Direct Connect

# Index

Table of Contents

[Index 2](#_Toc30962977)

[Direct Connect 3](#_Toc30962978)

[Definition 3](#_Toc30962979)

[Interface Types 3](#_Toc30962980)

[Availability 3](#_Toc30962981)

# Direct Connect

## Definition

* Enables one to directly connects on-premise data center to AWS Cloud.
* On-premise data centers connect their routers with Amazon Direct connect routers (cross connect) in a physical location.
  + This is done through an authorized Direct Connect Provider (i.e. Verizon or other ISPs)
  + The connections could be 1 Gbps or 10 Gbps.
* Direct connect routers then use AWS's backbone network to connect to AWS.
* AWS Direct should be used for
  + High throughput workloads i.e. lots of network traffic.
  + When increased network consistency i.e. when stable and reliable connection is required.
  + When a private network connection to AWS VPCs from on-premise servers is required.
* A Direct Connect Gateway allows one to connect to multiple VPCs in a region at the same time.
  + A many-to-one connection is created between the VPC’s Virtual Private Gateways to the Direct Connect Gateway.
  + The Direct Connect Gateway then connects to the Direct Connect via a virtual interface.

## Interface Types

* Private virtual interface
  + A private virtual interface allows one to interface with AWS VPCs in the AWS region is it associated with.
  + One can communicate only to the private IP addresses inside the VPC, and not public endpoints, as any connection requests bypass the internet.
  + To access multiple VPCs, one can have multiple private virtual interfaces
* Public Virtual Interface
  + A public virtual interface allows one to connect to public AWS endpoints.
  + Even though public endpoints are accessible, network consistency is maintained as traffic is sent over the dedicated network.
  + Unlike private virtual interface, one can access public AWS resources from any region.

## Availability

* One can have multiple AWS Direct Connect connections for increased reliability in-case one connection experiences failure.
* One can use VPN as a backup to Direct Connect connections.