Glossary

absolute search   A search that begins at the root directory of the file system hierarchy and always descends the hierarchy. See also **relative search.**

access modes   A set of file permissions that specify what abilities should be allowed to a user attempting to open a file fork. See also **deny modes.**

access path   A description of the route that the File Manager follows to access a file; created when a file is opened. See also **file reference number.**

access permissions   See **access modes, file permissions.**

access privileges   See **directory access privileges.**

access rights   The permissions governing the access to a file, or the privileges governing the access to a directory.

activation procedure   An application-defined procedure that controls the highlighting of application-defined dialog items capable of receiving keyboard input.

active field   The target of keyboard input in a dialog box.

AFP volume   A volume that is accessed using the AppleTalk Filing Protocol.

alias   An object in the file system that represents another file, directory, or volume.

Alias Manager   The part of the Operating System that helps you to locate specified files, directories, or volumes at a later time. The Alias Manager creates and resolves alias records.

alias record   A data structure created by the Alias Manager to identify a file, directory, or volume.

alias target   The file, directory, or volume described by an alias record.

allocation block   A group of consecutive logical blocks on a volume.

AppleTalk Filing Protocol (AFP)   A protocol that allows users to share data files and application programs that reside in a shared resource, such as a file server.

asynchronous execution   A mode of invoking a routine. During the asynchronous execution of a routine, an application is free to perform other tasks.

backing-store file   The file that the Virtual Memory Manager uses to store the contents of unneeded pages of memory.

bad block sparing   The process of working around a bad block by removing it from the pool of available free blocks.

blank access privileges   The directory access privileges under which a directory has the same access privileges as the directory's parent.

block   A group regarded as a unit; usually refers to data or memory in which data is stored. See also **allocation block.**

boot blocks   The blocks on a disk that contain system startup information.

browsing access   The file access permissions that allow users to read but not modify a file.

B*-tree   A method of organizing information into a collection of nodes. The nodes are arranged in a way that allows efficient access to the stored information.

B*-tree control block   A block of memory that contains information about a B*-tree file (either a catalog file or an extents overflow file).

B*-tree file   A file that is organized as a B*-tree. See also **catalog file, extents overflow file.**

B*-tree header record   A record in a header node that contains information about the beginning of the tree, as well as the size of the tree.

catalog file   A special file, located on a volume, that contains information about the hierarchical organization of files and folders on that volume.

catalog node   An entry in a volume's catalog file that describes either a file or a directory.

catalog node ID   A unique number assigned to a node in a catalog file. For a directory, the catalog node ID is the directory ID; for a file, the catalog node ID is the file ID.

closed file   A file without an access path. You cannot read from or write to closed files.

clump   A group of contiguous allocation blocks. Space is allocated to a new file in clumps to promote file contiguity and avoid fragmentation.

clump size   The number of allocation blocks to be allocated to a new file.

CNID   See **catalog node ID.**

CNode   See **catalog node.**

common parent   The lowest-level directory that appears in the pathnames of two objects on a volume.

completion routine   A routine that is executed when an asynchronous call to some other routine is completed.

current directory   The directory whose contents are listed in the dialog box displayed by the Standard File Package. See also **default directory.**

current disk   The current volume.

current volume   The volume on which the current directory is located.

data buffer   A buffer (usually in an application's heap) that contains information to be written to a file from the application, or read from a file to an application.

data fork   The part of a file that contains data accessed using the File Manager.

default directory   The directory used in File Manager routines whenever you don't explicitly specify some directory. See also **current directory.**

default volume   The volume that contains the default directory.

deny modes   A set of file permissions that specify what abilities should be denied to users attempting to open a file fork already opened by another user. See also **access modes.**

dialog hook function   An application-defined function that handles item selections in a dialog box displayed by the Standard File Package.

directory   A subdivision of a volume, available in the hierarchical file system. A directory can contain files and other directories (known as subdirectories).

directory access privileges   A set of conventions for controlling access to a directory.

directory ID   A unique number assigned to a directory. The File Manager uses this number to distinguish a directory from others on the same volume. See also **catalog node ID.**

disk   A physical medium capable of storing information.

disk cache   A part of RAM that acts as an intermediate buffer when data is read from and written to file systems on secondary storage devices.

disk formatting   The process of writing special information onto a disk so that the disk driver can read from and write to the disk.

disk initialization   The process of making a disk usable by the Macintosh Operating System.

disk initialization dialog box   A dialog box asking the user whether a disk should be ejected or initialized.

Disk Initialization Manager   The part of the Macintosh Operating System that manages the process of initializing disks.

disk-inserted event   An event generated when the user inserts a disk in a disk drive or takes any other action that requires a volume to be mounted.

disk switch dialog box   A dialog box asking the user to insert a particular disk.

disk verification   The process of reading every bit on the disk to ensure that the disk has been formatted correctly and contains no bad blocks.

disk zeroing The process of creating on the disk the data structures and files necessary for the disk to be recognized as a hierarchical file system (HFS) volume.

display list In a standard file dialog box, the list of files, folders, and volumes at one level of the display hierarchy, from which the user can select items.

document A file that a user can create and edit. A document is usually associated with a single application, which the user expects to be able to open by double-clicking the document's icon in the Finder.

document record An application-defined data structure that contains information about the window, any controls in the window (such as scroll bars), and the file (if any) whose contents are displayed in the window.

drive queue A list of all volumes connected to the computer.

end-of-file (EOF) See **logical end-of-file, physical end-of-file.**

EOF See **logical end-of-file, physical end-of-file.**

exclusive access The file access permissions that deny other users both read and write access to a file.

exhaustive search A search using an algorithm that scans an entire volume to look for possible matches.

extent A contiguous range of allocation blocks that have been allocated to some file.

extent data record A data record that contains three extent descriptors. Extent data records are stored in the leaf nodes of the extents overflow file, in the catalog file, and in the boot blocks.

extent descriptor A description of an extent, consisting of the number of the first allocation block of the extent followed by the length of the extent. Defined by the `ExtDescriptor` data type.

extents overflow file A special file containing all extent data records that are not stored elsewhere by the File Manager.

fast search A search that employs an algorithm designed to find the target of an alias record quickly. See also **absolute search.**

FCB See **file control block.**

file A named, ordered sequence of bytes stored on a Macintosh volume. A file is divided into a data fork and a resource fork.

file access permissions See **file permissions.**

file control block (FCB) A fixed-length data structure, contained in the file-control-block buffer, where information about an access path to a file is stored.

file-control-block buffer A block in the system heap that contains one file control block for each access path.

file filter function An application-defined function that helps determine which files appear in the list of files to open. This list appears in the dialog boxes displayed by the Standard File Package.

file fork One of the two parts of a file. See also **data fork, resource fork.**

file ID A unique number assigned to a file. The File Manager uses this number to distinguish a file from others on the same volume. See also **catalog node ID.**

file ID reference An internal record in the volume's catalog file. This record specifies the filename and parent directory ID of the file with a given file ID.

file ID thread record See **file ID reference.**

file I/O queue A queue containing parameter blocks for all I/O requests to the File Manager.

File Manager The part of the Macintosh Operating System that manages the organization, reading, and writing of data located on physical data storage devices such as disk drives.

file mark A marker the File Manager uses to keep track of its place in a file during a read or write operation. The file mark specifies the position of the next byte that will be read or written.

filename A sequence of up to 31 printing characters, excluding colons, that identifies a file.

file permissions   A set of conventions for controlling access to a file. A file's permissions consist of **access modes** and **deny modes.**

file reference number   A number (greater than 0) that is returned to your application when it opens a fork of a file using File Manager routines; each file reference number corresponds to a unique access path.

file server   A computer running software that provides network users with access to shared disks or other mass-storage devices.

file system   A method of organizing files and directories on a volume.

file system specification   A record that identifies a stored file or directory by volume reference number, parent directory ID, and name. Defined by the FSSpec data type.

Finder   A Macintosh application that allows access to documents and other applications. The Finder uses icons to represent objects on a volume.

flush   To write data from a cache in memory to a volume.

folder   A directory. See **directory.**

fork   See **file fork.**

formatting   See **disk formatting.**

full pathname   A pathname that begins in the root directory.

guest   A user who is logged on to a file server without a registered user name and password.

header node   The first node in a B*-tree file; it contains essential information about the entire B*-tree file.

HFS   See **hierarchical file system.**

HFS volume   A volume that is organized according to the hierarchical file system.

hierarchical file system (HFS)   A method of organizing files and directories on a volume in a hierarchical or tree-like structure.

index node   A node containing records that point to other nodes in the B*-tree hierarchy.

initialization   See **disk initialization.**

I/O queue   See **file I/O queue.**

I/O request   A request for input from or output to a file or device driver; caused by calling a File Manager or Device Manager routine asynchronously.

leaf node   A node that contains data records.

locked file   A file whose data cannot be changed.

locked range   A range of bytes in a file whose data cannot be changed.

locked volume   A volume whose data cannot be changed.

logical block   A portion of a volume. Usually 512 bytes long.

logical end-of-file   The position of 1 byte past the last byte in a file; equal to the actual number of bytes in the file.

log on   To connect to a networked file server or to a local machine that requires user authentication. Usually a user must specify a user name and password to be able to log on to a file server.

Macintosh file system (MFS)   A now-obsolete method of organizing files on a volume in a "flat" or nonhierarchical structure. See also **hierarchical file system.**

Make Changes privileges   The directory access privileges that allow other users to create, rename, delete, and write files in the specified directory.

map node   A node that contains an additional map record.

map record   A record in a header node or map node that indicates which nodes in a B*-tree file are used and which are not.

mark   See **file mark.**

master directory block (MDB)   The part of a volume that contains information about the volume, such as the volume name and allocation block size.

MFS volume   A volume that is organized using the Macintosh file system.

modal-dialog filter function   An application-defined function that filters events passed from the Event Manager to the Standard File Package when one of its dialog boxes is being displayed.

modes   See **access modes, deny modes.**

mount   To make a volume available on the local machine.

mounted volume   A volume that has had its descriptive information read by the File Manager and placed into a volume control block in memory.

newline character   Any character, but usually the Return character (ASCII code $0D), that indicates the end of a sequence of bytes.

newline mode   A mode of reading data in which the end of the data is indicated by a newline character (and not by a specific byte count).

node   A part of a B*-tree.

node descriptor   The first part of a B*-tree node; it contains information about the node, as well as forward and backward links to other nodes.

offline volume   A volume that has been mounted but made temporarily unavailable (for example, because it was ejected).

offspring   For a given directory, the set of files and directories the given directory contains.

online volume   A volume that has been mounted and is currently available for File Manager operations.

open file   A file with an access path. You can read from and write to open files only.

open permission   Information about a file that indicates whether the file can be read from, written to, or both.

parent directory   The directory in which a file or directory is located.

parent directory ID   The directory ID of the directory containing a file or directory.

partial pathname   A pathname that begins in some directory other than the root directory.

partition   A part of a disk that has been allocated to a particular operating system, file system, or device driver.

partition map   A block of information that describes the organization of partitions on a disk.

password   A string of characters that a user or application must provide to gain access to a networked file server or to a local machine that requires user authentication. Passwords are frequently encrypted prior to transmission over a network to ensure network security.

pathname   A series of concatenated directory names and filenames that identifies a given file or directory. See also **full pathname, partial pathname.**

path reference number   See **file reference number.**

permissions   See **file permissions.**

physical end-of-file   The position of 1 byte past the last allocation block of a file; equal to 1 more than the maximum number of bytes the file can contain.

pointer record   The kind of record contained in an index node in a B*-tree file. The structure of a pointer record depends on the kind of B*-tree in which it is contained.

poor man's search path   The list of directories that the File Manager searches whenever it cannot find a specified file in the specified directory.

preferences file   A file that stores a user's settings for a document or application.

Preferences folder   A directory located in the System Folder that stores preferences files.

privilege model   A set of conventions for controlling access to stored files and directories.

privileges   See **directory access privileges.**

pseudo-item   A constant that does not represent any actual item in the dialog list of one of the dialog boxes displayed by the Standard File Package.

range locking   Locking a range of bytes in a file so that other users can't read from or write to that range, but allowing the rest of the file to be accessed.

read privileges   See **See Files privileges.**

read/write permission   Information associated with an access path that indicates whether the file can be read from, written to, or both.

relative path   A path to the target from another file or directory on the same volume.

relative search   A search that starts in a specified directory and searches for the target of an alias record by ascending the file system hierarchy to a predetermined common parent of the target and the starting directory, and then descending the hierarchy from that common parent.

resolve   To find the target of an alias record.

resource fork   The fork of a file that contains the file's resources.

root directory   The directory at the base of a volume.

root node   The first index node in a B*-tree.

search key   A piece of data that the File Manager uses when searching through a B*-tree to locate the information it needs**.**

search privileges   See **See Folders privileges.**

See Files privileges   The directory access privileges that allow users to read files in the specified directory.

See Folders privileges   The directory access privileges that allow users to see other directories in the specified directory.

shared access   The file access permissions that allow other users both read and write access to a file.

shared environment   Any operating environment that supports multiple users and multiple access to data or applications.

share point   A volume or directory made available for sharing on the network.

single-writer access   The file access permissions that deny other users write access to a file but allow them to read it.

Standard File Package   The part of system software that allows you to present the standard user interface when a file is to be saved or opened.

subdirectory   A directory that is contained in some other directory. All directories on a volume except the root directory are subdirectories.

synchronous execution   A mode of invoking a routine. After calling a routine synchronously, an application cannot perform other tasks until the routine is completed.

system startup information   Certain configurable system parameters that are stored in the boot blocks of a volume and read in at system startup.

target   See **alias target.**

unmounted volume   A volume that hasn't yet been mounted, or a volume that was previously mounted but has since had its volume control block removed from the VCB queue.

user authentication method   A process used by a file server or workstation to confirm the user's identity.

user name   A string of characters that uniquely identifies a user for login purposes.

VCB   See **volume control block.**

VCB queue   See **volume control block queue.**

verification   See **disk verification.**

volume   A portion of a storage device that is formatted to contain files.

volume bitmap   A data structure that contains a series of bits indicating which blocks on the volume are allocated. Volume bitmaps exist both on HFS volumes and in memory.

volume catalog   See **catalog file.**

volume control block (VCB)   A nonrelocatable block of memory in the system heap that contains information about a specific mounted volume, including the information from the volume's master directory block.

volume control block queue   A list of the volume control blocks for all mounted volumes.

volume index   A number identifying the position of a mounted volume listed in the volume control block queue.

volume information block (VIB)   See **master directory block.**

volume name   A sequence of up to 27 characters, excluding colons (:), that identifies a volume.

volume reference number   A unique number assigned to a volume when it's mounted; used to refer to the volume.

working directory   A temporary directory reference by which the File Manager specifies both a directory and the volume on which it resides. The File Manager assigns a reference number to each working directory.

working directory control block   A data structure that contains the directory ID of a working directory as well as the volume reference number of the volume on which the directory is located.

working directory reference number   A temporary reference number that encodes a directory ID and a volume reference number. It can be used in place of the volume reference number in most File Manager calls.

write privileges   See **Make Changes privileges.**

zeroing   See **disk zeroing.**