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Connecting and Protecting  
the Networked World<sup>SM</sup>

# Efficient Cloud Connectivity Ensures Optimal Cloud Computing



## In This Paper

- Many enterprises are now migrating their internal data center infrastructure and business applications to the cloud
- Private network services are physically separate from the public Internet and they provide guaranteed throughput, availability, and latency
- Level 3<sup>®</sup> Cloud Connect Solutions makes it simple and easy to establish private connections to the cloud

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# Datamation<sup>®</sup> Executive Brief

## Introduction

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For several years now, retail, media/entertainment, financial services, and other consumer businesses have been delivering valuable services using the cloud. From websites to mobile apps, these companies have been using the public Internet and cloud-based services like Web hosting and content delivery networks (CDNs) to deliver both the front-end customer experience and the back-end processing and functions to scale more quickly, improve performance, eliminate capital expenditures, and reduce operating costs.

Having seen the value created with public-facing apps, many enterprises are now migrating their internal data center infrastructure and business applications — development and test, business continuity/disaster recovery, database, storage, and archival — to private and public clouds and a range of service providers like Equinix, Digital Realty, VMware, Microsoft Azure, and Amazon Web Services (AWS).

## What's the Network Got to Do with It?

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As organizations move these important IT functions from their on-premise data centers into external data centers or cloud services, they will need new network strategies to keep their business users connected



to their newly migrated applications. The public Internet is a convenient and effective way to move consumer applications into the cloud, but business applications require business-class private network services.

Here are some questions to ask about how your organization utilizes its IT resources:

- What kind of applications are you moving to the cloud? Are they mission-critical and do they handle sensitive information?
- Are you moving large volumes of information in and out of the cloud?
- Does your business rely on data processed or stored in the cloud to inform R&D, production, distribution or sales activities?

- Is there any variability in your workloads? Time of day, week, month or year?
- Were most of your business applications designed to operate in on-premises data centers where near instantaneous I/O is the norm?

## Private Network Services

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Private network services are physically separate from the public Internet and they provide guaranteed throughput, availability, and latency. But how does this improve efficiency for your business and IT department?

**Streamline Security:** Securing your business network, applications, and data is hard work. With private network services, you can keep the most sensitive applications and data

cordoned off from the outside world. You can provide your application developers with a controlled environment to create and test new applications in the cloud without exposing your internal network and assets. And when you finally deploy your applications in the cloud, you can use private network services for your most important info and apps, limiting public ports and minimizing your security overhead.

#### **Get What You Pay For, Maintain**

**Productivity:** Data replication for continuity/disaster recovery and Big Data analytics and storage are common cloud use cases.

Because private network services offer guaranteed throughput and deterministic performance, you get the bandwidth you need to move large workloads in and out of the cloud with the latency required by the applications and end users. By comparison, the public Internet moves information on a best-efforts basis, so during times of heavy congestion, packets can be dropped, data may need to be re-transmitted and applications may time-out causing an inefficient and potentially costly use of bandwidth

and lost productivity.

#### **Minimize Unit Cost, Scale**

##### **Dynamically, Pay Just for What**

**You Use:** There comes a point when moving large amounts of information into and out of the cloud that a private network service is more cost effective than the public Internet. And with virtual private network (VPN) services, you can scale up and down dynamically and pay for only what you use, which is perfect for unpredictable or inherently variable workloads.

All this amounts to **efficiency**. But it turns out, there's even more.

#### **Level 3 as Your Technology Provider**

Level 3 Cloud Connect Solutions makes it simple and easy to establish private connections to private and public cloud services. With pre-established connectivity to leading cloud service and data centers around the world, Level 3 makes it easy to attach a new cloud service to an enterprise's WAN. Level 3 offers both dedicated and VPN services to enable a range of solutions that fit

into your desired network architecture — from aggregating cloud traffic and controlling routing over a few high-bandwidth connections to deploying several right-sized connections between multiple, regionally distributed offices and cloud distribution points.

Level 3's network is global, so regardless of where your offices are, chances are Level 3 can offer local connectivity to local cloud resources so you don't need to navigate multiple service providers across time-zones and languages.

As enterprises continue to migrate and operate their business applications in the cloud, create more and more data, and demand greater analytical, processing, and storage capabilities, Level 3 is ready to assist with the network connections that help make it all possible. Cloud adoption and growth is occurring at blinding speed. There is a lot to know, a lot to think about, and IT departments should not be alone. Level 3 is here to understand your business's needs and objectives and build the network solutions that make them all possible.

*“Data replication for business continuity/disaster recovery and Big Data analytics and storage are common cloud use cases.”*

**With Level 3's Cloud Connect Solutions, benefits include:**

- **Improved Performance:** Deliver cloud-based, mission-critical applications quickly and without interruption with Level 3's highly redundant fiber network, low latency offers and virtual network class of service guarantees.
- **Greater Security:** Customers can entrust proprietary information to the cloud with Level 3's private network and comprehensive portfolio of security services
- **Ultimate Flexibility:** Customers choose connectivity solutions that meet specific requirements and tap

into bandwidth dynamically, so they pay only for what they consume.

- **Global Connectivity:** Offices around the world can connect to the local cloud and data center resources needed to run mission critical applications.
- **Reduced Costs:** Turn up new connections and scale bandwidth quickly and efficiently. Minimize upfront capital expenditures and lower your cost per unit by utilizing shared infrastructure

for nearly 20 years. It offers a comprehensive portfolio of cloud, data center, network, security, video, voice, unified communication, and collaboration solutions. Level 3 has operations in North America, Latin America, Europe and Asia Pacific. Our team of Solution Architects is ready to assist in designing a solution to meet your business's unique needs.

To learn more about how Level 3 helps companies efficiently connect to cloud resources, please visit [www.level3.com/](http://www.level3.com/).

### About Level 3

Level 3 has been innovating network and communication services

