

Windows 7



Exercises

- B.1** Under what circumstances would one use the deferred procedure calls facility in Windows?
- B.2** What is a handle, and how does a process obtain a handle?
- B.3** Describe the management scheme of the virtual memory manager. How does the VM manager improve performance?
- B.4** Describe a useful application of the no-access page facility provided in Windows.
- B.5** 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?
- B.6** What manages caching in Windows? How is the cache managed?
- B.7** How does the NTFS directory structure differ from the directory structure used in UNIX operating systems?
- B.8** What is a process, and how is it managed in Windows?
- B.9** What is the fiber abstraction provided by Windows? How does it differ from the thread abstraction?
- B.10** How does user-mode scheduling (UMS) in Windows 7 differ from fibers? What are some trade-offs between fibers and UMS?
- B.11** 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?
- B.12** What is the performance trade-off of allowing KTs and UTs to execute on different processors?
- B.13** Why does the self-map occupy large amounts of virtual address space but no additional virtual memory?

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- B.14** 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?
- B.15** 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?
- B.16** Give an example showing how the use of a suspend count is helpful in suspending and resuming threads in Windows.