Document Updates for APAR PH41950

- **Publications: z/OS 2.5 XL C/C++ Runtime Library Reference, SC14-7314-50**

Summary of changes for z/OS XL C/C++ Runtime Library Reference for Version 2 Release 5 (V2R5)

New

The following content is new.
• The following library functions are new:

- – aligned_alloc() allocates aligned memory blocks.
- – clock_gettime () retrieves the time of the specified clock identifier.
- – dirfd() gets the directory stream file descriptor.
- – fdatasync() writes changes to direct-access storage.
- – fstatfs() gets file system statistics.
- – futimes() changes file access and modification times.
- – getline() reads an entire line from a stream.
- – inet_aton() converts Internet address format from text to binary.
- – lutimes() changes file access and modification times standards.
- – mmap() establishes a mapping between an address space of a process and a file that is associated with the file descriptor.
- – pthread_condattr_setclock() sets the clock selection condition variable attribute.
- – statfs() gets file system statistics.
- – strchrnul() finds the first occurrence of a character in a string.
- A new signal SIGDSIOER is supported by z/OS UNIX services to indicate a data set file system I/O error.

- The new feature test macro _POSIX_C_SOURCE 200809L is introduced.

signal.h — Exception handling

The following values are available in z/OS® only:

• Signals:

SIGALRM	SIGCHLD	SIGCLD	SIGCONT	SIGDSIOER
SIGHUP	SIGIO	SIGKILL	SIGPIPE	SIGQUIT
SIGSTOP	SIGTHCONT	SIGTHSTOP	SIGTRACE	SIGTRAP

SIGTSTP SIGTTIN SIGTTOU

sigaction() — Examine or change a signal action

Signals: Table 51 on page 1521 lists signal values and their default action and meaning.

Table 51. Signal values and signals supported by z/OS UNIX services

Value	Default Action	Meaning
SIGABND	1	Abend.
SIGABRT	1	Abnormal termination (sent by abort()).
SIGALRM	1	A timeout signal (sent by alarm()).
SIGBUS	1	Bus error (available only when running on MVS 5.2 or higher).
SIGDSIOER	1	A Data Set File System I/O error occurred.
SIGFPE	1	Arithmetic exceptions that are not masked, for example, overflow, division by zero, and incorrect operation.
SIGHUP	1	A controlling terminal is suspended, or the controlling process ended.
SIGILL	1	A controlling terminal is suspended, or the controlling process ended.
SIGINT	1	Interactive attention.
SIGKILL	1	A termination signal that cannot be caught or ignored.
SIGPIPE	1	A write to a pipe that is not being read.

- **Publications: z/OS 2.5 *Language Environment Runtime Messages,* SA38-0686-50**

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Chapter 1. Language Environment runtime messages

CEE5239S Explanation

The signal SIGDSIOER was received.

A signal indicating that an I/O error was raised when accessing the Data Set File System. If the signal is unhandled, the following default action will be handled: The program (enclave) is terminated and a traceback or dump is issued depending on the TERMTHDACT runtime option. The return code is set to 3000 and the signal number for the process termination is set to 41.

System action

No system action taken.

Programmer response

None.

Symbolic Feedback Code

CEE53N

Publications: z/OS 2.5 Language Environment Programming Guide, SA38-0682-50

Summary of changes for z/OS Language Environment Programming Guide for Version 2 Release 5 (V2R5)

New

The following content is new.

• A new library function, aligned_alloc(), was added, which allocates aligned memory blocks. These sections were updated:

- – "How Language Environment-conforming languages uses stack and heap storage" on page 145
- – "Heap storage overview" on page 148
- A new signal type, SIGDSIOER, with a signal number of 41 (0x29), was added. For more information, see:
  - – "Condition tokens for C signals under C and C++" on page 240
  - – "Runtime messages with POSIX" on page 269

Language Environment concepts, services, and models

- **Runtime messages with POSIX**

Table 50. Condition tokens with POSIX (continued)

Condition token	Facility ID with POSIX(ON)	Message number with POSIX(ON)	Facility ID with POSIX(OFF)	Message number with POSIX(OFF)
SIGTHCONT	CEE	5237	na	na
SIGDSIOER	CEE	5239	na	na

Condition tokens for C signals under C and C++

Table 44. Language Environment condition tokens and POSIX C signals (continued)

Severity	Message number	Symbolic feedback code	Case	Severity	Control	ID	Signal name	Signal numbe
	5238	CEE53M	1	1	1	CEE	SIGTRACE	37
1	5239	CEE53N	1	1	1	CEE	SIGDSIOER	41

- **Publications: z/OS 2.5 *Language Environment Programming Guide for 64-bit Virtual Addressing Mode,* SA38-0689-50**

Summary of changes for z/OS Language Environment Programming Guide for 64-bit Virtual Addressing Mode for Version 2 Release 5 (V2R5)

The following content is new, changed, or no longer included in V2R5.

New

The following content is new.

- A new library function, aligned_alloc(), was added. It allocates aligned memory blocks. These sections were updated:
  - – "Understanding the basics" on page 69
  - – "Heap storage overview" on page 71
- A new signal type, SIGDSIOER, with a signal number of 41 (0x29), was added. For more information, see:
  - – "Condition tokens for C signals under C and C++" on page 97
  - – "Runtime messages with POSIX" on page 115

Language Environment concepts, services, and models

- **Runtime messages with POSIX**

Table 23. Condition tokens with POSIX (continued)

Condition token	Facility ID with POSIX(ON)	Message number with POSIX(ON)	Facility ID with POSIX(OFF)	Message number with POSIX(OFF)
SIGTHCONT	CEE	5237	na	na
SIGDSIOER	CEE	5239	na	na

Condition tokens for C signals under C and C++

Table 19. Language Environment condition tokens and POSIX C signals (continued)

Severity	Message number	Symbolic feedback code	Case	Severity	Control	ID	Signal name	Signal numbe
	5238	CEE53M	1	1	1	CEE	SIGTRACE	37
1	5239	CEE53N	1	1	1	CEE	SIGDSIOER	41