IEEE P1003.2a Draft 8 – December 1991

Copyright © 1991 by the
Institute of Electrical and Electronics Engineers, Inc.
345 East 47th Street
New York, NY 10017, USA
All rights reserved as an unpublished work.

This is an unapproved and unpublished IEEE Standards Draft, subject to change. The publication, distribution, or copying of this draft, as well as all derivative works based on this draft, is expressly prohibited except as set forth below.

Permission is hereby granted for IEEE Standards Committee participants to reproduce this document for purposes of IEEE standardization activities only, and subject to the restrictions contained herein.

Permission is hereby also granted for member bodies and technical committees of ISO and IEC to reproduce this document for purposes of developing a national position, subject to the restrictions contained herein.

Permission is hereby also granted to the preceding entities to make limited copies of this document in an electronic form only for the stated activities.

The following restrictions apply to reproducing or transmitting the document in any form: 1) all copies or portions thereof must identify the document's IEEE project number and draft number, and must be accompanied by this entire notice in a prominent location; 2) no portion of this document may be redistributed in any modified or abridged form without the prior approval of the IEEE Standards Department.

Other entities seeking permission to reproduce this document, or any portion thereof, for standardization or other activities, must contact the IEEE Standards Department for the appropriate license.

Use of information contained in this unapproved draft is at your own risk.

IEEE Standards Department
Copyright and Permissions
445 Hoes Lane, P.O. Box 1331
Piscataway, NJ 08855-1331, USA
+1 (908) 562-3800
+1 (908) 562-1571 [FAX]

5.19 newgrp — Change to a new group

5.19.1 Synopsis

```
newgrp [-l][group]
```

Obsolescent Version:

```
newgrp [-][group]
```

5.19.2 Description

The newgrp utility shall create a new shell execution environment with a new real and effective group identification. Of the attributes listed in 3.12, the new shell execution environment shall retain the working directory, file creation mask, and exported variables from the previous environment (i.e., open files, traps, unexported variables, alias definitions, shell functions, and set options may be lost). All other aspects of the process environment that are preserved by the *exec* family of functions in POSIX.1 {8} also shall be preserved by newgrp; whether other aspects are preserved is unspecified.

A new shell execution environment shall be created whether or not newgrp is able to change to the requested new group.

If the POSIX.1 {8} {NGROUPS_MAX} is greater than 1, newgrp shall add the specified group to the supplemental groups for the process, if there is room to add another group.

With no operands, newgrp shall change the effective group back to the group(s) identified in the user's user entry, and if {NGROUPS_MAX} is greater than 1, shall set the list of supplementary groups to that set in the user's group database entries.

If a password is required for the specified group, and the user is not listed as a member of that group in the group database, the user shall be prompted to enter the correct password for that group. If the user is listed as a member of that group, no password shall be requested. If no password is required for the specified group, it is implementation defined whether users not listed as members of that group can change to that group. Whether or not a password is required, implementation-defined system accounting mechanisms may impose additional authorization restrictions that may cause newgrp to exit with an error status.

5.19.3 Options

The newgrp utility shall conform to the utility argument syntax guidelines described in 2.10.2, except that the obsolescent version uses – in a nonstandard manner.

The following option shall be supported by the implementation:

Copyright © 1991 IEEE. All rights reserved.
This is an unapproved IEEE Standards Draft, subject to change.

`-l` (The letter ell.)

`-` (Obsolescent.)

Change the environment to what would be expected if the user actually logged in again.

5.19.4 Operands

The following operand shall be supported by the implementation:

group A group name from the group database or a nonnegative numeric group ID. Either specifies the group ID to which the real and effective group IDs shall be set. If *group* is a nonnegative numeric string and exists in the group database as a group name [see *getgrnam* () in POSIX.1 {8} 9.2.1], the numeric group ID associated with that group name shall be used as the group ID.

5.19.5 External Influences

5.19.5.1 Standard Input

None.

5.19.5.2 Input Files

The file `/dev/tty` shall be used to read a single line of text for password checking, when one is required.

5.19.5.3 Environment Variables

The following environment variables shall affect the execution of `newgrp`:

LANG This variable shall determine the locale to use for the locale categories when both **LC_ALL** and the corresponding environment variable (beginning with **LC_**) do not specify a locale. See 2.6.

LC_ALL This variable shall determine the locale to be used to override any values for locale categories specified by the settings of **LANG** or any environment variables beginning with **LC_**.

LC_CTYPE This variable shall determine the interpretation of sequences of bytes of text data as characters (e.g., single- versus multibyte characters in arguments).

LC_MESSAGES This variable shall determine the language in which messages should be written.

Copyright © 1991 IEEE. All rights reserved.
This is an unapproved IEEE Standards Draft, subject to change.

5.19.5.4 Asynchronous Events

Default.

5.19.6 External Effects

5.19.6.1 Standard Output

None.

5.19.6.2 Standard Error

Used for diagnostic messages and a prompt string for a password, if one is required.

5.19.6.3 Output Files

None.

5.19.7 Extended Description

None.

5.19.8 Exit Status

If `newgrp` succeeds, the exit status shall be the exit status of the shell. Otherwise, the `newgrp` utility shall exit with the following value:

>0 An error occurred.

5.19.9 Consequences of Errors

The invoking shell may terminate.

5.19.10 Rationale. *(This subclause is not a part of P1003.2a)*

Usage, Examples

None.

History of Decisions Made

Most historical implementations use one of the *exec* functions to implement the behavior of `newgrp`. Errors detected before the *exec* leave the environment unchanged, while errors detected after the *exec* leave the user in a changed environment. While it would be useful to have `newgrp` issue a diagnostic

Copyright © 1991 IEEE. All rights reserved.
This is an unapproved IEEE Standards Draft, subject to change.

message to tell the user that the environment changed, it would be inappropriate to require this change to some historical implementations.

The password mechanism is allowed in the group file, but how this would be implemented is not specified.

The `newgrp` utility was retained in POSIX.2 even given the existence of the multiple group permissions feature in POSIX.1 {8}, because it allows files to be created with a specific group ownership. In some systems, the group ownership is determined by the group of the parent directory in which a file is created, as allowed by POSIX.1 {8}; on such systems, `newgrp` does not affect the group ownership in directories where the parent directory dictates it. However, POSIX.1 {8} allows systems to omit this feature; therefore, the `newgrp` functionality is still required on those systems.

5.20 `nice` — Invoke a utility with an altered system scheduling priority

5.20.1 Synopsis

`nice [-n` *increment* `]` *utility* `[`*argument* `...]`

Obsolescent Version:

`nice [-`*increment* `]` *utility* `[`*argument* `...]`

5.20.2 Description

The `nice` utility shall invoke a utility, requesting that it be run with a different system scheduling priority (see 2.2.2.212). With no options and only if the user has appropriate privileges, the executed utility shall be run with a system scheduling priority that is some implementation-defined quantity less than or equal to the system scheduling priority of the current process. If the user lacks appropriate privileges to affect the system scheduling priority in the requested manner, the `nice` utility shall not affect the system scheduling priority; in this case, a warning message may be written to standard error, but this shall not prevent the invocation of *utility* or affect the exit status.

5.20.3 Options

The `nice` utility shall conform to the utility argument syntax guidelines described in 2.10.2, except that the obsolescent version allows a multidigit decimal integer as an option name.

The following option shall be supported by the implementation:

Copyright © 1991 IEEE. All rights reserved.
This is an unapproved IEEE Standards Draft, subject to change.