Rocky Enterprise Linux 9.2 Manual Pages on command 'setarch.8'

$ man setarch.8

SETARCH(8) System Administration SETARCH(8)

NAME

setarch - change reported architecture in new program environment and/or set personality flags

SYNOPSIS

setarch [arch] [options] [program [argument...]]

setarch --list|-h|-V

arch [options] [program [argument...]]

DESCRIPTION

setarch modifies execution domains and process personality flags.

The execution domains currently only affects the output of uname -m. For example, on an AMD64 system, running setarch i386 program will cause program to see i686 instead of x86_64 as the machine type. It can also be used to set various personality options. The default program is /bin/sh.

Since version 2.33 the arch command line argument is optional and setarch may be used to change personality flags (ADDR_LIMIT_*, SHORT_INODE, etc) without modification of the execution domain.

OPTIONS

--list

List the architectures that setarch knows about. Whether setarch can actually set each of these architectures depends on the running kernel.

--uname-2.6

Causes the program to see a kernel version number beginning with 2.6. Turns on UNAME26.

-v, --verbose

Be verbose.

-3, --3gb

Specifies program should use a maximum of 3GB of address space. Supported on x86. Turns on ADDR_LIMIT_3GB.

--4gb

This option has no effect. It is retained for backward compatibility only, and may be removed in future releases.

-B, --32bit

Limit the address space to 32 bits to emulate hardware. Supported on ARM and Alpha. Turns on ADDR_LIMIT_32BIT.

-F, --fdpic-funcptrs

Treat user-space function pointers to signal handlers as pointers to address descriptors. This option has no effect on architectures that do not support FDPIC ELF binaries. In kernel v4.14 support is limited to ARM, Blackfin, Fujitsu FR-V, and SuperH CPU architectures.

-I, --short-inode

Obsolete bug emulation flag. Turns on SHORT_INODE.

-L, --addr-compat-layout

Provide legacy virtual address space layout. Use when the program binary does not have PT_GNU_STACK ELF header. Turns on ADDR_COMPAT_LAYOUT.

-R, --addr-no-randomize

Disables randomization of the virtual address space. Turns on

ADDR_NO_RANDOMIZE.

-S, --whole-seconds

Obsolete bug emulation flag. Turns on WHOLE_SECONDS.

-T, --sticky-timeouts

This makes select(2), pselect(2), and ppoll(2) system calls preserve the timeout value instead of modifying it to reflect the amount of time not slept when interrupted by a signal handler. Use when program depends on this behavior. For more details see the timeout description in select(2) manual page. Turns on STICKY_TIMEOUTS.

-X, --read-implies-exec

If this is set then mmap(3p) PROT_READ will also add the PROT_EXEC bit - as expected by legacy x86 binaries. Notice that the ELF loader will automatically set this bit when it encounters a legacy binary. Turns on READ_IMPLIES_EXEC.

-Z, --mmap-page-zero

SVr4 bug emulation that will set mmap(3p) page zero as read-only. Use when program depends on this behavior, and the source code is not available to be fixed. Turns on MMAP_PAGE_ZERO.

-V, --version

Display version information and exit.

-h, --help

Display help text and exit.

EXAMPLE

setarch --addr-no-randomize mytestprog

setarch ppc32 rpmbuild --target=ppc --rebuild foo.src.rpm

setarch ppc32 -v -vL3 rpmbuild --target=ppc --rebuild bar.src.rpm

setarch ppc32 --32bit rpmbuild --target=ppc --rebuild foo.src.rpm

AUTHORS

Elliot Lee <sopwith@redhat.com>, Jindrich Novy <jnovy@redhat.com>,

Karel Zak <kzak@redhat.com>

SEE ALSO

personality(2), select(2)

REPORTING BUGS

For bug reports, use the issue tracker at https://github.com/karelzak/util-linux/issues.

AVAILABILITY

The setarch command is part of the util-linux package which can be downloaded from Linux Kernel Archive <https://www.kernel.org/pub/linux/utils/util-linux/>.