Identification

The File System Device Configuration Table
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Purpose

The file system device configuration table (FSDCT) is
one of the system configuration tables of particular interest
to file system initialization.  This table contains information
pertaining to each secondary storage device accessible
to the file system.

Contents of the FSDCT

The following PL/I statement provides the declaration
of the items contained in the file system device configuration
table and is followed by a detailed description of each
item.  (Note:  the identifiers in capitals are used to
denote integer constants to be determined before compilation.)

```
    dcl 1 fsdct ctl (p),

        2 intact bit (1),

        2 root_did bit (4),

        2 root_length bit (12),

        2 root_filep bit (116),

        2 ndevices fixed bin (17),

        2 dev_tab (MAXDEV),

            3 device_id bit (4),

            3 config_record bit (36),

            3 reserved_count fixed bin (17),

            3 reserved_list (RMAX) bit (36),

            3 npartitions fixed bin (17),

            3 select fixed bin (17),
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3 master_record bit (36),

3 partitions (PMAX),

      4 intact bit (1),

      4 hypersize fixed bin (17),

      4 first_record bit (36),

      4 nrecords fixed bin (17),

      4 rootsw bit (1),

      4 maximpval fixed bin (17),

      4 minimpval fixed bin (17),

      4 channels (CMAX) char (32);
```

The level 2 items of this structure comprise the header
of the file system device configuration table and are
described in detail below.

intact - This switch indicates whether (ON) or not (OFF)
the contents of all secondary storage is currently
intact and useable by Multics.

root did - This item identifies the device on which the
root directory, to be used by the current version of
Multics, is stored.

root length - This item specifies the length of the root
directory.

root filep - This item specifies the location of the
root directory within its device (i.e. the root directory
file pointer).

ndevices - This item specifies the number of different
devices available to the file system.

The dev tab array provides information pertaining to each
secondary storage device available to the file system.
For each such device, the following information is provided
in the dev_tab array.

device id - This item is used internally by the file system to identify both the device and the device interface module used to refer to the device.

config record - This item specifies the physical address of the record on which device configuration information is kept for this device (see BG.17).

reserved count - This item specifies the number of reserved records on the device (see below).

reserved list - This array contains a list of sector addresses for records not available for normal file system use (e.g. unreliable records).

npartitions - A device may be subdivided (partitioned) into separate contiguous areas for use by more than one version of Multics (see BG.17).  This item specifies the number of partitioned areas within the device.

select - This item specifies the specific partitioned area of the device to be used by this version of Multics.

master record - This item specifies the physical address of the master hyperrecord (see BG.17) defining the partitioned area of the device to be used by this version of Multics.

The partitions array provides further information concerning each of the partitioned areas within a device.  For each partitioned area of a device, the following information is provided in the partitions array.

intact - This switch indicates whether (ON) or not (OFF) the information stored within this partitioned area is currently intact.  Note:  If the intact switch is OFF for any partitioned area of any device, the global intact switch (at level 2 of the structure) must also be OFF.

hypersize - This item specifies the hyperrecord size (see BG.10) to be used in allocating storage within this partitioned area of device.

first record - This item specifies the first physical record within the partitioned area.

nrecords - This item specifies the number of physical records within the partitioned area.

rootsw - This switch indicates whether (ON) or not (OFF) a root directory is to reside in this partition.

maximpval, minimpval - These items specify the maximum and minimum importance values for segments residing within this partition of the device (see section BH.1 on multilevel storage management).

nchannels - This item specifies the number of distinct GIOC channels which may be used to access the device. In the case of devices not accessed through the GIOC (e.g. the high speed drum) this item is zero.

channels - This item is an array of symbolic names specifying the GIOC channels which may be used to access the partitioned device.