NAME

config − configure a system

SYNOPSIS

/etc/config [**−l** file] [**−c** file] [**−m** file] dfile

DESCRIPTION

Config is a program that takes a description of a PWB/UNIX system and generates two files. One file is an assembler program containing the contents of low core (octal addresses 0-0777), showing all of the interrupt and trap vectors, as well as the run-time interface to C programs. The other file is a C program defining the configuration tables for the various types of devices on the system.

The **−l** option specifies the name of the output file containing the assembler program; *low.s* is the default name.

The **−c** option specifies the name of the output file containing the C program; *conf.c* is the default name.

The **−m** option specifies the name of the file that contains all the information regarding supported devices; */etc/master* is the default name. This file is supplied with the PWB/UNIX system and should *not* be modified unless the user *fully* understands its construction.

The user must supply *dfile;* it must contain device information for the user's system. This file is divided into two parts. The first part contains physical device specifications. The second part contains system-dependent information. Any line with an asterisk (*) in column 1 is treated as a comment.

All configurations are assumed to have the following devices:

one dl 11 (for the console)
one kw11-l line clock or kw11-p programmable clock

with standard interrupt vectors and addresses. These two devices *must not* be specified in the *dfile.* Note that UNIX needs only one clock, but can handle both types.

First part of *dfile:*

Each line contains four or five fields, delimited by blanks and/or tabs in the following format:

devname vector address bus number

where *devname* is the name of the device (as it appears in the */etc/master* device table), *vector* is the interrupt vector location (octal), *address* is the device address (octal), *bus* is the bus request level (4 through 7), and *number* is the number (decimal) of devices associated with the corresponding controller; *number* is optional, and if omitted, a default value which is the maximum value for that controller is used.

Second part of *dfile:*

The second part contains three different types of lines. Note that *all* specifications of this part *are required,* although their order is arbitrary.

1. *root / dump device specification*

Two lines of three fields each:

root devnameminor
dump devnameminor

where *minor* is the minor device number (in octal).

2. *swap device specification*

One line that contains five fields as follows:

swap devname minor swplo nswap

where *swplo* is the lowest disk block (decimal) in the swap area and *nswap* is the number of disk blocks (decimal) in the swap area.

3. *parameter specification*

Ten lines of two fields each as follows (*number* is decimal):

buffers	number
inodes	number
files	number
mounts	number
coremap	number
swapmap	number
calls	number
procs	number
texts	number
clists	number

EXAMPLE

Suppose we wish to configure a system with the following devices:

one rp04 controller with 6 drives
one dh11 with 16 lines (default number)
one dm11 with 16 lines (for the dh11)
one dh11 with 8 lines
one dm11 with 8 lines (for the dh11)
one lp11
one tu16 controller with 2 drives
one dl 11

Note that PWB/UNIX only supports dh11 units that require corresponding dm11 units. It is wise to specify them in dh-dm pairs to facilitate understanding the configuration. Note also that, in the preceding case, the dl 11 that is specified is *in addition* to the dl 11 that was part of the initial system. We must also specify the following parameter information:

root device is an rp04 (drive 0, section 0)
swap device is an rp04 (drive 1, section 4),
with a swplo of 6000 and an nswap of 2000
dump device is a tu16 (drive 0)
number of buffers is 40
number of processes is 150
number of mounts is 15
number of inodes is 120
number of files is 120
number of calls is 30
number of texts is 35
number of character buffers is 150
number of coremap entries is 50
number of swapmap entries is 50

The actual system configuration would be specified as follows:

```
rp04    254     776700      5       6
dh11    320     760020      5
dm11    300     770500      4
dh11    330     760040      5       8
dm11    304     770510      4       8
lp11    200     775514      5
tu16    224     772440      5       2
dl 11   350     775610      5
root    rp04    00
swap    rp04    14          6000    2000
dump    tu16    0
*
* Comments can be inserted in this manner
*
buffers 40
procs   150
mounts  15
inodes  120
files   120
calls   30
texts   35
clists  150
coremap 50
swapmap 50
```

FILES

/etc/master	default input master device table
low.s	default output low core assembler code (in the current directory)
conf.c	default output configuration tables − C code (in the current directory)

SEE ALSO

master(V)
Setting up PWB/UNIX by R. C. Haight, W. D. Roome, and L. A. Wehr

DIAGNOSTICS

Diagnostics are routed to the standard output and are self-explanatory.