NAME

chrt − manipulate the real-time attributes of a process

SYNOPSIS

chrt [options] *priority command* [*argument*...]
chrt [options] **−p** [*priority*] *pid*

DESCRIPTION

chrt sets or retrieves the real-time scheduling attributes of an existing *pid*, or runs *command* with the given attributes.

POLICIES

−o, **−−other**
Set scheduling policy to **SCHED_OTHER**. This is the default Linux scheduling policy.

−f, **−−fifo**
Set scheduling policy to **SCHED_FIFO**.

−r, **−−rr**
Set scheduling policy to **SCHED_RR**. When no policy is defined, the **SCHED_RR** is used as the default.

−b, **−−batch**
Set scheduling policy to **SCHED_BATCH** (Linux-specific, supported since 2.6.16). The priority argument has to be set to zero.

−i, **−−idle**
Set scheduling policy to **SCHED_IDLE** (Linux-specific, supported since 2.6.23). The priority argument has to be set to zero.

-d, **--deadline**
Set scheduling policy to **SCHED_DEADLINE** (Linux-specific, supported since 3.14). The priority argument has to be set to zero. See also **−−sched−runtime**, **−−sched−deadline** and **−−sched−period**. The relation between the options required by the kernel is runtime <= deadline <= period. **chrt** copies *period* to *deadline* if **−−sched−deadline** is not specified and *deadline* to *runtime* if **−−sched−runtime** is not specified. It means that at least **−−sched−period** has to be specified. See **sched**(7) for more details.

SCHEDULING OPTIONS

−T, **−−sched−runtime** *nanoseconds*
Specifies runtime parameter for SCHED_DEADLINE policy (Linux-specific).

−P, **−−sched−period** *nanoseconds*
Specifies period parameter for SCHED_DEADLINE policy (Linux-specific).

−D, **−−sched−deadline** *nanoseconds*
Specifies deadline parameter for SCHED_DEADLINE policy (Linux-specific).

−R, **−−reset-on-fork**
Add **SCHED_RESET_ON_FORK** flag to the **SCHED_FIFO** or **SCHED_RR** scheduling policy (Linux-specific, supported since 2.6.31).

OPTIONS

-a, **--all-tasks**
Set or retrieve the scheduling attributes of all the tasks (threads) for a given PID.

-m, **--max**
Show minimum and maximum valid priorities, then exit.

-p, **--pid**
Operate on an existing PID and do not launch a new task.

-v, **--verbose**
Show status information.

-V, **--version**
Display version information and exit.

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

USAGE

The default behavior is to run a new command:
chrt *priority command* [*arguments*]

You can also retrieve the real-time attributes of an existing task:
chrt –p *pid*

Or set them:
chrt –r –p *priority pid*

PERMISSIONS

A user must possess **CAP_SYS_NICE** to change the scheduling attributes of a process. Any user can retrieve the scheduling information.

NOTES

Only **SCHED_FIFO**, **SCHED_OTHER** and **SCHED_RR** are part of POSIX 1003.1b Process Scheduling. The other scheduling attributes may be ignored on some systems.

Linux' default scheduling policy is **SCHED_OTHER**.

SEE ALSO

nice(1), **renice**(1), **taskset**(1), **sched**(7)

See **sched_setscheduler**(2) for a description of the Linux scheduling scheme.

AUTHORS

Robert Love ⟨rml@tech9.net⟩
Karel Zak ⟨kzak@redhat.com⟩

AVAILABILITY

The chrt command is part of the util-linux package and is available from https://www.kernel.org/pub/linux/utils/util-linux/.