BUILDING A HYBRID CLOUD

Data Center Architect summit I attended cloud computing was a key focus. Of the concepts that were discussed one that was a recurring theme was Hybrid Clouds. Conceptually a Hybird-Cloud is a mix of any two cloud types, typically thought of as a mix of a Private Cloud and Public Cloud services. There are several great use cases for this type of architecture, the two that resonate most with me are:

Cloud Bursting:

Not to be confused with the psychokinesis exercise from "*The Men Who Stare At Goats.*" Cloud Bursting is the ability to utilize public cloud resources for application burst requirements during peak periods. This allows a company to maintain performance during expected or unexpected peak periods without maintaining additional hardware. Simply said ***on-demand capacity***. This allows companies with varying workloads to maintain core processing in house and burst into the cloud for peaks.

Disaster Recovery / Business Continuity:

Business continuity is a concern for customers of all shapes and sizes but can be extremely costly to implement well. For the companies that don't have the budget of a major oil company, bank, etc. maintaining a DR site is typically out of the question. Lower cost solutions/alternatives exist but the further down the spectrum

you move the less data/capability you'll recover and the longer it will take to do that. In steps cloud based DR/Business continuity services. Rather than maintaining your own DR capabilities you contract the failover out to a company that maintains multi-tenant infrastructure for that purpose and specializes in getting your business back online quickly.

Overall I'm an advocate for properly designed hybrid clouds as they provide the ability to utilize cloud resources while still maintaining control of the services/data you don't want in the cloud. Even more appealing from my perspective is the ability to use private and hybrid-clouds as a migration strategy for a shift to fully public cloud based IT infrastructure. If you begin building your applications for in-house cloud infrastructures you'll be able to migrate them more easily to public clouds. There are also tools available to use your private cloud exactly as some major public cloud providers do to make that transition even easier.

We also thoroughly covered barriers to adoption for hybrid cloud architectures. Most of the considerations were the usual concerns:

- Compliance

- Security

- Performance

- Standardization

- Service Level Agreements (SLA)

There were two others discussed that I see as the key challenges: Organizational and cloud lock-in.

Organizational:

In my opinion organizational challenges are typically the most difficult to overcome when adopting new technology. If the organization is on board and properly aligned to the shift they will find solutions for the technical challenges. Cloud architectures of all types require a change in organizational structure. Companies that attempt to move to cloud architecture without first considering the organizational structure will at best have a painful transition and at worst fail and pull back to silo data centers. I have a post covering some of the organizational challenges in more detail (http://www.definethecloud.net/?p=122.)

Cloud Lock-In:

Even more interesting was the concept of not just moving applications and services into the cloud, but also being able to move out. This is a very interesting concern because it means that cloud computing has progressed in the acceptance stages. Customers and architects have moved past whether migration to cloud will happen and how applications will be migrated onto how do I get them back if I want them?

There are several times when this may become important:

- Service does not perform as expected

- Cloud provider runs into business problems (potential for bankruptcy, etc.)

- Your application outgrows what your provider can deliver

- Compliance or regulations change

- etc.

In order for the end-user of cloud services to be comfortable migrating applications into the cloud they need to be confident that they can get them back if/when they want them. Cloud service providers who make their services portable to other vendor offerings will gain customers more quickly and most likely maintain them longer.

Source: http://www.definethecloud.net/building-a-hybrid-cloud/