Z390/CICS System Programmers Guide

This document describes the Z390/CICS environment, how it operates and the modifications that can be made to it.

Experienced CICS people may notice a lack of authenticity in the background coding and formats, and some use of archaic methods. This is all intentional, and as Z390 matures, so will Z390/CICS.

Objective

To take an existing Assembler CICS application, re-assemble it in the Z390 environment and run it unmodified and successfully under Z390/CICS.

Only the source may be exchanged between any environments.

Current environment

It is fair to say that the facilities available to Z390/CICS Application programmers are somewhat limited at present. These are early days, and functions will be added gradually.

The currently supported Application environment is described in the Z390/CICS Application Programmers Guide (ZCICSAPP.TXT).

Requests for commands and extra parameters are very welcome and will help to set a priority list.

Regression testing

The program RTZCICS tests good and bad forms of supported EXEC CICS functions. It is not part of DFHALL.BAT and must be re-assembled separately.

There should be no assembler errors, only a collection of sev 12 MNOTEs.

How it works

I have split the Z390/CICS environment into two sections.

The primary task is Z390CICS, which I have called the Global Manager. This will handle all shared resources like TS, IC, etc.

Each terminal has its own Command Prompt (MS-DOS task). This environment runs Z390KCP and invokes any Application programs requested.

It is effectively a single terminal, single task environment.

Z390KCP is therefore the Local Manager handling EIB, COMMAREAs, DSAs and other task related storage.

TCPIO SEND/RECEIVE are used to pass requests and data between Z390CICS and each Z390KCP, with Z390CICS being the server and all terminals running Z390KCP as multiple clients.

Setting it up

Parameters...

The Z390CICS.INI file is self-documenting.

Two parameters need to be changed...

JAR_PATH points to the location of the Z390.JAR program.
CICS_PATH points to the location of the Z390/CICS programs

The following BAT files need to be modified to your own environment...
Z390CICG - Start up CICS

Z390KCPR - Start a remote terminal.
Especially important that you regularly check that your IP address is correct. This may vary and should always be checked with the IPCONFIG command.

DFHPCT.MLC has a basic set of test transaction codes which are listed later. Users should add their own transactions to DFHPCTUS.CPY and re-assembled the PCT.

Local and Remote terminals

A Local terminal is a Command Prompt (MS-DOS task) that is auto-started when Z390CICS is started. The number of Local terminals that are started is controlled by the LOCAL_TERMINALS parameter.

A Remote terminal must be started in a Command Prompt that you have manually created and is initiated by using Z390KCPR (see the 'Starting it up' section).

A Remote terminal doesn't have to be on the same PC as Z390CICS, but can be on another PC connected via a home network.

There is a restraint on the number of Remote terminals set by the REMOTE_TERMINALS parameter.

Starting it up

From the Z390 GUI (recommended), or in your own Command Prompt...

1) Z390CICG
This will start the Z390/CICS Global Manager and all Local terminals.

2) A Remote terminal may be set up as follows...
Create a Command Prompt window and use CD to navigate to, and invoke Z390KCPR.

You should get another Z390/CICS window.

This method should be used if the code needs to use the Z390 debug facilities, in which case use Z390KCPR TEST

Ok, I've got a blank Z390/CICS screen or a logo...now what ?

When the terminal is opened, the termid is in the title.

From the 'initial screen' you can perform the following tests...

CTRL+C	Clear the screen. Within a transaction that has issued a RECEIVE, the CLEAR AID is returned.
AAAA	test invalid transid message
MMM1	test abend APCT message
MMM2	'hello world'
GUI4	conversational test 1
GUI6	conversational test 2
TST1	conversational test 3 and LINK test

```
   BED1        Test bed for LINK, XCTL and RETURN with COMMAREA.
               Keep pressing ENTER until the 'clear screen' message
               is displayed.

   BED2        HANDLE AID testing
               Follow the on-screen instructions.

   BED3        HANDLE CONDITION/IGNORE CONDITION/PUSH/POP testing
               GETMAIN/FREEMAIN testing
               Abend handling
               Follow the on-screen instructions.

   BED4        HANDLE ABEND testing. Simple handling.
               Follow the on-screen instructions.

   BED5        HANDLE ABEND testing. Complex handling.
               Follow the on-screen instructions.

   CEMT I TER       displays the state of all terminals
                    ENTER does a refresh

   CEMT I TRA       displays the PCT
   CEMT I SYS       displays the Z390CICS.INI file
   CEMT S TER OUT   shuts down Z390KCP
   CEMT P SHU       shut down the server if no active tasks
   CEMT P SHU IMM   shut down the server immediately
```

Shutdown

Some shutdown methods still leave the CICS window behind.
Myself and Don are working to resolve this, just click close (big X) on each stranded window.

```
   CEMT S TER OUT
      This closes the terminal.
      Local terminals may not be re-instated.
      Even if all terminals are closed with this method, Z390/CICS
      will not shut down. A remote terminal may still be started.

    CEMT P SHU
       The terminal issuing this command will be closed.
       No new terminals or tasks may be started.
       If there are no active tasks, then the server is closed and
       Z390/CICS ends.
       When all active tasks terminate, Z390/CICS will end.

    CEMT P SHU IMM
       The terminal issuing this command will be closed.
       The server is then closed and Z390/CICS ends.
```

Abends

Abends are now handled properly, SNAP dumps are provided when requested or when circumstances demand them.

A standard abend message (DFH2206) is usually displayed.

An ASRA abend which is handled by a HANDLE ABEND command will always produce a SNAP dump but no message.

If the initial program of a transaction is not available an APCT abend will occur. This won't produce a dump and cannot be HANDLEd.

```
The ID of the SNAP indicates its origin...
   999 : Abend ASRA   TEXT='ABEND ASRA'
   998 : Requested dump by EXEC CICS ABEND  TEXT='ABEND abcode'

   Other values : The EIBRESP field, ie. 27=PGMIDERR has occured
                  TEXT='ABEND xxxx' ie. AEI0=PGMIDERR

Aborting the environment violently
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This is occasionally necessary to preserve traces and dumps.

The Z390 GUI can stay up and won't be harmed by this process.

a) Right click the taskbar
b) Select Task Manager
c) Search for java.exe
   You can sort the tasks by clicking on 'Image name'
   Don't confuse this with javaw.exe
d) Right click on java.exe
e) Select End Process and Yes.
   All the Z390/CICS environment and terminals should go away.

Trademarks
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CICS is a registered trademark of International Business Corporation.

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