

- » Okta can manage password resets for cloud providers. If a provider requires periodic password resets, Okta can do that automatically. Again, the user doesn't need to know the password.

## Looking at Hybrid Cloud Virtualization Platforms

The final topic I want to cover in this chapter is platforms that let you extend your virtualization infrastructure so that it spans both on-premises servers and public cloud servers. This is a relatively new possibility, but it represents the future of IT infrastructure.

Nearly all companies that have virtualized their servers do so with one of two products: VMware's vSphere or Microsoft's Hyper-V. (You can learn more about Hyper-V in Chapter 10.) Both vSphere and Hyper-V do essentially the same thing: A hypervisor is installed on one or more server computers, enabling you to create multiple virtual machines that run on the host servers. Both platforms provide similar capabilities:

- » Multiple host servers can be combined to create a single cluster, which can be managed as a cohesive unit.
- » Individual virtual machines can be easily moved from one host to another host in the same cluster.
- » The virtualization platform can manage storage pools that are connected to the host servers (storage area network, or SAN) or to the network (network attached storage, or NAS). Individual virtual machines are allocated storage from these storage pools.
- » The virtualization platform can also manage virtual networks that facilitate communications among the virtual machines, the host servers, and the outside world.

Traditionally, all the hardware utilized to run the virtualization platform is located within your data center. Or, if your organization is large, the hardware may be spread over several data centers connected to one another via dedicated network circuits.