placeOrder.wsdl
  - placeOrderWrapper.wsdl

- `ls /usr/lpp/cicsts/cicsts32/samples/webservices/wsbind/provider`:
  - IBM
    - dispatchOrderEndpoint.wsbind
    - inquireCatalog.wsbind
    - inquireCatalogWrapper.wsbind
  - inquireSingle.wsbind
  - inquireSingleWrapper.wsbind
  - placeOrder.wsbind
  - placeOrderWrapper.wsbind

- `ls /usr/lpp/cicsts/cicsts32/samples/webservices/wsbind/requester`:
  - IBM
    - dispatchOrder.wsbind
    - inquireCatalogClient.wsbind
  - inquireSingleClient.wsbind
  - placeOrderClient.wsbind
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
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 2.0.4 "Impress": http://www.openoffice.org/
  (File -> Export as PDF)
  (Used SHARE supplied PowerPoint template.)