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Red Hat Enterprise Linux Release 9.2 Manual Pages on 'renice.1p' command

\$ man renice.1p

RENICE(1P) POSIX Programmer's Manual RENICE(1P)

PROLOG

This manual page is part of the POSIX Programmer's Manual. The Linux implementation of this interface may differ (consult the corresponding Linux manual page for details of Linux behavior), or the interface may not be implemented on Linux.

NAME

renice ? set nice values of running processes

SYNOPSIS

renice [-g|-p|-u] -n increment ID...

DESCRIPTION

The renice utility shall request that the nice values (see the Base Definitions volume of POSIX.1?2017, Section 3.244, Nice Value) of one or more running processes be changed. By default, the applicable processes are specified by their process IDs. When a process group is specified (see -g), the request shall apply to all processes in the process group.

The nice value shall be bounded in an implementation-defined manner. If the requested increment would raise or lower the nice value of the executed utility beyond implementation-defined limits, then the limit whose value was exceeded shall be used.

When a user is reniced, the request applies to all processes whose saved set-user-ID matches the user ID corresponding to the user.

Regardless of which options are supplied or any other factor, renice shall not alter the nice values of any process unless the user requesting such a change has appropriate privileges to do so for the specified process. If the user lacks appropriate privileges to perform the requested action, the utility shall return an error status.

The saved set-user-ID of the user's process shall be checked instead of its effective user ID when renice attempts to determine the user ID of the process in order to determine whether the user has appropriate privileges.

OPTIONS

The renice utility shall conform to the Base Definitions volume of POSIX.1?2017, Section 12.2, Utility Syntax Guidelines, except for Guideline 9.

The following options shall be supported:

-g Interpret the following operands as unsigned decimal integer process group IDs.

-n increment

Specify how the nice value of the specified process or processes is to be adjusted. The increment option-argument is a positive or negative decimal integer that shall be used to modify the nice value of the specified process or processes. Positive increment values shall cause a lower nice value. Negative increment values may require appropriate privileges and shall cause a higher nice value.

-p Interpret the following operands as unsigned decimal integer process IDs. The **-p** option is the default if no options are specified.

-u Interpret the following operands as users. If a user exists with a user name equal to the operand, then the user ID of that user is used in further processing. Otherwise, if the operand represents an unsigned decimal integer, it shall be used as the numeric user ID of the user.

OPERANDS

The following operands shall be supported:

ID A process ID, process group ID, or user name/user ID, depending on the option selected.

STDIN

Not used.

INPUT FILES

None.

ENVIRONMENT VARIABLES

The following environment variables shall affect the execution of renice:

LANG Provide a default value for the internationalization variables that are unset or null. (See the Base Definitions volume of POSIX.1?2017, Section 8.2, Internationalization Variables for the precedence of internationalization variables used to determine the values of locale categories.)

LC_ALL If set to a non-empty string value, override the values of all the other internationalization variables.

LC_CTYPE Determine the locale for the interpretation of sequences of bytes of text data as characters (for example, single-byte as opposed to multi-byte characters in arguments).

LC_MESSAGES

Determine the locale that should be used to affect the format and contents of diagnostic messages written to standard error.

NLSPATH Determine the location of message catalogs for the processing of LC_MESSAGES.

ASYNCHRONOUS EVENTS

Default.

STDOUT

Not used.

STDERR

The standard error shall be used only for diagnostic messages.

OUTPUT FILES

None.

EXTENDED DESCRIPTION

None.

EXIT STATUS

The following exit values shall be returned:

- 0 Successful completion.
- >0 An error occurred.

CONSEQUENCES OF ERRORS

Default.

The following sections are informative.

APPLICATION USAGE

None.

EXAMPLES

1. Adjust the nice value so that process IDs 987 and 32 would have a lower nice value:

```
renice -n 5 -p 987 32
```

2. Adjust the nice value so that group IDs 324 and 76 would have a higher nice value, if the user has appropriate privileges to do so:

```
renice -n -4 -g 324 76
```

3. Adjust the nice value so that numeric user ID 8 and user sas would have a lower nice value:

```
renice -n 4 -u 8 sas
```

Useful nice value increments on historical systems include 19 or 20 (the affected processes run only when nothing else in the system attempts to run) and any negative number (to make processes run faster).

RATIONALE

The `gid`, `pid`, and `user` specifications do not fit either the definition of operand or option-argument. However, for clarity, they have been included in the `OPTIONS` section, rather than the `OPERANDS` section.

The definition of nice value is not intended to suggest that all processes in a system have priorities that are comparable. Scheduling policy extensions such as the realtime priorities in the System Interfaces volume of POSIX.1?2017 make the notion of a single underlying priority

for all scheduling policies problematic. Some implementations may implement the nice-related features to affect all processes on the system, others to affect just the general time-sharing activities implied by this volume of POSIX.1?2017, and others may have no effect at all.

Because of the use of "implementation-defined" in nice and renice, a wide range of implementation strategies are possible.

Originally, this utility was written in the historical manner, using the term "nice value". This was always a point of concern with users because it was never intuitively obvious what this meant. With a newer version of renice, which used the term "system scheduling priority", it was hoped that novice users could better understand what this utility was meant to do. Also, it would be easier to document what the utility was meant to do. Unfortunately, the addition of the POSIX realtime scheduling capabilities introduced the concepts of process and thread scheduling priorities that were totally unaffected by the nice/renice utilities or the nice()/setpriority() functions. Continuing to use the term "system scheduling priority" would have incorrectly suggested that these utilities and functions were indeed affecting these realtime priorities. It was decided to revert to the historical term "nice value" to reference this unrelated process attribute.

Although this utility has use by system administrators (and in fact appears in the system administration portion of the BSD documentation), the standard developers considered that it was very useful for individual end users to control their own processes.

Earlier versions of this standard allowed the following forms in the

SYNOPSIS:

```
renice nice_value[-p] pid...[-g gid...][-p pid...][-u user...]
```

```
renice nice_value -g gid...[-g gid...]-p pid...][-u user...]
```

```
renice nice_value -u user...[-g gid...]-p pid...][-u user...]
```

These forms are no longer specified by POSIX.1?2008 but may be present in some implementations.

FUTURE DIRECTIONS

None.

SEE ALSO

nice

The Base Definitions volume of POSIX.1-2017, Section 3.244, Nice Value,
Chapter 8, Environment Variables, Section 12.2, Utility Syntax Guide?

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2017

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