Choosing Virtualization Hosts

Having made the decision to virtualize your servers, you're next faced with the task of selecting the host computers on which you'll run your virtual servers. The good news is that you need to purchase fewer servers than if you use physical servers. The not-so-good news is that you need to purchase really good servers to act as hosts, because each host will support multiple virtual servers.

TIP

Here are some tips to get you started:

- **If possible, purchase at least two hosts, and make sure that each host is independently capable of running all your virtual servers.** That way, if one of the hosts goes down, you can temporarily move all your servers to the good host while the bad one is being repaired. When both hosts are up, you can spread the workload across the two hosts for better performance.
- **Add up the amount of memory you intend to allocate for each server to determine the amount of RAM for each host.** Then give yourself plenty of cushion. If your servers will require a total of 50GB of RAM, get 72GB on each host, for a total of 144GB if you have two hosts. That will give you plenty of room to grow.
- **Do a similar calculation for processor cores.** It's easier to oversubscribe processor cores on hosts than it is to oversubscribe memory. Like most computers, servers spend an enormous percentage of their time idling. Virtualization makes very efficient use of processor cores for a large number of servers.
- **Get the best network connections you can afford.** Ideally, each host should have a pair of Small Form-factor Pluggable (SFP) ports that you can run 10Gb fiber over. That way, your hosts can communicate with the core switches at top speed.
- **Provide redundancy in the host's subcomponents.** Most hosts support two processors, two memory banks, two network interfaces, and two power supplies. That provides for a maximum of uptime.

Understanding Windows Server 2019 Licensing

When planning your server architecture, you'll need to account for the fact that you must purchase sufficient licenses of Windows Server to cover all the servers you're running. Before virtualization, this was easy: Each server required its own