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MacCheck: Volume & Directory File Reports (8/93)

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TOPIC -----

This article details the information MacCheck's Volume & Directory File Checker reports.

DISCUSSION -----

HFS Directory Structure Checking:

- Volume checks
 - Every block allocated to a file on a volume is marked in the volume bitmap.
 - Every block not allocated to a file on a volume is not marked in the volume bitmap.
 - Every file on the volume has a unique set of blocks. No file claims blocks that are allocated to another file.
- Directory checks
 - Each directory has the same number of files and directories allocated to it that is claimed in the directory record.
 - The number of directories on the volume is the same as the number of directories found in the volume header.
- BTree checks
 - Each node in the catalog and extent trees has the proper valence.
 - Each node in the catalog and extent trees is properly marked in the volume bitmap.
 - Each node in the catalog and extent trees is referenced only once.

Resource File Checks:

The Resource File Check performs an analysis of the System files, testing for the following:

- The resource fork is at least the minimum size.
- There is no overlap or space between the header, the resource data list, and the resource map.
- There are no bytes between the End Of File (EOF) and the end of the resource map.

- Each record in the resource data list is used once and only once. The last data item ends exactly where the data list ends.
- Each item in the resource type list contains at least one reference; each sequence of referenced items starts where the previous resource type item's reference list ended; and each item in the reference list is pointed to by one and only one resource type list item.
- There are no duplicates in the resource type list.
- Each name in the name list has one and only one reference, and the last name doesn't point outside the name list.
- Each reference list item points to a valid data item and either has a name list offset of -1 or points to a valid name list offset.
- All names have a non-zero length.

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