

Kernel Configuration Options

Here is a table of kernel configuration options, including a description, the default value for a kernel, and the recommended value for a smaller configuration of the kernel:

CONFIG option	Description	Default	Small
CONFIG_CORE_SMALL	tune some kernel data sizes	N	Y
CONFIG_NET_SMALL	tune some net-related data sizes	N	Y
CONFIG_KMALLOC_ACCOUNTING	turn on kmalloc accounting	N	Y *
CONFIG_AUDIT_BOOTMEM	print out all bootmem allocations	N	Y *
CONFIG_DEPRECATED_INLINES	cause compiler to emit info about inlines	N	Y *
CONFIG_PRINTK	allow disable of printk code and message data	Y	N
CONFIG_BUG	allow elimination of BUG (and BUG_ON??) code	Y	N
CONFIG_ELF_CORE	allow disabling of ELF core dumps	Y	N
CONFIG_PROC_KCORE	allow disabling of /proc/kcore	Y	N
CONFIG_AIO	allow disabling of async IO syscalls	Y	N
CONFIG_XATTR	allow disabling of xattr syscalls	Y	N
CONFIG_FILE_LOCKING	allow disabling of file locking syscalls	Y	N
CONFIG_DIRECTIO	allow disabling of direct IO support	Y	N
CONFIG_MAX_SWAPFILES_SHIFT	number of swapfiles	5	0
CONFIG_NR_LDISCS	number of tty line disciplines	16	2
CONFIG_MAX_USER_RT_PRIORITY	number of RT priority levels (schedule slots)	100	5
Other config options	These are not in Linux-tiny, but help with size	default	small
CONFIG_KALLSYMS	load all symbols for debugging/kksymoops	Y	N
CONFIG_SHMEM	allow disabling of shmem filesystem	Y	N +
CONFIG_SWAP	allow disabling of support for a swap segment (virtual memory)	Y	N
CONFIG_SYSV_IPC	allow disabling of support for System V IPC	Y	N +

CONFIG_POSIX_MQUEUE	allow disabling of POSIX message queue support	Y	N +
CONFIG_SYSCTL	allow disabling of sysctl support	Y	N +
CONFIG_LOG_BUF_SHIFT	control size of kernel printk buffer	14	11
CONFIG_UID16	allow support for 16-bit uids	Y	??
CONFIG_CC_OPTIMIZE_FOR_SIZE	Use gcc -os to optimize for size	Y	Y
CONFIG_MODULES	allow support for kernel loadable modules	Y	N +
CONFIG_KMOD	allow support for automatic kernel module loading	Y	N
CONFIG_PCI	allow support for PCI bus and devices	Y	Y -
CONFIG_XIP_KERNEL	allow support for kernel Execute-in-Place	N	N
CONFIG_MAX_RESERVE_AREA	??	??	??
CONFIG_BLK_DEV_LOOP	support for loopback block device	Y	Y -
CONFIG_BLK_DEV_RAM	support for block devices for RAM filesystems	Y	Y -
CONFIG_BLK_DEV_RAM_COUNT	Number of block devices for RAM filesystems	16	2?
CONFIG_BLK_DEV_RAM_SIZE	Size of block device struct for RAM filesystems	4096	??
CONFIG_IOSCHED_AS	Include Anticipatory IO scheduler	Y	Y
CONFIG_IOSCHED_DEADLINE	Include Deadline IO scheduler	Y	N +
CONFIG_IOSCHED_CFQ	Include CFQ IO scheduler	Y	N +
CONFIG_IP_PNP	support for IP autoconfiguration	Y	N +
CONFIG_IP_PNP_DHCP	support for IP autoconfiguration via DHCP	Y	N +
CONFIG_IDE	support for IDE devices	Y	N +
CONFIG_SCSI	support for SCSI devices	Y	N +