NetScaler Cloud Bridge

Any-to-Any Access Across Public and Private Clouds
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EXECUTIVE SUMMARY

The industry is clearly moving from the “PC era” to the “cloud era.” Enterprise organizations are assessing the needs of their users and applications with an eye to the cloud. While many applications will remain within corporate datacenters, there are others whose dynamic compute requirements make them good candidates for the cloud. For these, the challenge is to take advantage of the compute elasticity and economics of cloud computing without sacrificing the security the information assets – databases, directories, repositories – gain from being located on-premise within the business’s own datacenters. To address these needs, a hybrid strategy must be implemented that addresses several challenges:

• **Insecure and complex connectivity** – Incompatible network policies, unaligned IP address ranges, unencrypted public networks, and other network management issues must be overcome to allow applications to span on-premise and cloud environments.

• **Application complexity** – Enterprise applications commonly depend on shared services, including directories and databases, which reside in the on-premise datacenter. These applications must be made to work in the cloud without migrating or duplicating the shared services.

• **IT silos** – While the on-premise datacenter and the cloud represent distinct infrastructure environments, care must be taken not to create duplicate tools, processes or teams.

To address these challenges, enterprise organizations need to bridge their datacenters transparently to the cloud. Citrix® NetScaler® Cloud Bridge™ does this by serving as the “back door” of the corporate datacenter, providing access to the infinite capacity of the cloud. By aggregating the addressability and manageability of the on-premise and cloud provider networks into a Service Delivery Network (SDN) fabric, Cloud Bridge makes cloud-hosted applications appear to administrators, tools and even the applications themselves as though they are running on the enterprise network. Cloud Bridge benefits enterprises by enabling them to:

• Use the cloud to cut their costs and meet business requirements more quickly by tapping the infinite capacity and elastic efficiency of the cloud elastic and cost effective cloud capacity for web and app servers

• Use the cloud, but still keep data and other sensitive resources safely within the enterprise datacenter

• Use the cloud, without having change applications to interact with a different network, or alter end-user behavior as application capacity is moved to the cloud

NetScaler Cloud Bridge provides the foundation for making the cloud a seamless extension of the enterprise data center.
THE CHALLENGES FOR HYBRID CLOUDS

Private and public clouds can, and often should, coexist. Enterprise organizations do not want to abandon their datacenters and move everything to a public cloud. The majority of their IT infrastructure still remains behind the corporate firewall. At the same time, many enterprise organizations don’t want to miss out on the unique benefits offered by public clouds. Private clouds offer control, but cannot offer enterprises the pay-as-you-go cost model under which public clouds can provide large amounts of temporary capacity. The result is typically a hybrid cloud strategy.

Whether enterprise IT selects a public, private or hybrid cloud model, there is a key element that is common across all scenarios: the enterprise datacenter. There are some challenges involved in integrating the datacenter with a cloud strategy:

- **Data security and compliance**: the connection of the datacenter to the cloud could expose sensitive corporate data to the open Internet
- **User transparency**: moving or bursting compute into the cloud can be confusing and can interrupt work if users need to be aware of the location
- **Seamless network connectivity**: applications must be able to keep running no matter how the actual topology of the networks changes

NETSCALER CLOUD BRIDGE MEETS THE CHALLENGES

NetScaler Cloud Bridge satisfies the enterprise’s need to combine datacenter security with cloud elasticity and economics by making cloud-hosted applications appear as though they are running on one contiguous enterprise network. With Cloud Bridge in place, administrators, users, tools and the application itself believe that the application resides on the enterprise network.
To address the issues discussed earlier, NetScaler Cloud Bridge provides transparent network and user connectivity between the enterprise datacenter and the cloud-based datacenter:

- **Seamless Network**: L2 network bridging makes the cloud network a natural extension of the enterprise’s L2 network, making it easy to shift resources to the cloud w/out having to re-architect the application.
- **Secured Tunnel**: IPSec security ensures that data remains secure as it traverses the network links between the enterprise and the cloud.
- **Optimized Access**: TCP optimizations, compression and data de-duplication minimize WAN-caused performance degradation between enterprise datacenters and the cloud.
- **User Transparency**: Global server load balancing gives end-users get a single, consistent path to their applications regardless of which enterprise or cloud datacenter happens to be hosting the application at any given time.
The diagrams show the on-premise and cloud environments before and after NetScaler Cloud Bridge is activated.
NETSCALER CLOUD BRIDGE BENEFITS

Cloud computing is not about technology; it is about making IT more efficient and effective, and, therefore, enabling the business organization to better achieve its objectives. NetScaler Cloud Bridge offers the following benefits to enterprise IT so that it may better serve the business.

**Use the Cloud, but keep data safe** – It provides built-in security for data in motion between the enterprise datacenter and the cloud. It also prevents unapproved traffic from flowing in either direction. Further, since cloud-hosted applications can access enterprise resources such as storage devices and databases, confidential data can be kept on-premise.

**Dramatically reduce the cost and complexity of moving applications to the cloud** – Applications no longer have to be re-architected or carved out from the existing datacenter environment. They can continue using common application services hosted in the enterprise datacenter, and they do not require major reconfiguration or rewiring of the enterprise network.

**Efficiently and consistently use the same tools, processes and staff** – By making cloud-hosted applications appear as though they are on the enterprise network, the same tools can be used to manage them. By maintaining the ability to use centralized management, the same processes and staff can also be retained. This also reduces investment in cloud-specific APIs and portals and avoids the creation of cloud silos.

**Accelerate adoption of cloud computing** – IT organizations can go beyond self-contained, single server applications and beyond relatively straightforward cloud-based test and development environments. With NetScaler Cloud Bridge, complex, multi-tier, production applications can reside in the cloud, the enterprise datacenter or span both environments.

CONCLUSION

Enterprise IT organizations seeking the benefits of cloud computing have several cloud deployment models to choose from, including public, private and hybrid clouds. They are also expected to face changing cloud requirements on the path to cloud computing. These requirements will range from the overall mix of traditional versus cloud resources to the number and type of clouds they use, and more.

The requirement for success is to ensure that your organization can adapt to and capture value from any situation it may encounter. What enterprise organizations need is a cloud-extended datacenter enabled by a transparent bridge to the cloud through NetScaler Cloud Bridge.
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