



Linux Ubuntu 26.04 Manual Pages on command 's390_sthyi.2'

\$ man s390_sthyi.2

s390_sthyi(2) System Calls Manual s390_sthyi(2)

NAME

s390_sthyi - emulate STHYI instruction

LIBRARY

Standard C library (libc, -lc)

SYNOPSIS

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

int syscall(SYS_s390_sthyi, unsigned long function_code,
           void *resp_buffer, uint64_t *return_code,
           unsigned long flags);
```

Note: glibc provides no wrapper for s390_sthyi(), necessitating the use of syscall(2).

DESCRIPTION

The s390_sthyi() system call emulates the STHYI (Store Hypervisor Information) 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:

STHYI_FC_CP_IFL_CAP

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 `STHYI_FC_CP_IFL_CAP`, 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` instruction, 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 currently 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 to indicate the error.

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.

STANDARDS

Linux on s390.

HISTORY

Linux 4.15.

NOTES

For details of the `STHYI` instruction, see the documentation page.

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\(2\)](#)

[Linux man-pages 6.17](#)

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[s390_sthyi\(2\)](#)