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dd (Unix)

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dd is a common UNIX program whose primary purpose is the low-level copying and conversion of raw data. dd is an abbreviation for "data definition" in IBM JCL, and the command's syntax is meant to be reminiscent of this.[1] dd is used to copy a specified number of bytes or blocks, performing on-the-fly byte order conversions, as well as more esoteric EBCDIC to ASCII conversions.[2] dd can also be used to copy regions of raw device files, e.g. backing up the boot sector of a hard disk, or to read fixed amounts of data from special files like [3]

/dev/zero or /dev/random.

It can also be used in computer forensics when the contents of a disk need to be preserved as a byte-exact copy- using cp would not be enough, since data from deleted files that may still be present on a disk are not visible through the file system interface. It is jokingly said to stand for "destroy disk" or "delete data", since, being used for low-level operations on hard disks, a small mistake, such as reversing the if and of parameters, may accidentally render the entire disk unusable.[2]

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Usage

The command line syntax of dd is significantly different from most other UNIX programs, and because of its ubiquity is resistant to recent attempts to enforce a common syntax for all command line tools. Generally, dd uses an option=value format, whereas most Unix programs use a -option value format. Also, dd's input is specified using the "if" (input file) option, while most programs simply take the name by itself. It is rumored to have been based on IBM's JCL, and though the syntax may have been a joke, there seems never to have been any effort to write a more Unix-like replacement.

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Example use of dd command to create a disk image from a CD-ROM:
dd if=/dev/cdrom of=image.iso bs=2k

Note that an attempt to copy the entire disk image using cp may omit the final block if it is an unexpected length; dd will always complete the copy if possible.

Using dd to wipe an entire disk with random data:

dd if=/dev/urandom of=/dev/hda

Some implementations understand x as a multiplication operator in the block size and count parameters:

dd bs=2x80x18b if=/dev/fd0 of=/tmp/floppy.image

where the "b" suffix indicates that the units are 512-byte blocks.

Output messages

The GNU variant of dd as supplied with Linux does not describe the format of the messages displayed on stdout on completion, however these are described by other implementations e.g. that with BSD.

Each of the "Records in" and "Records out" lines shows the number of complete blocks transferred + the number of partial blocks, e.g. because the physical medium ended before a complete block was read.

See also

List of Unix programs

SpinRite (includes coverage of recovery-oriented variants of dd)

References

1.

[^] Eric S. Raymond. dd (<http://www.catb.org/jargon/html/D/dd.html>) . Retrieved on 2008-02-19.

2.

[^] ab Sam Chessman. How and when to use the dd command? (<http://www.codecoffee.com/tipsforlinux/articles/036.html>) . CodeCoffee. Retrieved on 2008-02-19.

3.

[^] Dd -LQWiki (<http://wiki.linuxquestions.org/wiki/Dd>) . LinuxQuestions.org. Retrieved on 2008-02-19.

External links

dd(1): convert and copy a file - Linux User's Manual

dd (http://www.gnu.org/software/coreutils/manual/html_node/dd-invocation.html) : manual page from GNU coreutils.
[http://en.wikipedia.org/wiki/Dd_\(Unix\)](http://en.wikipedia.org/wiki/Dd_(Unix)) Page 2 of 3 dd (Unix) - Wikipedia, the free encyclopedia 3/10/08 10:41 PM

The Open Group Base Specifications Issue 6 of the dd utility (<http://www.opengroup.org/onlinepubs/009695399/utilities/dd.html>)

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