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Red Hat Enterprise Linux Release 9.2 Manual Pages on 's390_sthyi.2' command

$ man s390_sthyi.2

S390_STHYI(2) System Calls Manual S390_STHYI(2)

NAME

s390_sthyi - emulate STHYI instruction

SYNOPSIS

#include <asm/unistd.h>

int s390_sthyi(unsigned long function_code, void *resp_buffer,

uint64_t *return_code, unsigned long flags);

DESCRIPTION

The s390_sthyi() system call emulates the STHYI (Store Hypervisor In? formation) instruction. It provides hardware resource information for the machine and its virtualization levels. This includes CPU type and capacity, as well as the machine model and other metrics.

The function_code argument indicates which function to perform. The following code(s) are supported:

0 Return CP (Central Processor) and IFL (Integrated Facility for Linux) capacity information.

The resp_buffer argument specifies the address of a response buffer. When the function_code is 0, the buffer must be one page (4K) in size. If the system call returns 0, the response buffer will be filled with CPU capacity information. Otherwise, the response buffer's content is unchanged.

The return_code argument stores the return code of the STHYI instruc? tion, using one of the following values:

0 Success.

4 Unsupported function code.

For further details about return_code, function_code, and resp_buffer, see the reference given in NOTES.

The flags argument is provided to allow for future extensions and cur? rently must be set to 0.

RETURN VALUE

On success (that is: emulation succeeded), the return value of s390_sthyi() matches the condition code of the STHYI instructions, which is a value in the range [0..3]. A return value of 0 indicates that CPU capacity information is stored in *resp_buffer. A return value of 3 indicates "unsupported function code" and the content of *resp_buffer is unchanged. The return values 1 and 2 are reserved.

On error, -1 is returned, and errno is set appropriately.

ERRORS

EFAULT The value specified in resp_buffer or return_code is not a valid address.

EINVAL The value specified in flags is nonzero.

ENOMEM Allocating memory for handling the CPU capacity information failed.

EOPNOTSUPP

The value specified in function_code is not valid.

VERSIONS

This system call is available since Linux 4.15.

CONFORMING TO

This Linux-specific system call is available only on the s390 architec? ture.

NOTES

Glibc does not provide a wrapper for this system call, use syscall(2) to call it.

For details of the STHYI instruction, see the documentation page ?https://www.ibm.com/support/knowledgecenter/SSB27U_6.3.0 /com.ibm.zvm.v630.hcpb4/hcpb4sth.htm?.

When the system call interface is used, the response buffer doesn't have to fulfill alignment requirements described in the STHYI instruction definition.

The kernel caches the response (for up to one second, as of Linux 4.16). Subsequent system call invocations may return the cached response.

SEE ALSO

syscall(2)

COLOPHON

This page is part of release 5.10 of the Linux man-pages project. A description of the project, information about reporting bugs, and the latest version of this page, can be found at https://www.kernel.org/doc/man-pages/.