

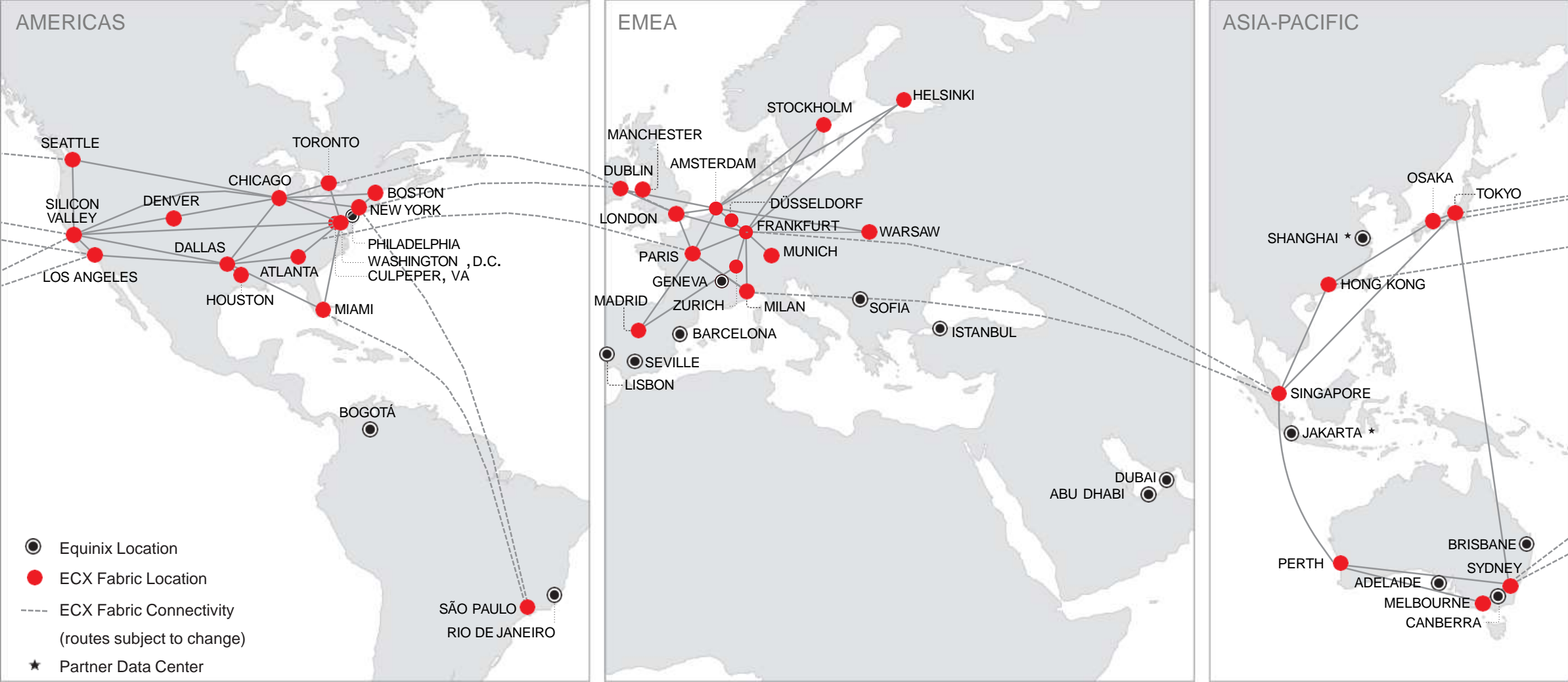


AWS Direct Connect Changes in Model

Presented by Nicholas Hollings
Principal Global Solution Architect
AWS User Group Melbourne

April 2019

Editable ECX Fabric™ World Map

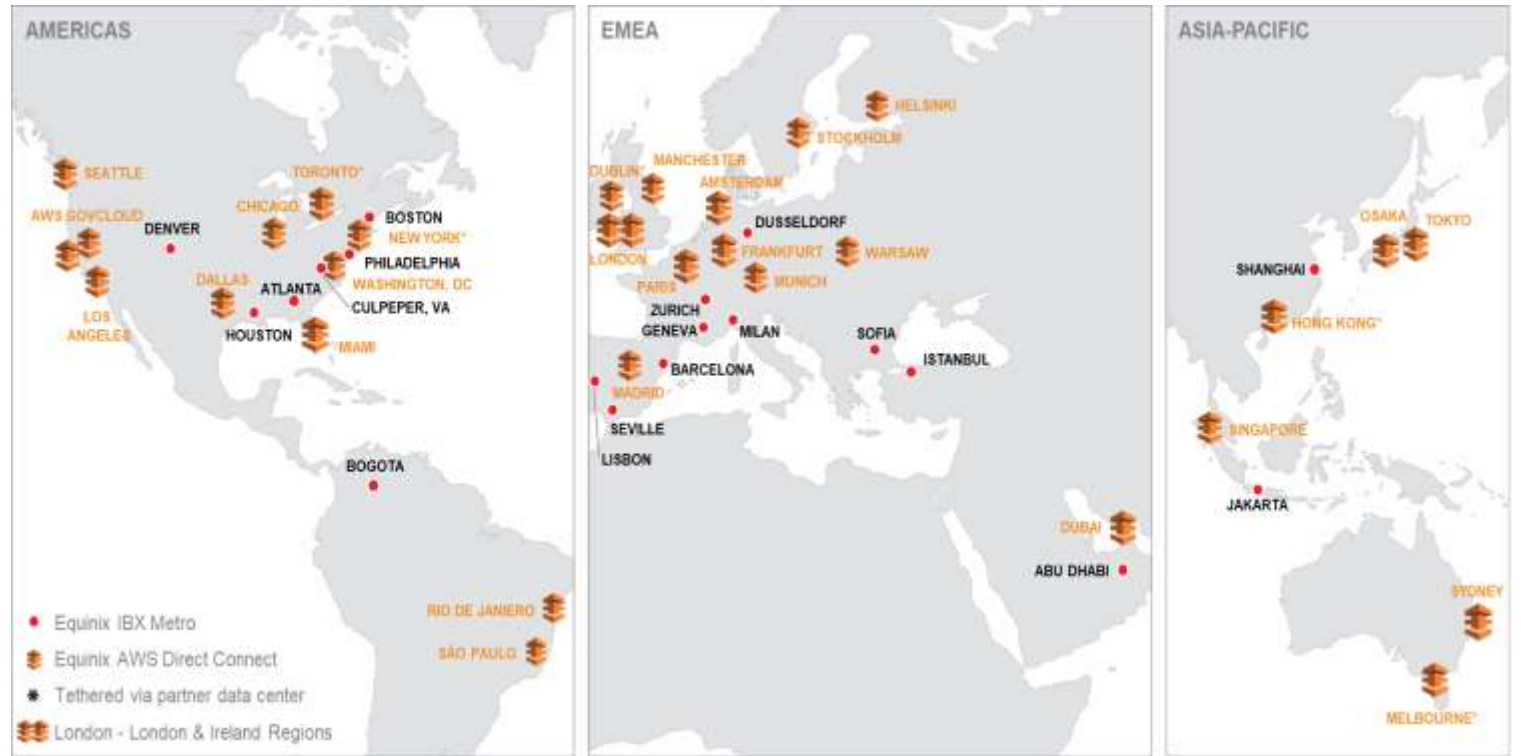


Note: For an updated map, please email Creative Services at content@equinix.com



AWS Direct Connect Detailed Locations & Map with Equinix

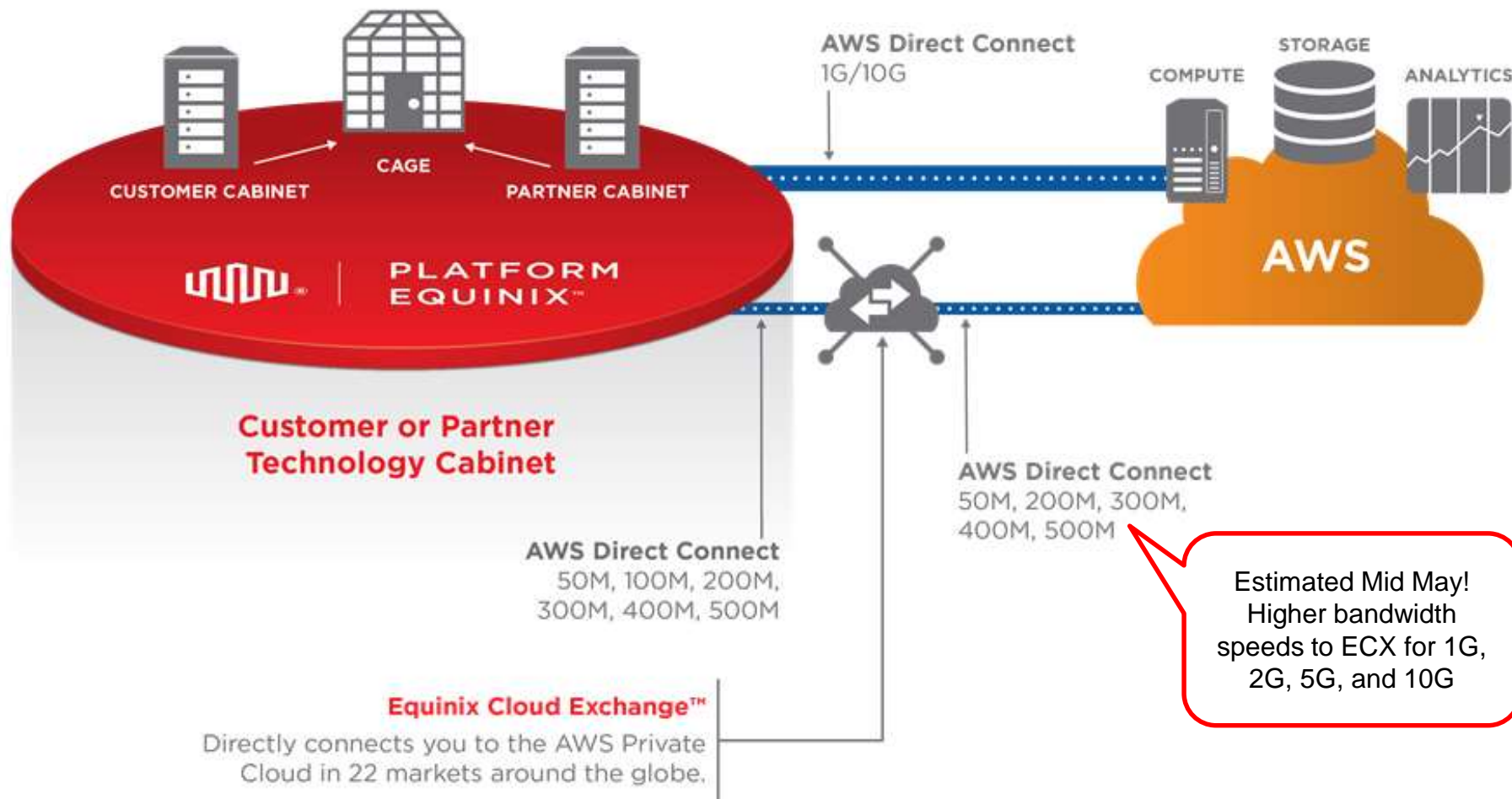
#	Location	Region
1	Equinix AM3, Amsterdam	EU Central (Frankfurt)
2	Equinix CH2, Chicago, IL	US East (Ohio)
3	Equinix DA2, Dallas, TX	US East (Virginia)
4	Equinix DC2/DC11, Ashburn, VA	US East (Virginia)
5	Equinix DX1, Dubai, UAE	EU West (Ireland)
6	Equinix FR5, Frankfurt, Germany	EU Central (Frankfurt)
7	Equinix HE6, Helsinki, Finland	EU Central (Frankfurt)
8	Equinix ITConic MD2, Madrid, Spain	EU Central (Frankfurt)
9	Equinix LA3, El Segundo, CA	US West (N. California)
10	Equinix LD5, Slough, England	EU West (Ireland)
11	Equinix LD5, Slough, England	EU West (London)
12	Equinix MA3, Manchester, England	EU West (London)
13	Equinix MI1, Miami, FL	US East (Virginia)
14	Equinix MU1, Munich, Germany	EU Central (Frankfurt)
15	Equinix OS1, Osaka, Japan	Asia Pacific (Tokyo)
16	Equinix PA3, Paris, France	EU West (Paris)
17	Equinix RJ2, Rio de Janeiro, Brazil	South America (Sao Paulo)
18	Equinix SE2, Seattle, WA	US West (Oregon)
19	Equinix SG2, Singapore	Asia Pacific (Singapore)
20	Equinix SP4, Sao Paulo, Brazil	South America (Sao Paulo)
21	Equinix SV5, San Jose, CA	AWS GovCloud (US)
22	Equinix SV5, San Jose, CA	US West (N. California)
23	Equinix SY3, Sydney, Australia	Asia Pacific (Sydney)
24	Equinix SK1, Stockholm, Sweden	EU (Stockholm)
25	Equinix TY2, Tokyo, Japan	Asia Pacific (Tokyo)
26	Equinix WA1, Warsaw, Poland	EU Central (Frankfurt)



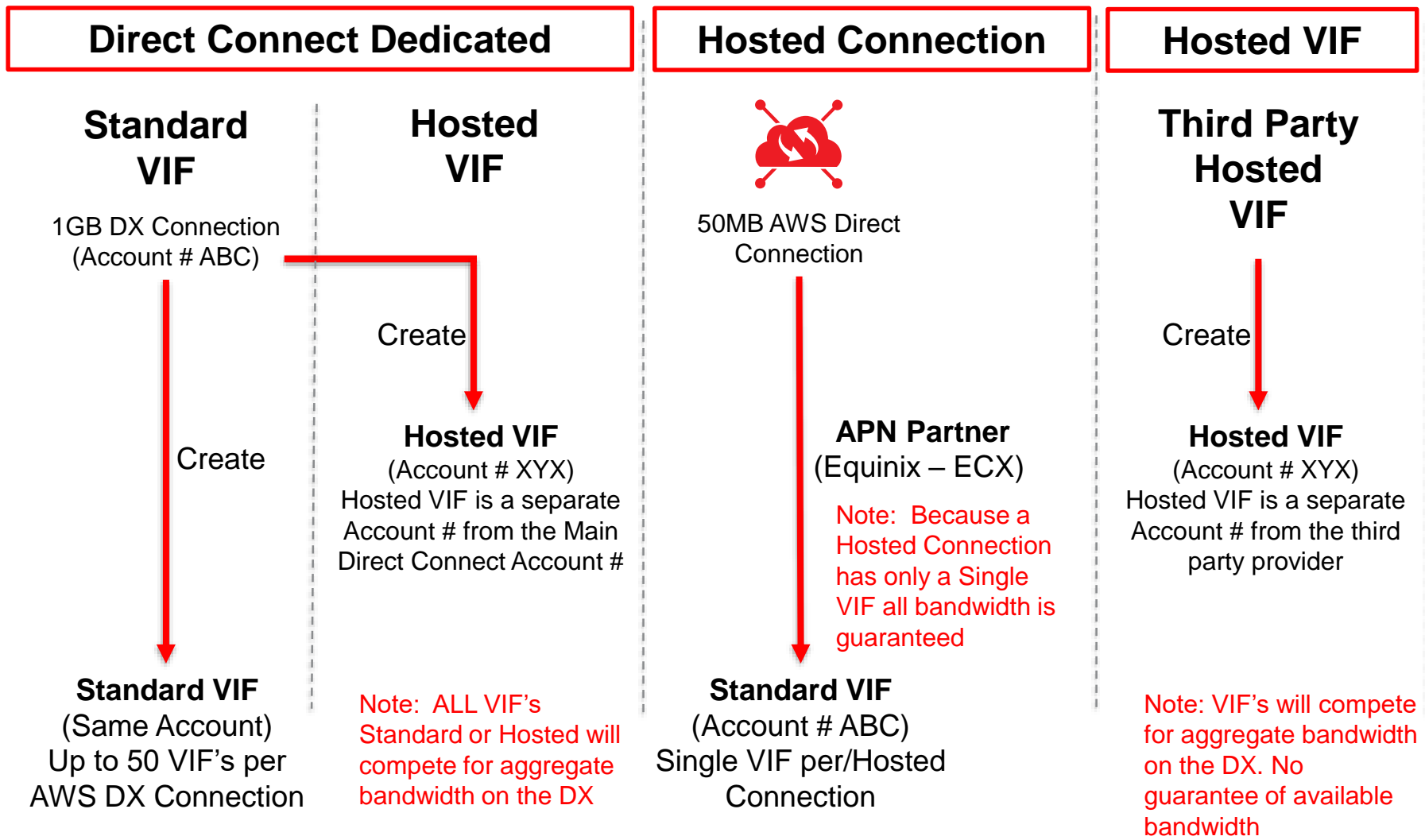
#	AWS DX Tethered Locations	Region
27	Equinix – New York – 165 Halsey	US East (Virginia)
28	Equinix – Toronto – Allied (250 Front)	Canada (Central)
29	Equinix – Dublin - Eircom	EU West (Ireland)
30	Equinix – Melbourne – Next DC	APAC (Sydney)
31	Equinix – Hong Kong – Mega-I	APAC (Singapore)

WHAT IS AWS DIRECT CONNECT?

Using AWS Direct Connect, companies can establish private connectivity between AWS and your Equinix datacenter, office, or other private service environment. In many cases AWS Direct Connect can reduce your network & egress cost, increase bandwidth throughput, and provide a more consistent network experience than Internet-based connections to the AWS cloud.



Direct Connect – Changed on March 19, 2019



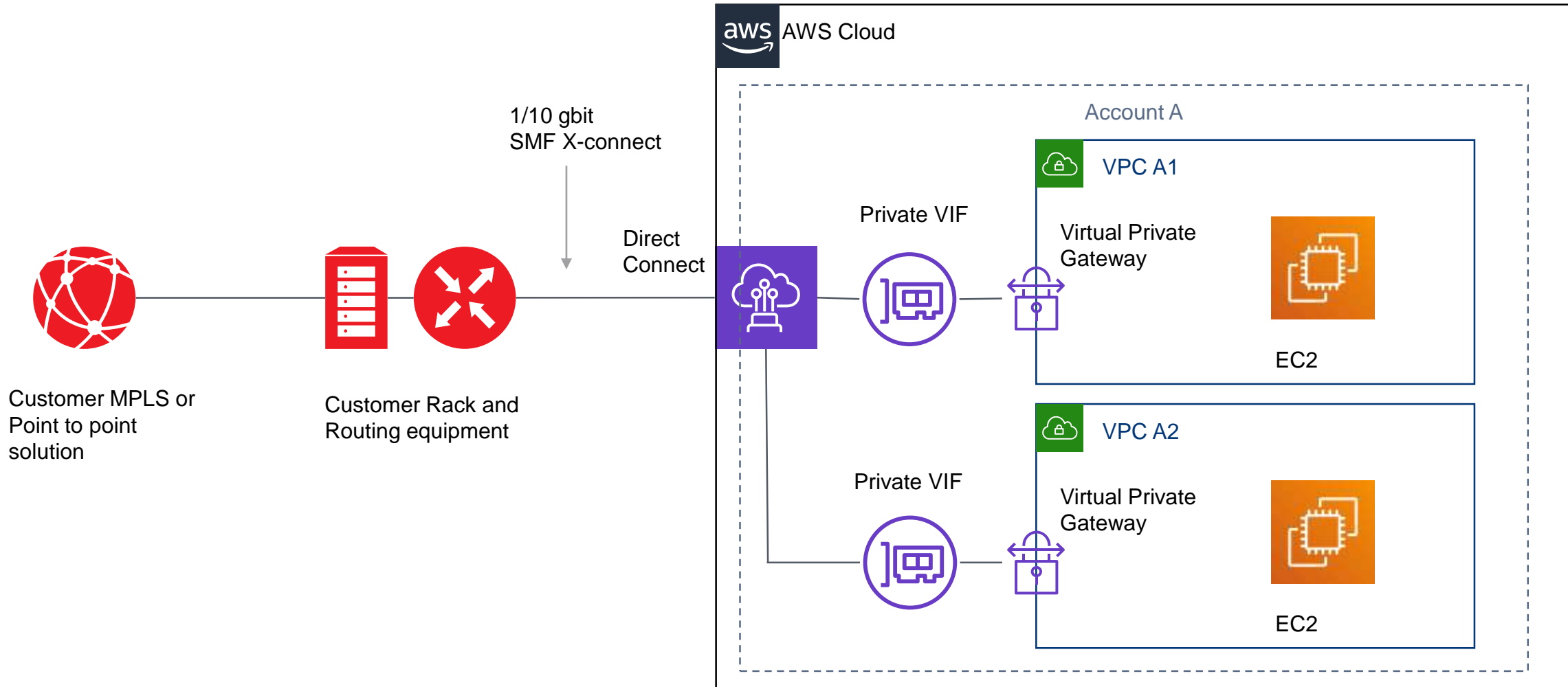
- Hosted Connections were limited to 500mbit, new bandwidths of 1, 2, 5 and 10gbit are now available once providers finish certification
- Hosted VIF is no longer supported and no new connections are allowed

<https://aws.amazon.com/blogs/aws/new-gigabit-connectivity-options-for-amazon-direct-connect/>

<https://aws.amazon.com/directconnect/partners/>

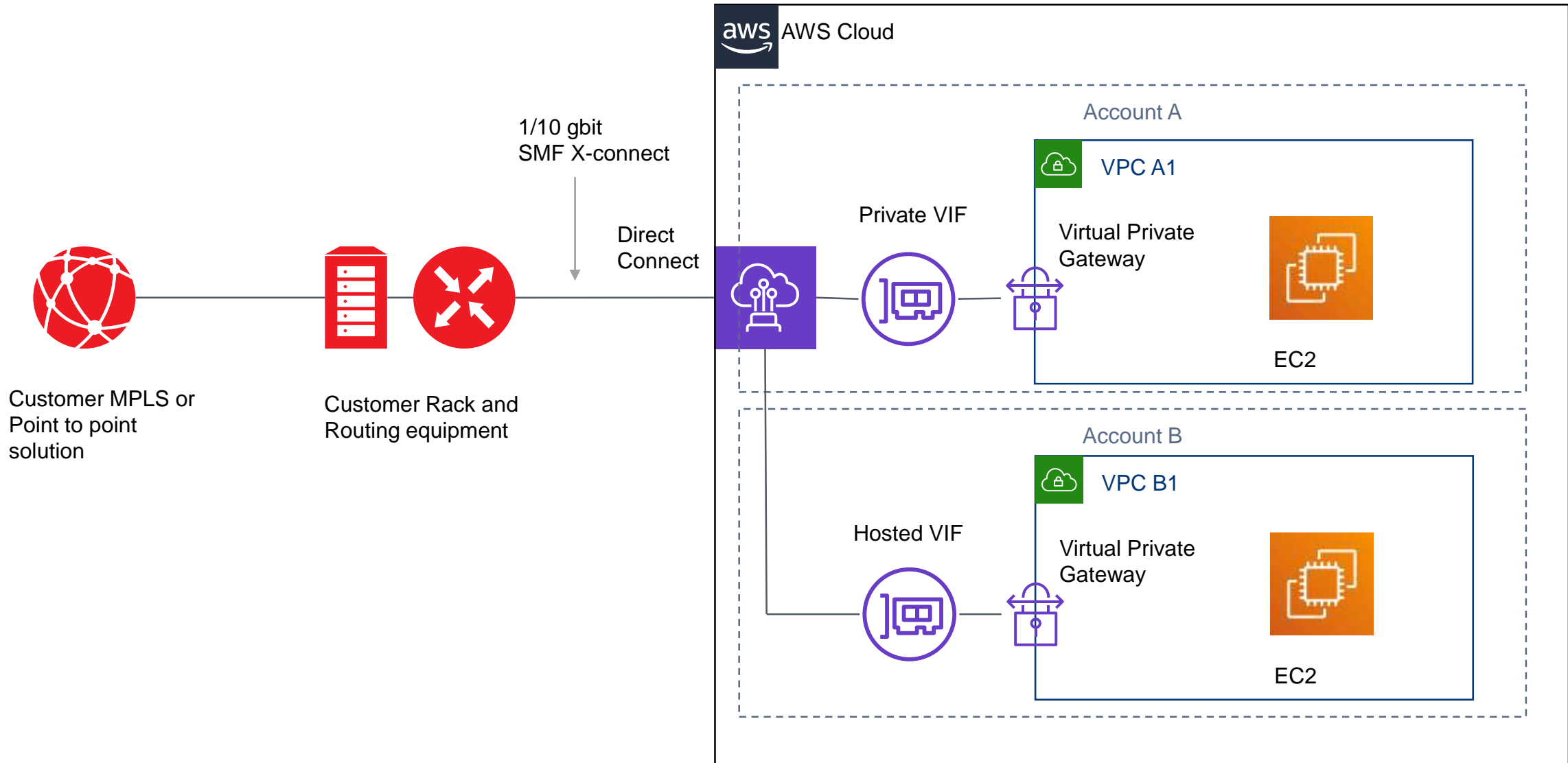
Connecting with Direct Connect Dedicated Part 1

Direct Connect - Dedicated, only one Account



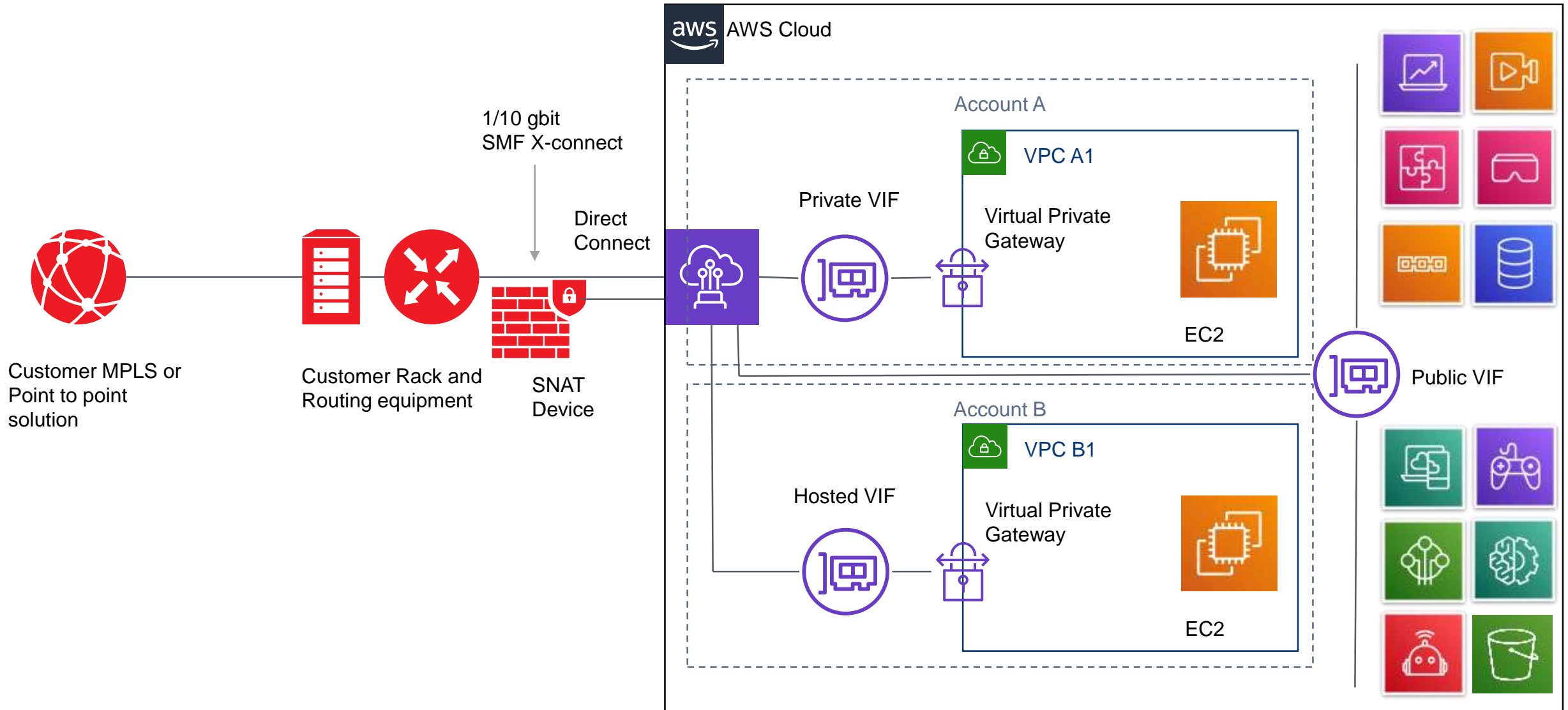
Connecting with Direct Connect Dedicated Part 2

Direct Connect – Dedicated Connection, more than one Account



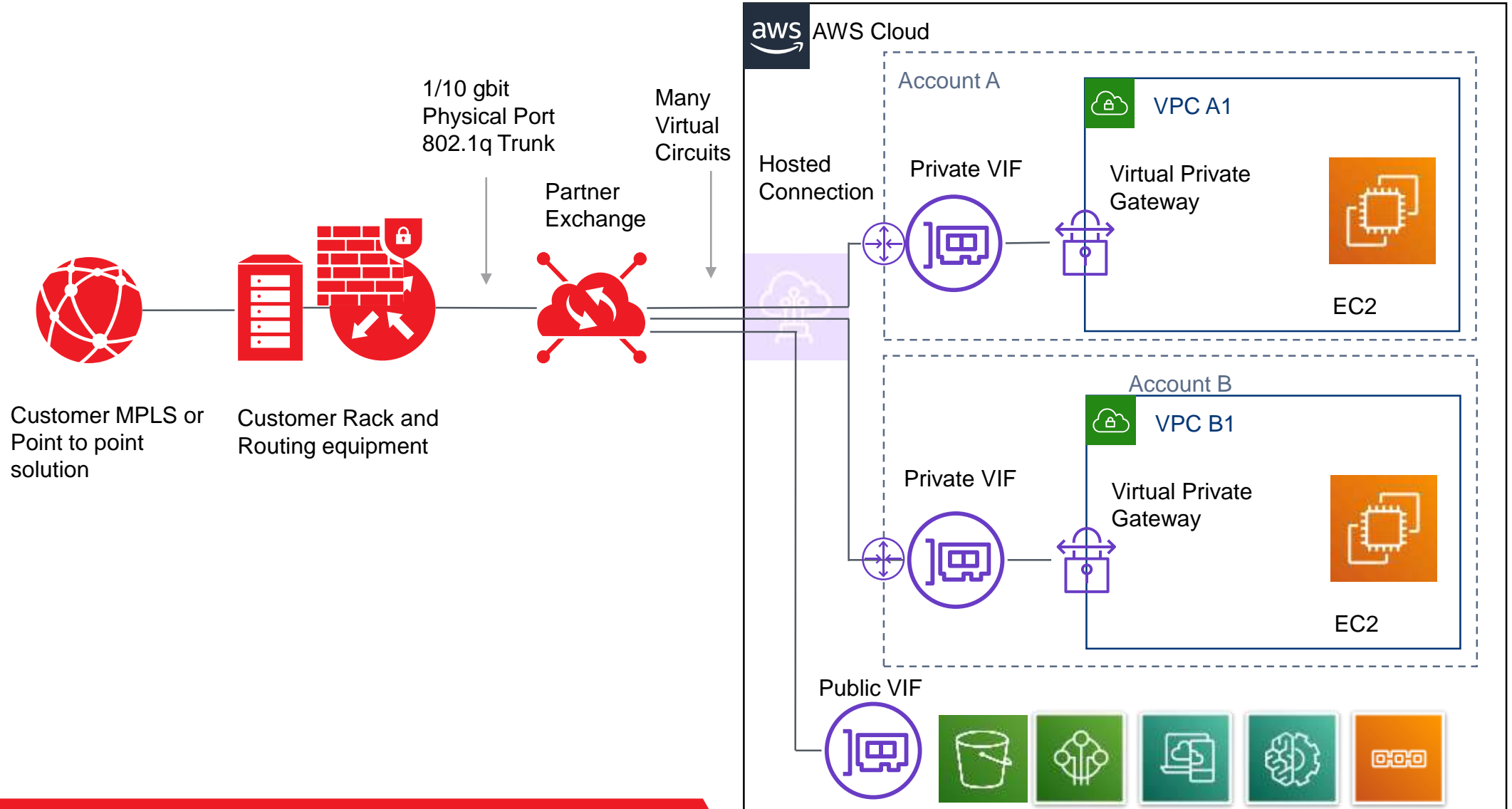
Connecting with Direct Connect Dedicated Part 3

Direct Connect - Dedicated Connection, more than one Account and Public Services



Connecting with Hosted Connections – Part 1

Direct Connect - Hosted Connection, more than one Account and Public Services



AWS Direct Connect Limits

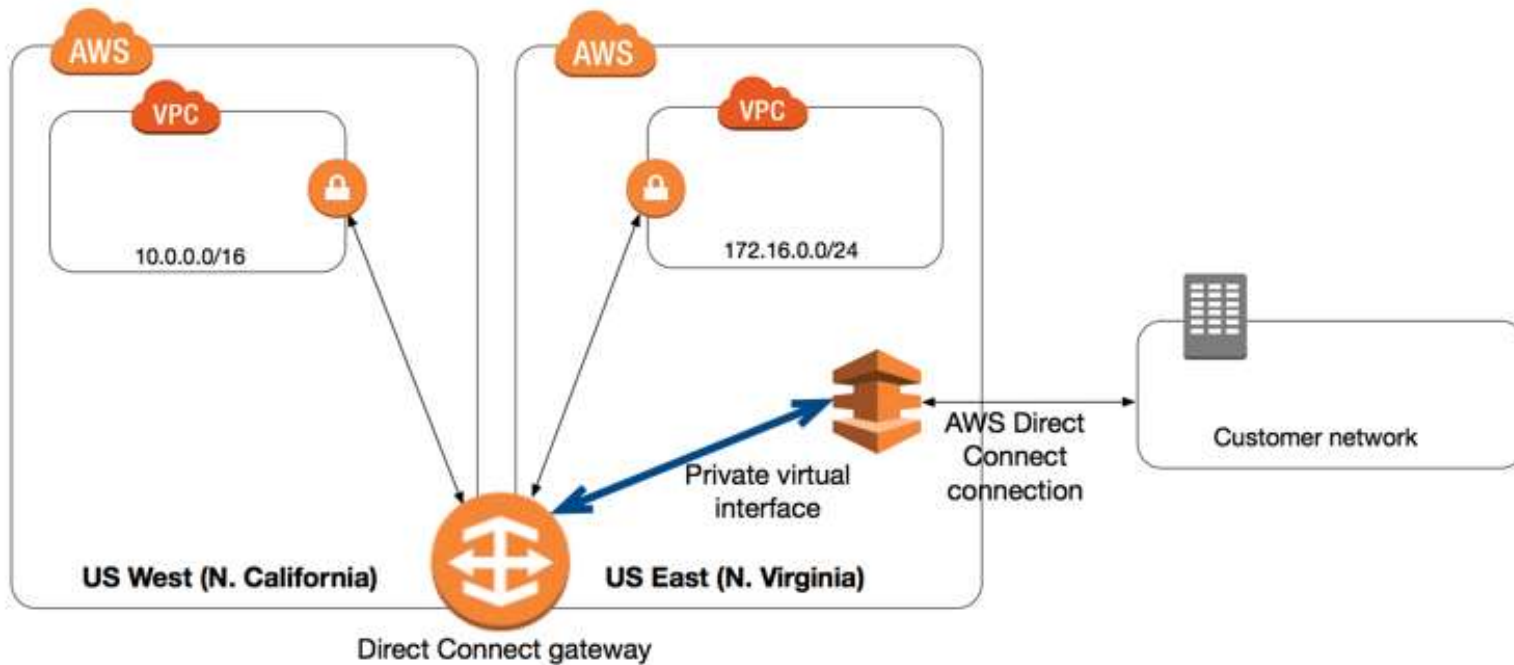
Hosted AWS DX (ECX)	Standard AWS DX 1G/10
Single VIF	Up to 50 VIFs
Up to 500M of Bandwidth	1G and 10G of Bandwidth Selections
No LAG of Connections	Yes - LAG up to 4 connections of same suit

AWS Direct Connect Limits		
Component	Limit	Comments
Virtual interfaces per AWS Direct Connect connection	50	This limit cannot be increased.
Active AWS Direct Connect connections per region per account	10	This limit can be increased upon request.
Routes per Border Gateway Protocol (BGP) session on a private virtual interface	100	This limit cannot be increased.
Routes per Border Gateway Protocol (BGP) session on a public virtual interface	1,000	This limit cannot be increased.
Number of connections per link aggregation group (LAG)	4	This limit can be increased upon request.
Number of link aggregation groups (LAGs) per region	10	This limit can be increased upon request.
Number of Direct Connect gateways per account	200	This limit can be increased upon request.
Virtual private gateways per Direct Connect gateway	10	This limit cannot be increased.
Virtual interfaces per Direct Connect gateway	30	This limit can be increased upon request.

AWS Direct Connect Limits - Source Page: <https://docs.aws.amazon.com/directconnect/latest/UserGuide/Welcome.html>

AWS Direct Connect Gateway

You can use an **AWS Direct Connect gateway** to connect your AWS Direct Connect connection over a private virtual interface to one or more VPCs in your account that are located in the same or different regions. You associate a Direct Connect gateway with the virtual private gateway for the VPC, and then create a private virtual interface for your AWS Direct Connect connection to the Direct Connect gateway. You can attach multiple private virtual interfaces to your Direct Connect gateway.

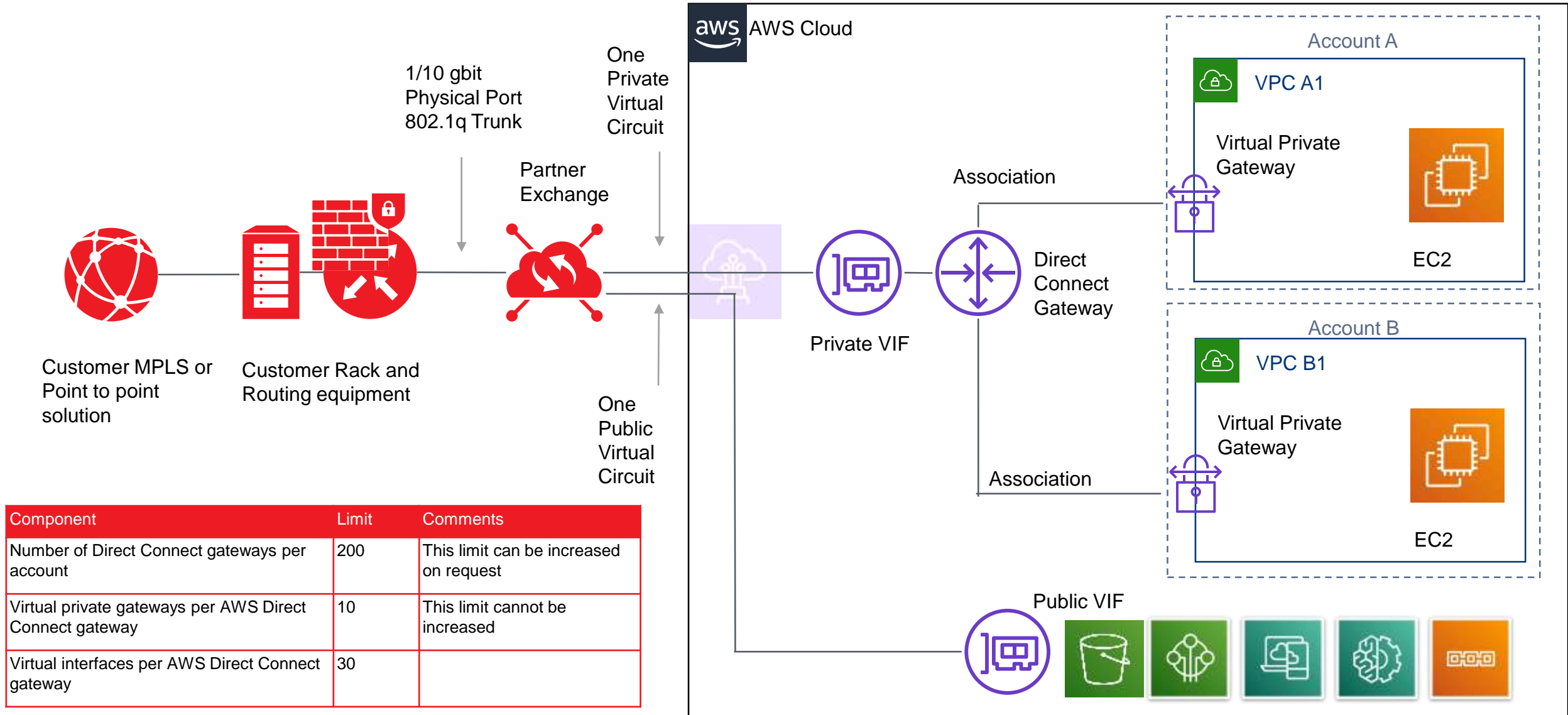


A Direct Connect gateway is a globally available resource. You can create the Direct Connect gateway in any public region and access it from all other public regions.

In the following diagram, the Direct Connect gateway enables you to use your AWS Direct Connect connection in the US East (N. Virginia) region to access VPCs in your account in both the US East (N. Virginia) and US West (N. California) regions.

Connecting with Direct Connect Gateway

If you squint, it looks a lot like Direct Connect Dedicated, but without many VIF's

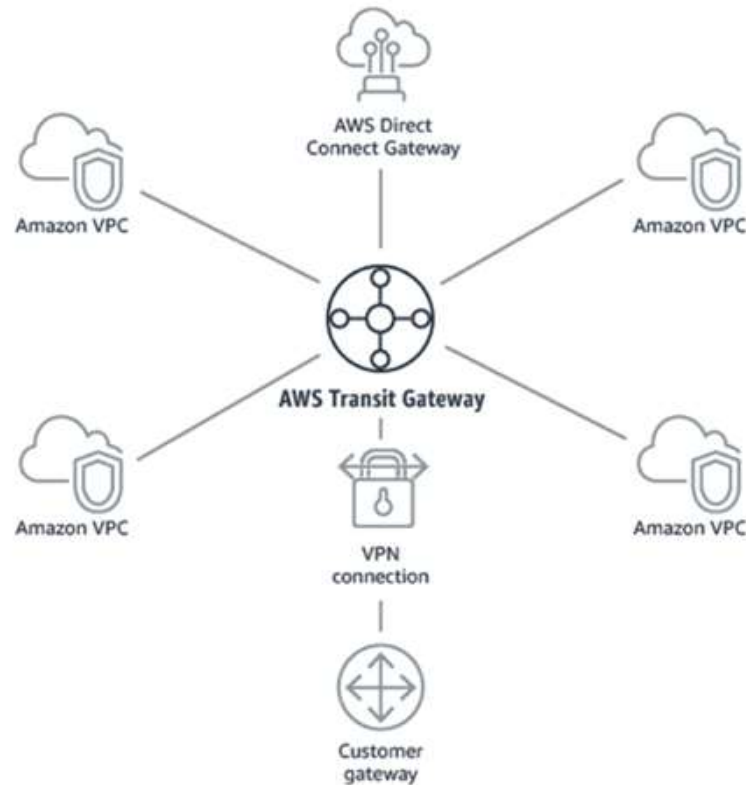


Component	Limit	Comments
Number of Direct Connect gateways per account	200	This limit can be increased on request
Virtual private gateways per AWS Direct Connect gateway	10	This limit cannot be increased
Virtual interfaces per AWS Direct Connect gateway	30	



AWS Transit Gateway

AWS Transit Gateway is a service that enables customers to connect their Amazon Virtual Private Clouds (VPCs) and their on-premises networks to a single gateway. As you grow the number of workloads running on AWS, you need to be able to scale your networks across multiple accounts and Amazon VPCs to keep up with the growth.



A transit gateway enables you to attach VPCs and VPN connections in the same Region and route traffic between them. A transit gateway works across AWS accounts, and you can use AWS Resource Access Manager to share your transit gateway with other accounts. After you share a transit gateway with another AWS account, the account owner can attach their VPCs to your transit gateway. A user from either account can delete the attachment at any time..

The Future of Public VIF's - AWS Private Link

[AWS PrivateLink](#) is a purpose-built technology designed for customers to access AWS services in a highly available and scalable manner, while keeping all the network traffic within the AWS network. When you create endpoints for AWS services powered by AWS PrivateLink, these service endpoints will appear as Elastic Network Interface (ENI) with private IPs in your VPCs.

PrivateLink removes the need of whitelisting public IPs, or managing the Internet connectivity using an Internet Gateway, Network Address Translation (NAT) devices, or firewall proxies to connect to AWS services.

AWS services available on PrivateLink also support private connectivity over AWS Direct Connect, so that applications in your own data centers will be able to connect to AWS services via the Amazon private network using the service endpoints.

Source - <https://aws.amazon.com/about-aws/whats-new/2017/11/introducing-aws-privatelink-for-aws-services/>

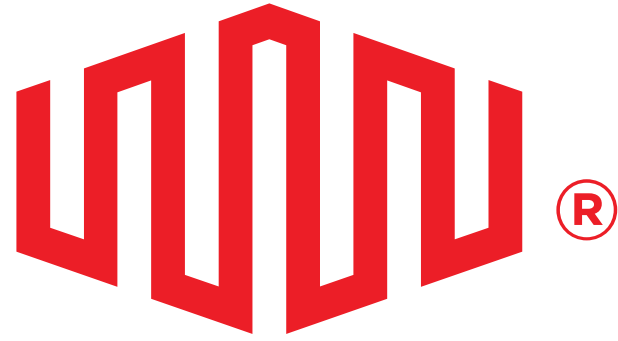
Making Private Link the New Normal - Deep Dive



Press Play to watch video



Download the Slide Deck in PDF



E Q U I N I X