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Identification

The tape_daemon control file
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Purpose

The tape system process (invoked through segment tape_daemon), is mainly controlled by means of ascii files containing instructions for writing (and reading) tapes. tape_daemon will process a control file either by explicit command of the tape operator or upon receipt of an interprocess signal from the merge_edit, tape_in or tape_out command.

The Tape Daemon Control File

The tape_daemon control file is considered to be an ascii character string. The string is broken into control lines by the new-line character (012). The format of the file is:

```

file      =   chars | line | line   file
chars     =   <any ascii character string>
line      =   operator delim* [:] args  newline
delim     =   comma | blank | htab
args      =   ndchars  delim* | ndchars  delim*  args
ndchars   =   <any ascii string not containing comma,
              blank, vertical tab, colon or newline>
operator  =   ndchars

```

Or, in translation, the file consists of lines each of which has an operator (the first string of non-delimiters) followed by an optional colon and a string of arguments, all separated by delimiters (blank, comma, and horizontal tab).

The use of the file is most simply explained by listing the operators and their expected arguments and the actions which they cause. All of the operators may be abbreviated by their first letter.

Operators

14B [name | : data]

Write records on tape in binary mode - 14 words/record. Use only 12 words of data per record, padding the last 12 six-bit characters with GE-BCD for blank.

Used only by Merge_editor

Take data from file name, in which case it is already converted to GE BCD and will not be processed, or from the ascii string directly following the colon and up to but not including the next new-line character (in which case the ascii is converted to GE BCD).

27B [-name- | : x]

Write records on tape in binary mode - 27 words/record. The record format is:

word 1 = 00500 0000XX where XX is word count

word 2 = zeros

words 3-24 are data

words 25-27 are zeros

Used only by the merge-editor.

Take data from file name, 22 words/record, no conversion. If name is absent, take the next 27 words from the data file associated with this control file and write one record only.

If the colon is present, take the next x words ($x \leq 27$) from the associated data file, pad with zeros and write one record only.

7 Punch [name | : ascii data]

Write records on tape in 7Punch format (see appendix).

Operators

7 Punch

If name is given, write out file name, no conversion. If the colon is present, take the ascii string between it and the next newline, prepend nine bits of count of the character string in characters, pad it with ascii blanks to 22 words and write out that record only. In this case, sequence numbering is remembered, so that the next 7Punch file operator will cause the rest of the file to be appended in sequence.

BCD

[name | : data]

Write records on tape in BCD mode (84 characters/record). Last 12 characters are IBM blanks.

If name is given, take the data from file name with no conversion. If the colon is present, take the following character string up to the next newline; convert the string from ascii to IBM-BCD, pad it to 72 characters with IBM blanks.

Comment

-data-

Take the character string from "t" + one to newline - one and print it on the tape operator's console.

Dismount

Rewind and unload the tape last mounted.

EOF

Write end-of-file on current tape.

Files

-directory name-

Read files from tape and put them into the specified directory. This operator must be preceded by a MOUNT. The following lines up to the next line beginning with "NDFILES" are taken to consist of pairs of arguments each of which is a character string of at

Operators

Files most 6 characters. Only files corresponding to these pairs of names will be input. The files need not be in the same order as they appear on the tape. The default directory is the directory in which the control file is found. The directory name on the tape is ignored.

If "file" is followed by a line with the single token "all", then every file on the tape will be input. In this case, no "ndfiles" is expected.

History -name-

Write a history of errors and pertinent data in the file specified. Include the reel numbers of any tapes used and any operator comments and replies. The directory used is the one in which the control file is found.

Insert name

The file name is taken as the next source of daemon commands. When a "Stop" operator is found in an insert file, processing reverts to the previous file. A depth of nine files is allowed.

Mount -reelno- ["w"|"r"]

Have tape reel reelno mounted on the write ("w") or read ("r") drive. Defaults are any free reel and "w" (write).

Ndfiles

Used only in conjunction with files. Otherwise ignored.

Stop

If the current file is an insert, revert to the previous file; else check that the tape has been dismounted (cause it to happen, if not) and end processing.

Operators

wdir -directory-name-

The directory in which to look for files which are specified only by entry-name. Default is tape_daemon working directory.

Any operators having first letters other than those given above are ignored. The initial implementation will only scan the initial letter of an operator.

APPENDIX7PUNCH Card Format

The 7PUNCH card format is peculiar to the CTSS system at MIT, so that it deserves description. The 7PUNCH cards are column binary cards which have punches in rows 12-11-0-7-9 of column one.

word one in octal = 7WW5WWTSSSSS

Word two = full word logical checksum of all words on the card except the checksum itself (does not include columns 73-80)

Remaining words are data words.

www is the word-count of the number of data words to be taken from the card. If $www \leq (26)8$, there are www words actually on the card (beginning with column 7). If $www \geq (26)8$, there is only one data word on the card (columns 7,8,9) and it is to be repeated in core www times.

sssss is a binary sequence number beginning with zero.

T is zero, except on the last card where it is a one.

On tape, the 7PUNCH record is 168 six bit characters long (28 words - 1st 24 are in seven punch format - last 4 are zeros).