Infrastructure

If you don't want to delegate the responsibility of maintaining operating systems and other elements of the platform, you can use *Infrastructure as a Service* (IaaS). When you use IaaS, you're purchasing raw computing power that's accessible via the cloud. Typically, IaaS provides you access to a remote virtual machine. It's up to you to manage and configure the remote machine however you want.

Public Clouds versus Private Clouds

The most common form of cloud computing uses what is known as a *public cloud* — that is, cloud services that are available to anyone in the world via the Internet. Google Apps is an excellent example of a public cloud service. Anyone with access to the Internet can access the public cloud services of Google Apps: Just point your browser to `http://gsuite.google.com`.

A public cloud is like a public utility, in that anyone can subscribe to it on a pay-as-you-go basis. One of the drawbacks of public cloud services is that they're inherently insecure. When you use a public cloud service, you're entrusting your valuable data to a third party that you cannot control. Sure, you can protect your access to your public cloud services by using strong passwords, but if your account names and passwords are compromised, your public cloud services can be hacked into, and your data can be stolen. Every so often, we all hear news stories about how this company's or that company's back-door security has been compromised.

Besides security, another drawback of public cloud computing is that it's dependent on high-speed, reliable Internet connections. Your cloud service provider may have all the redundancy in the world, but if your connection to the Internet goes down, you won't be able to access your cloud services. And if your connection is slow, your cloud services will be slow.

A *private cloud* mimics many of the features of cloud computing but is implemented on a private hardware within a local network, so it isn't accessible to the general public. Private clouds are inherently more secure because the general public can't access them. Also, they're dependent only on private network connections, so they aren't subject to the limits of a public Internet connection.


TIP

As a rule, private clouds are implemented by large organizations that have the resources available to create and maintain their own cloud servers.

A relative newcomer to the cloud computing scene is the *hybrid cloud*, which combines the features of public and private clouds. Typically, a hybrid cloud system