Windows 10

Exercises

21.14 Under what circumstances would one use the deferred procedure calls facility in Windows?

21.15 What is a handle, and how does a process obtain a handle?

21.16 Describe the management scheme of the virtual memory manager. How does the VM manager improve performance?

21.17 Describe a useful application of the no-access page facility provided in Windows.

21.18 Describe the three techniques used for communicating data in a local procedure call. What settings are most conducive to the application of the different message-passing techniques?

21.19 What manages caching in Windows? How is the cache managed?

21.20 How does the NTFS directory structure differ from the directory structure used in UNIX operating systems?

21.21 What is a process, and how is it managed in Windows?

21.22 What is the fiber abstraction provided by Windows? How does it differ from the thread abstraction?

21.23 How does user-mode scheduling (UMS) in Windows 7 differ from fibers? What are some trade-offs between fibers and UMS?

21.24 UMS considers a thread to have two parts, a UT and a KT. How might it be useful to allow UTs to continue executing in parallel with their KTs?

21.25 What is the performance trade-off of allowing KTs and UTs to execute on different processors?

21.26 Why does the self-map occupy large amounts of virtual address space but no additional virtual memory?

21.27 How does the self-map make it easy for the VM manager to move the page-table pages to and from disk? Where are the page-table pages kept on disk?

21.28 When a Windows system hibernates, the system is powered off. Suppose you changed the CPU or the amount of RAM on a hibernating system. Do you think that would work? Why or why not?

21.29 Give an example showing how the use of a suspend count is helpful in suspending and resuming threads in Windows.