**Linux Structure**

Linux is a layered operating system. The innermost layer is the hardware that provides the services for the OS. The operating system, referred to in Linux as the kernel, interacts directly with the hardware and provides the services to the user programs. These user programs don't need to know anything about the hardware. They just need to know how to interact with the kernel and it's up to the kernel to provide the desired service. One of the big appeals of Linux to programmers has been that most well written user programs are independent of the underlying hardware, making them readily portable to new systems.

User programs interact with the kernel through a set of standard system calls. These system calls request services to be provided by the kernel. Such services would include accessing a file: open close, read, write, link, or execute a file; starting or updating accounting records; changing ownership of a file or directory; changing to a new directory; creating, suspending, or killing a process; enabling access to hardware devices; and setting limits on system resources.

Linux is a multi-user, multi-tasking operating system. You can have many users logged into a system simultaneously, each running many programs. It's the kernel's job to keep each process and user separate and to regulate access to system hardware, including cpu, memory, disk and other I/O devices.