Cisco InterCloud

Expand Your Data Center the Easy Way

There are probably times when you wish you could stretch your data center. You need more from it than it has the capacity to provide. Perhaps it is the end of a quarter, and summing-up and reporting applications are using all its computing power, so you have to sideline less crucial ones. Or you're gearing up for holiday shopping, and you need enough capacity to process many more sales than usual. You may want an extension in which to test new applications or to provide backup in case of disaster. Perhaps you just want more capacity in general without having to build out your data center.

With Cisco® InterCloud Business Edition, you can extend your data center or private cloud to the public cloud. You can extend both, encapsulated with your security, QoS, and other policy provisions along with your applications and data, into public clouds hosted by cloud service providers. You can acquire the added capacity you need, with no demarcation between your internal cloud and the external one. You can also blend your private cloud with clouds run by more than one service provider. You get the capacity you need, and peace of mind, too.

The Trend to Hybrid Clouds

A number of trends are inclining companies to use hybrid clouds:

- They need the flexibility of more capacity on demand without building to peak capacity in their data centers.
- They want added capacity to be available temporarily and to be able to use more or less capacity as needed.
- They need extra capacity to enable their data center and their internal cloud to behave identically.
- They are tasked with controlling costs and helping ensure security. Public clouds can cost less than building out a company's own data center, and a public cloud should absorb a company's need for elasticity and offer pay-as-you-grow expansion. In addition, a hybrid cloud should provide the same security and privacy as a company's on-premises data center.
- They need to be more agile

What Do You Need?

Capability to Extend Your Company's Own Capabilities

Data centers are costly to build and operate, so you want to put off any expansion if you can. But there are times when you need more resources. Cisco InterCloud Business Edition lets you create a hybrid cloud to extend your own data center and cloud capacity when you need it. You provision the extension with your own applications, so you can increase the number of employees who can use them at any given time. You can store more data and you have more computing power, all of it operating just as if it were in your on-premises data center. You extend your own security and QoS, access control lists, and other policies. The public cloud piece is essentially part of your own cloud.

Capability for Your Own IT Staff to Control and Maintain Any Additional Capacity

You may be reluctant to place your company's data and applications in a public cloud, stored away from your own premises. That's understandable. The data and applications are among your company's biggest assets. You want to make very sure that nobody else can get at them. And you want security and access to be just as strict as on company premises. Moreover, you want your workers to have the same QoS when they use applications and tools kept in the cloud as on your premises.

The Cisco InterCloud solution encapsulates your enterprise applications and places them within a public cloud. You have the same security, you enforce the same policies, and you troubleshoot your own problems. Although you're just renting the capacity, for all intents and purposes you own it. You manage it and you control it. And you determine when the added capacity is called into use.

A Choice of Cloud Providers

Perhaps some of the applications you use run on an operating system tied to a particular cloud provider, or some providers are specific to given industries. Or you need to comply with various regulations to keep the processing of some data within a specific country, so you need a provider in that country. Perhaps you just find a given provider easy to work with. Or different applications may have different SLA requirements.

With Cisco InterCloud Business Edition, you can link to any cloud provider you want. And you can link to more than one. Each instance of your data center in a cloud has the same attributes as the first one: the same security, the same control, and whatever applications and access you want to place in it. You can even move applications between your private environment and your extensions in the public cloud.

One Fabric, One Management, One View

Cisco InterCloud gives you choices. You choose how much added capacity you need and when you need it, you choose one or a group of providers, and you choose the rules that govern access and use of the extension of your data center. You also choose when you use your capacity, so you can provide for peak times.
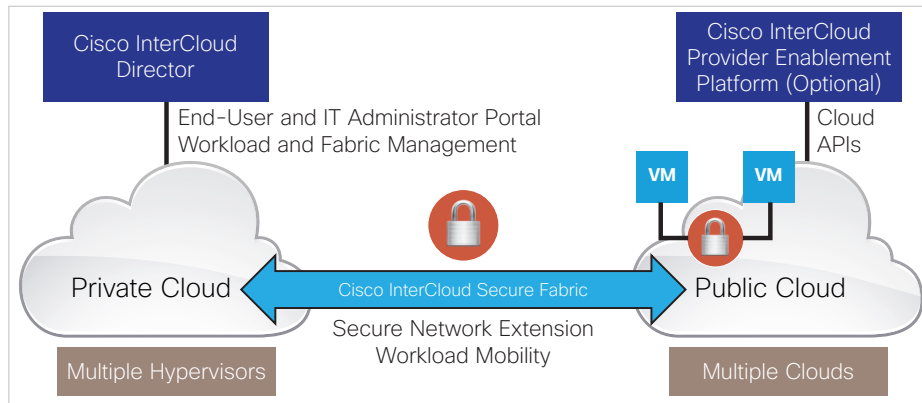
Cisco InterCloud also gives you a unified system. The solution gives you just one data center fabric. An application can't tell where the on-premises system ends and the cloud system begins, but you have all the visibility needed for managing the application and hybrid infrastructure.

Components and Features

Figure 1 shows the Cisco InterCloud architecture. Table 1 describes its main services.

Figure 1. Cisco InterCloud Architecture

Service Name	Description
Cisco InterCloud Business Edition	Cisco InterCloud Business Edition consists of Cisco InterCloud Secure Fabric and Cisco InterCloud Director. The solution is supported by Cisco Virtual Security Gateway (VSG) and Cisco Cloud Services Router (CSR) solutions.
	Cisco InterCloud Secure Fabric is already integrated with links to several commercial public cloud providers. Cisco is offering the Cisco InterCloud Provider Enablement Platform so that additional service providers can quickly integrate their environments with the Cisco solution to create a hybrid cloud offering.
Cisco InterCloud base stack and management system	Cisco InterCloud has an end-user and IT portal, Cisco InterCloud Director, and provides a portal for administration and management of the public cloud extension. This single console manages a company's private and hybrid clouds, and it is used for managing cloud network services and cloud virtual machine life cycles.
	Cisco InterCloud provides open APIs, which allow integration of third-party management tools. Additional management systems can provide advanced application deployment, monitoring, and assurance, as well as enforcement of business policies and regulatory compliance.

Proof Points

Use Cases	Description
Cisco InterCloud use cases include the following: • Capacity augmentation: As discussed earlier, you may need more capacity during peak shopping seasons, and you may need more computing power to generate quarterly reports. You also may need more capacity when your contact center is handling a peak numbers of calls and needs more support from your data center, or when you're opening a new facility that strains your existing data center. The crucial point is that the capacity you add will be indistinguishable from what your own data center already provides. In this hybrid cloud, the public and private systems merge transparently, both in what your employees can do using it, and in your management of it.	
• Development and testing: Your encapsulated data center in a public cloud is an excellent place to test and develop new software. The development and testing don't use data center resources that your company needs for day-to-day operations, and when you've proven the new software, it is ready to move into your regular operations because the environment in which you've tested it is the same as the one it will be running in.	
• Disaster recovery: When you have a transparent extension of your on-premises data center located elsewhere, if a disaster occurs, you have a copy of the applications you stored there, as well as your basic data center configuration. You can regenerate your policies and rules, recover much of your data, and continue to work even if your primary data center is down for some time	

Why Cisco?

Cisco has decades of experience in networking, network fabrics, and data centers. And now it is using that experience to help you create your own on-premises-to-off-premises network: a transparent extension of your on-premises activities into a public cloud. If your enterprise network is built on Cisco infrastructure, you will find making this extension particularly easy. Cisco provides operation consistency across physical and virtual cloud deployments, enhanced workload protection, and application awareness drawing on Cisco's application-centric infrastructure.

For More Information

For more information, visit http://www.cisco.com/en/US/products/ps13672/index.html.