NAME

sysconf - get configurable system variables

SYNOPSIS

```
#include <unistd.h>

long sysconf(int name);
```

DESCRIPTION

The sysconf() function provides a method for an application to determine the current value of a configurable system limit or option (variable).

The name argument represents the system variable to be queried. The following table lists the minimal set of system variables from <limits.h> and <unistd.h> that can be returned by sysconf() and the symbolic constants defined in <unistd.h> that are the corresponding values used for name on the SPARC and x86 platforms.

Name	Return Value	Meaning
_SC_2_C_BIND	_POSIX2_C_BIND	Supports the C language binding option
_SC_2_C_DEV	_POSIX2_C_DEV	Supports the C language development utilities option
_SC_2_C_VERSION	_POSIX2_C_VERSION	Integer value indicates version of ISO POSIX-2 standard (Commands)
_SC_2_CHAR_TERM	_POSIX2_CHAR_TERM	Supports at least one terminal
_SC_2_FORT_DEV	_POSIX2_FORT_DEV	Supports FORTRAN Development Utilities Option
_SC_2_FORT_RUN	_POSIX2_FORT_RUN	Supports FORTRAN Run-time Utilities Option
_SC_2_LOCALEDEF	_POSIX2_LOCALEDEF	Supports creation of locales by the localedef utility
_SC_2_SW_DEV	_POSIX2_SW_DEV	Supports Software Development Utility Option
_SC_2_UPE	_POSIX2_UPE	Supports User Portability Utilities Option
_SC_2_VERSION	_POSIX2_VERSION	Integer value indicates version of ISO POSIX-2 standard (C language binding)
_SC_AIO_LISTIO_MAX	AIO_LISTIO_MAX	Max number of I/O operations in a single list I/O call supported
_SC_AIO_MAX	AIO_MAX	Max number of outstanding asynchronous I/O operations supported
_SC_AIO_PRIO_DELTA_MAX	AIO_PRIO_DELTA_MAX	Max amount by which process can decrease its asynchronous I/O priority level from its own scheduling priority
_SC_ARG_MAX	ARG_MAX	Max size of argv[] plus envp[]
_SC_ASYNCHRONOUS_IO	_POSIX_ASYNCHRONOUS_IO	Supports Asynchronous I/O
_SC_ATEXIT_MAX	ATEXIT_MAX	Max number of functions that can be registered with atexit()

_SC_AVPHYS_PAGES		Number of physical memory pages not currently in use by system
_SC_BC_BASE_MAX	BC_BASE_MAX	Maximum obase values allowed by bc
_SC_BC_DIM_MAX	BC_DIM_MAX	Max number of elements permitted in array by bc
_SC_BC_SCALE_MAX	BC_SCALE_MAX	Max scale value allowed by bc
_SC_BC_STRING_MAX	BC_STRING_MAX	Max length of string constant allowed by bc
_SC_CHILD_MAX	CHILD_MAX	Max processes allowed to a UID
_SC_CLK_TCK	CLK_TCK	Ticks per second (clock_t)
_SC_COLL_WEIGHTS_MAX	COLL_WEIGHTS_MAX	Max number of weights that can be assigned to entry of the LC_COLLATE order keyword in locale definition file
_SC_CPUID_MAX		Max possible processor ID
_SC_DELAYTIMER_MAX	DELAYTIMER_MAX	Max number of timer expiration overruns
_SC_EXPR_NEST_MAX	EXPR_NEST_MAX	Max number of parentheses by expr
_SC_FSYNC	_POSIX_FSYNC	Supports File Synchronization
_SC_GETGR_R_SIZE_MAX	NSS_BUFLEN_GROUP	Max size of group entry buffer
_SC_GETPW_R_SIZE_MAX	NSS_BUFLEN_PASSWD	Max size of password entry buffer
_SC_IOV_MAX	IOV_MAX	Max number of iovec structures available to one process for use with readv() and writev()
_SC_JOB_CONTROL	_POSIX_JOB_CONTROL	Job control supported?
_SC_LINE_MAX	LINE_MAX	Max length of input line
_SC_LOGIN_NAME_MAX	LOGNAME_MAX + 1	Max length of login name
_SC_LOGNAME_MAX	LOGNAME_MAX	
_SC_MAPPED_FILES	_POSIX_MAPPED_FILES	Supports Memory Mapped Files
_SC_MAXPID		Max pid value
_SC_MEMLOCK	_POSIX_MEMLOCK	Supports Process Memory Locking
_SC_MEMLOCK_RANGE	_POSIX_MEMLOCK_RANGE	Supports Range Memory Locking
_SC_MEMORY_PROTECTION	_POSIX_MEMORY_PROTECTION	Supports Memory Protection
_SC_MESSAGE_PASSING	_POSIX_MESSAGE_PASSING	Supports Message Passing
_SC_MQ_OPEN_MAX	MQ_OPEN_MAX	Max number of open message queues a process can hold
_SC_MQ_PRIO_MAX	MQ_PRIO_MAX	Max number of message priorities supported
_SC_NGROUPS_MAX	NGROUPS_MAX	Max simultaneous groups to which one can belong
_SC_NPROCESSORS_CONF		Number of processors configured
_SC_NPROCESSORS_MAX		Max number of processors supported by platform
_SC_NPROCESSORS_ONLN		Number of processors online
_SC_OPEN_MAX	OPEN_MAX	Max open files per process
_SC_PAGESIZE	PAGESIZE	System memory page size
_SC_PAGE_SIZE	PAGESIZE	Same as _SC_PAGESIZE

_SC_PASS_MAX	PASS_MAX	Max number of significant bytes in a password
_SC_PHYS_PAGES		Total number of pages of physical memory in system
_SC_PRIORITIZED_IO	_POSIX_PRIORITIZED_IO	Supports Prioritized I/O
_SC_PRIORITY_SCHEDULING	_POSIX_PRIORITY_SCHEDULING	Supports Process Scheduling
_SC_RE_DUP_MAX	RE_DUP_MAX	Max number of repeated occurrences of a regular expression permitted when using interval notation \{m,n\}
_SC_REALTIME_SIGNALS	_POSIX_REALTIME_SIGNALS	Supports Realtime Signals
_SC_RTSIG_MAX	RTSIG_MAX	Max number of realtime signals reserved for application use
_SC_SAVED_IDS	_POSIX_SAVED_IDS	Saved IDs (seteuid()) supported?
_SC_SEM_NSEMS_MAX	SEM_NSEMS_MAX	Max number of POSIX semaphores a process can have
_SC_SEM_VALUE_MAX	SEM_VALUE_MAX	Max value a POSIX semaphore can have
_SC_SEMAPHORES	_POSIX_SEMAPHORES	Supports Semaphores
_SC_SHARED_MEMORY_OBJECTS	_POSIX_SHARED_MEMORY_OBJECTS	Supports Shared Memory Objects
_SC_SIGQUEUE_MAX	SIGQUEUE_MAX	Max number of queued signals that a process can send and have pending at receiver(s) at a time
_SC_STACK_PROT		Default stack protection
_SC_STREAM_MAX	STREAM_MAX	Number of streams one process can have open at a time
_SC_SYNCHRONIZED_IO	_POSIX_SYNCHRONIZED_IO	Supports Synchronized I/O
_SC_THREAD_ATTR_STACKADDR	_POSIX_THREAD_ATTR_STACKADDR	Supports Thread Stack Address Attribute option
_SC_THREAD_ATTR_STACKSIZE	_POSIX_THREAD_ATTR_STACKSIZE	Supports Thread Stack Size Attribute option
_SC_THREAD_DESTRUCTOR_ITERATIONS	PTHREAD_DESTRUCTOR_ITERATIONS	Number attempts made to destroy thread-specific data on thread exit
_SC_THREAD_KEYS_MAX	PTHREAD_KEYS_MAX	Max number of data keys per process
_SC_THREAD_PRIO_INHERIT	_POSIX_THREAD_PRIO_INHERIT	Supports Priority Inheritance option
_SC_THREAD_PRIO_PROTECT	_POSIX_THREAD_PRIO_PROTECT	Supports Priority Protection option
_SC_THREAD_PRIORITY_SCHEDULING	_POSIX_THREAD_PRIORITY_SCHEDULING	Supports Thread Execution Scheduling option
_SC_THREAD_PROCESS_SHARED	_POSIX_THREAD_PROCESS_SHARED	Supports Process-Shared Synchronization option
_SC_THREAD_SAFE_FUNCTIONS	_POSIX_THREAD_SAFE_FUNCTIONS	Supports Thread-Safe Functions option
_SC_THREAD_STACK_MIN	PTHREAD_STACK_MIN	Min byte size of thread stack storage
_SC_THREAD_THREADS_MAX	PTHREAD_THREADS_MAX	Max number of threads per process
_SC_THREADS	_POSIX_THREADS	Supports Threads option
_SC_TIMER_MAX	TIMER_MAX	Max number of timer per process supported

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     _SC_TIMERS              _POSIX_TIMERS              Supports Timers
     _SC_TTY_NAME_MAX        TTYNAME_MAX                Max length of tty
                                                        device name
     _SC_TZNAME_MAX          TZNAME_MAX                 Max number of bytes
                                                        supported for name
                                                        of a time zone
     _SC_VERSION             _POSIX_VERSION             POSIX.1 version
                                                        supported
     _SC_XBS5_ILP32_OFF32    _XBS_ILP32_OFF32           Indicates support
                                                        for X/Open ILP32
                                                        w/32-bit offset
                                                        build environment
     _SC_XBS5_ILP32_OFFBIG   _XBS5_ILP32_OFFBIG         Indicates support
                                                        for X/Open ILP32
                                                        w/64-bit offset
                                                        build environment
     _SC_XBS5_LP64_OFF64     _XBS5_LP64_OFF64           Indicates support of
                                                        X/Open LP64,
                                                        64-bit offset
                                                        build environment
     _SC_XBS5_LPBIG_OFFBIG   _XBS5_LP64_OFF64           Same as
                                                        _SC_XBS5_LP64_OFF64
     _SC_XOPEN_CRYPT         _XOPEN_CRYPT               Supports X/Open
                                                        Encryption Feature
                                                        Group
     _SC_XOPEN_ENH_I18N      _XOPEN_ENH_I18N            Supports X/Open
                                                        Enhanced
                                                        Internationalization
                                                        Feature Group
     _SC_XOPEN_LEGACY        _XOPEN_LEGACY              Supports X/Open
                                                        Legacy Feature Group
     _SC_XOPEN_REALTIME      _XOPEN_REALTIME            Supports X/Open
                                                        POSIX Realtime
                                                        Feature Group
     _SC_XOPEN_REALTIME_     _XOPEN_REALTIME_THREADS    Supports X/Open
          THREADS                                       POSIX Reatime
                                                        Threads Feature
                                                        Group
     _SC_XOPEN_SHM           _XOPEN_SHM                 Supports X/Open
                                                        Shared Memory
                                                        Feature Group
     _SC_XOPEN_UNIX          _XOPEN_UNIX                Supports X/Open CAE
                                                        Specification,
                                                        August 1994, System
                                                        Interfaces and
                                                        Headers, Issue 4,
                                                        Version 2
     _SC_XOPEN_VERSION       _XOPEN_VERSION             Integer value
                                                        indicates version of
                                                        X/Open Portability
                                                        Guide to which
                                                        implementation
                                                        conforms
     _SC_XOPEN_XCU_VERSION   _XOPEN_XCU_VERSION         Integer value
                                                        indicates version of
                                                        XCU specification to
                                                        which implementation
                                                        conforms

RETURN VALUES
     Upon successful completion, sysconf()  returns  the  current
     variable value on the system. The value returned will not be
     more restrictive than the corresponding value  described  to
     the    application   when   it   was   compiled   with   the
     implementation's <limits.h>,  <unistd.h>  or  <time.h>.  The
     value  will  not  change  during the lifetime of the calling
     process.

     If name is an invalid value, sysconf() returns -1  and  sets
     errno  to  indicate the error. If the variable corresponding
     to name is associated with functionality that  is  not  sup-
     ported  by the system, sysconf() returns -1 without changing
     the value of errno.

     Calling sysconf() with the following returns -1 without set-
     ting  errno, because no maximum limit can be determined. The
     system supports at least the minimum values and can  support
     higher values depending upon system resources.
```

Variable	Minimum supported value
_SC_AIO_MAX	_POSIX_AIO_MAX
_SC_ATEXIT_MAX	32
_SC_THREAD_THREADS_MAX	_POSIX_THREAD_THREADS_MAX
_SC_THREAD_KEYS_MAX	_POSIX_THREAD_KEYS_MAX
_SC_THREAD_DESTRUCTOR_ITERATIONS	_POSIX_THREAD_DESTRUCTOR_ITERATIONS

The following SPARC and x86 platform variables return EINVAL:

```
_SC_COHER_BLKSZ        _SC_DCACHE_ASSOC
_SC_DCACHE_BLKSZ       _SC_DCACHE_LINESZ
_SC_DCACHE_SZ          _SC_DCACHE_TBLKSZ
_SC_ICACHE_ASSOC       _SC_ICACHE_BLKSZ
_SC_ICACHE_LINESZ      _SC_ICACHE_SZ
_SC_SPLIT_CACHE
```

ERRORS

The sysconf() function will fail if:

EINVAL

The value of the name argument is invalid.

ATTRIBUTES

See attributes(5) for descriptions of the following attributes:

ATTRIBUTE TYPE	ATTRIBUTE VALUE
Architecture	SPARC and x86
MT-Level	MT-Safe, Async-Signal-Safe

SEE ALSO

fpathconf(2), seteuid(2), setrlimit(2), attributes(5), standards(5)

NOTES

A call to setrlimit() can cause the value of OPEN_MAX to change.

Multiplying sysconf(_SC_PHYS_PAGES) or sysconf(_SC_AVPHYS_PAGES) by sysconf(_SC_PAGESIZE) to determine memory amount in bytes can exceed the maximum values representable in a long or unsigned long.

The value of CLK_TCK can be variable and it should not be assumed that CLK_TCK is a compile-time constant.

The _SC_PHYS_PAGES and _SC_AVPHYS_PAGES variables are specific to Solaris 2.3 or compatible releases.