

z/TPF SIPC Driver

User's Guide

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ZTEST SIPC

The SIPC driver is intended to test IPC through the use of SIPCs. It generates IPC traffic as well as background activity. SIPC is able to run in either function test mode or system test mode. The SIPC driver functions are needed to:

- Test all possible SIPC macro paths, including error paths.
- Be predictable and re-creatable.
- Create IPC traffic regardless of system state.
- Create background activity.

Requirements and restrictions

To run the SIPC driver, you must have HPO installed.

Format

```

>>---ZTEST--+-----+--- --SIPC-- --+--+Small--+-- --+-----+-----><
          +- -i-+      | +-LArge+      '-errnum-'      |
          '- *--'      | '-4K----'      |               |
                               |               |               |
                               +-+START--+--+-----+-----+
                               | +-STOP---+  '- -All-'      |
                               | '-STATus-'      |               |
                               |               |               |
                               +-SPEEd-- --time--+-----+-----+
                               |               | '- -All-'      |
                               |               |               |
                               '-?------'

```

i

indicates the specific I-stream in which the driver will be run. If *i* is not specified, the test case(s) will be executed on the I-stream on which the command is entered.

*

specifies the driver will be invoked on all currently defined and available I-streams.

SMall

specifies a small block size will be used.

LArge

specifies a large block size will be used.

4K

specifies a 4K block size will be used.

errnum

is the number of the error you want to create, where valid numbers are 1-8:

- | | | |
|------|-------------|-------------------------------------|
| 1 | CTL-I000290 | SIPC LENGTH INVALID FOR DATA AREA 1 |
| 2, 3 | CTL-I000290 | SIPC LENGTH INVALID FOR DATA AREA 2 |

4, 5	CTL-I000291	SIPC CORE BLOCK IS NOT VALID/HELD FOR DATA AREA 2
6	CTL-I000292	SIPC RETURN FLAG(S) SET AND RETURN NAME NOT CODED
7	CTL-I000296	SIPC USER LIST MISSING OR NOT VALID
8	CTL-I000297	SIPC DESTINATION NOT VALID

START

starts the driver in system test mode and runs continuously.

STOP

stops the driver.

STATus

displays the total number of SIPC's sent for that processor, subsystem user (SSU), and I-stream.

All

specifies every SSU.

SPEEd

sets the CRET time.

time

specifies the amount of CRET time to set in seconds, where *time* is 1-9.

?

displays the correct syntax of the command.

Source code information

The SIPC driver consists of the following program segments:

Header Files

None.

BSOs

Module	Makefile	Segment	Description
QIP0	N/A	qip0.asm	Called if the parameters indicate a system test environment. It will determine the parameter passed and will act accordingly.
QIP1	N/A	qip1.asm	Receives the SIPC, verifies the passed data and sends it back to the original processor.
QIP2	N/A	qip2.asm	Interprets the error return condition. It will post both events to completion.

Macro File

File Name	Description
ud0rv.mac	This macro file contains the DSECT for non-keypointable I-stream unique global (@ISUDRV)used by various drivers.

CSOs

None.

Additional information

- Depending on other background activity, the user may want to limit to number of SSUs in which SIPC is running or the IPC path can become clogged.
- SIPC CRETCs to itself every n seconds in system test mode to perpetuate itself. It sends three SIPCs and then does the CRETC. SIPC creates two events and waits on the first. When either the system error or normal return occurs, it will clear that event and then wait on the other. Each processor must SIPC back to the original for the second to be cleared.

Examples

The following example sends a SIPC to each processor with an attached 4K block size.

```
ZTEST SIPC 4K
```

The following example sends a SIPC to each processor with an attached small block size and will generate the error associated with *errnum 8*.

```
ZTEST SIPC SMALL 8
```

The following example starts the driver in system test mode and runs continuously.

```
ZTEST SIPC START
```

The following example displays the total number of SIPCs sent for that processor, SSU, and I-stream.

```
ZTEST SIPC STATUS ALL
```

The following example stops the driver.

```
ZTEST SIPC STOP
```

The following example sets the CRET time to 6 seconds for all SSUs.

```
ZTEST SIPC SPEED 6 ALL
```

The following example displays help for the SIPC driver.

```
ZTEST SIPC ?
```

Messages

Below is a list of the SIPC driver messages:

Message	Program	FTM	STM	Message Text
SIPC0001E	QIP0	Y	Y	YOU MUST HAVE HPO INSTALLED TO EXECUTE
SIPC0002E	QIP0	Y	Y	INVALID PARAMETERS. TYPE SIPC ? FOR HELP
SIPC0003E	QIP0	N	Y	DRIVER IS NOT CURRENTLY RUNNING
SIPC0004I	QIP0	N	Y	DRIVER IS NOW STOPPING
SIPC0005I	QIP0	N	Y	SIPC COUNTS ARE: <i>count</i>
SIPC0006I	QIP0	Y	Y	Help message
SIPC0007E	QIP0	Y	Y	AT LEAST ONE PROCESSOR INACTIVE. POSTING WITH PROPER MASK
SIPC0008E	QIP0	Y	Y	EVENT 1 HAS TIMED OUT
SIPC0009I	QIP0	N	Y	SIPC DRIVER IS NOW ENDED
SIPC0010E	QIP0	Y	Y	EVENT 2 NOT FOUND
SIPC0011E	QIP0	Y	Y	EVENT 2 LIST ITEM NOT FOUND
SIPC0011I	QIP2	Y	N	SYSTEM RETURN TO .. FROM .. OCCURRED
SIPC0012I	QIP0	N	Y	DRIVER IS NOT CURRENTLY RUNNING
	QIP1-2	Y	N	DATA PASSED TO .. FROM .. IS CORRECT
SIPC0013E	QIP1-2	Y	Y	DATA PASSED TO .. FROM .. IS INCORRECT
SIPC0014I	QIP1-2	Y	N	SIPC RECEIVED ON (AT) .. FROM .. OK
SIPC0015E	QIP2	Y	Y	ERROR RETURN CONDITION HAS OCCURRED
SIPC0016E	QIP2	Y	Y	EVENT 1 NOT FOUND
SIPC0017I	QIP0	Y	N	EVENT 1 HAS BEEN CLEARED
SIPC0018I	QIP0	Y	Y	EVENT 2 HAS TIMED OUT
SIPC0019I	QIP0	Y	N	EVENT 2 HAS BEEN CLEARED
SIPC0020E	QIP0	N	Y	DRIVER IS CURRENTLY RUNNING
SIPC0021I	QIP0	Y	Y	DRIVER NOW STARTING
SIPC0022E	QIP2	Y	Y	EVENT 2 NOT FOUND
SIPC0023I	QIP0	Y	Y	Status matrix for every subsystem user and I-Stream
SIPC0024E	QIP0	N	Y	INVALID CRET TIME SPECIFIED, USE 1-9
	QIP2	Y	Y	EVENT 1 LIST ITEM NOT FOUND
SIPC0025I	QIP0	N	Y	CRET TIME CHANGED AND LOADED IN GLOBAL
	QIP2	Y	Y	EVENT 2 LIST ITEM NOT FOUND
SIPC0026E	QIP1	N	Y	NFOUND BRANCH TAKEN ON EVNxC/POSTC
SIPC0027E	QIP1	N	Y	TIMEOUT BRANCH TAKEN ON EVENT 3
SIPC0028I	QIP1	N	Y	EVENT 3 CLEARED ON .. FROM ..
SIPC0029I	QIP1	N	Y	POSTING INTER I-STREAM EVENT 2 ON
SIPC0030E	QIP1	N	Y	INTER I-STREAM EVENT 1 NOT FOUND
SIPC0031E	QIP0	Y	Y	"STAT ALL" VALID ONLY ON MAIN I-STREAM
	QIP1	N	Y	INTER I-STREAM EVENT 1 LIST ITEM NOT FOUND
SIPC0032E	QIP1	N	Y	INTER I-STREAM EVENT 2 NOT FOUND
SIPC0033E	QIP1	N	Y	INTER I-STREAM EVENT 2 LIST ITEM NOT FOUND

References

For more information about reading syntax diagrams, also referred to as railroad diagrams, see *Accessibility information* in the TPF Product Information Center.