

The other engine is the cloud. Chapter 25 explains how the cloud has revolutionized the world of IT by moving critical workloads away from on-premises computers, eliminating the need for large investments in hardware and staff to support those applications.

However, a key problem with the cloud engine is that it works very differently from the traditional IT engine. Instead of physical computer equipment that you have sole control over, your cloud engine consists of a multitude of cloud providers whose services you subscribe to. You don't have direct control of any of the details you're used to managing.

For example, cloud providers take care of traditional IT details, such as purchasing and maintaining hardware, keeping systems patched and tuned, backing up data, and so on. You don't have to worry about what brand of servers they use, what operating systems they install, what virtualization platform they rely on, or what backup technology they trust. The cloud provider takes care of all that for you.

All you have to do is tailor the cloud services to your needs. You typically do so by using web-based management consoles to set up user accounts, configure services, and so on. Unfortunately, no two cloud providers use the same management consoles. Each has a completely different interface and requires a different set of skills to manage.

Imagine if your hybrid automobile had both a gas and an electric engine, but you had to have a different driver's license to operate each engine. Or if the two engines had separate operating controls — different accelerator pedals, steering wheels, and brake pedals depending on which engine was on. Or if you had to take the vehicle to different mechanics depending on which engine was making a funny noise. Or if the rules of the road were different depending on which engine was in use — the speed limit was 45 miles per hour with the electric engine but 60 miles per hour with the gas engine, or you drove on the right side of the street with the gas engine but drove on the left side with the electric.

That's exactly the situation most organizations put up with for their IT engines. And that's precisely the problem hybrid cloud intends to solve. Hybrid cloud seeks to unify the on-premises IT engine with the cloud engine so that they drive the same.

Figure 26-1 shows what I'm talking about. Here, you can see that all three types of cloud services described in Chapter 25 — applications (Software as a Service, or SaaS), infrastructure (Infrastructure as a Service, or IaaS), and platform (Platform as a Service, or PaaS) — are integrated with the on-premises IT infrastructure to create a cohesive ecosystem called the hybrid cloud.