**FreeBSD Facilities and the Kernel**

FreeBSD Kernel provides four basic facilities:

1. Processes: Composed of an address space with one or more threads of control running within it. The system multiplexes separate virtual-address spaces for each process.
2. Filesystems: The filesystem provides operations to manipulate a set of named files, organized in a tree-structured hierarchy of directories. The filesystem organizes the files and directories on physical media, such as disks.
3. Communications: Provided by the traditional UNIX system, it offers a variety of communication methods like: Inter-process communication, networking, and serial communication. The specific communication method used depends on the application.
4. System startup: Complex series of events that culminate in the loading and execution of the OS Kernel. It can be broadly divided into three stages: Bootstrapping -> Bootloader -> Kernel Initialization

**The Kernel**

The Kernel is part of the system that runs in protected mode and is responsible for managing hardware resources and providing fundamental services to other software components by managing processes and providing functions called system calls to access the filesystem and communication facilities.

Unlike the earliest versions of UNIX, the FreeBSD Kernel *is not* partitioned into multiple processes. The monolithic kernel was chosen for simplicity and performance.

Users mostly interact with the system through a CLI called a Shell, and through additional user application programs. Both are implemented with processes rather than being part of the Kernel.