Operating Systems
Spring Semester 2020

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Lab 5

Chapter 2 Terms

Command Interpreter (Shell)- An Element of UI for an Operating System's User base. Command Shells are capable of using commands from an external input device such as a keyboard. These Commands will have specific format for their functionality. A System with multiple command line interpreters are known to call the additional command line interpreters shells.

API- Stand for Application Programming Interface, These are Interfaces between application and other systems that choose to work with them. APIs are written to specify functions and return types that can be used on application systems, Such as the JAVA VM, and Windows API, These functions make system calls on behalf of the application of Choice and these are handled by the application and envoked by users who access these methods from the API's predetermined function calls.

System Call- these calls provide an interface between the user and the underlying system program routines. These calls are made to the System's Routines for completing basic tasks such as reading a file, renaming a file etc. these require operating system specific code, whenever there is a need to change code at the lower level of the operating system there is likely a system routine written in C++, C or even Assembly Language to complete that task.

System Calls can be broken into six categories, Process Control, File Manipulation, Device Manipulation, information maintenance, and communications with protection.

Lock- this is a process to ensure accuracy through concurrent programming, Processes can be locked by an operating system, does this to ensure that the data being passed isn't

leaked into another task and kept only between the multiple tasks that need to access the data

Message Passing- One of two common models for interprocess communication. Messages are exchanged either directly or indirectly through a shared network which have Host names, IP addresses used as network identifiers, and each process shared has a process name, this name is translates with the operating systems getHostID() and getprocessID() system call subroutines. These messages are exchanged between the client known for being the source of the communication, and the receiver known as the server. This is commonly useful for exchanging smaller amounts of data

Shared Memory Model- An Alternative model to the Message Passing Model, The Shared Memory Model, this is the faster alternative because it can be executed at memory transfer speeds, This process requires both program processes to relieve restrictions on their process locking, After the process restrictions are agreed to be removed the processes both write to shared areas of the disk and in memory for sharing the data. The shared memory process is responsible for the programs to not write to the same area of memory.

Kernel- Term used for the Main OS and its two main subcomponents the System programs, and application programs which all encompass the OS.

Core Dump- Common approach to OS Level Debugging, the process of the operating system processing this core dump, which is a capture of the memory of a process, this is used in conjunction with the log files for Running the code through a Debugger which will probe the memory process and might lead to some insight as to what went wrong with the program.

Profiling- The act of peroidically examining the location of the instruction pointer, this is similar to utilizing break points as before the SOLARIS 10 there was no real way to examine Kernel level errors and debug the operating system level code. With Profiling it is possible to examine sections of the code which might be skipped due to restriction on kernel space and user permission