LINUX : ADDING FILE SYSTEMS TO THE TREE

To gain access to files on another device, you must first tell Linux where in the directory tree you would like those files to appear. This process is called *mounting* a file system. For example, you will frequently need to access files from CD-ROM.

In order to do this, you must tell Linux, “Take the file system from this CD-ROM and make it appear under the directory /mnt.” The directory given to Linux is called the *mount point.* In this case it is /mnt. The /mnt directory exists on all Linux systems, and it is intended specifically for use as a mount point for temporary media like floppy disks or CDROMs. It may be empty, or it may contain subdirectories for mounting individual devices.

Linux does not require you to use /mnt as the mount point for other file systems. You may mount file systems anywhere in the directory tree. However, it is good practice to create empty directories that are reserved as mount points.

Linux will allow you to mount a file system on a directory that is *not* empty. Any files in that directory will become invisible in the virtual file system. They will still exist on disk, but you will be unable to access them until the file system that obscures them is unmounted.

There are rare cases where this might be desirable, but in general it can create unexpected behavior and is not advisable. For these reasons, only the administrator may authorize the mounting of file systems.

At least one and perhaps many file systems are automatically mounted by Linux at boot time. The system administrator can control which file systems are mounted at boot time, and can pre-determine the mount points for specific file systems.

The sysadmin can also designate some file systems that may be mounted by normal users, and can specify when mounted file systems are checked for errors and backed up. All this information is stored in the file /etc/fstab, which anyone can read to discover what file systems are available and mountable by users.

Quick Example

Let’s take an example to show how this virtual file system is useful. Say that you are in charge of maintaining a store of sales data for your company. There is a directory called /finance. Under that exist directories called sales, purchases, etc. Under the sales directory you have a subdirectory this_year representing sales for the current fiscal year, which data is stored on the hard drive.. Last year’s data has been archived to a CD ROM. Thanks to the Linux virtual file system, you can create a directory under sales called last_year and mount the archive CD-ROM on this directory. Now all your sales data is available in one place! This is a very simplistic example, but it does illustrate one advantage of the virtual file system.

Source : http://www.control-escape.com/linux/lx-mounting.html