**Riverside City College**

CIS21 - Introduction to Operating Systems

Chapter 3 Key Definitions

Define the following key terms:

**1. Application Software:**

* A word processor, spreadsheet, database, computer game, or other type of application that a user runs on a computer. Application software consists of computer code that is formatted so that the computer or its operating system can translate that code into a specific task, such as writing a document.

**1.5 Kernel:**

- An essential set of programs and computer code built into a computer operating system to control processor, disk, memory, and other functions central to the basic operation of a computer. The kernel communicates with the BIOS, device drivers, and the API to perform these functions. It also interfaces with the resource managers.

**2. Operating System:**

- Computer software code that interfaces with user application software and the computer’s BIOS to allow the applications to interact with the computer hardware.

**3. Clustering:**

- The ability to share the computing load and resources by linking two or more discrete computer systems (servers) to function as though they are one.

**4. Driver Signing:**

- A digital signature incorporated into a driver and system files on Windows systems as a way to verify the files and to ensure that they are not inappropriately overwritten.

**5. External Commands:**

- Operating system commands that are stored in separate program files on disk. When these commands are required, they must be loaded from disk storage into memory before they are executed.

**6. Kerberos:**

- A security system developed by the Massachusetts Institute of Technology (MIT) to enable two parties on an open network to communicate without interception by an intruder, creating a unique encryption key per communication session.

**7. Backward Compatibility:**

- A significant number of features from an older chip can function on a newer chip.

**8. Internal Clock Speed:**

- The speed at which the CPU executes internal commands, measured in megahertz (millions of clock ticks per second) or gigahertz (billions of clock ticks per second). Internal clock speeds can be as low as 1 MHz and as high as more than 3 GHz.

**9. Interrupt Request (IRQ):**

- A request to the processor so that a currently operating process, such as a read from a disk drive, can be interrupted by another process, such as a write into memory.

**10. Multithreading:**

- Running several program processes or parts (threads) at the same time.