

NAME

s390_runtime_instr – enable/disable s390 CPU run-time instrumentation

LIBRARY

Standard C library (*libc*, *-lc*)

SYNOPSIS

```
#include <asm/runtime_instr.h> /* Definition of S390_* constants */
#include <sys/syscall.h>      /* Definition of SYS_* constants */
#include <unistd.h>
```

```
int syscall(SYS_s390_runtime_instr, int command, int signum);
```

Note: glibc provides no wrapper for `s390_runtime_instr()`, necessitating the use of `syscall(2)`.

DESCRIPTION

The `s390_runtime_instr()` system call starts or stops CPU run-time instrumentation for the calling thread.

The *command* argument controls whether run-time instrumentation is started (`S390_RUNTIME_INSTR_START`, 1) or stopped (`S390_RUNTIME_INSTR_STOP`, 2) for the calling thread.

The *signum* argument specifies the number of a real-time signal. This argument was used to specify a signal number that should be delivered to the thread if the run-time instrumentation buffer was full or if the run-time-instrumentation-halted interrupt had occurred. This feature was never used, and in Linux 4.4 support for this feature was removed; thus, in current kernels, this argument is ignored.

RETURN VALUE

On success, `s390_runtime_instr()` returns 0 and enables the thread for run-time instrumentation by assigning the thread a default run-time instrumentation control block. The caller can then read and modify the control block and start the run-time instrumentation. On error, `-1` is returned and *errno* is set to indicate the error.

ERRORS**EINVAL**

The value specified in *command* is not a valid command.

EINVAL

The value specified in *signum* is not a real-time signal number. From Linux 4.4 onwards, the *signum* argument has no effect, so that an invalid signal number will not result in an error.

ENOMEM

Allocating memory for the run-time instrumentation control block failed.

EOPNOTSUPP

The run-time instrumentation facility is not available.

VERSIONS

This system call is available since Linux 3.7.

STANDARDS

This Linux-specific system call is available only on the s390 architecture. The run-time instrumentation facility is available beginning with System z EC12.

NOTES

The *asm/runtime_instr.h* header file is available since Linux 4.16.

Starting with Linux 4.4, support for signalling was removed, as was the check whether *signum* is a valid real-time signal. For backwards compatibility with older kernels, it is recommended to pass a valid real-time signal number in *signum* and install a handler for that signal.

SEE ALSO

`syscall(2)`, `signal(7)`