NAME

sysconf - get configurable system variables

LIBRARY

Standard C Library (libc, -lc)

SYNOPSIS

#include <unistd.h>

long
sysconf(*int name*);

DESCRIPTION

This interface is defined by IEEE Std 1003.1-1988 ("POSIX.1"). A far more complete interface is available using sysctl(3).

The **sysconf**() function provides a method for applications to determine the current value of a configurable system limit or option variable. The *name* argument specifies the system variable to be queried. Symbolic constants for each name value are found in the include file <*unistd.h*>. Shell programmers who need access to these parameters should use the getconf(1) utility.

The available values are as follows:

_SC_ARG_MAX
: The maximum bytes of argument to execve(2).

_SC_CHILD_MAX
: The maximum number of simultaneous processes per user id.

_SC_CLK_TCK
: The frequency of the statistics clock in ticks per second.

_SC_IOV_MAX
: The maximum number of elements in the I/O vector used by readv(2), writev(2), recvmsg(2), and sendmsg(2).

_SC_NGROUPS_MAX
: The maximum number of supplemental groups.

_SC_NPROCESSORS_CONF

The number of processors configured.

_SC_NPROCESSORS_ONLN
The number of processors currently online.

_SC_OPEN_MAX
One more than the maximum value the system may assign to a new file descriptor.

_SC_PAGESIZE
The size of a system page in bytes.

_SC_PAGE_SIZE
Equivalent to _SC_PAGESIZE.

_SC_STREAM_MAX
The minimum maximum number of streams that a process may have open at any one time.

_SC_TZNAME_MAX
The minimum maximum number of types supported for the name of a timezone.

_SC_JOB_CONTROL
Return 1 if job control is available on this system, otherwise -1.

_SC_SAVED_IDS
Returns 1 if saved set-group and saved set-user ID is available, otherwise -1.

_SC_VERSION
The version of IEEE Std 1003.1 ("POSIX.1") with which the system attempts to comply.

_SC_BC_BASE_MAX
The maximum ibase/obase values in the bc(1) utility.

_SC_BC_DIM_MAX
The maximum array size in the bc(1) utility.

_SC_BC_SCALE_MAX
The maximum scale value in the bc(1) utility.

_SC_BC_STRING_MAX
The maximum string length in the bc(1) utility.

_SC_COLL_WEIGHTS_MAX
: The maximum number of weights that can be assigned to any entry of the LC_COLLATE order keyword in the locale definition file.

_SC_EXPR_NEST_MAX
: The maximum number of expressions that can be nested within parenthesis by the expr(1) utility.

_SC_LINE_MAX
: The maximum length in bytes of a text-processing utility’s input line.

_SC_RE_DUP_MAX
: The maximum number of repeated occurrences of a regular expression permitted when using interval notation.

_SC_2_VERSION
: The version of IEEE Std 1003.2 ("POSIX.2") with which the system attempts to comply.

_SC_2_C_BIND
: Return 1 if the system’s C-language development facilities support the C-Language Bindings Option, otherwise -1.

_SC_2_C_DEV
: Return 1 if the system supports the C-Language Development Utilities Option, otherwise -1.

_SC_2_CHAR_TERM
: Return 1 if the system supports at least one terminal type capable of all operations described in IEEE Std 1003.2 ("POSIX.2"), otherwise -1.

_SC_2_FORT_DEV
: Return 1 if the system supports the FORTRAN Development Utilities Option, otherwise -1.

_SC_2_FORT_RUN
: Return 1 if the system supports the FORTRAN Runtime Utilities Option, otherwise -1.

_SC_2_LOCALEDEF
: Return 1 if the system supports the creation of locales, otherwise -1.

_SC_2_SW_DEV
: Return 1 if the system supports the Software Development Utilities Option, otherwise -1.

_SC_2_UPE
: Return 1 if the system supports the User Portability Utilities Option, otherwise -1.

_SC_AIO_LISTIO_MAX
: Maximum number of I/O operations in a single list I/O call supported.

_SC_AIO_MAX
: Maximum number of outstanding asynchronous I/O operations supported.

_SC_AIO_PRIO_DELTA_MAX
: The maximum amount by which a process can decrease its asynchronous I/O priority level from its own scheduling priority.

_SC_DELAYTIMER_MAX
: Maximum number of timer expiration overruns.

_SC_MQ_OPEN_MAX
: The maximum number of open message queue descriptors a process may hold.

_SC_RTSIG_MAX
: Maximum number of realtime signals reserved for application use.

_SC_SEM_NSEMS_MAX
: Maximum number of semaphores that a process may have.

_SC_SEM_VALUE_MAX
: The maximum value a semaphore may have.

_SC_SIGQUEUE_MAX
: Maximum number of queued signals that a process may send and have pending at the receiver(s) at any time.

_SC_TIMER_MAX
: Maximum number of timers per process supported.

_SC_GETGR_R_SIZE_MAX
: Suggested initial value for the size of the group entry buffer.

_SC_GETPW_R_SIZE_MAX
: Suggested initial value for the size of the password entry buffer.

_SC_HOST_NAME_MAX
: Maximum length of a host name (not including the terminating null) as returned from the **gethostname**() function.

_SC_LOGIN_NAME_MAX
: Maximum length of a login name.

_SC_THREAD_STACK_MIN
: Minimum size in bytes of thread stack storage.

_SC_THREAD_THREADS_MAX
: Maximum number of threads that can be created per process.

_SC_TTY_NAME_MAX
: Maximum length of terminal device name.

_SC_SYMLOOP_MAX
: Maximum number of symbolic links that can be reliably traversed in the resolution of a pathname in the absence of a loop.

_SC_ATEXIT_MAX
: Maximum number of functions that may be registered with **atexit**().

_SC_XOPEN_VERSION
: An integer value greater than or equal to 4, indicating the version of the X/Open Portability Guide to which this system conforms.

_SC_XOPEN_XCU_VERSION
: An integer value indicating the version of the XCU Specification to which this system conforms.

These values also exist, but may not be standard:

_SC_CPUSET_SIZE
: Size of the kernel cpuset.

_SC_PHYS_PAGES
: The number of pages of physical memory. Note that it is possible that the product of this value and the value of _SC_PAGESIZE will overflow a *long* in some configurations on a 32bit machine.

RETURN VALUES

If the call to **sysconf**() is not successful, -1 is returned and *errno* is set appropriately. Otherwise, if the variable is associated with functionality that is not supported, -1 is returned and *errno* is not modified. Otherwise, the current variable value is returned.

ERRORS

The **sysconf**() function may fail and set *errno* for any of the errors specified for the library function sysctl(3). In addition, the following error may be reported:

[EINVAL] The value of the *name* argument is invalid.

SEE ALSO

getconf(1), pathconf(2), confstr(3), sysctl(3)

STANDARDS

Except for the fact that values returned by **sysconf**() may change over the lifetime of the calling process, this function conforms to IEEE Std 1003.1-1988 ("POSIX.1").

HISTORY

The **sysconf**() function first appeared in 4.4BSD.

BUGS

The value for _SC_STREAM_MAX is a minimum maximum, and required to be the same as ANSI C’s FOPEN_MAX, so the returned value is a ridiculously small and misleading number.