## **Device driver**

More commonly known as a driver, a device driver or hardware driver is a group of software files that enable one or more hardware devices to communicate with the computer's operating system. Without drivers, a hardware device such as a computer printer would not be able to work with the computer, which is why every hardware device in and connected to your computer has associated drivers. It is written by programmers who comprehend the detailed knowledge of the device's command language and characteristics and contains the specific machine language necessary to perform the functions requested by the application (The Computer Language Company, 2000). When a new hardware device is added to the computer, such as a CD-ROM drive, a printer, or a sound card, its driver must be installed in order to run it. The operating system "calls" the driver, and the driver "drives" the device.





In Windows, for example, everything that is seen on the screen is the result of the display driver (video driver). The display driver effectuates the visual appearance of the screen according to the precise commands that Windows issues to it.

The basic input/output (I/O) hardware features, such as ports, buses, and device controllers, accommodate a wide variety of I/O devices. To encapsulate the details and unique features of different devices, the kernel of an operating system is set up to use device driver modules (Silberschatz & Galvin, 1999). The device drivers present a uniform device-access interface to the I/O subsystem.

I/O drivers with some operating systems, such as Linux, are at the kernel-level. Kernel-level drivers can be decidedly useful because they offer direct access to hardware such as interrupts, I/O ports, and physical memory. The Linux kernel-driver structure supports functions that let applications read form and write to devices, and perform the other file operations such as open and close.