

YOUR CLOUD STRATEGY DEMANDS A  
STRONG NETWORK STRATEGY

F R O S T  S U L L I V A N

An Executive Brief Sponsored by GTT

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## INTRODUCTION

Cloud computing has completely redefined the IT buying process for enterprise IT managers. With Infrastructure as a Service (IaaS) offerings, enterprises can procure compute and storage resources in a pay-as-you-go model. Similarly, enterprises can deploy applications and services faster by purchasing pre-configured platforms that run on third-party Platform-as-a-Service (PaaS) offerings. However, the simplest and the quickest option for deploying cloud-based services is through the Software as a Service (SaaS) model, in which enterprises can purchase the entire application or service, on-demand.

Cloud computing enables enterprises to reduce IT costs, and it simplifies the IT buying process. It also provides IT managers with immense flexibility. Hence, applications such as test and development, Web hosting, and email have seen little resistance to being hosted in cloud. However, it has taken longer to migrate mission-critical applications—such as enterprise resource planning (ERP) and proprietary enterprise applications residing in enterprise on-prem data centers—due to concerns over data security, regulatory compliance and application performance. Enterprises continue to use a mix of on-prem data centers, colocation, managed hosting, public cloud and hosted private cloud services—a hybrid IT environment—to fulfill their IT needs.

As cloud has become an integral part of the IT infrastructure, there is an increasing focus on the network that connect the various components (on-prem cloud, private data centers, public cloud, colocation facilities, managed hosting) of enterprises' hybrid IT deployment model. Private networks play an important role in the hybrid deployment model, as they ensure application performance and security while distributing workloads between public and private clouds. Hence, it is imperative that enterprises consider cloud services that come backed by the security and performance guarantee of service level agreements of a private network—or a network-enabled cloud. This paper details the market trends driving enterprise need for a network-enabled cloud; and how GTT can help enterprises network-enable their cloud with its global private networking capabilities.

## WHAT IS A NETWORK-ENABLED CLOUD?

A network-enabled cloud is a cloud service that also incorporates the security and reliability of a private network (such as a MPLS IP-VPN or Ethernet). In a network-enabled cloud environment, the cloud resources are tightly integrated with private networks that have guaranteed application performance to eliminate the security risks of sending sensitive, proprietary or mission-critical information over the public Internet.

Key features of a network-enabled cloud are as follows:

- The hosted cloud data center becomes another endpoint on the enterprise wide-area-network (WAN), thus enabling cloud services to seamlessly fit into existing enterprise network architecture.
- The cloud acts as an extension of the enterprise WAN, thus providing enterprises the flexibility to connect their remote employees and partners to cloud-based applications in a secure manner.
- The network-enabled cloud facilitates secure cloud connectivity to enterprises that want to take advantage of the flexible, multi-tenant, usage-based billing model of cloud, but are concerned about security.
- Guarantees application performance backed by the carrier's Service Level Agreements (SLAs).

A network-enabled cloud extends the flexibility of the cloud model to network services. For example, the on-demand (or dynamic) bandwidth allocation feature of the MPLS IP-VPN allows network resources to scale as demanded by the cloud services. Increasingly, service providers are beginning to extend the dynamic bandwidth allocation capabilities to their Ethernet services in order to offer on-demand network services that support the on-demand nature of cloud computing.

## WHY SHOULD ENTERPRISES EVALUATE A NETWORK-ENABLED CLOUD

Enterprises should evaluate a network-enabled cloud to achieve the following objectives.

### **Facilitate Globalization Initiatives**

As businesses expand their global footprint and become more “decentralized,” they are faced with the challenge of providing remote employees, partners, and even customers with anytime, anywhere access to their corporate IT resources. A single data center cannot support these global requirements due to decentralization of operations; and, in many cases, regulatory and compliance requirements mean that businesses have to invest in local data centers. All these challenges can be addressed via a hybrid IT strategy (consisting of traditional data center services and cloud) that makes it easy for enterprise IT to quickly and cost-effectively expand the local IT infrastructure to support the global workforce requirements. In the 2014 Frost & Sullivan Cloud Survey, 61% of the respondents indicated that they are currently using a hybrid cloud that links hosted cloud services with traditional hosted services.<sup>1</sup> Enterprises need networks that allow them to seamlessly share application workloads across hybrid IT environments—on-premises data center, offsite colocation, public cloud and hosted private cloud. For example, a retailer experiencing spikes in demand from customers for online sales can quickly deploy cloud-based infrastructure to handle the need for additional IT computing resources. A private network between on-premise data center and public cloud ensures that the company can continue to keep customer transactional data on its on-premise servers, and move Web-facing components to cloud.

### **Accommodate Cloud Computing Growth**

In the 2014 Frost & Sullivan Cloud Survey, 50% of the respondents indicated they are using cloud services. The global Infrastructure as a Service (IaaS) market generated USD \$7 billion in revenues in 2013, which speaks to the acceptance of the hosted, on-demand model for creating and delivering IT resources.<sup>2</sup> Frost & Sullivan predicts that IaaS revenues will surpass traditional data center services revenues in 2015, thus achieving yet another milestone. As enterprises increasingly make cloud an integral part of their IT infrastructure, it is highly critical that they place more emphasis on the networks that connect the various components (on-prem cloud, private data centers, public cloud, co-location facilities, managed hosting) of their heterogeneous IT deployment model.

### **Address Security and Reliability Concerns of the Cloud**

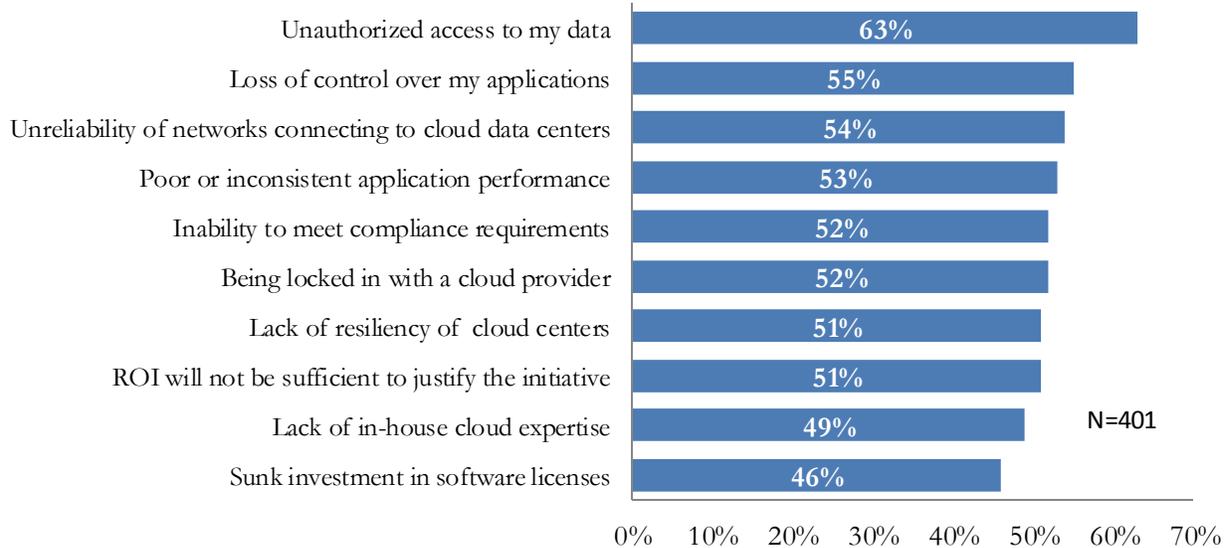
Businesses have consistently identified the perceived lack of security, reliability, and application performance as the three key inhibitors in adoption of a shared hosted cloud model. Exhibit I, below, shows IT decision makers’ perceptions regarding inhibitors to cloud adoption from our 2014 Cloud Survey. The responses indicate that providers’ security assurances have not allayed end-user concerns, thus inhibiting cloud adoption for mission-critical workloads.

<sup>1</sup> The web-based survey respondents consisted of IT decision-makers from 401 enterprises.

<sup>2</sup> See Frost & Sullivan reports CC 3-2, *2013 Cloud Infrastructure as a Service Market: Steady Growth Across All Segments*, May 2013; M99F-63, *Analysis of the European Infrastructure-as-a-Service Market*, September 2013; and P663-63, *Asia-Pacific Infrastructure as a Service Market*, October 2012.

**Exhibit I: Perceptions Regarding Inhibitors to Cloud Adoption**

Please rate the following business restraints according to how important they are to your decision **NOT** to implement cloud solutions



Source: Frost & Sullivan

Cloud providers are addressing security and reliability concerns by enhancing services with core and optional security elements, and taking greater liability for data protection through contracts and service level agreements. Cloud providers are also increasingly partnering with network service providers to ensure end-to-end security and application performance. For example, a network-enabled cloud (which is inherently a cloud enabled with a private network such as MPLS or Ethernet) can help enterprises take advantage of the security features already embedded in their WANs, thus minimizing the risks of distributed denial of service (DDoS), data breach, data loss or other threats present in the public Internet. Therefore, enterprises stand to benefit by either choosing a strong network partner for cloud connectivity, or working with a cloud provider that already has existing partnerships with network service providers.

**Plan for IT as a Service Model**

In the 2014 Frost & Sullivan Cloud survey, 27% of the respondents indicated “high maintenance costs,” while 26% indicated “capital budget constraints” as the key challenges in managing the data center infrastructure. These challenges are forcing businesses to shift to a more cost-effective and agile “IT-as-a-Service” model, which delivers an enterprise’s compute, storage, networking, security and availability “as a service,” and can run on nearly any infrastructure or service environment of the enterprise’s choosing. A hybrid cloud can easily facilitate the IT-as-a-Service model, since it allows the IT teams to select the appropriate environment for each line of business request—including private data center (on-prem cloud, offsite colocation or managed hosting facility), hosted private cloud, and public cloud.

## HOW GTT CAN HELP

GTT is a leading cloud networking provider to multinational clients around the world. The company's EtherCloud® Layer 2 and Layer 3 private-network solutions deliver high performance, secure connectivity to locations across the world.

As CIOs and CTOs increasingly look to deploy a hybrid cloud solution—one that encompasses cloud and private networks—GTT's expansive network and range of connectivity options give companies the ability to design a private network solution that meets their business requirements.

GTT's enterprise private connectivity features include:

- **Burstable scalability** across GTT's global network footprint
- **Rapid provisioning** of new connections—in hours and days, rather than weeks and months; and fast turn-up of new services
- **Expansive Global coverage** – 99.999% reliability spanning more than 100 countries and 300 markets<sup>3</sup>
- **Reliable, secure** transport of data between all enterprise locations and any cloud application
- **Stringent SLAs guaranteeing end-to-end performance** of both the network and the application
- **Managed services** – complete turnkey solutions of network management from premises through core

GTT operates a global tier 1 IP network with over 200 Points-of-Presence (PoPs) in the top major metropolitan centers of the world. GTT is located in data centers where leading cloud providers, such as IBM Cloud, Microsoft Azure, and Amazon Web Services, host their applications. The company's EtherCloud solution allows enterprises to connect to multiple cloud service providers over a single network infrastructure, thereby enabling flexible traffic movement among clouds as enterprise needs and preferences change. The combination of high-performance network-enabled cloud connectivity and close proximity to the leading cloud service providers enables GTT to provide enterprises with the scalability and flexibility needed to adapt to a rapidly changing IT environment.

GTT's global reach, guaranteed performance, and secure and reliable network make it a preferred partner for enterprises who need to compete effectively in today's global economy.

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<sup>3</sup> <http://www.gtt.net/our-network/>

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