

event-driven system switches between tasks based on their priorities or external events while time-sharing operating systems switch tasks based on clock interrupts.

Multi-user

A multi-user operating system allows multiple users to access a computer system at the same time. Time-sharing systems and Internet servers can be classified as multi-user systems as they enable multiple-user access to a computer through the sharing of time. Single-user operating systems have only one user but may allow multiple programs to run at the same time.

Multi-tasking vs. single-tasking

A multi-tasking operating system allows more than one program to be running at the same time, from the point of view of human time scales. A single-tasking system has only one running program. Multi-tasking can be of two types: pre-emptive and cooperative. In pre-emptive multitasking, the operating system slices the CPU time and dedicates one slot to each of the programs. Unix-like operating systems such as Solaris and Linux support pre-emptive multitasking, as does AmigaOS. Cooperative multitasking is achieved by relying on each process to give time to the other processes in a defined manner. 16-bit versions of Microsoft Windows used cooperative multi-tasking. 32-bit versions of both Windows NT and Win9x, used pre-emptive multi-tasking. Mac OS prior to OS X used to support cooperative multitasking.

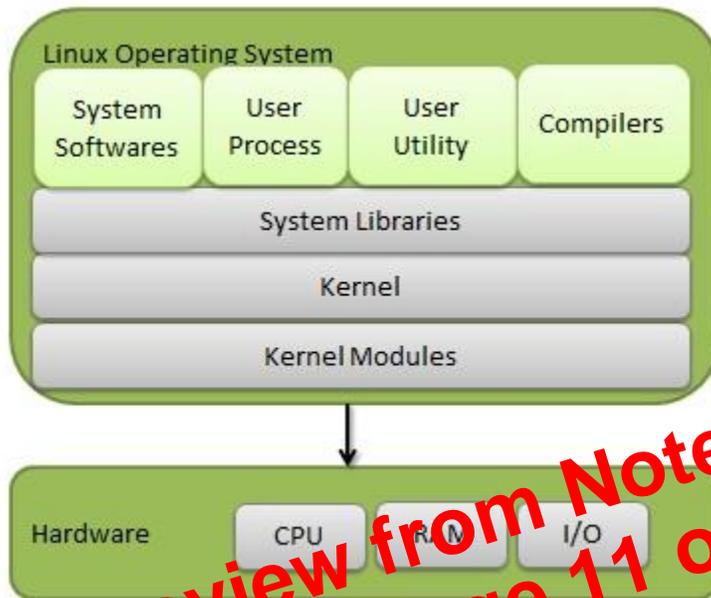
Distributed

Further information: Distributed system

A distributed operating system manages a group of independent computers and makes them appear to be a single computer. The development of networked computers that

underlying hardware. Kernel provides the required abstraction to hide low level hardware details to system or application programs.

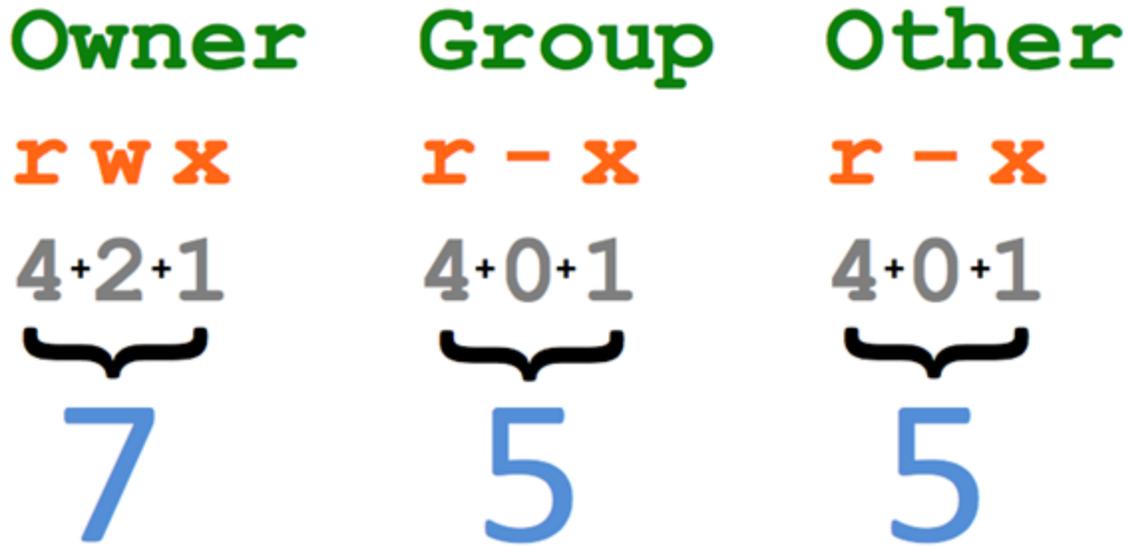
- **System Library** - System libraries are special functions or programs using which application programs or system utilities accesses Kernel's features. These libraries implements most of the functionalities of the operating system and do not requires kernel module's code access rights.
- **System Utility** - System Utility programs are responsible to do specialized, individual level tasks.



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Linux File Structure

In Linux all files organized into directories and directories are connected through the hierarchical order. The Linux file structure branches into several directories beginning with a root (/) directory.



Permissions is granted by using a set of octal number program. Each authorization is associated to a number:

Read(r)	=	4
Write	(w)	=	2
Execute (x)	=	1	

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Each category has its own set of read, write and execute permission for example

- r w x r w x r w x

Owner Group Others

First dash shows file types whereas first set of rwx is for owner, second set of rwx for group and third set of rwx for others.

Command for File Permission

Change Mode Command is used to change the permission.

chmod

Fiber-optic –

A cable, consisting of a center glass core surrounded by layers of plastic, that transmits data using light rather than electricity.

Atmosphere/Wireless

Uses Electromagnetic waves. whose frequency range is above that of microwaves, but below that of the visible spectrum.

Choose Media based on :

- Wiring configurations
- Distance and location limitations
- Speed
- Reliability
- Security
- Budget

Network Devices

Network devices / hardware may also be known as network equipment, computer networking devices. Units which are the last receiver or generate data are called hosts or data terminal equipment.

All these terms refer to devices facilitating the use of a computer network. Specifically, they mediate data in a computer network.

There are number of network devices few of them are as follows:

Routers

A router is a network device that connects together two or more networks.

A common use of a router is to join a home or business network (LAN) to the Internet (WAN).

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Switches

Switches are a special type of hub that offers an additional layer of intelligence to basic, physical-layer repeater hubs. A switch must be able to read the MAC address of each frame it receives. This information allows switches to repeat incoming data frames only to the computer or computers to which a frame is addressed. This speeds up the network and reduces congestion.



Switches operate at both the physical layer and the data link layer of the OSI Model.