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**.

−h, **−−help**
Display help text and exit.

−V, **−−version**
Print version 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/util−linux/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/>.