

IP SERVER ONE®

IP SERVER ONE Cloud Connect Datasheet



WE HOST BETTER

Since 2003

IP ServerOne

Cloud Connect

IP ServerOne's Cloud Hosting Products are now able to connect and extend the networks to the major Cloud Service Providers (CSP) such as Amazon Web Services, Microsoft Azure, Google Cloud Platform over a private connection – Cloud Connect.

The Cloud Connect carry your traffic directly into the CSP network without touches the public Internet, which reduces the chance of hitting bottlenecks or unexpected increases in latency, hence improve the application performance on clouds.

Cloud Connect can also be deployed to reduce networking costs with lower data transfer rates out of CSP network.

Cloud Connect can now be enabled on IP ServerOne Cloud Hosting products:

- Private Cloud Hosting
- vCloud

IP ServerOne Private Cloud Hosting

Private Cloud Hosting is where a set of dedicated and high performance hardware hosted in a managed Tier III data center to provide higher level of data security and privacy of cloud services.

Private Cloud Hosting can be customized to fulfill different needs and requirements :

Firewall

- Protect the cloud from network security threats

Data Center Switch

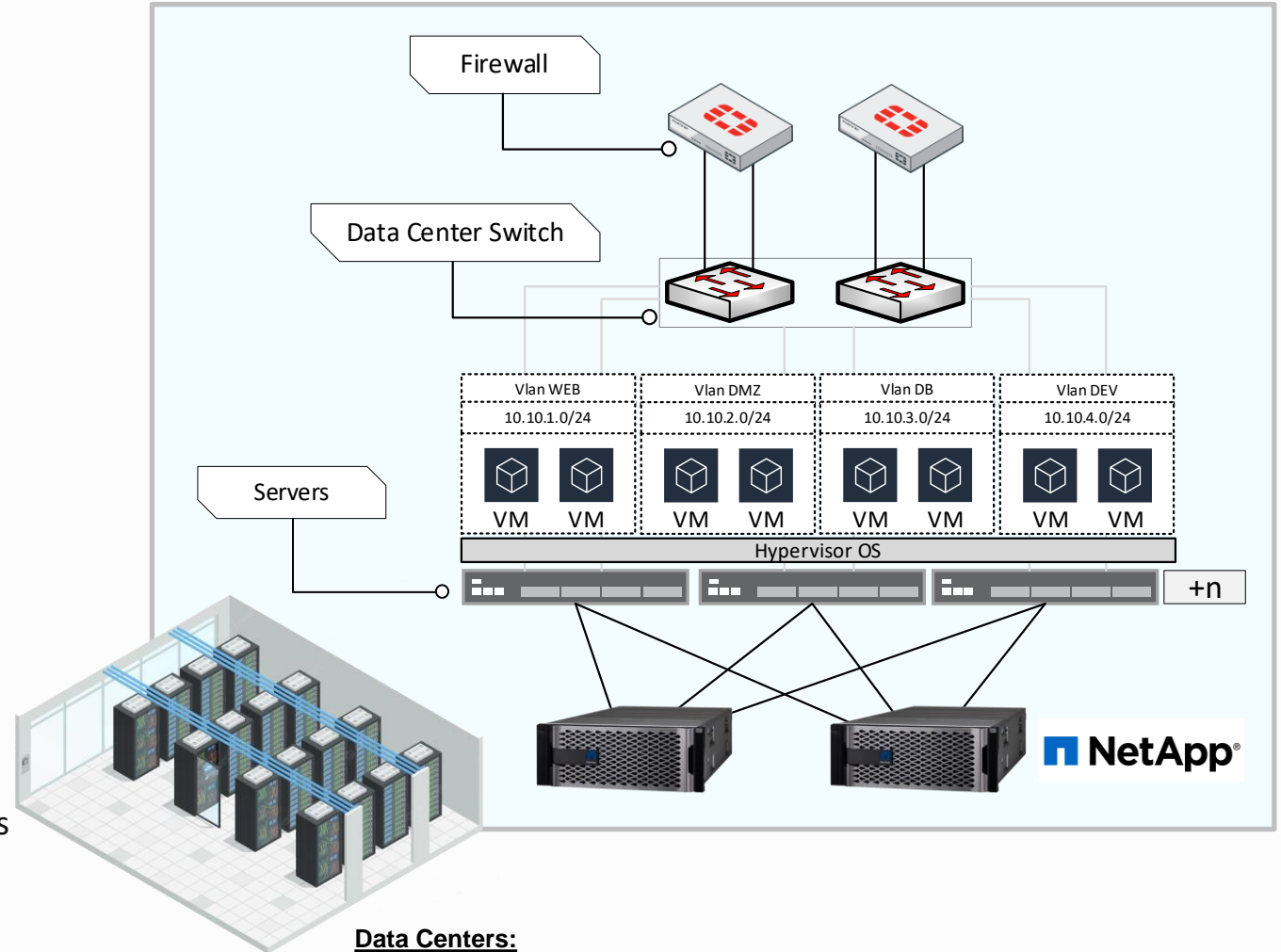
- Network segmentation and isolation

Server

- Variety of high performance server for different compute needs

Storage

- Storage volume provisioned on NetApp with data protection



Data Centers:
CJ1, Cyberjaya
AIMS, Kuala Lumpur

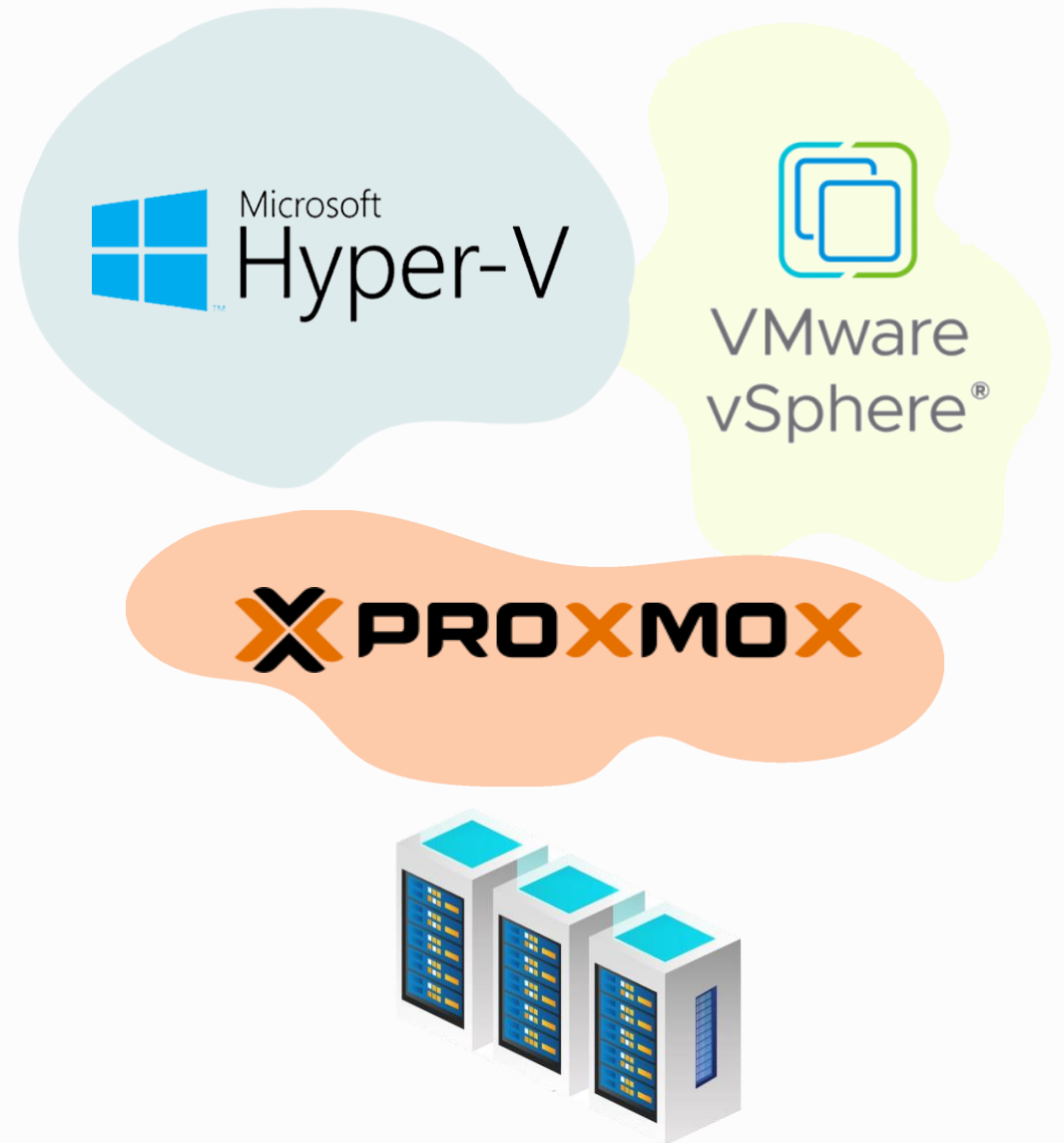
Private Cloud Feature Highlights

Your Cloud, Your Choices.

Feel free to run your preferred hypervisor for your private cloud.

- VMWare vSphere
- Microsoft Hyper-V
- Open-source Proxmox VE

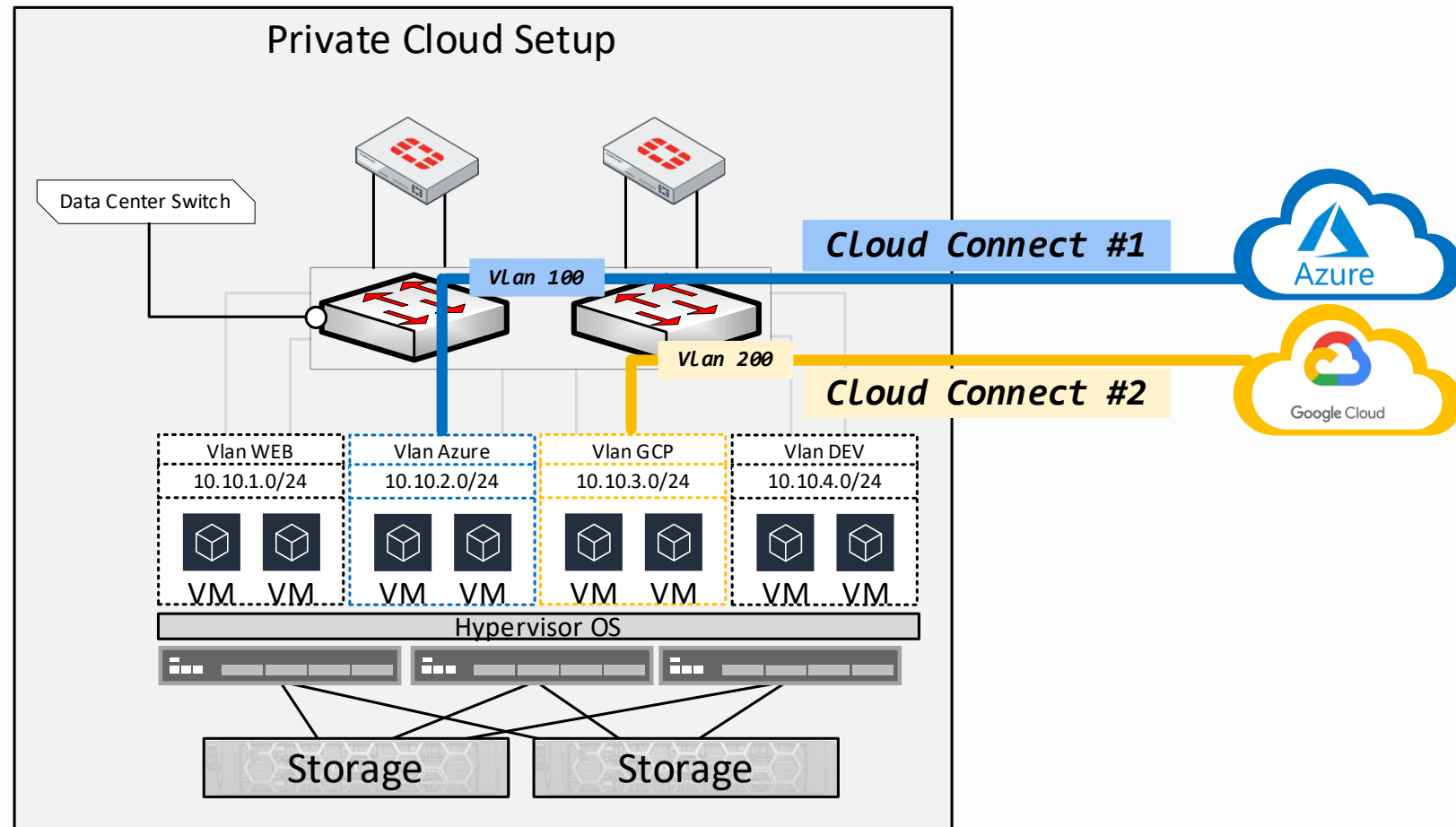
IP ServerOne professional cloud engineering team will setup and deploy your cloud infrastructure based on industrial standard and best practices.



IP ServerOne Private Cloud with Cloud Connect

Private Cloud can now connect to the top Cloud Service Provider such as **Amazon Web Services (AWS)**, **Microsoft Azure** and **Google Cloud Platform** via private connect over Cloud Connect.

Each Cloud Connect virtual circuit is provisioned as individual VLAN in the Private Cloud network domain.

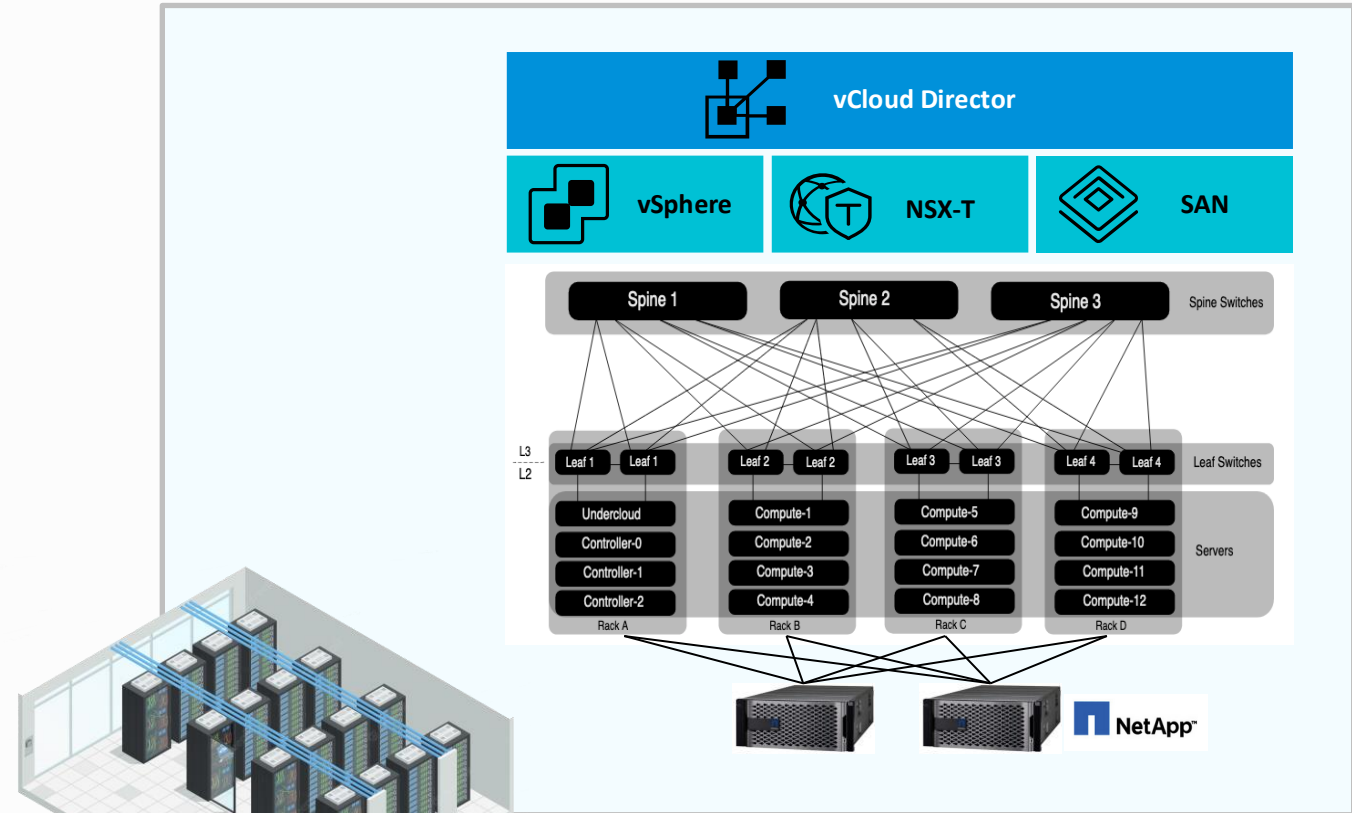


IP ServerOne vCloud - Public VMware Cloud Hosting

vCloud is built by strictly following VMware configuration best practices to ensure the cloud services run at optimum performance.

vCloud

- Is hosted at **recognized data center**.
- Is connected on high performance and redundancy **Spine-Leaf** network infrastructure.
- Compute resource on high performance hardware and distribute into zones for **fault tolerance**.
- Storage volume is provisioned by **NetApp™** appliances which come with **data protection**.
- Run the proven enterprise grade VMware Cloud Service-Delivery platform.



Data Centers:
CJ1, Cyberjaya
AIMS, Kuala Lumpur



IP ServerOne vCloud - Public VMware Cloud Hosting

vCloud is powered by VMware Cloud Director to provide enterprise-level cloud services.

vCloud delivers secure, isolated and elastic virtual data center compute, network and storage in a self-service portal.

Customer have fine-grained control of their public cloud services.

The image displays two screenshots of the VMware Cloud Director (vCD) management console. The top screenshot shows the 'Virtual Data Center' overview for 'mys1.cloud-dynamic.asia'. It displays environment details (2 Sites, 2 Organizations, 2 Virtual Data Centers) and resource usage (10 VMs, 1 vApp, 64 GHz CPU, 176 GB Memory). Below, it shows two data centers: 'mys1.cloud-dynamic.asia' with 0 vApps and 0 of 0 running VMs, and 'mys2.cloud-dynamic.asia' with 1 vApp and 10 of 11 running VMs. Resource usage for 'mys2' is shown as 64 GHz CPU, 176 GB Memory, and 5.67 TB Storage.

The bottom screenshot shows the 'Virtual Machines' page. It lists 11 VMs with filters for 'Expired: No' and 'Clear all filters'. A sidebar on the left contains navigation options: Compute (vApps, Virtual Machines, Affinity Rules), Networking (Networks, Edges), Storage (Named Disks, Storage Policies), Settings (General, Metadata, Sharing, Kubernetes Policies), and Badges. The main area displays a grid of VM cards for 'Web Server', 'FTP Server', 'Proxy Server', 'Database Server', 'Load Balancer', and 'File Server'. Each card shows its status (Powered on), creation date, owner, vApp, and guest OS (Microsoft Windows Server 201...).

IP ServerOne vCloud with Cloud Connect

vCloud can now connect to the top Cloud Service Provider such as **Amazon Web Services (AWS)** , **Microsoft Azure** and **Google Cloud Platform** via private connect over Cloud Connect.

Each Cloud Connect virtual circuit is provisioned as individual 'Network' resource in the vCloud.

The screenshot shows the VMware Cloud Director interface. The top navigation bar includes 'vmw VMware Cloud Director', 'Data Centers', 'Applications', and 'Networking'. Below this, the breadcrumb path is 'All Virtual data centers' > 'Site: mys2.cloud-dynamic.asia' > 'Organization: SS000XXX-ABC'. The left sidebar contains a menu with categories: Compute (vApps, Virtual Machines, Affinity Rules), Networking (Networks), Edges, Storage (Named Disks, Storage Policies), and Settings. The main content area is titled 'Networks' and shows a table of network resources. Two resources are highlighted with colored boxes and lines pointing to external cloud logos: 'Azure - ExpressRoute' (blue box) and 'Google Cloud Platform' (yellow box). Both are marked with a 'Normal' status and a green checkmark. Labels 'Cloud Connect #1' and 'Cloud Connect #2' are placed next to the respective network entries.

Name	Status
Azure - ExpressRoute	Normal
DMZ	Normal
Database	Normal
Google Cloud Platform	Normal
Web	Normal



Cloud Connect #1



Cloud Connect #2

IP ServerOne Cloud Connect to Amazon Direct Connect

Customer Responsibility* :

1. Configure physical interface with VLAN tag
2. Configure interface with IP Address
3. Configure BGP Peering
4. Advertise On-Premises subnets

*Can be managed by Partner with Managed Router service

Partner Responsibility :

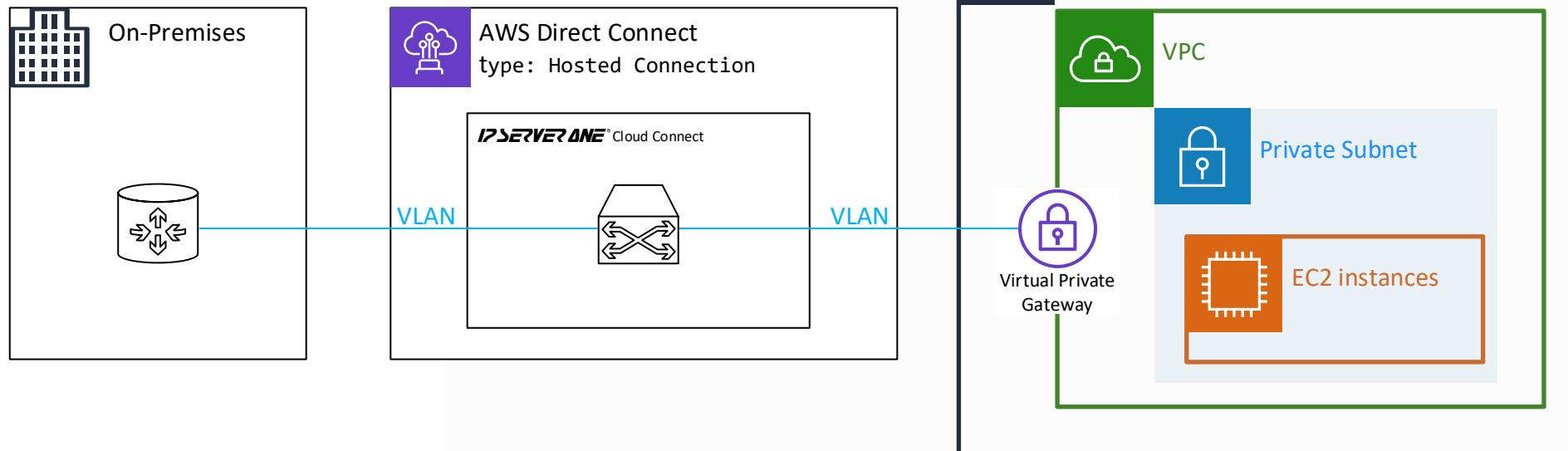
- AWS Partner will provision the AWS Direct Connect Hosted Connection based on the
- VLAN tag
 - Bandwidth Requirement
 - **Customer AWS Account ID**

Customer Responsibility :

1. Go to AWS Console, under "Connection Inventory", accept the Direct Connect Hosted Connection request.
2. Deploy new Private Virtual Interface
3. Link to **Customer AWS Account** and VGW
4. Configure IP Address
5. Configure BGP

Reference :

https://docs.aws.amazon.com/directconnect/latest/UserGuide/hosted_connection.html



IP ServerOne Cloud Connect to Microsoft ExpressRoute

Customer Responsibility* :

1. Configure physical interface with VLAN tag
2. Configure interface with IP Address
3. Configure BGP Peering
4. Advertise On-Premises subnets

*Can be managed by Partner with Managed Router service

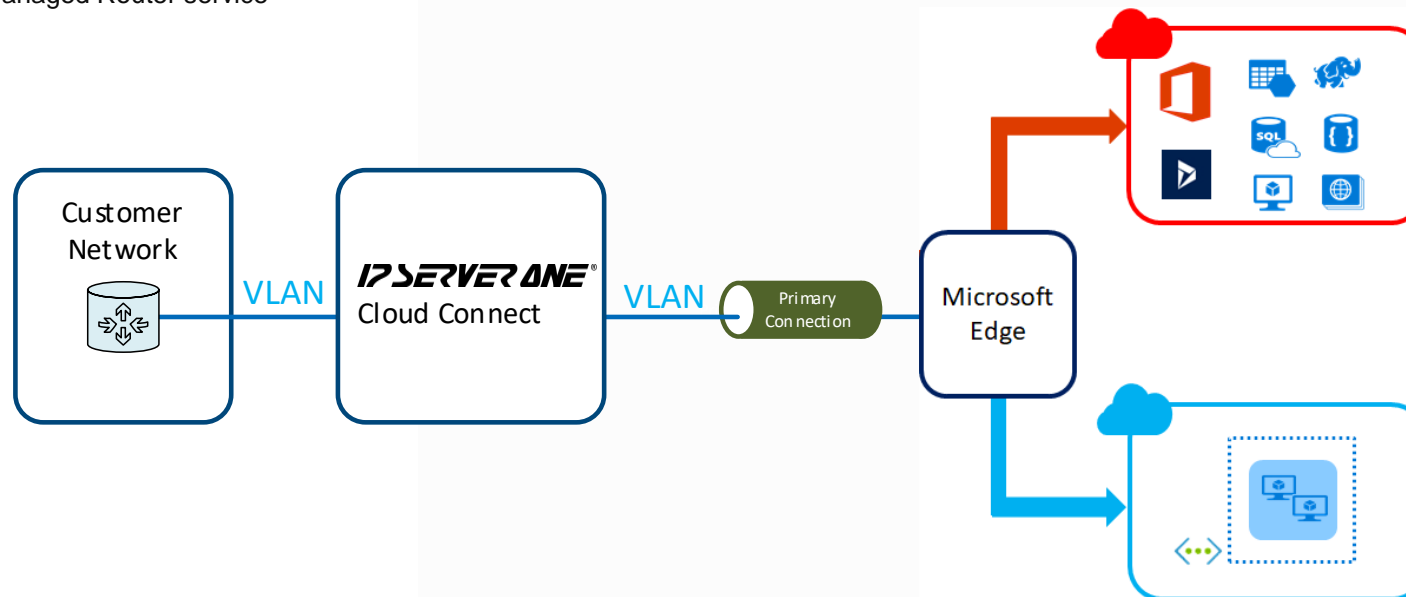
Partner Responsibility :

- Azure Partner will provision the Azure ExpressRoute Connection based on the
- VLAN tag
 - Bandwidth Requirement
 - ExpressRoute **Service Key**

Customer Responsibility :

1. Go to Azure Portal, create a “ExpressRoute” resource.
2. Configure the ExpressRoute as following
 Provider : Equinix
 Peering Location : Singapore (SG1)
3. Obtain the **Service Key** from the ExpressRoute subscription
4. Verify the ExpressRoute status after Partner provision the virtual circuit.
5. Once the ExpressRoute status is provisioned, proceed to configure the peering and routing.

Reference : <https://learn.microsoft.com/en-us/azure/expressroute/expressroute-howto-routing-portal-resource-manager>



IP ServerOne Cloud Connect to Google Cloud Platform

Customer Responsibility* :

1. Configure physical interface with VLAN tag
2. Configure interface with IP Address
3. Configure BGP Peering
4. Advertise On-Premises subnets

*Can be managed by Partner with Managed Router service

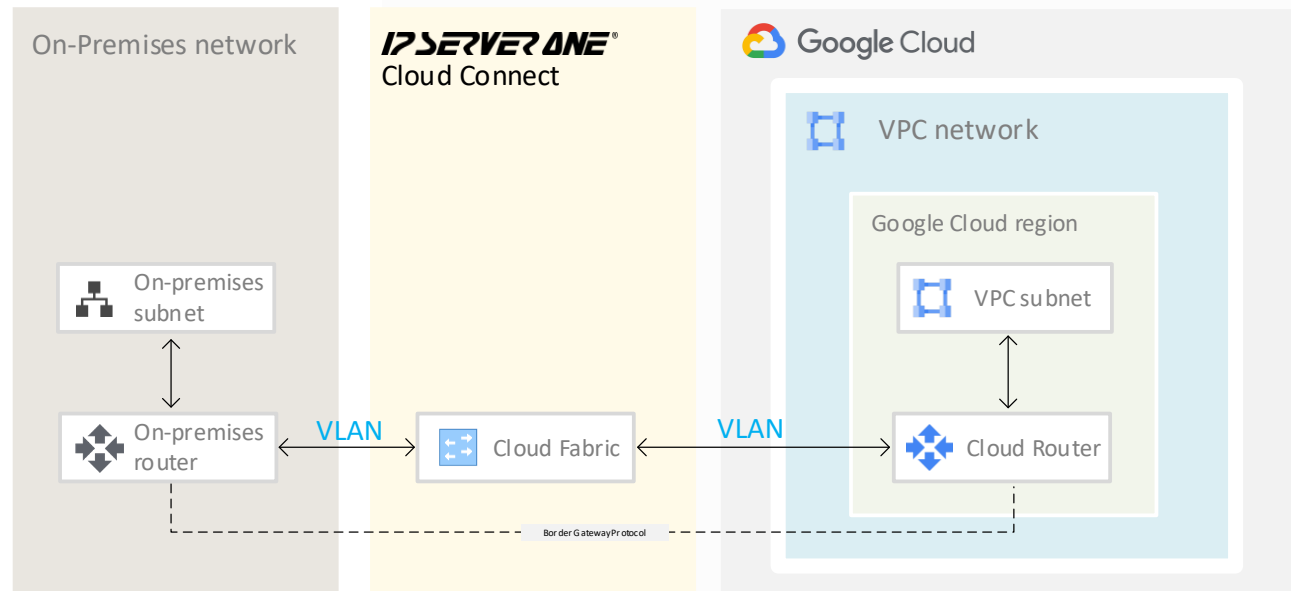
IP ServerOne Responsibility :

- IP ServerOne will provision the virtual circuit based on the
- VLAN tag
 - Bandwidth Requirement
 - GCP **Pairing Key**

Customer Responsibility :

1. On the GCP Portal, go to Cloud Interconnect - VLAN attachments
2. Create a VLAN attachment with following options:
 Type : Partner Interconnect connection
 Readiness : I already have a service provider
 VLAN : Single VLAN
3. Configure the peering information of the VLAN attachment
4. Obtain the **Pairing Key** of the VLAN attachment
5. Once the Google Cloud Interconnect circuit is provisioned, proceed to activate the connection and BGP on GCP portal.

Reference : <https://cloud.google.com/network-connectivity/docs/interconnect/how-to/partner/provisioning-overview>



IP ServerOne – Cloud Connect

Use Case : Dedicated and Private Circuit

Data transfer does not go through the public Internet

The bandwidth and throughput between CSP is dedicated and guaranteed.

IP ServerOne – Cloud Connect

Use Case : Lowering Egress Cost

Assuming a **monthly** transferring **20TB** data at **100Mbps**
From CSP in **Southeast Asia - Singapore** region back to **Malaysia**

	Egress Cost Over Internet	20TB Egress Cost over Internet	Egress Cost over Cloud Connect	CSP Edge Network Charges over Cloud Connect	Cloud Connect Port Fee	20TB Egress Cost over Cloud Connect
Amazon AWS	First 10 TB / Month \$0.12 per GB Next 40 TB / Month \$0.085 per GB Next 100 TB / Month \$0.082 per GB Greater than 150 TB / Month \$0.08 per GB	$= (10 * 1000 * 0.12) + (10 * 1000 * 0.085)$ = USD 2050	\$0.0410 per GB	\$0.06 per hour for 100Mbps Hosted Connections	150 USD	$= (20 * 1000 * 0.041) + (44) (150)$ = USD 1014 Saving USD 1036
Microsoft Azure	First 10 TB / Month \$0.11 per GB Next 40 TB / Month \$0.075 per GB Next 100 TB / Month \$0.07 per GB Greater than 350 TB / Month \$0.06 per GB	$= (10 * 1000 * 0.11) + (10 * 1000 * 0.075)$ = USD 1850	\$0.05 per GB	\$100 for 100Mbps standard circuit per month \$0.19 per hour for standard VNet Gateway	150 USD	$= (20 * 1000 * 0.05) + (100) + (0.19 * 24 * 30.5) + (150)$ = USD 1389.08 Saving USD 460.92
Google Cloud	First 10 TB / Month \$0.11 per GB Next 140 TB / Month \$0.075 per GB Greater than 150 TB / Month \$0.07 per GB	$= (10 * 1000 * 0.11) + (10 * 1000 * 0.075)$ = USD 1850	\$0.042 per GB	\$0.0625 per hour for 100Mbps VLAN attachment	150 USD	$= (20 * 1000 * 0.042) + (0.0625 * 24 * 30.5) + (150)$ = USD 1035 Saving USD 815

The above table excluded the following:

- 1) The cost of 100Mbps Internet bandwidth on destination location.
- 2) The OTC of Cloud Connect setup about 1000 USD, which could be offset by 2 months saving.

Thanks

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