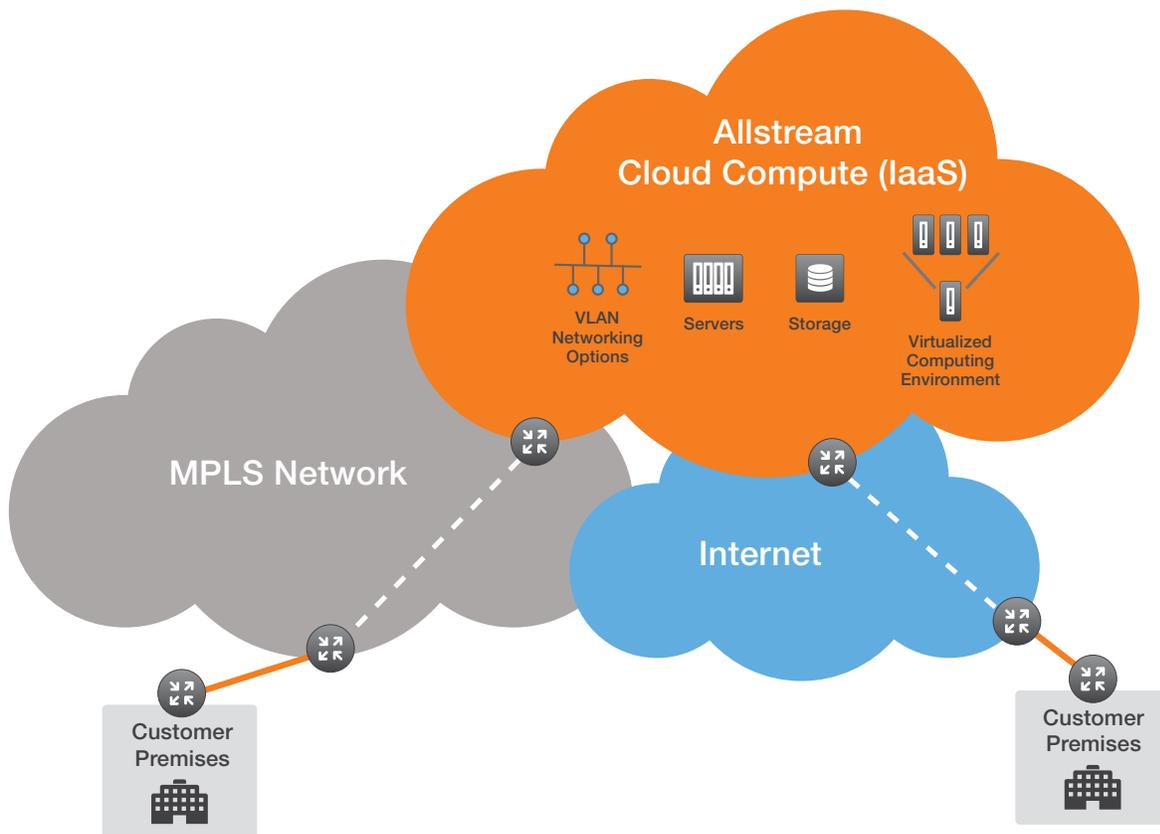# Cloud Compute – Infrastructure as a Service (IaaS)

For decades IT departments have been enabling business processes through internal infrastructure. As our world moves faster and businesses have to innovate to survive, IT teams are being challenged to come up with more efficient and timely ways to make it all happen. And they have to do it faster with declining budgets. Some are turning to "Cloud" as a solution. By out-tasking some of their infrastructure they are finding the cloud to be scalable, faster to deploy and cheaper than doing it the traditional way.

Any business who is exploring their cloud computing options should be aware of the importance of cloud access, or how they will connect to the cloud, to ensure that this connection is secure and reliable.

The performance of the network defines the end-user experience – if a company's connections to the cloud are not highly reliable, secure and available, then the cloud will not deliver full capabilities.



Allstream
Cloud Compute (IaaS)

VLAN Networking Options

Servers

Storage

Virtualized Computing Environment

MPLS Network

Internet

Customer Premises

Customer Premises

allstream.

Allstream Cloud Compute is a business grade, agile, cloud infrastructure located in Canada. This managed Infrastructure as a Service solution is built to meet strict requirements and to support the most demanding applications in the industry. It provides organizations with an on-demand, virtualized infrastructure that can be rapidly deployed when business objectives demand it. Our service leverages proven, best-in-class Vblock technology from EMC®, VMware® and Cisco® combined with our expertise in managed hosting and application availability.

It offers multiple layers of protection, including dedicated virtual machines with redundant firewalls for data integrity and security, monitored 24/7 within a secure Allstream data centre.

Reliable and secure access to the cloud is essential for the success of your cloud computing implementation. Only a high performance network connection to the cloud will ensure that you have optimum and continuous access to your business applications and data. Our cloud infrastructure comes with broad networking options that include multiple VLAN support, robust Internet connectivity, MPLS and dedicated circuits.

Change management is a key component of Allstream Cloud Compute. All changes, whether customer-directed or not, are controlled by the same strictly documented process in order to sustain governance, risk management objectives and compliance requirements.

## Key features

### Compute
Rather than having to procure, house and support physical servers, with Allstream Infrastructure as a Service you can deploy applications that require security and elasticity through the use of a virtual environment. Processing power, memory, disk space, hypervisor software for virtualization and operating systems (Windows and Red Hat) are all offered together as a complete virtual environment.

Configuration of systems can be tailored to the specific computing requirements of the application with customizable virtual machines. Services can be turned up or down by submitting a change request through our online portal. Allstream allows for elasticity of 2x the capacity of the individual components of computing environments such as processing, memory and disk space to ensure optimal scalability of our cloud.

### Availability
Allstream Cloud Compute is supported by a highly redundant infrastructure including multiple layers of data protection and resiliency. The redundant infrastructure is built using advanced Vblock technology comprised of VMWare Server Virtualization, Cisco Blades & Networking and EMC Storage. All of this ensures the continuous availability of your data and applications.

### Storage
Our managed storage, based on EMC corporation technology, provides capacity on demand for large data retention and storage requirements. In order to ensure continuous access to data, we offer data backup and restore capabilities. Lost or corrupt data can be immediately restored to its original state.

### Security
The integrity of your data and business applications are secured by our service that is built to meet the following compliance standards: SSAE16, PCI-DSS and HIPAA. Each deployment is independently monitored by our managed security experts to ensure the security of your data and business applications.

### Rapid provisioning
To ensure rapid provisioning of IT services, we provide custom Virtual Machine (VM) templates, stored in your own private library. These VM images can be deployed within minutes to meet your business demands.

### Management and monitoring
Allstream Cloud Compute is backed by subject matter experts who monitor and manage your virtualized infrastructure 24/7/365. Incident response is facilitated by our team of full support staff who monitor customer environments at our integrate operations centre and network operations centres. Our customers benefit from the peace of mind that comes from knowing that their services are under constant watch and management.

• Our experts continuously monitor your cloud infrastructure and ensure that it operates at optimum performance

• Using cloud compute leads to a significant reduction of IT administrative burden. IT frees your specialized staff from routine operations and allows them to focus on core business tasks

### Portal and reporting
Our portal allows customers access to the same view that our engineers utilize to update and manage incident reporting. Customers can also request additional compute resources on demand, submit change requests, view resources and their invoices online.

## The difference Allstream Cloud Compute will make to your business

### Reduced risk
Multiple layers of data protection, including the built-in resiliency of Vblock architecture ensure that your security and availability requirements are fully met. Dedicated virtual machines with redundant firewalls for data integrity and security are monitored 24/7/365 within our secure Allstream data centre.

### Reliability
Built on best-in-class Vblock architecture and supported by a 99.95% availability Service Level Agreement (SLA) at the Virtual Machine and hardware level.

### Compliance and security
Our data centre operates in accordance with ITILv3 practices that are detailed in our annual SSAE 16 Type II audit report, and certified to the ISO 20000-1 standard. The data centre is located in Canada which means that you know at all times where your data is physically located and that it will never reach jurisdictions where it can be subject to foreign laws or malicious activity.

### IP connectivity[1]
A secure and reliable connection to the cloud is critical to the success of your cloud computing deployment. As an Allstream Cloud Compute customer your best connectivity options are:

**Allstream Business IP VPN (MPLS)** that provides access through a high performance, reliable and secure private network.

**Allstream Business Internet** delivers fast and reliable connectivity through the Internet.

**Allstream Wavelength**, ideal for high bandwidth applications, connects you to the cloud infrastructure through a point to point, bidirectional DWDM connection that delivers speeds of up to 10 Gbps.

### Savings
You can reduce total IT operating costs by eliminating the requirement of your organization to build, maintain and support an in-house data centre.

"As IT struggles to break away from the traditional 80-20 resource split (80 percent of budget and resources are devoted to maintaining existing initiatives, with only 20 percent going toward new strategic initiatives), the Cloud represents an opportunity to get away from the "grunt work" of infrastructure maintenance."

**Stratecast**
Infrastructure as a Service:
On the Road to Commodity Status[2]

## Why Allstream?

Allstream is the only national communications provider working exclusively with business customers. Our focus is helping you simplify IT operations to improve productivity, maximize performance and manage costs. Our IP solutions are delivered on a fully managed, fully secure national network and backed by our industry-leading commitment to customer service: The Allstream Service Guarantee.

Our business grade cloud infrastructure solution improves business and IT agility, efficiency and productivity, while lowering total cost of ownership for IT services. In addition, Allstream Business IP-VPN (MPLS) with 6 class of service provides businesses with a high performance, scalable and secure virtual private network delivering 99.9% availability. Our cloud infrastructure is also architecturally engineered for high reliability, with 99.95% availability and stringent SLAs at the VM and hardware level. Allstream Cloud Compute empowers businesses to meet their strategic imperatives, both short and long term, while improving operational efficiencies.

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1. IP connectivity services are optional and sold separately from Allstream's Cloud Compute service

2. Stratecast, "Infrastructure as a Service: On the Road to Commodity Status", 2011 page 15

**For more information on Allstream Cloud Compute – Infrastructure as a Service (IaaS), please visit**
allstream.com/cloudcompute

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