

Réseaux VPC

- Généralités

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Règle :

Les VPC sont des ressources Globales !

Shared VPC contre VPC peering :

SHARED VPC : Un VPC partagé permet à une organisation de connecter des ressources provenant de différents projets à un réseau cloud privé virtuel (VPC) commun, afin que ces ressources puissent communiquer entre elles de manière sécurisée et efficace en utilisant les adresses IP internes de ce réseau.

PEERING VPC : L'appairage de réseaux VPC vous permet de connecter des réseaux VPC afin que les charges de travail de différents réseaux VPC puissent communiquer en interne. Le trafic reste à l'intérieur du réseau de Google et ne traverse pas l'Internet public.

Shared VPC vs. VPC peering

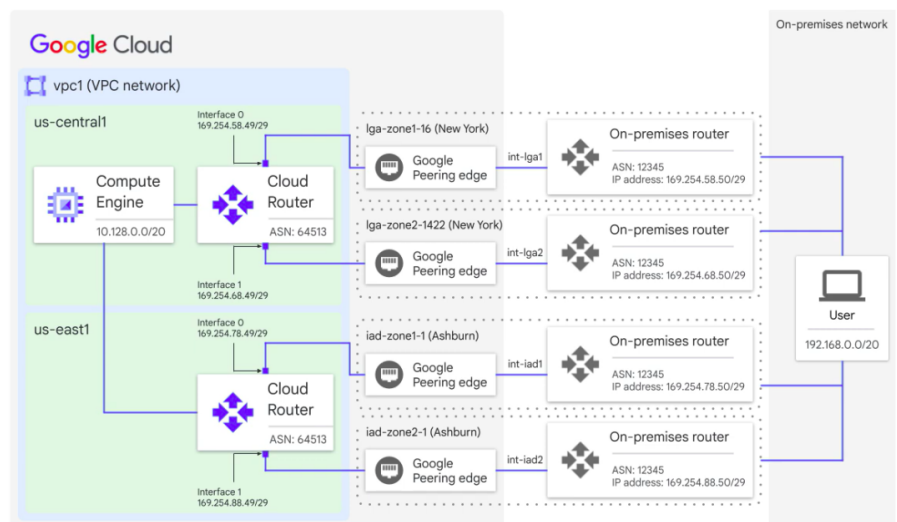
Consideration	Shared VPC	VPC Network Peering
Across organizations	No	Yes
Within project	No	Yes
Network administration	Centralized	Decentralized



High availability with peering edge placement

To achieve 99.99% high availability, consider the following:

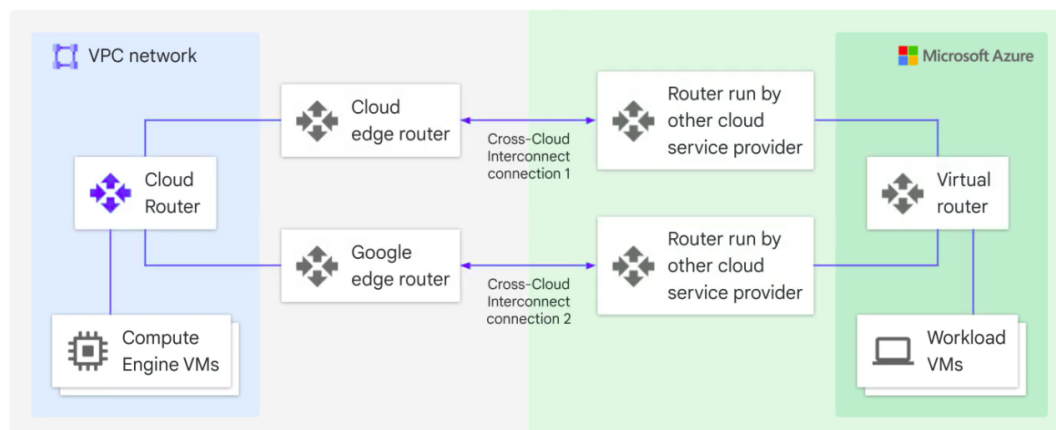
- Create at least 4 Interconnect connections, 2 in each metropolitan areas.
- In a metro, place 2 connections in different edge availability domains (metro availability zones).
- Deploy a minimum of 2 Cloud Routers across at least 2 regions



Comparison of connection options

Connection	Provides	Capacity	Requirements	Access Type
VPN tunnel	Encrypted tunnel to VPC networks through the public internet	1.5–3 Gbps per tunnel	Remote VPN gateway	Internal IP addresses
Dedicated Interconnect	Dedicated, direct connection to VPC networks	10 Gbps or 100 Gbps per link	Connection in colocation facility	
Partner Interconnect	Dedicated bandwidth, connection to VPC network through a service provider	50 Mbps – 50 Gbps per connection	Supported Service Provider with Google Cloud connectivity	
Cross-Cloud Interconnect	Dedicated physical connection between Google VPC and other cloud service provider network	10 Gbps or 100 Gbps per connection	Primary and redundant ports (Google Cloud and remote cloud service provider)	

Use case: Connect from another cloud provider to Google Cloud



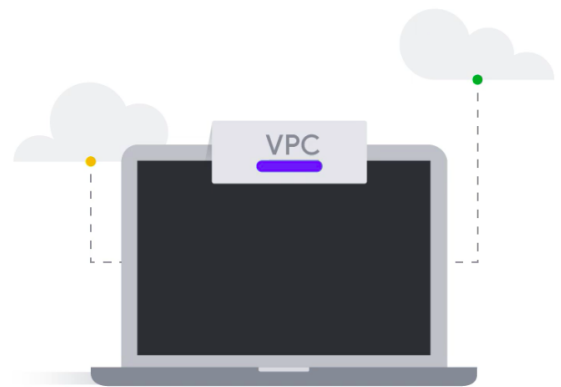
Use Cross-Cloud Interconnect to connect to a network hosted by another cloud service provider

01 Amazon Web Services (AWS)

02 Microsoft Azure

03 Oracle Cloud Infrastructure (OCI)

04 Alibaba Cloud



Cloud VPN securely extends your peer network to your VPC

- Cloud VPN securely connects your peer network to a Virtual Private Cloud (VPC) network through IPsec tunnels.
- Use Cloud VPN when you:
 - Don't need the connection speed of Cloud Interconnect.
 - Must encrypt data in transit.
 - Prefer the economics of an IPsec tunnel over the internet.
 - When your network infrastructure cannot support dedicated fiber connections to Google Cloud.
 - Want to selectively advertise routes between VPC networks.

HA VPN and Classic VPN

There are two types of Cloud VPN – HA (high availability) VPN and Classic VPN.

